



VAT – We change the world with vacuum solutions

Investor Deck Spring 2024





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01

Highlights 2023

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2023 – transition to growth

Highest number of spec-wins recorded – continued investments in capacity and R&D capabilities – delivering 32% EBITDA margin in H2 2023

 <p>Orders – below record year</p>	<p>Order intake declined sharply in Q1 2023; WFE market ended flat on 2022 with a shift in applications; customers reduced inventories in H1; orders recovered gradually and sequentially throughout H2 2023</p>
 <p>Sales – ADV demonstrated stability</p>	<p>Overall sales dropped by 23%, while ADV revenue increased YoY 20% EBITDA dipped below margin guidance range in H1 at 29.2%, but returned within H2 to above 32%; FX headwinds remain</p>
 <p>On track to meet mid-term targets</p>	<p>Mid-term growth prospects confirmed Record level on Spec Wins in all businesses, and growing share in adjacent wins</p>
 <p>Preparation for the ramp-up</p>	<p>Penang plant 1B capacity expansion on track; Haag Innovation Center to open early 2025; no slowdown in investments and skill developments</p>
 <p>2024 – a transition year</p>	<p>Cautious optimism for 2024 – growth expected to accelerate later in 2024 Positive tailwinds emerging from required investments for new fabs, new technologies (GAA, HBM) and increasing focus on ESG</p>



Preparing for market rebound – focus on establishing capacity and technology lead

Financial Highlights



Slowdown in orders and sales has impacted performance – gradual recovery in orders QoQ in H2

Our business segments
(Share of 2023 net sales)

Delivering outstanding performance, despite topline decline

Valves
(80%)



692

(-43%)

Full-year 2023 order intake
(M CHF)

885

(-23%)

Full-year 2023 net sales
(M CHF)

30.6%

FY reported
EBITDA margin
(-4.4 pts)

Global
Service
(20%)



189

(-17%)

Full-year free cash
flow (M CHF)

6.25

(unchanged)

Dividend proposal
(CHF/share)

120

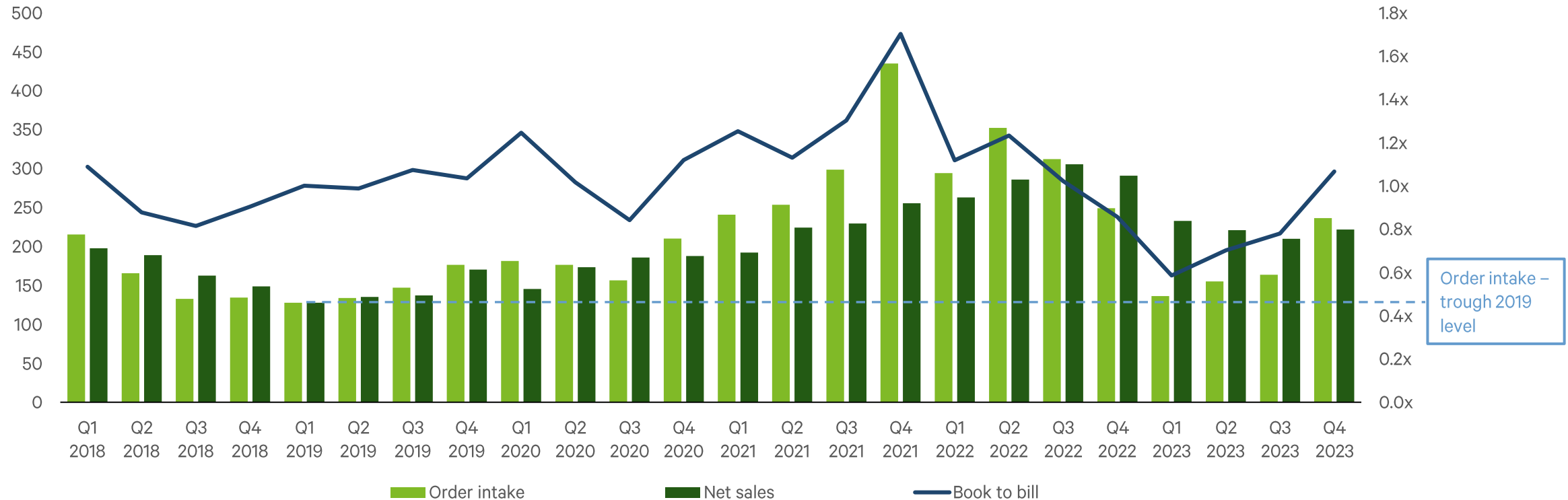
(+21%)

Spec-wins

Orders and sales through the cycle

Order momentum rebounded since Q1 2023 – QoQ sales growth turning positive and book to bill >1 in Q4 2023.

(in CHF million)

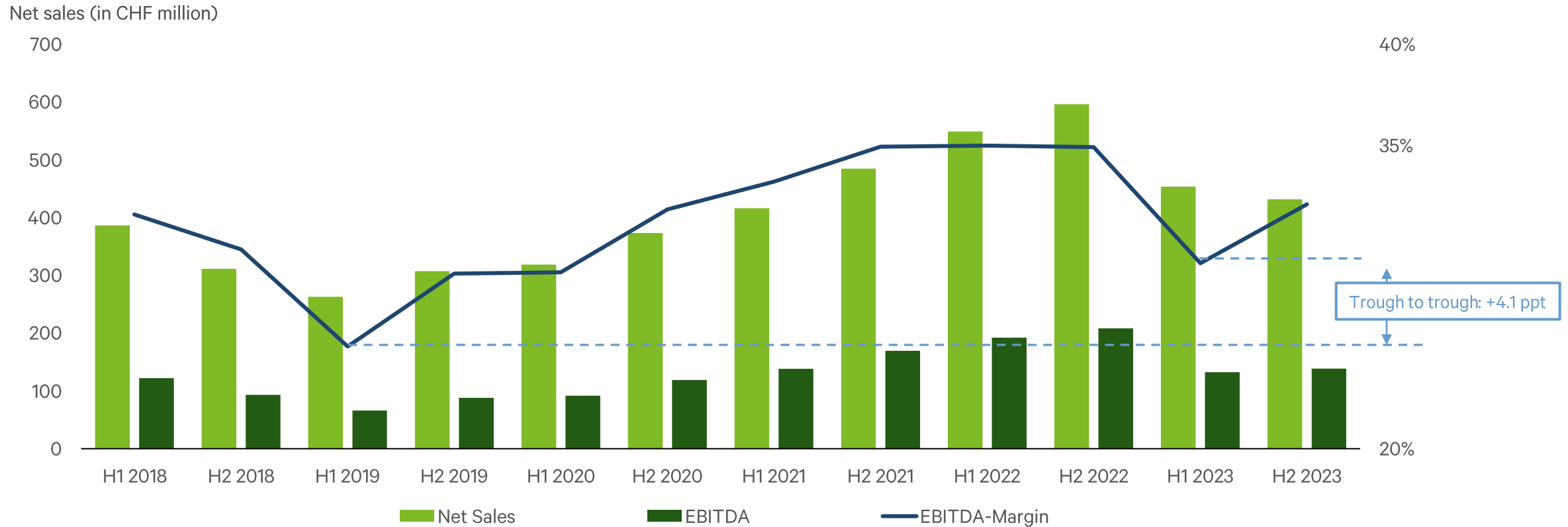


- 2023 order trough level compares to 2019 level, but was reached with a steeper decline
- Book-to-bill bottomed in Q1 at 0.6x but has passed 1.0x in Q4 2023 already

EBITDA margin resilient through the trough



A 4.1 ppt improvement on previous trough margin serves as proof of resilience of our business model



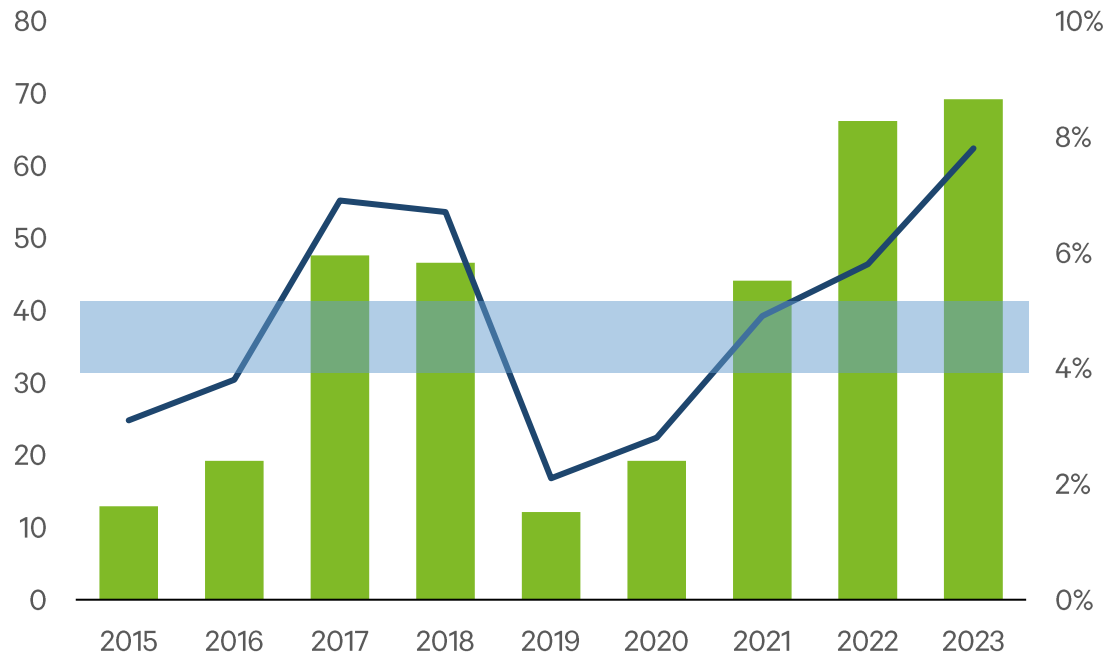
- VAT deployed its downside protocols throughout 2023 – readiness for expected market recovery is key with no slowdown in capacity and R&D investments

