



March 2024

VAT

Market profile

Country	Switzerland
Sector	Fabricated Metal & Hardware
Market cap (CHF million)	13'803
52-week high / low (CHF)	479.2/ 269.8
Price per share (CHF)	460

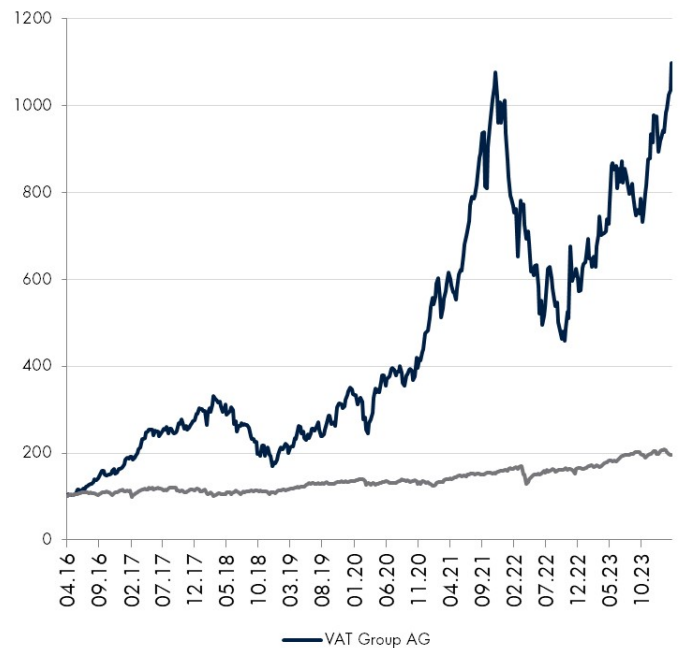
Key metrics (CHF)

	2023	2024e	2025e
EPS	6.34	7.62	10.28
PE	72.89	60.59	49.92
P/Book	18.28	18.13	16.14
Dividend yield	2.71%	1.45%	1.66%

Executive summary

VAT was founded in Flawil, Switzerland, in 1965, producing vacuum valves used in scientific research. The company's products allowed the creation of extremely pure environments, free from even the smallest microscopic particles. The potential for precision manufacturing in high-vacuum environments soon became evident in other industries, such as thin-film industrial coatings and optics, and VAT grew steadily. In the 1980s, advances in the semiconductor industry resulted in a rapid increase in the number of transistors that could be built into a single silicon chip. This required close to particle-free manufacturing environments, which opened the door for VAT to enter this fast-growing market. VAT was taken public on the SIX Swiss Exchange in 2016 and in 2017 the company opened the industry's only particle lab in San Jose, USA.

Evolution of stock price with respect to benchmark (rebased)
Source: IAM



Investment case

VAT is the leading supplier of high-vacuum valves and related services used in the manufacture of semiconductors, displays, solar cells and a variety of other high-precision products. On the back of its leading market position and technology strength, VAT continuously invests in innovation and production capacity to fully participate in the coming growth opportunities and aims to outgrow the market. VAT continues to operate in an industry that is characterized by a variety of strong and sustainable growth drivers. VAT is on track to deliver on its 2027 targets, assuming underlying assumptions on the semiconductor industry's investments measured by the overall wafer fabrication equipment (WFE) volume remain broadly as forecast at about USD 135 billion in 2027.

Company description and history

VAT was founded in Flawil, Switzerland, in 1965, producing vacuum valves used in scientific research. The company's products allowed the creation of extremely pure environments, free from even the smallest microscopic particles. The potential for precision manufacturing in high-vacuum environments soon became evident in other industries, such as thin-film industrial coatings and optics, and VAT grew steadily. In the 1980s, advances in the semiconductor industry resulted in a rapid increase in the number of transistors that could be built into a single silicon chip. This required close to particle-free manufacturing environments, which opened the door for VAT to enter this fast-growing market. At the same time, vacuum-based manufacturing continued to expand into other industries. VAT grew its technology portfolio to meet these new demands, for example, in flat panel displays and solar panels. VAT was taken public on the SIX Swiss

Exchange in 2016 and in 2017 the company opened the industry's only particle lab in San Jose, USA.