Investing and preparing VAT for market upturn

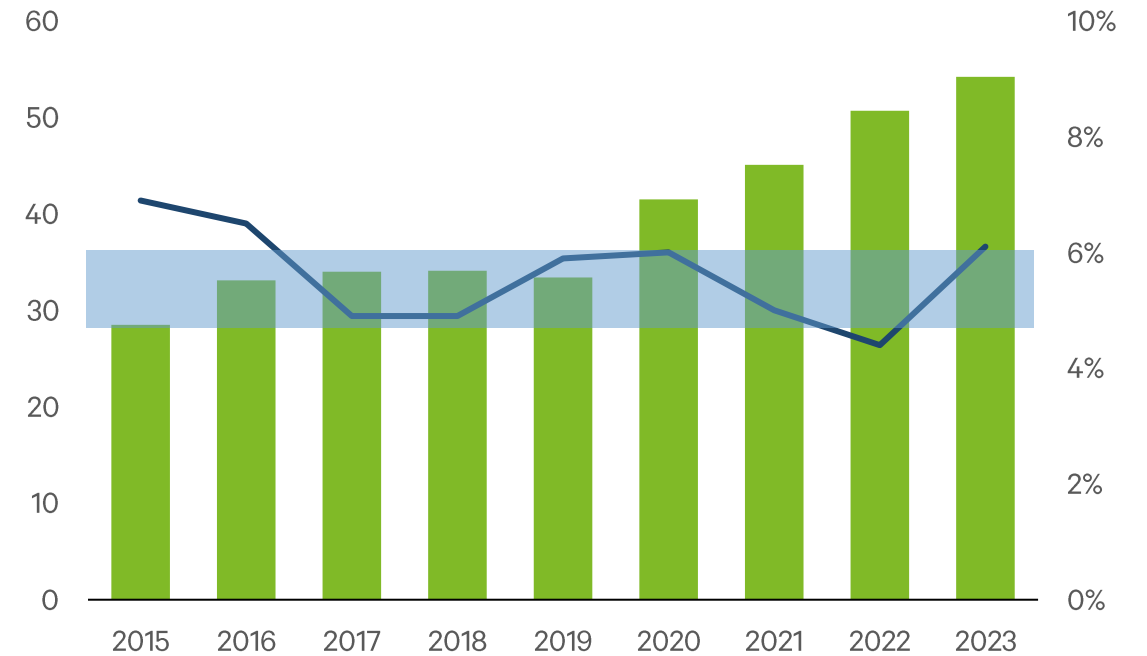


Capex and R&D above mid-term guidance bands

Net Capex (in CHF million)



R&D (in CHF million)



Capex in CHF % of net sales Guidance range

R&D in CHF % of net sales Guidance range

- VAT remains focused on investing through the cycle – elevated capex and R&D to sales ratios to normalize when sales recover from trough
- Current expansions in Malaysia / Haag progressing well

Finance summary



2023 financial results below record-breaking 2022 – preserving ramp-up capacity key focus

Achievements 2023

- VAT weathered semiconductors market trough in very good shape, utilizing downside protocols applied in previous down turns – focus on internal efficiency programs, releasing temp workers, short-term work program
- H2 showed first signs of recovery after a sharp downturn in H1; order flow expected to remain at a slow pace, but improving sequentially
- Capacity build-out in Malaysia and Haag, as well as Innovation Center progressing as planned

Finance priorities for 2024

- Apply flexible, but disciplined cost management to remain in the lower half of our stated mid-term EBITDA target range
- Provide ramp capabilities for expected market improvement
- Continue to manage our FX exposures to minimize impact on bottom line
- Deployment of new ERP in Switzerland in summer 2024 after successful rollouts in Romania and Malaysia

Dividend proposal

- CHF 6.25 per share – unchanged to 2022

02

Q1 2024 Trading Update



Q1 2024 Trading Update



- Q1 2024 orders of CHF 236 million up 73% versus Q1 2023 driven by improving global semiconductor investments and continued strong demand from Chinese customers
- Sales of CHF 199 million at upper end of guidance for Q1 2024
- Expected market development for 2024 and into 2025 confirmed; business activity to gain pace throughout 2024
- Guidance for Q2 2024: VAT expects sales of CHF 235 to 255 million

in CHF million	Q1 2024	Q4 2023	CHG. ¹	Q1 2023	CHG. ²
Order intake	235.8	236.5	-0.3%	136.4	72.8%
Net sales	198.5	221.8	-10.5%	232.7	-14.7%
Order backlog	323.9	291.6	11.1%	416.4	-22.2%

(1) Quarter-on-Quarter (2) Year-on-Year

03

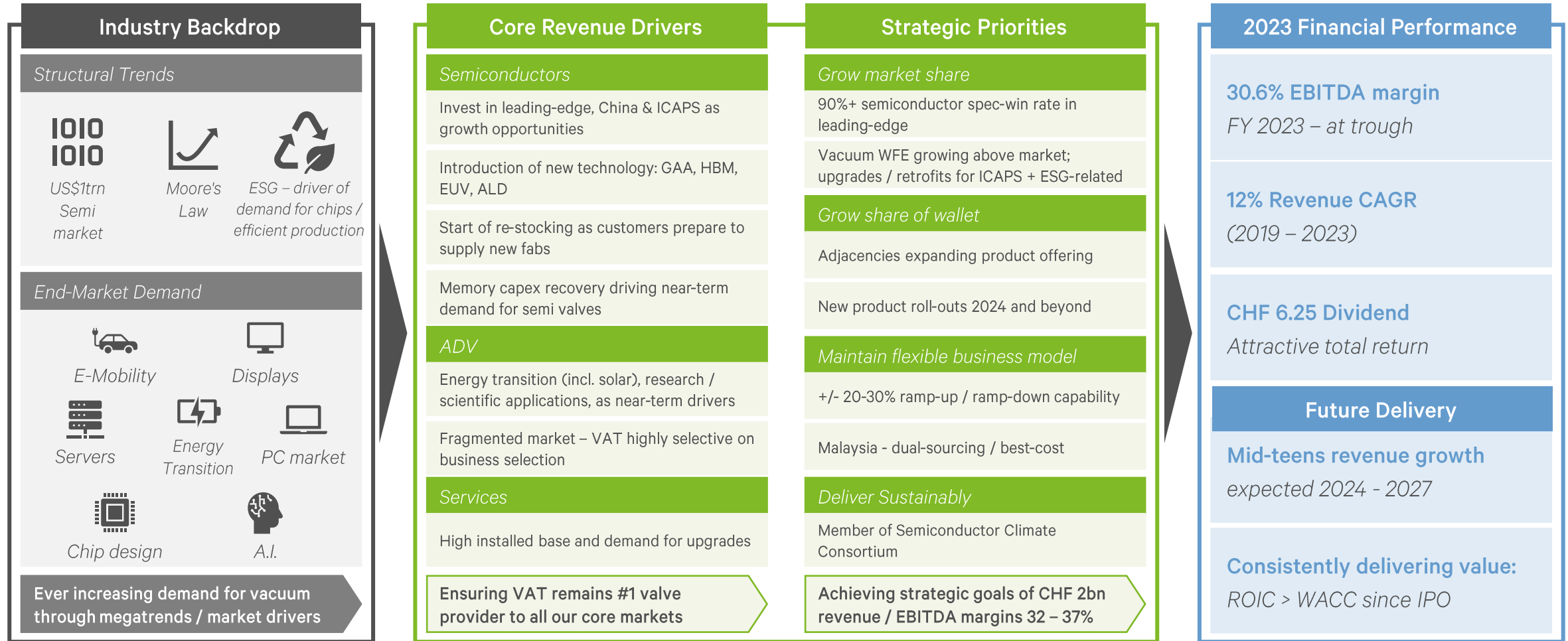
Our Focus Areas 2024

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VAT Value Proposition



USD 1trn semi market driving growth, expanding share-of-wallet, backed-up by technology leadership – resulting in outstanding financial performance.



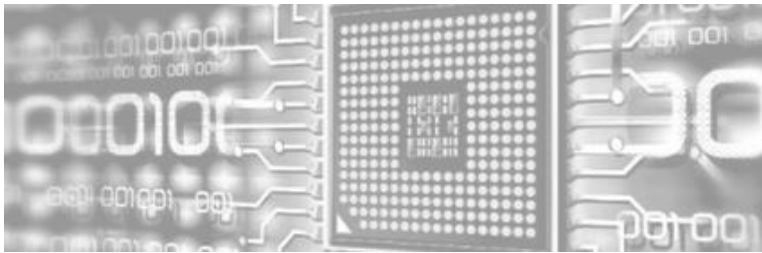
VAT - Market Drivers



Megatrends remain key drivers for VAT's end-markets.