Fig.2: Sales by segments, 2023

Source: VAT

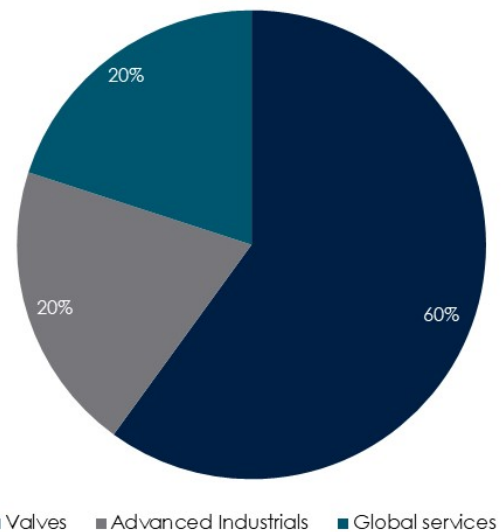
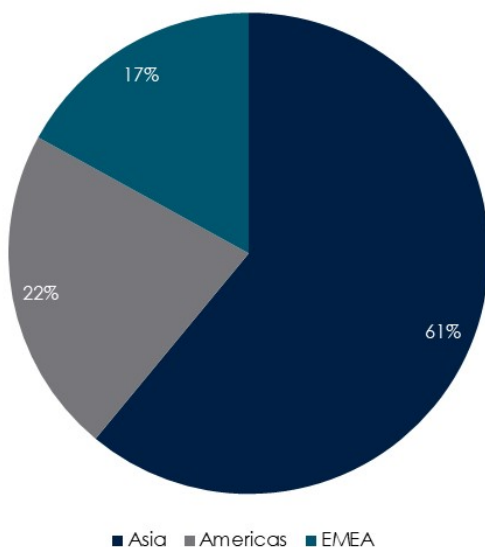


Fig.1: Sales by regions, 2023

Source: VAT



Group Structure

SGS is organized around two divisions: Valves and Services.

Valves

VAT's valves segment designs and delivers the industry's broadest range of high-precision vacuum valves. The segment comprises three business units: Semiconductors, serving the semiconductor sector; Display & Solar, serving the high-end flat panel display and solar photovoltaic markets; and Advanced Industrials for customers in a variety of industries and in scientific research. The Valves segment operates manufacturing facilities in Switzerland, Malaysia and Romania, with sales, product development and engineering support in all major markets.

Global Service

The Global Service segment has three business units: spare parts and gates, valve repair, and complete valves, including upgrades to existing VAT valves, retrofitting of competitor valves, and spare and subfab valves. The segment serves wafer fabrication equipment OEMs, as well as integrated device manufacturers (IDMs) who design and manufacture semiconductors in-house primarily for their own use, and foundries who manufacture chips on behalf of companies that design the semiconductors but who outsource their fabrication.

VAT serves a long term growth market

The semiconductor industry is VAT's largest end market, accounting for close to 75% of net sales. The overall value of semiconductor sales is expected to reach USD 1-1.3 trillion by 2030, up from about USD 630 billion in 2022. This represents an annual growth rate of about 9% over the period 2020 to 2030, almost double the pace of growth during the previous 10 years. VAT valves are used in other vacuum-based manufacturing applications, such as the production of solar photovoltaic cells and high-resolution LED (light-emitting diode) and OLED (organic light-emitting diode) displays used in smart phones and televisions. Other industries are also turning to high-vacuum manufacturing processes where extreme precision is required, such as industrial coatings, medical

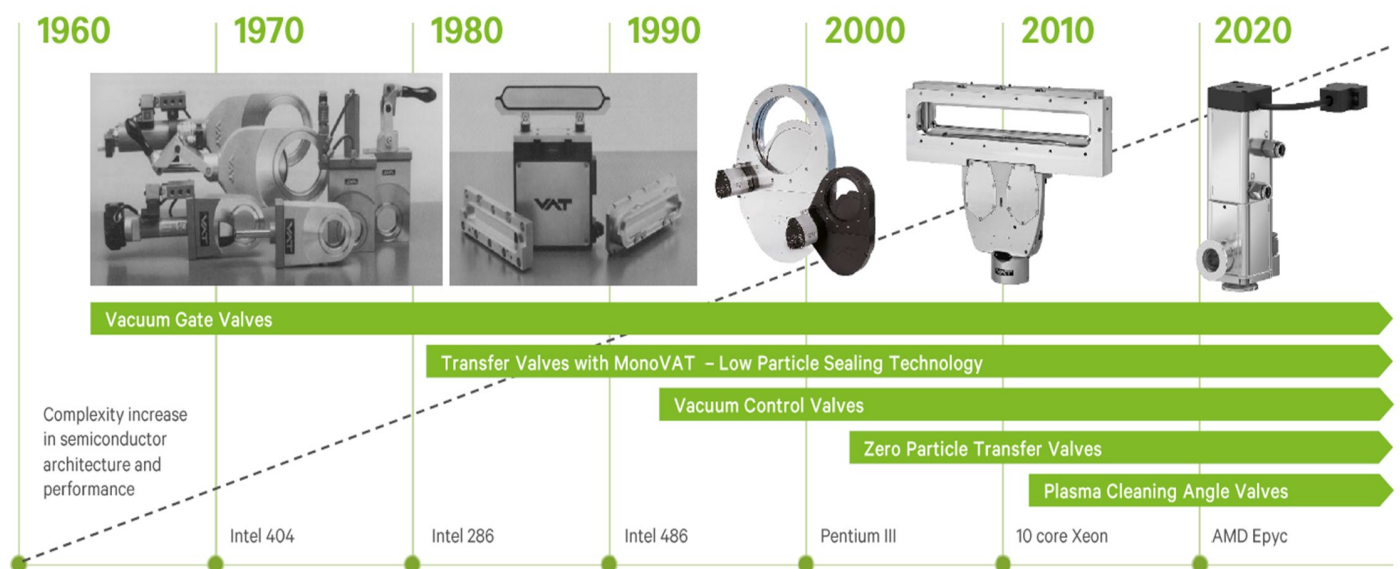
equipment and 3D printing. VAT valves are also used in scientific applications, such as particle accelerators and electron microscopes, and in nuclear fusion, such as the ITER magnetic fusion reactor being developed in southern France.

Vat benefits from these trends in several ways, largely due to its strong and growing market share in the semiconductor industry. One growth driver for VAT is simply the ever-increasing demand for more devices needing more semiconductors: smart devices in industry, greater interconnectivity in consumer electronics, expanded cloud computing and data storage related to the growth in artificial intelligence (AI). Sales of semiconductors to the automotive segment are expected to more than double from 2022 to 2030, driven by applications such as autonomous driving and e-mobility. Wireless communication and the build-out of 5G networks is expected to be another major growth driver, especially as smartphones and wireless communications become more prevalent in emerging markets.

More importantly, technology advances in chip design, such as continued miniaturization of ICs to 3 nanometers and below, so-called, leading-edge semiconductors, and the increasing number of layers used in chip architecture to boost performance, require more process steps under vacuum as well as purer vacuum chambers. Vacuum

Fig 3.: Vacuum valve performance development

Source: VAT



valve performance becomes even more critical to meet these new demands. This leading-edge market segment is expected to grow by more than 10% a year over the period 2022 to 2027, significantly faster than the overall semiconductor market.

VAT's long track record of growth also gives it by far the largest installed base of vacuum valves in the market, more than 1.5 million in 2022. This provides VAT with a significant long-term service opportunity, especially as chip manufacturers augment capital expenditures into new capacity with investments to prolong the lifetime and improve the performance of their existing vacuum valve assets.