Digitalization

(WFE +5%)⁽¹⁾



- IC market to double to USD 1tr by 2030-32
- WFE (Wafer Fab Equipment) to grow to USD 130-150bn in 2028-2030

Energy & Emissions

(Renewable Energy +10%)⁽¹⁾



- Increasing Energy demand (25,000 TWh in 2021 to 31,000 TWh in 2030⁽¹⁾) to be served using Renewable Energy

Population Growth & Aging

(Life Science and Analytical Instruments +6%)⁽¹⁾



- Population growth and aging drives demand for analytical and medical non-invasive equipment

Current Themes

Artificial Intelligence



Semi AI market growing at 50% CAGR

Regionalization



China represents c. 1/4 of revenues

ESG



Increased focus of customers on supply chain

Sources: TechInsightsWFE Sep23; Next Move Strategy Consulting RenewableEnergy Market Dec22; MarketsandMarkets Life Science Instrumentation May23

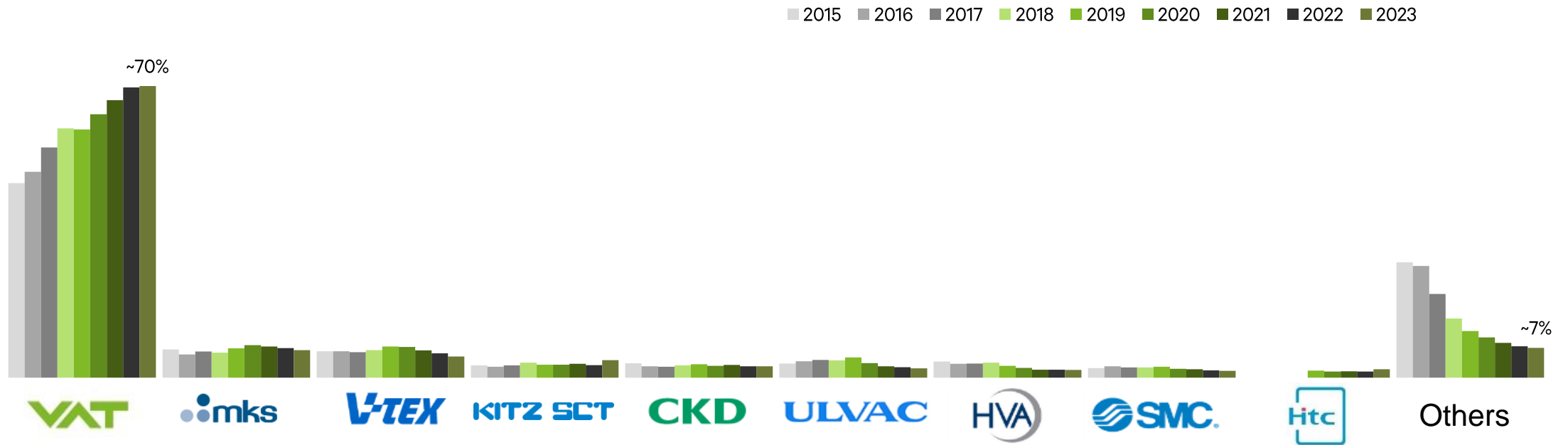
(1) CAGR 2022 – 2028; (2) ExxonMobil Energy Demand Global Outlook Aug23

Semi – Leadership position



VAT is the undisputed vacuum valves market leader - strong market position built on years of customer intimacy and superior product design

Market share Semi & related⁽¹⁾



TechInsights February 2024

(1) Semi & related includes Semiconductors, Displays, Solar, LED Lighting, Hard Disk Drive

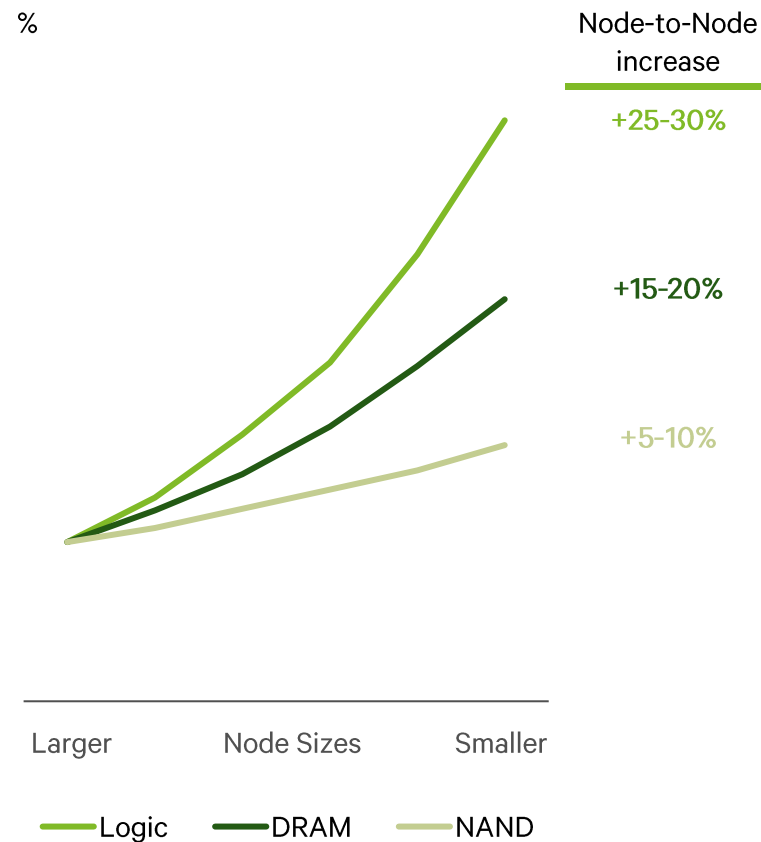
Semi – Increasing Vacuum Content

Strong growth of leading-edge semiconductors is cascades down to increasing vacuum content

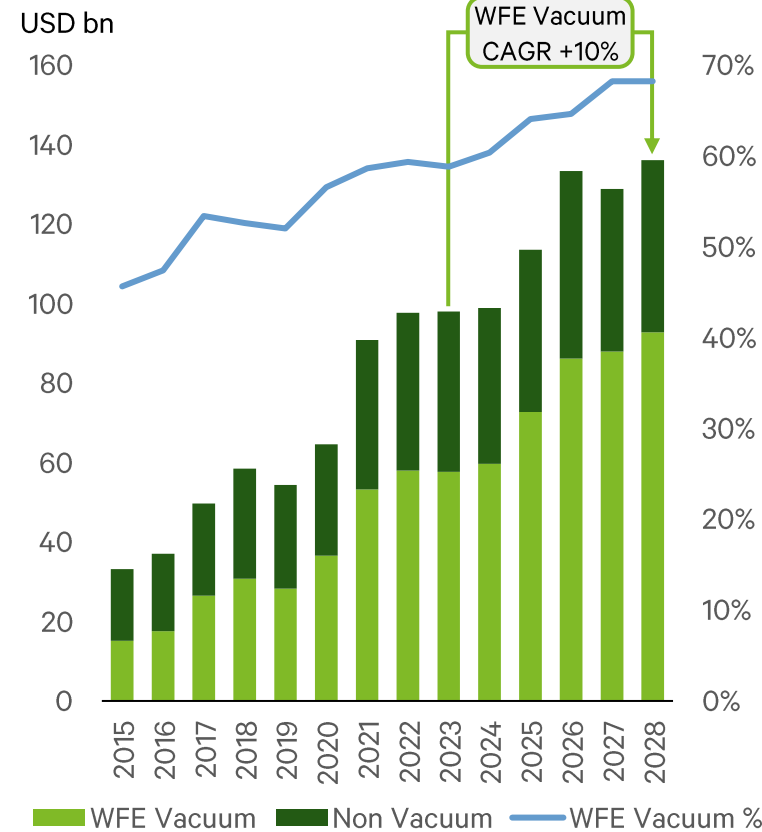
Fastest growth in leading edge/advanced nodes, VAT's stronghold ...



... capital intensity expected to increase from node to node



... driving strong medium-term growth in overall WFE and even faster on vacuum based WFE



Note: WFE growth forecast, TechInsights Inc. December 2023; VAT-internal analyses.

Semi – Capacity Build-out

2025 will be a busy year with ~100 fabs coming online in next 2 Years – 80% of which leading edge



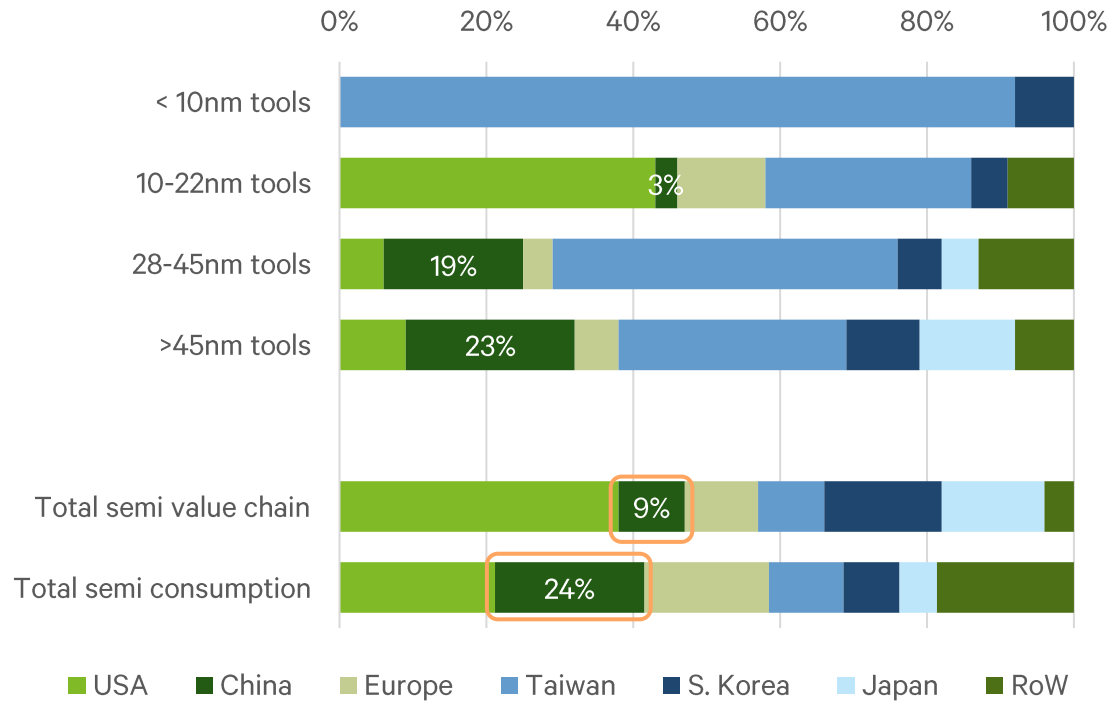
Source: Semi.org December 2023.