Evolution of market structure

The semiconductor market remains cyclical, with demand varying in response to GDP, inflation, consumer spending and other factors. However, those variations are becoming less over time. This is partly due to the integration of semiconductors into a broader range of products compared with the traditional market driven by GDP-related demand for consumer products such as cell-phones and personal computers. In addition, the industry – both OEMs and chip fabricators – has consolidated into a smaller number of large players who have the financial strength to fund research and development and to achieve the economies of scale needed for long-term profitability. This has created a market in which barriers

to entry are high and most players have more stringent requirements for returns on capital expenditures. This has resulted in a more stable and predictable environment for capital investment in wafer fabrication equipment.

VAT's operating model allows the company to successfully navigate industry cyclicality over the long term. Its global footprint and best-cost supply chain gives it the flexibility to scale production up or down quickly to match changing market conditions. Deep customer relationships based on a track record of successful collaboration gives the company an edge in staying ahead of the curve.

Fostering innovation

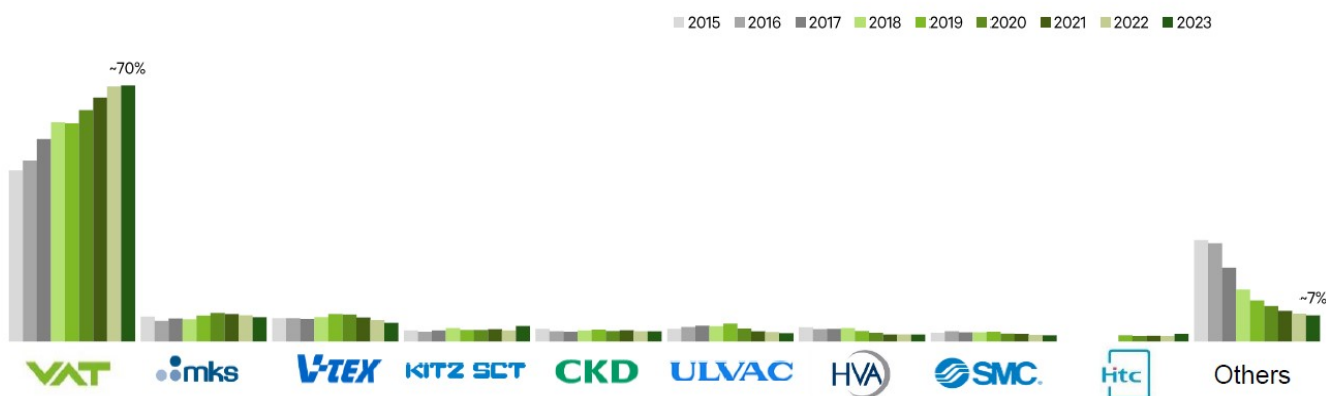
VAT's position as technology leader in high-end vacuum valves is due in large part to its strong track record of R&D investment, typically about 5-6% of sales every year. The company's team of close to 300 scientists and research engineers have created a portfolio of some 500 patents.

Corporate strategy

In December 2022, VAT updated the profitable growth strategy it first presented to investors and other stakeholders in 2020, and revised its financial targets based on the development of the business and markets over the last two years.

Fig.4: Market share semi & related
Source: Technisights February 2023

Market share Semi and related⁽¹⁾



The first element of VAT's strategy is to gain market share in its core valves business. The company aims to grow its share in the high-end semiconductor market from approximately 75% today to 85% by 2027 by building on its leading-edge valve technology used to fabricate the most advanced chips, the fastest-growing market segment. VAT also intends to increase its market share in service by tapping more opportunities from its fast-growing installed base of valves, coupled with a tighter focus on its biggest customers. Finally, the company will continue to build its offering for advanced industrial customers in all regions as the demand for vacuum valves expands into more and more industrial sectors.

The second pillar is to increase customer value by providing complementary technologies in areas that are closely adjacent to the core valves business. These include motion components, such as lifters used to move materials along the wafer pathway, advanced valves modules comprising multiple valves with other components, and new pressure measurement and control technologies. Adjacencies are expected to generate more than CHF 300 million in sales by 2027.

Thirdly, the company has launched the VAT2B program, whose overall ambition is to achieve flawless execution against the company's strategic priorities. This means, for example, making sure the company can adjust ca-

capacity by up to 30% year-on-year, either higher or lower, over the cycle while remaining on course to achieve its financial targets. VAT intends to build its own digital capabilities to not only improve internal business processes but also to make it easier for customers to interact seamlessly with the company.

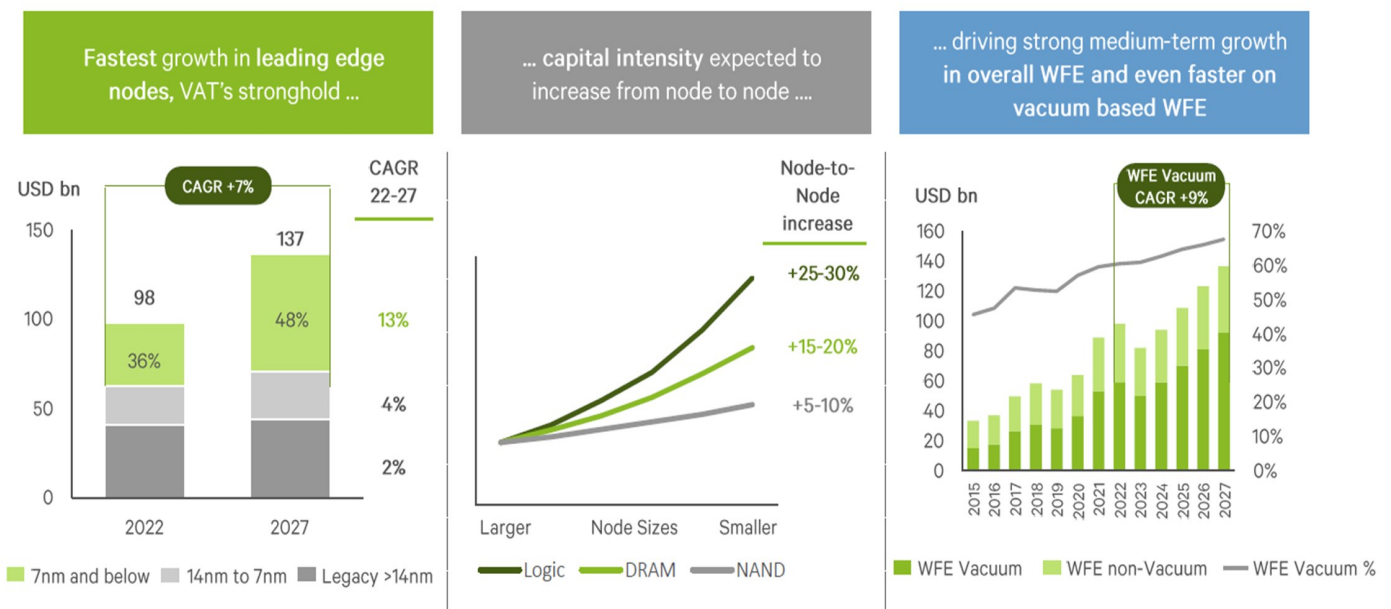
Finally, and as an addition to the original strategic plan from 2020, VAT aims to strengthen its environment, social and governance (ESG) capabilities. VAT issued its first-ever Sustainability Review in 2022, re-committing to building a sustainability culture and presenting a first set of metrics, such as CO2 emissions, recycling, employee engagement and ESG governance on the Board of Directors.

Planning a sustainable future

VAT's products play an important role in the technological shifts that will lead to a more sustainable society. They are critical components in the equipment used to manufacture semiconductors which, in turn, make possible many of the innovations needed to address issues such as climate change, efficient resource use, and sustainable economic growth.