Semi – China



VAT remains able to deliver to customers both in China as well as tools that can still be imported to Chinese fabs

China focused on closing the Supply / Demand Gap



VAT considerations

- 1 VAT valves are not under any restrictions / sanctions
- 2 Chinese mature-node expansion not possible without VAT valves
- 3 Expansion of mature nodes is not temporary – will continue into 2024
- 4 Need for "in China for China" localization strategy to be assessed by VAT

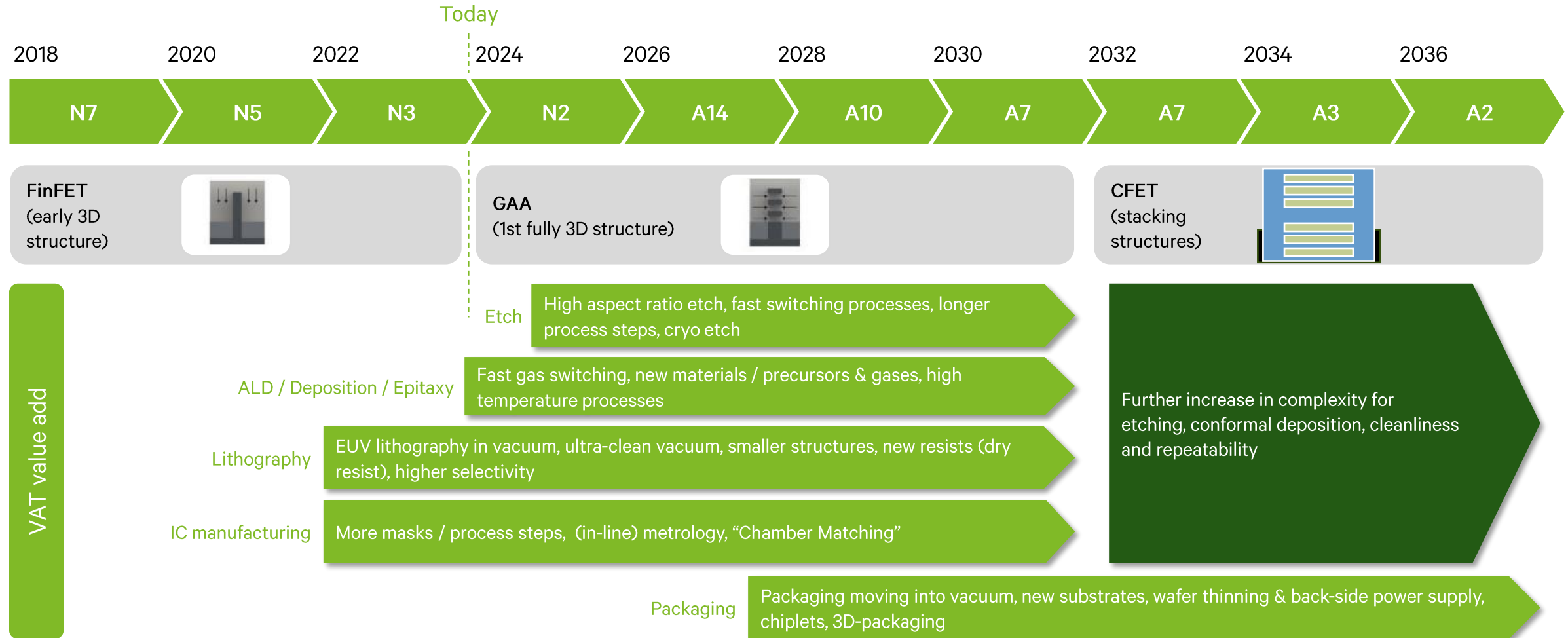
- Ambition to achieve a significant market share in the trailing-edge / mature end of chip manufacturing

Source: Morgan Stanley Research

Semi – Technology Roadmap



Anticipating inflection points in semiconductor technology progression – VAT will be at the forefront

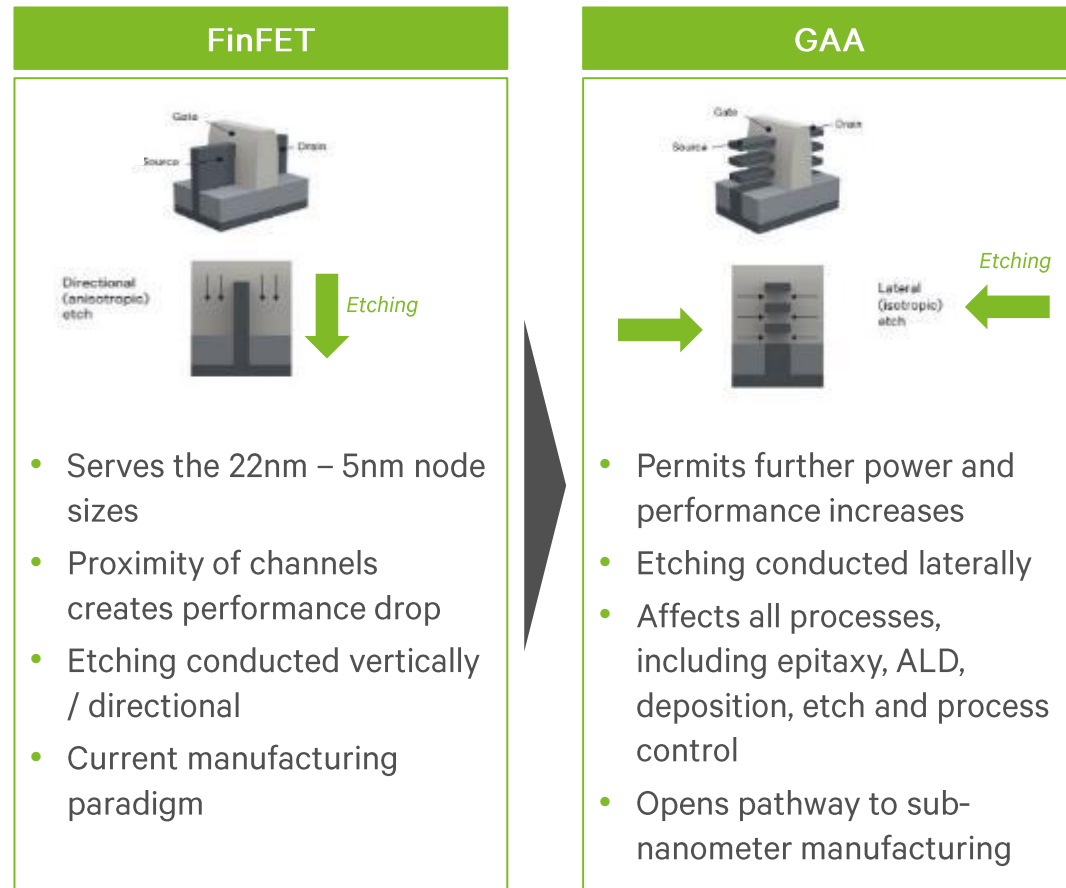


Source: IMEC

Semi – Gate all Around (GAA)

The introduction of GAA increases capex and vacuum content - OEMs currently fielding new tools

GAA represents a revolutionary change in manufacturing transistors



Source: LAM Research.

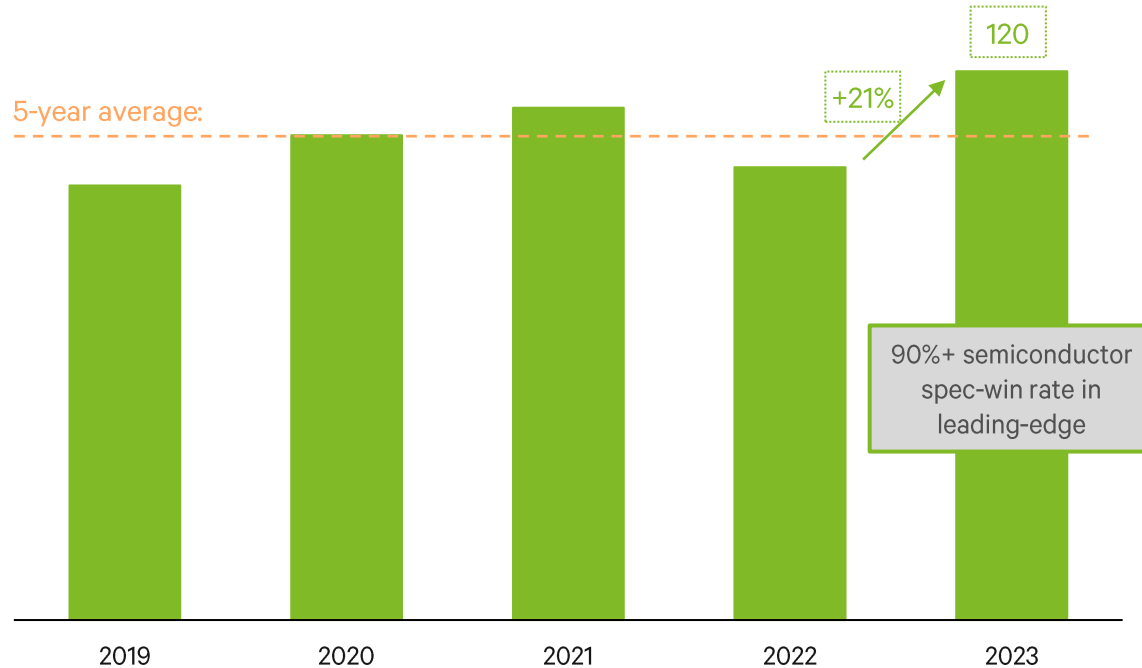
VAT considerations

- 1 Small node size – more process steps & more processes under vacuum
- 2 Expands TAM for VAT in new applications
- 3 Overall increase of WFE by at least 10%
- 4 Requires installation of new toolsets
- 5 Opportunity to solidify market position in leading edge

Semi – Specification wins

Technological leadership and our spec-wins serve as a barrier to entry

2023 downcycle did not decelerate spec-win velocity



- SEMI: 50%+ of all wins - includes both wins in leading-edge and ICAPS
- Adjacencies contributing to strong semi spec-wins
- ADV: c. 1/3 of spec-wins – good pipeline developing with project business

Client specification process serves as barrier-to-entry

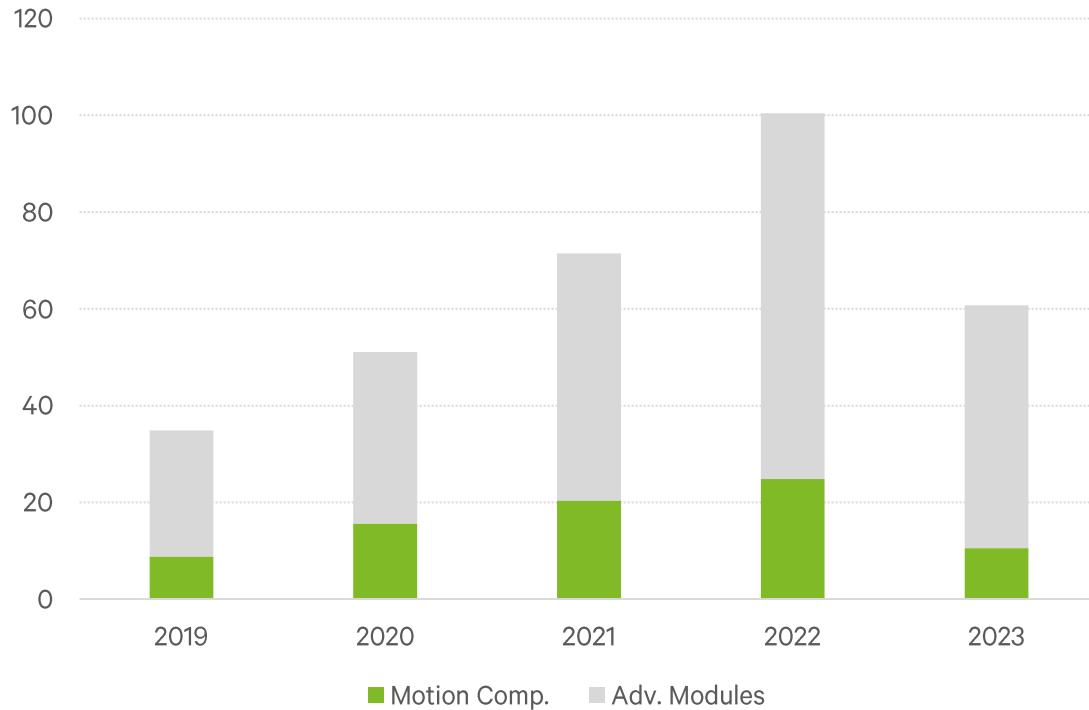


- Process is costly and time-intensive for OEMs and VAT
- Spec-win does not translate into order immediately

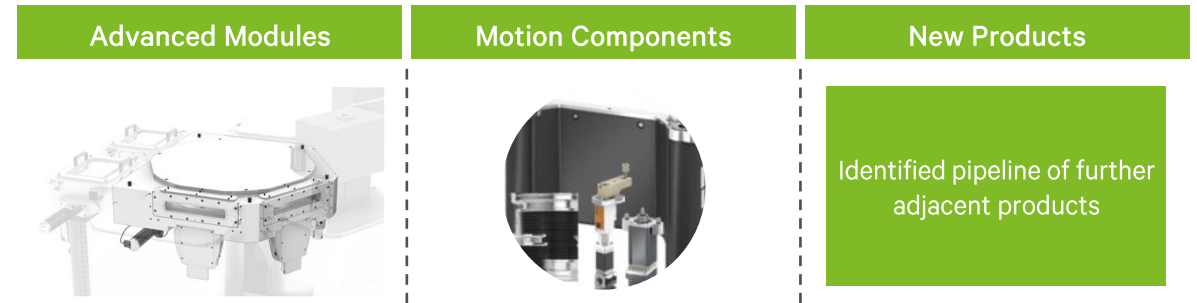
Semi - Adjacencies

Continuing on growth path: on track towards 2027 target of CHF 300 million

(in CHF million)



- Not in competition with customer business
- Margin profile of adjacent business in-line with VAT profile



VAT Adjacencies Proposition – more than manufacturing

VAT Offering
 Product integration
 Design excellence
 Vacuum expertise

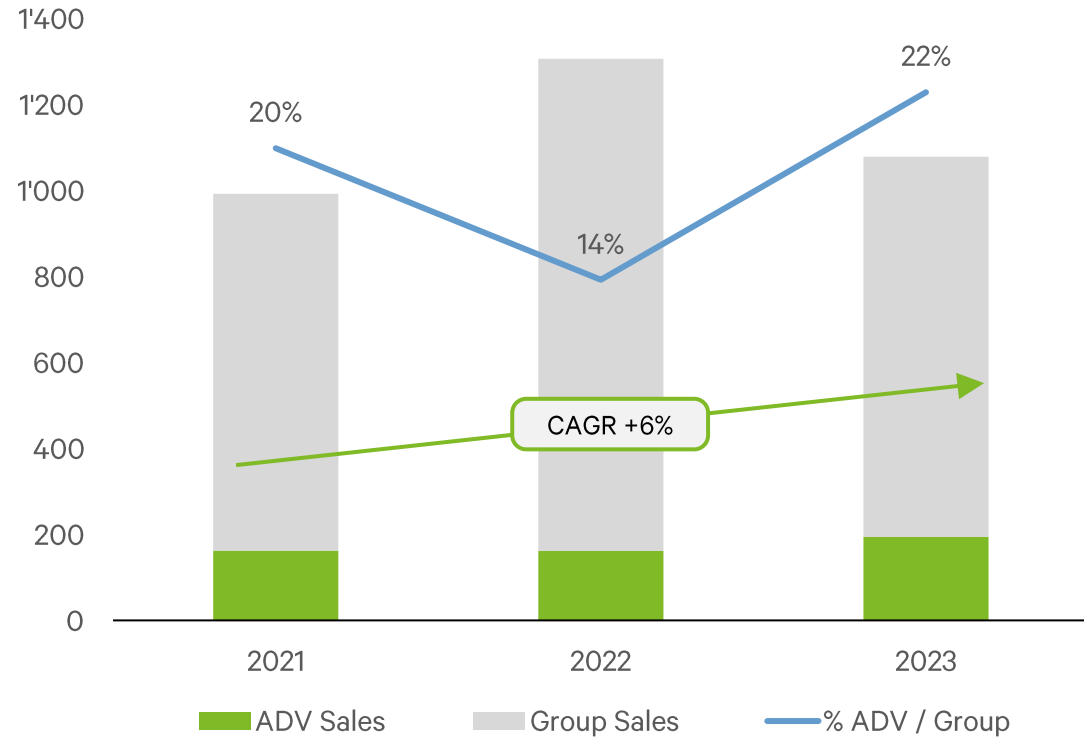
VAT Innovation
 Engineering excellence
 Testing / simulation
 Technology integration

- VAT can support customers...
- ... and improve existing designs...
- ... with VAT engineering

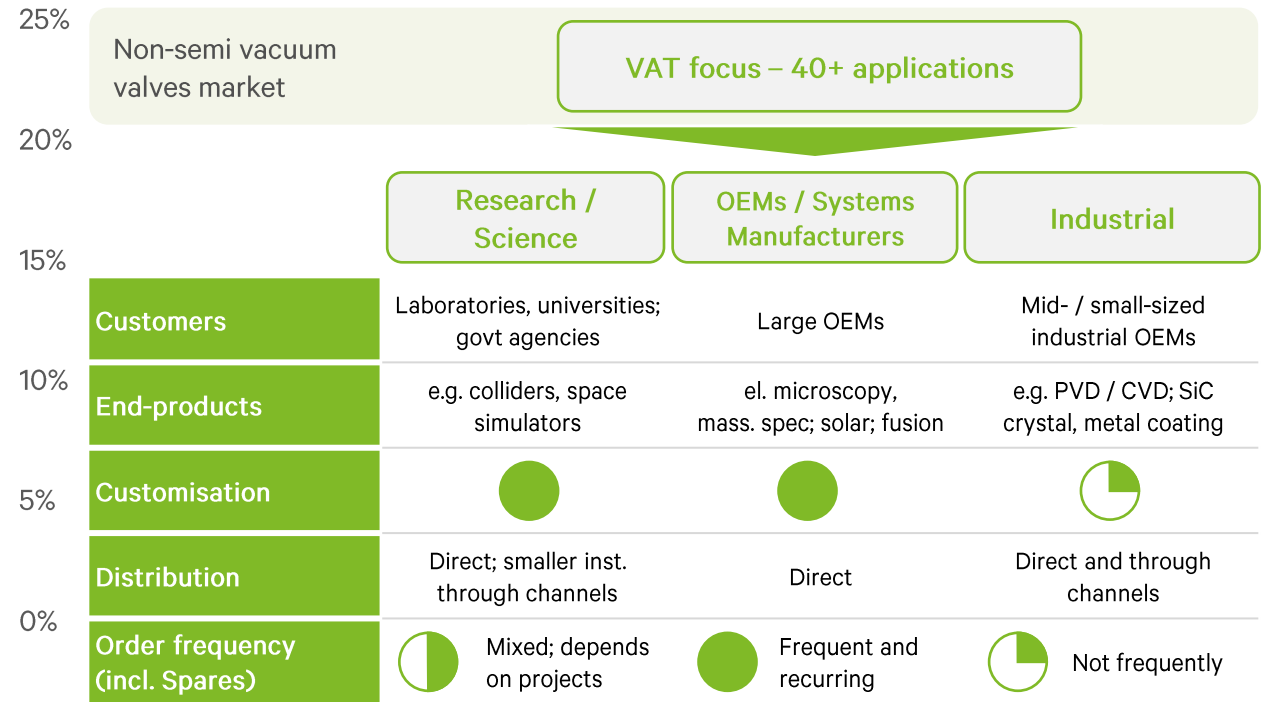
ADV – Our heritage and attractive markets

ADV business is focused on high-end, non-semi applications. Strict business selection allows VAT to deliver growth and higher margin compared to Semi.