Vacuum valves are used to make a wide variety of products that allow more efficient use of resources. Semiconductors are at the heart of industrial automation and help

Fig.5: Leading edge growth to drive increase in vacuum-related WFE
Source: VAT



manufacturers produce more while reducing their energy and raw materials consumption. Power semiconductors are used to integrate intermittent renewable energies such as wind and solar power into conventional electrical grids that were designed to transmit power at constant load. They are making possible the spread of e-vehicles that improve urban air quality. Perhaps most importantly, semiconductors connect people in real time and on a global scale, driving the innovation needed to address challenges such as climate change. Vacuum technology is also key to manufacturing solar photovoltaic equipment and is central to research into nuclear fusion energy.

While semiconductors play a big role in reducing CO2 emissions, their production is also a source of greenhouse gases. In the fourth quarter of 2022, VAT joined the newly formed Semiconductor Climate Consortium, an industry association focused on reducing greenhouse gas (GHG) emissions among its 65 member companies and other sectors of the industry value chain. The group has agreed to pool its technology expertise and knowledge of the semiconductor value chain with the aim of continuously reducing greenhouse gas emissions, reporting progress annually according to the guidelines and principles in the GHG Protocol, and setting near-term and long-term targets in accordance with best available science, with

the aim to reach net zero GHG emissions no later than 2050.

In addition to publishing its first-ever Sustainability Review in August 2022, VAT also took a number of concrete steps to build ESG capabilities. Among these was a systematic materiality assessment to identify and prioritize the ESG issues that are most critical to VAT's business and stakeholders. Such assessments allow the company to address non-financial impacts, allocate resources to the most important issues, and align value creation more clearly with a broader stakeholder base.

Creating a sustainability culture

The company's ESG and sustainability strategy is also being developed with a governance structure that allocates management and oversight accountability at the appropriate levels of the organization. In this regard, strategy development is taking place under the supervisory oversight of a Sustainability Council, chaired by two members of the Board of Directors. Additional members include one Group Executive Committee member, the Vice President of Sustainability and other contributors.

Fig.6: Positioning of the main TIC players as defined by Eurofins (2021)
Source: Eurofins



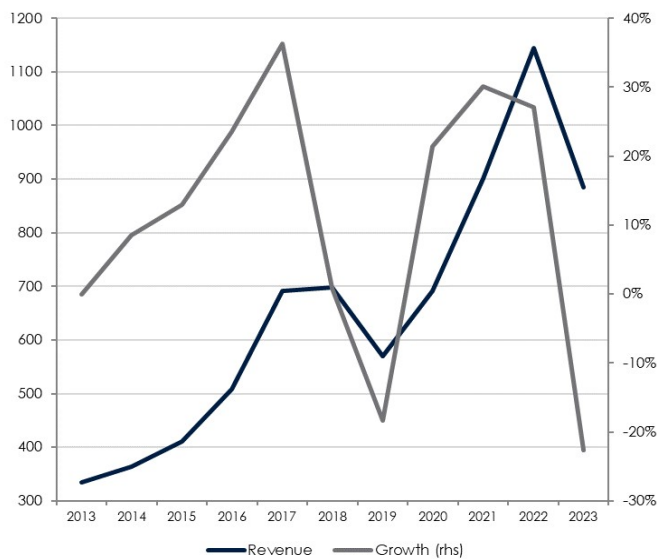
Financial analysis

Revenues

Group net sales fell below the CHF one billion mark and reached CHF 885 million in 2023, 23% below the volume recorded in 2022. The decline was most pronounced in the business unit Semiconductors, followed by the Global Service business. The business unit Advanced Industrial on the contrary posted higher sales than in 2022, which was the result of the good order intake in 2022. Foreign exchange movements, especially in the US dollar against the Swiss franc, had a sizeable negative impact of about 7 percentage points on the 2023 Group net sales.