ADV sales growing stably



Business selection enhances group growth and margins



Identified Emerging Applications

3D printing	e-Vehicle (coating / drying)	Energy (fusion, uranium enrichment)	Quantum Computing
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1600+ Customers	100k+ Valves sold	~CHF8k average order
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ADV - Applications

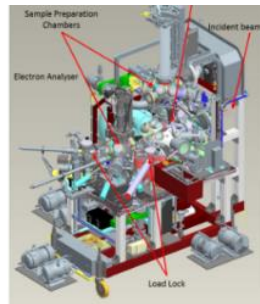


Exemplary core end-markets for ADV demonstrating VAT differentiation and financial performance

Research & Science

e.g. Particle Accelerator

- **VAT heritage:** CERN work on accelerators
- **Drivers:** Research spending; tailored solutions for highest vacuum conditions



- Requirement for lowest outgassing, highest cleanliness and radiation hard valves
- 100 of valves required - depends on length

VAT opportunity

- Approx. 60+ accelerators working globally
- VAT all-metal valves required
- Experiments unlikely to end

OEMs / Systems Manufacturers

e.g. Energy Transition

- **Drivers:** Move to non-fossil fuel society
- **Solar:** Coatings on solar cells
- **Nuclear:** UF6 enrichment cells



- 200+ valves used in solar tools



- Vacuum and chemical valves

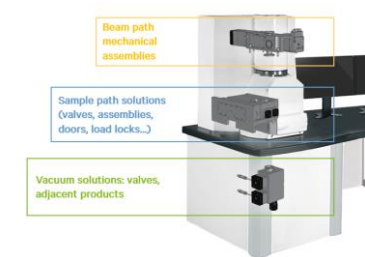
VAT opportunity

- **Solar:** Market will grow considerably '19 – '28, despite slowdown
- **Nuclear:** 50+ nuclear plants under construction, 160+ planned

Industrial

e.g. EL Microscopy

- **Drivers:** Used in life & materials science, semiconductors
- Enlarges small features or objects otherwise invisible to human sight; done by using electron beam rather than light which is used to form images in optical light microscopes



- EL Microscopy cost: c. US\$100k-4.5m
- 3 – 10 VAT valves per system
- Vacuum increases mean free path of electrons and allow them to pass through electron column and specimen chamber without getting scattered by air molecules

VAT opportunity

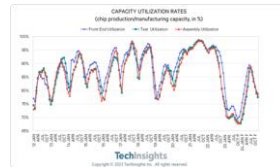
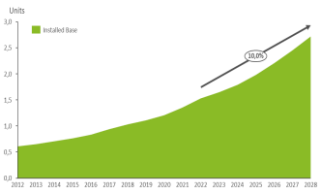
- Strong growth expected: e.g. batteries and new materials, also in semi-inspection and metrology – drives overall SoW

Global Service – Growth Drivers



VAT's service offering expected to develop in-line with semi market – installed base, retrofit adoption and new fabs will provide growth. ESG provides additional growth driver

Services revenue generated on basis of installed VAT valves, retrofits and adjacencies offering



VAT
repairable valve
installed-base

Average annual fab
utilization rate

Retrofit adoption rates of
competitors' valves

New fab construction
- linked to dry pump sales

Semi Adjacencies
products

Services products on offer

Spare parts & repairs; gates spare valves & upgrades

Retrofits

Subfab valves

Adjacency retrofits

IDM / OEM ESG considerations driving demand for VAT service products with measurable ESG impact



Spare gates with less
elastomers

Upgrades with lower energy
consumption

Retrofits with more efficient
VAT products

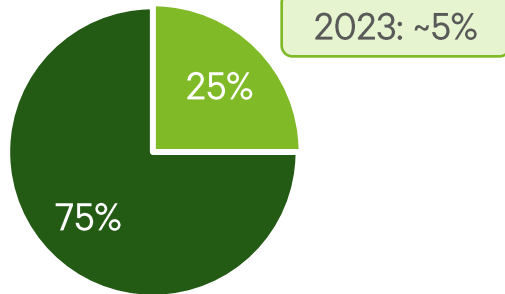
Higher spec valves – less
energy consumption

Smaller footprint
modules, efficiency

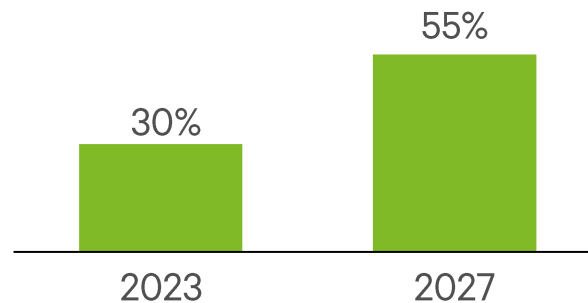
Flexible Operating Model



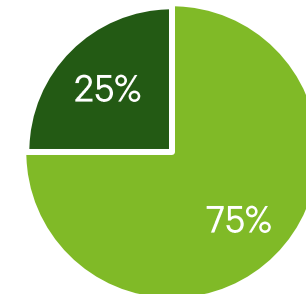
Proven downside protocols enabled VAT to reach margin guidance band in Q4 2023



Up to 25% flexible workforce group-wide (factory workers in CH, MY and RO)



Best cost country sourcing is expected to reach more than 55% by 2027 compared to 30% in 2023 (2022: 25%)



75% of our components are purchased from outside and around 2/3 of our costs are variable

Capacity Expansion



Investing Ahead of Market Demand Cycle

>CHF 130m in Capacity Investments since 2020

2 primary production sites with total output capacity of CHF >2B by 2027

Factory output (CHFm)

 **Haag, Switzerland**

2023  500



2027  1,000

 **Penang, Malaysia**

2023  ~260

2027  >1,000

Doubling Capacity by 2027

-  VAT Sales & Service Centers
-  VAT Factories

Innovation Ctr. – Haag, CH



Site 1B – Penang, MY





In-House Weld Capacity – RO



Site 1A – Penang, MY



-  VAT Sales & Sales Partners
-  VAT Service Hubs

04

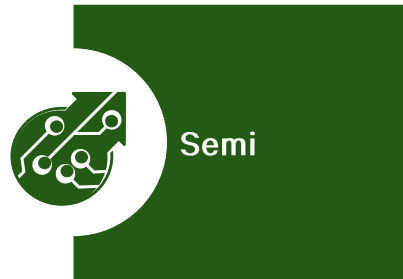
Outlook

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Short term market outlook



2024 – year of transition



2024 expected market growth

- Demand from China, especially related to ICAPS expected to continue into 2024
- Additionally, investments in leading edge to grow due to demand of 3D DRAM and GAA tools, demand for NAND remains muted
- Market research estimates WFE between US\$90 – US\$100bn

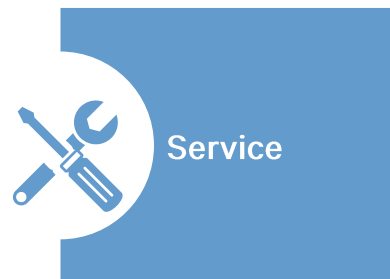
VAT 2024 Performance⁽¹⁾

- Continued growth of QoQ order intake
- Sales and EBITDA expected to be higher in 2024 vs. 2023
- Adjacencies will see product launches that will expand product offering



- Overall market expected to grow mid-single digits
- Various applications – especially energy transition / nuclear fission, science, SiC - expected to show continued growth

- Continue to drive growth in strategic focus areas offering attractive margins
- Develop follow-on orders to e.g. energy transition; take further market share in markets with established foothold



- With increasing utilization rates, demand for consumables and spare parts to return
- New installs or retrofits order flow to return gradually
- Service market expected to grow by low single digits

- Harnessing installed base and capture upgrade and retrofit opportunities
- Starting to build out Adjacencies services offering; increase cooperation with IDMs and fabs
- ESG requirements will provide retrofit sales opportunities

(1) expected, year-on-year

Qualitative outlook and guidance for Q2 2024



Early 2024 remains challenging – aiming for continuous and sequential growth

Group

- Investment conditions for Semiconductor segment expected to improve gradually over course of 2024 – acceleration expected towards H2, which will be followed by a record 2025
- Further profitable growth forecast in Advanced Industrials markets, especially from energy transition applications
- Global Service segment expected to rebound on increasing fab utilization rates, and higher demand for upgrades and retrofits
- VAT expects higher sales, EBITDA, EBITDA margin, net income and free cash flow in 2024 vs. 2023, but FX headwinds likely to prevail
- Capital expenditure at circa CHF 70 – 80 million; R&D investments continue to remain high as VAT invests into its people and infrastructure

Q2 2024 guidance

- VAT expects sales⁽¹⁾ of CHF 235 – 255 million

(1) At constant foreign exchange rates.

05

Appendix

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VAT Management Team



VAT leadership refreshed with a track record of success internally and externally



Urs Gantner
CEO



Fabian Chiozza
CFO



Thomas Berden
COO



Finn Felsberg
EVP Semiconductor
Solutions Group

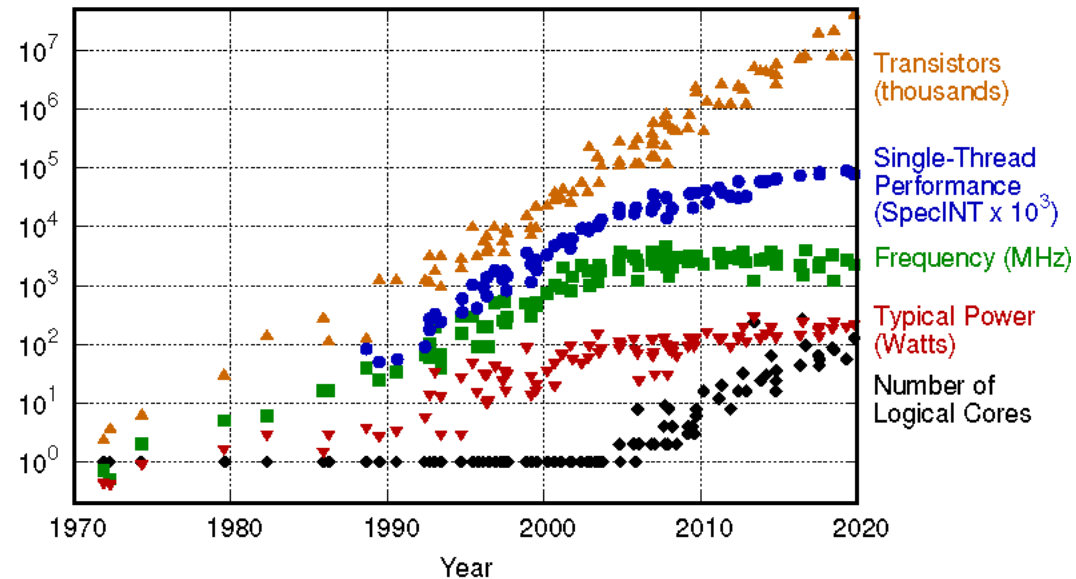
Why Do You Need a Vacuum?

Moore's Law has brought semiconductor manufacturing to the atomic level – no tolerance for impurities in manufacturing

Transistor Density Increases

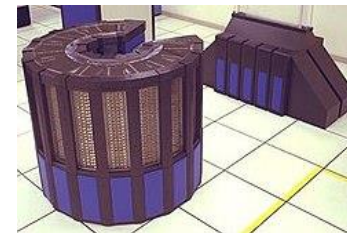
- Chip design goes from 2D to 3D

48 Years of Microprocessor Trend Data



Moore's Law in Practice

- Lower energy consumption, higher performance, smaller size



Supercomputer – 1985

c. 2.5 tonnes
 1.5m²
 1.9bn FLOPS
 Use: Nuclear research



Smartphone – 2020

c. 160 g
 15 x 7 cm
 11 trn FLOPS
 Use: Social media

- Chip industry today is working at atomic level (silicon atoms c. 0.21nm wide, a human hair is 90,000nm)
- Node sizes have moved from 90nm to 14, 10, 7, 5, 3 nm
- A single atom, speck of dust can damage a chip – perfect "nothingness" is crucial to the chip industry

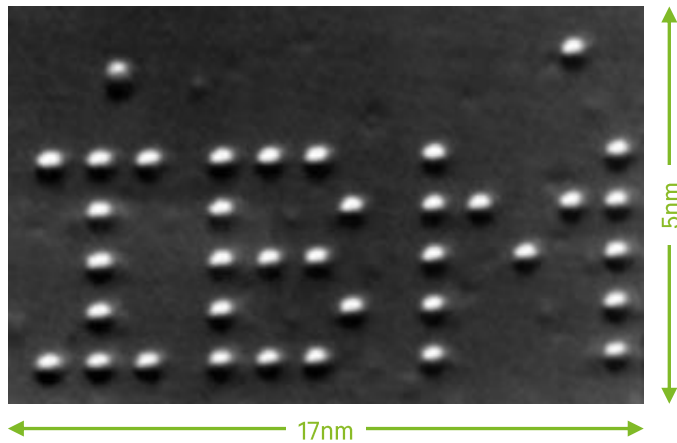
Sources: Scott Fulton, Datacentreknowledge.com; Apple; Adobe.

Semiconductor Manufacturing Developments

There are 3 key drivers of progress: technology – complexity - capital

Manufacturing technology

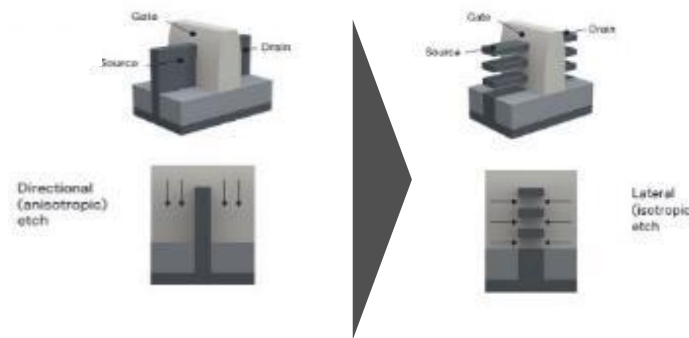
- e.g. deposition: handling of single atoms



- In manufacturing, single atoms are placed during the deposition process
- Allows extremely precise structures or layers
- Completely in a vacuum

Complexity

- Increase in process steps (more than 2'000 from c. 700 today)



- New chips (GAA architecture) will be etched from the side in future, requiring more process steps
- Need for new machinery – in a vacuum

Capital requirement

- state-of-the-art production machines cost over US\$150m



- A chip factory (fab) costs several billion USD
- Investment decisions require foresight and involve commercial risk

Vacuum Valves – Our Core Product



VAT offers both highly tailored valves as well as standard products

Based on three core valve types (transfer, control & isolation) our product portfolio comprises over 140 valve series with more than 8,000 customized products and 2,500 standard products.

- VAT's product line includes:
- Gate valves and pendulum valves
- Control valves
- Transfer valves and doors
- Angle valves and diaphragm valves
- Customized products for high purity and industrial applications
- Flange connections & bellows
- Customized multi-valve modules



Valves are Critical to Semiconductor Tools

A tool will have multiple valves installed to control and separate vacuum from atmosphere

Vacuum Components

- Load-Lock Modules (LL)
- Transfer Modules (TM)

Vacuum Motion Components

Substrate Lift Systems (LS)

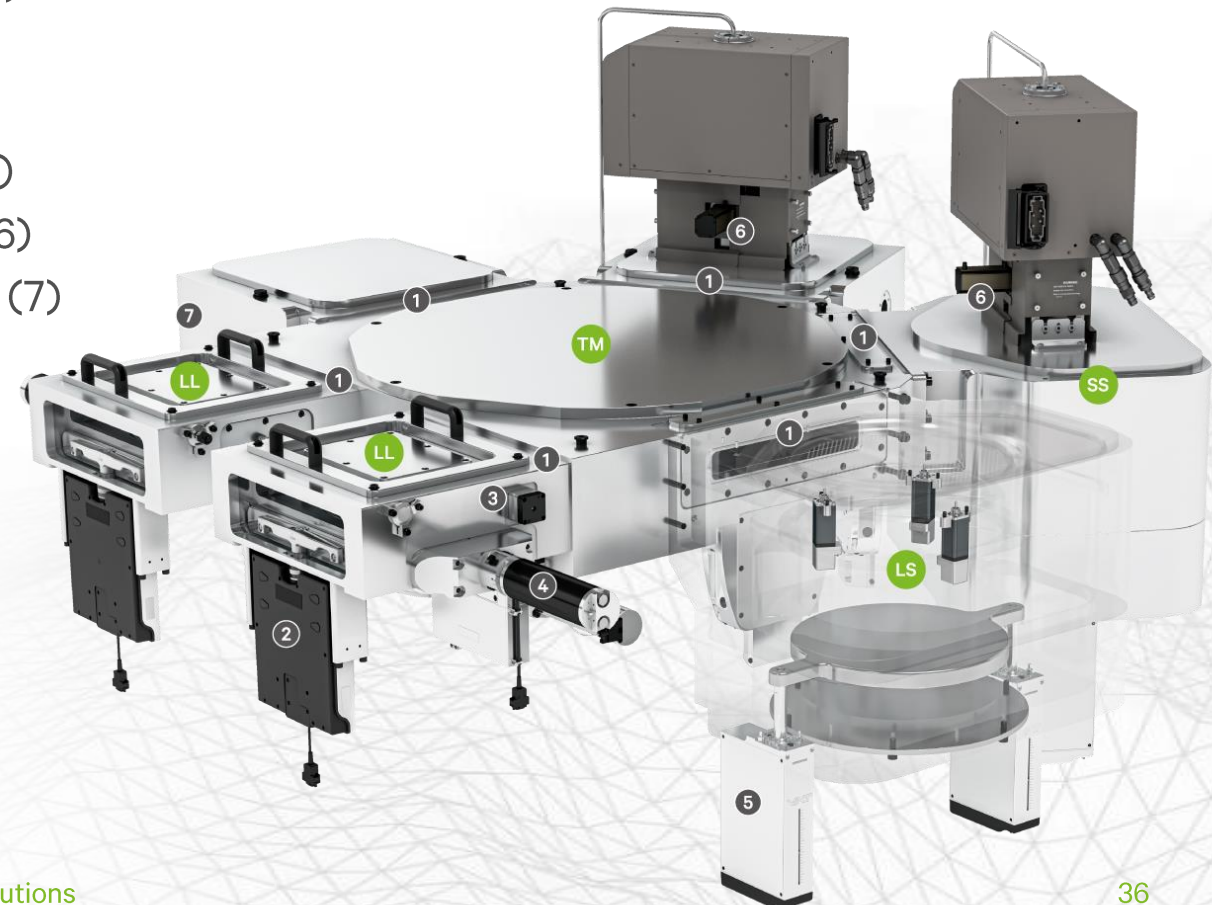
- Wafer Lift Systems
- Wafer Cassette Lift Systems
- Wafer Tray Lift Systems
- Solar Cell and Display and Substrate Lift Systems

Movable Shield Systems (SS)