Fig.7: Evolution of revenue

Source: VAT



Profitability

The gross profit margin declined to 62% from 64% in 2022, reflecting partly the inventory reduction of finished goods and work in progress. Personnel costs as a percentage of net sales increased from 20% to 24%, reflecting VAT's commitment to carry an appropriate number of its highly qualified permanent employees through any temporary market softness to be ready to satisfy any customer demand in the next market upswing. EBITDA margin declined by 4.4 percentage points from 35% to a still very healthy 30.6%, as VAT successfully executed its cost and productivity measures.

Fig. 8: Evolution of ROIC, Return on Assets and EBIT margin

Source: VAT

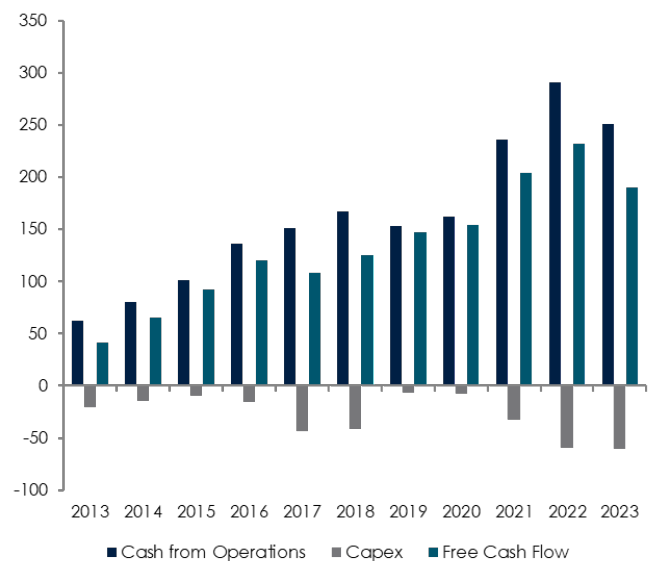


Capex and cash flow

VAT's free cash flow declined in 2023 from its record level of CHF 228 million in 2022 to CHF 189 million in 2023. This still represents a high level, whereby cash inflow from operating activities decreased by about CHF 38 million while cash outflows for capex increased by CHF 3 million to CHF 69 million. This is due to investments in production capacity in Malaysia and invest-

Fig. 9: Evolution of Free Cash Flow

Source: VAT



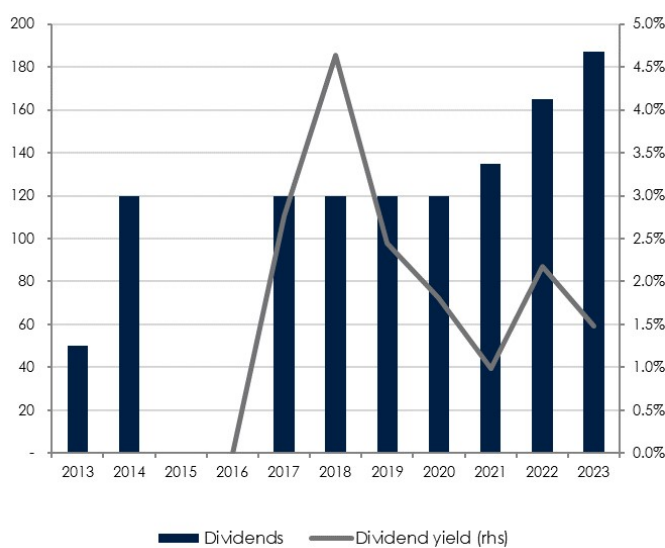
ments in an Innovation Center in Switzerland. Net trade working capital amounted to CHF 244 million, 28% of sales, mainly as a precautionary measure in anticipation of the business acceleration in 2024.