- Shield Mover Systems
- Ring Lift Systems

Vacuum Valves

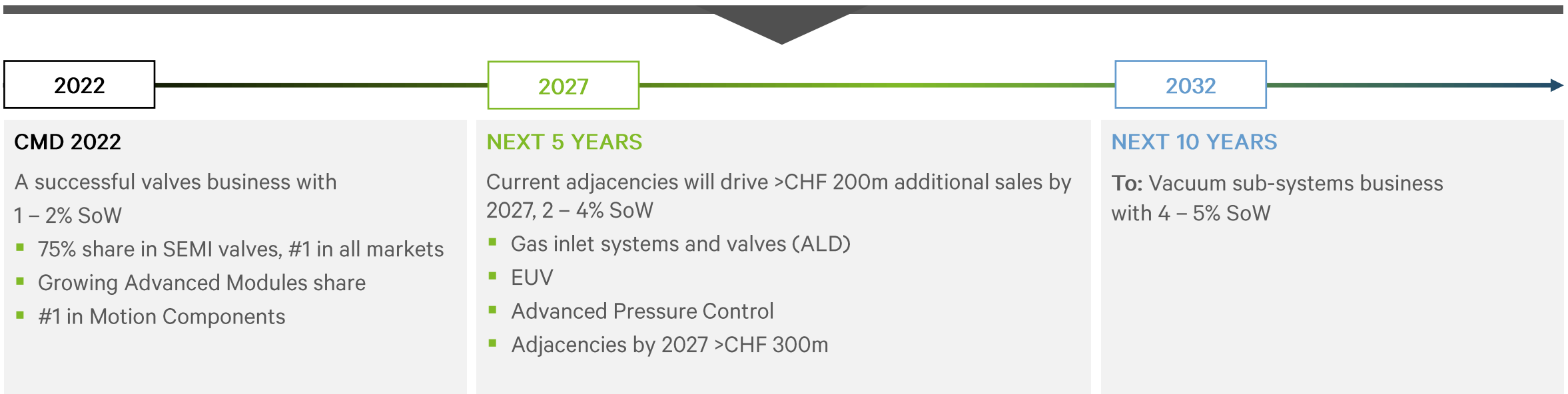
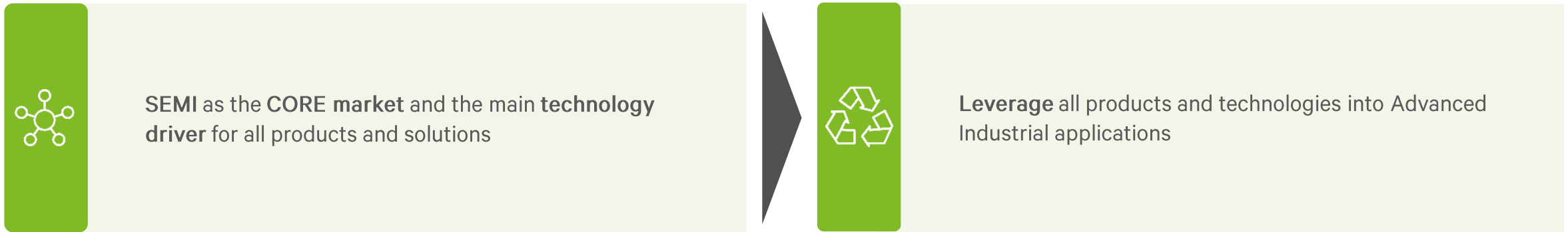
- Vacuum Transfer Valves (1)
- Vacuum Transfer Doors (2)
- Vacuum Angle Valves (3)
- Vacuum Gate Valves (4)
- Vacuum Control Valves (5)
- Vacuum Cylinder Valves (6)
- Vacuum Pendulum Valves (7)



Our Mid- and Long-Term Strategy



Ambition is to move beyond valves to the broader vacuum domain – growing our SoW with customers






Financial Guidance



VAT has a track-record of delivering on guidance

Stakeholder value proposition 2022 – 2027

Our sustainable value creation is based on 3 key pillars:

	Growth 	Profitability 	Capital allocation 
Main drivers	<ol style="list-style-type: none"> 1 Market / WFE growth 2 Share of wallet and adjacencies 3 Market share gains 	<ol style="list-style-type: none"> 1 Operational excellence 2 Cycle management with operating flex model 3 Best cost country footprint 	<ol style="list-style-type: none"> 1 Leading edge innovation 2 Capex ahead of the curve 3 Strong dividend focus
Key metrics	<p>Low double digit⁽¹⁾ Sales growth 2022-2027</p>	<p>32-37% EBITDA margin band</p> <p>60-65% Free cash flow conversion rate</p>	<p>5-6% of sales R&D rates 2023-2027</p> <p>4-5% of sales Capex rates 2023-2027</p> <p>Up to 100% Dividend payout of free cash flow to equity</p>

(1) At midpoint of sales guidance of CHF 1.8-2.2bn in 2027

VAT Sustainability Report 2023



Overview of changes compared to the 2022 report and ESG highlights of 2023 edition



Improvements Compared to the 2022 Report

- ✓ Incorporating additional information as requested by ESG ratings
- ✓ Implementation of the Swiss KVI requirements
- ✓ Improved data quality and data availability

ESG Highlights 2023



Announcement regarding the newly created Environmental Product Declarations (EPDs)

Our Products



Decrease of GHG Scope 1 and 2 (market-based) emissions by 45%, driven by changes in power mix in Malaysia

GHG emissions and climate protection



Increase of renewable energy proportion of the energy mix from 55% (2021) to 68% (2023)

Highlights p. 9 and Energy consumption



Increase of the employee engagement score for the 7th year in a row from 3.94 (2022) to 4.09 (2023)

Highlights



Female new hires increased to 23.8% (2023) from 21.9% (2022); target of 23% by 2027 on track

Diversity, inclusion and equity



Reduction of no. of accidents from 49 (2022) to 32 (2023)

Occupational Health and Safety

Enabling the USD 1trn Semiconductor Market



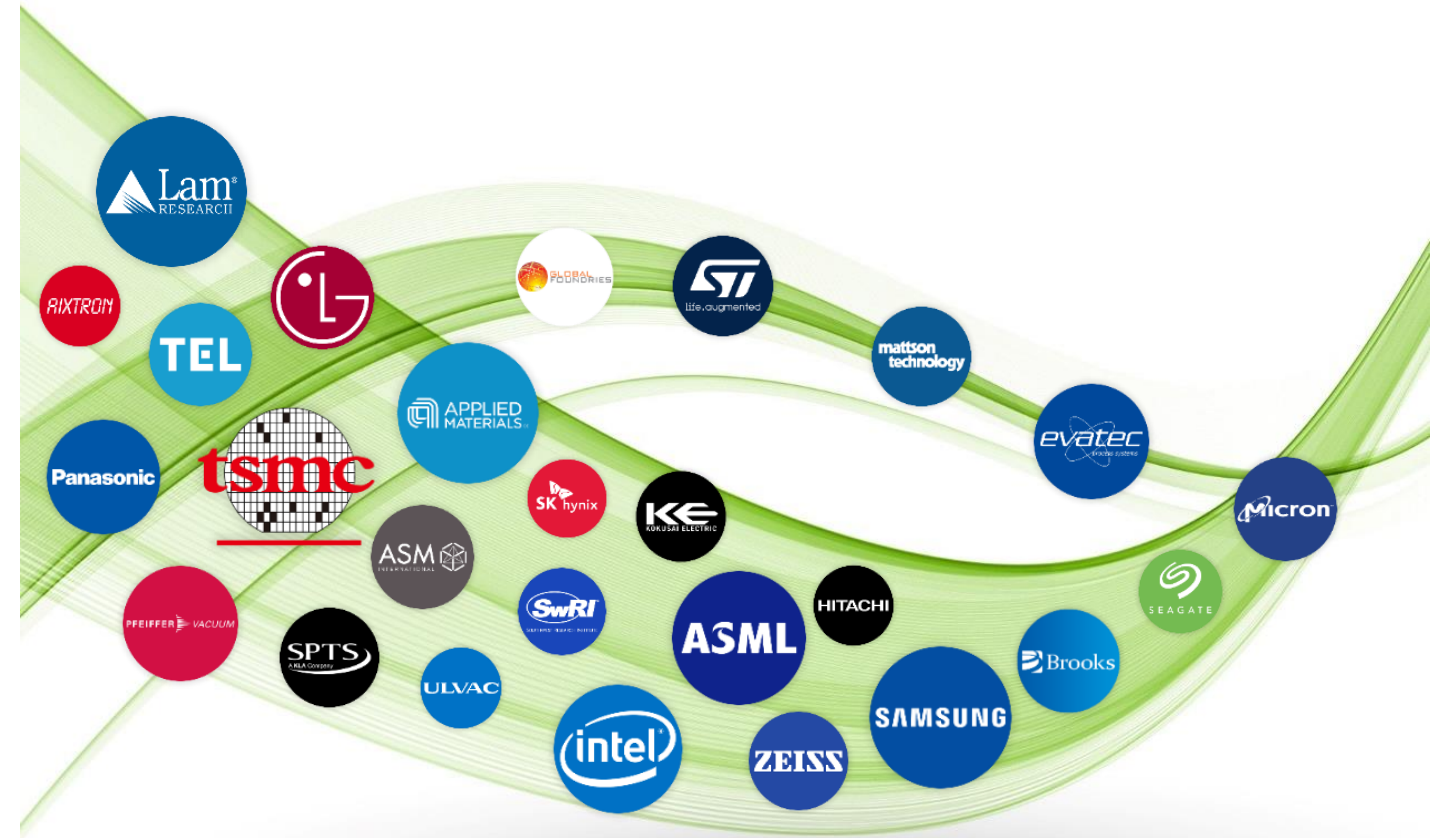
VAT SEMI counts the leading WFE OEMs to its customer base – delivering on highest manufacturing standards

VAT is crucial to progress in semiconductor manufacturing

- Moore's Law continues to hold up and drives node sizes down – driven by increased calculation needs and energy consumption considerations
- As node sizes decrease, more production steps move into vacuum
- Simultaneously, a wafer will go through more production steps overall – sometimes over 2,000 steps
- VAT products are used in all critical semiconductor manufacturing steps:



Serving Clients across the Semiconductor Value Chain



Trusted Partner for "Big Science"

VAT ADV continues work on high profile scientific projects and technologies with world-class expertise in vacuum



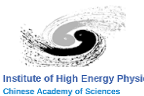
- LHC hunts for the basic constituents of matter
- VAT sector valves help avoid leaks over the large LHC volume



- NASA's Europa Clipper Mission to Jupiter's
- VAT developed a key valve for the mission's mass spectrometer



- World's largest magnetic fusion device
- Dedicated VAT "ITER Catalog"; all-metal 1.6 m valve developed for ITER is world's largest



- Provides beam facilities for researchers
- VAT valves are part of the IHEP particle accelerator



- Built to detect gravitational waves
- VAT valves integrated in the long LIGO laser tubes



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