Capital distribution

After skipping its dividend in 2015 and 2016, VAT has maintained a flat dividend of CHF 4 per share until 2020. Then, a strong growth of operating cash flow enabled the company to give back more money to its shareholders. However, VAT's key performance indicator and the basis for the dividend consideration is free cash flow, which declined in 2023. Therefore, the dividend should remain unchanged at CHF 6.25 per share, which correspond to a yield of 1.45%.

Fig.10: Capital distribution

Source: VAT

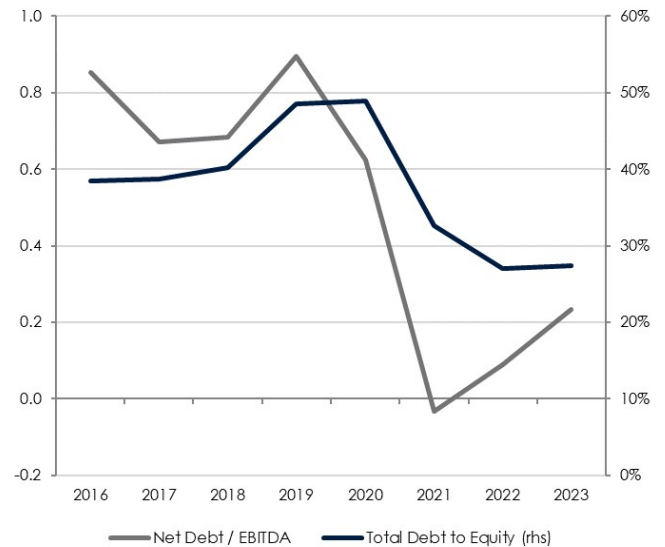


Adequate balance sheet

At the end of 2023, VAT's net debt increased to CH 63 million. However, the company gross debt is slightly lower at CHF 207 million. It includes CHF 200 million term-loan less current finance costs plus current leasing obligations. The net debt/EBITDA ratio remains at low levels (below 1X) despite the EBITDA downturn. VAT enjoys a strong balance sheet that offers ample headroom for future organic growth initiatives.

Fig.11: A strong balance sheet

Source: SGS



Investment case

VAT is the leading supplier of high-vacuum valves and related services used in the manufacture of semiconductors, displays, solar cells and a variety of other high-precision products. On the back of its leading market position and technology strength, VAT continuously invests in innovation and production capacity to fully participate in the coming growth opportunities and aims to outgrow the market. VAT continues to operate in an industry that is characterized by a variety of strong and sustainable growth drivers. While VAT's business has cyclical features, the company's markets are growing over time and periods of increased demand tend to last longer than the temporary softness. VAT continues to focus on innovation customer intimacy and being an attractive employer to bring the best people. In late 2023, the Board of Directors reviewed and confirmed the overall strategy of the group. In practice, this means the previously identified growth and focus areas are firmly in place. VAT is on track to deliver on its 2027 targets, assuming underlying assumptions on the semiconductor industry's investments measured by the overall wafer fabrication equipment (WFE) volume remain broadly as forecast at about USD 135 billion in 2027.



SWOT analysis

Strengths

- Dominant and undisputed market position in the attractive market of semiconductor valves.
- High barriers to entry thanks to technological lead, lengthy certification process and existing production capacities.
- Disciplined capital allocation with attractive ROICs

Weaknesses

- Decoupling or outperformance of market growth increasingly difficult due to dominant market share.

Opportunities

- Structural growth in the semiconductor technology segment.
- Additional revenue could be generated with adjacent businesses in order to outperform the market growth.

Threats

- Typical cyclicality of the semiconductor industry
- Rising chips costs due to ever finer structures as well as geopolitical shifts in the value chain could cause additional costs pressure in the industry.

Valuation

VAT's shares trade at a hefty premium with respect to the SPI index. The one year forward price to earnings ratio is about 60x whereas the SPI trades at approximately 16x. However, this difference can be explained by the strong growth potential of VAT and also by the fact that VAT is among the few Switzerland-listed companies providing investors with an exposure to the very attractive semiconductors market.

Fig. 12: 1 year forward PE ratio

Source: VAT

