



Semiconductor
Climate Consortium
FOUNDING MEMBER



PASSION.PRECISION.PURITY.

VAT – We change the world with vacuum solutions

Investor Deck Winter 2023

www.vatvalve.com

Investment case

VAT is the clear technology and market leader in the vacuum valves market



Sustainable long-term top-line growth driven by secular growth factors: digitalization and the data-driven society, energy transition and aging



Undisputed market leadership due to technology leadership, coupled with global scale and customer intimacy, with a commitment to customer needs



Superior product portfolio offering differentiated by VAT core competencies, tailored to customer specifications and an attractive TCO proposition



Highly flexible operating model permits rapid upscale capabilities in upturn, resulting in superior financial returns – and retains profitability in downturns



Clear multi-pillar strategy to achieve strategic plan VAT2B by 2027 resulting in an attractive total return story – backed by sustainability mindset

Q3 2023 trading update

Group key figures



- Lower semiconductor equipment spending leads to weaker Q3 orders and sales compared to previous year; orders sequentially higher vs. Q2 and Q1
- Operating cost adjustments and preparations for return to growth in 2024 continue, including R&D and investment in production capacity
- Orders down 48% year-on-year to CHF 164 million; group net sales decreased to CHF 210 million, down 31% vs. Q3 2022

Outlook 2023

- VAT believes market bottom has been reached, modest sequential demand improvement expected
- Conditions for Valves segment are expected to gradually improve in Q4 2023 and into 2024, with increased orders in Advanced Industrials; Global Service segment sees weaker market conditions

Guidance for Q4 2023

- EBITDA margin for H2 2023 expected to be higher compared to H1 but slightly below the target range of 32-37%
- VAT expects Q4 2023 net sales of CHF 200-230 million

Q3 2023 trading update



VAT Group

in CHF million	Q3 2023	Q2 2023	Change ¹	Q3 2022	Change ²	9M 2023	9M 2022	Change ²
Order intake	163.7	155.2	5.5%	312.2	-47.6%	455.4	960.6	-52.6%
Net sales	209.8	221	-5.1%	305.5	-31.3%	663.5	854.5	-22.4%
Order Backlog	282.1	339.7	-17.0%	563.0	-49.9%	282.1	563.0	-49.9%

Valves

in CHF million	Q3 2023	Q2 2023	Chg. ¹	Q3 2022	Chg. ²	9M 2023	9M 2022	Chg. ²
Order intake	135.8	120.3	12.9%	244.1	-44.4%	358.6	776.1	-53.8%
<i>Semiconductors</i>	105.3	79.1	33.1%	200	-47.4%	243.2	631.4	-61.5%
<i>Advanced Industrials</i>	30.5	41.2	-26.0%	44.1	-30.8%	115.4	144.7	-20.2%
Order backlog	252.1	299	-15.7%	489.4	-48.5%	252.1	489.4	-48.5%
Net sales	172.9	175.7	-1.6%	251.0	-31.1%	531.5	699.2	-24.0%
<i>Semiconductors</i>	120.1	126.8	-5.3%	204.3	-41.2%	386.2	578.3	-33.2%
<i>Advanced Industrials</i>	52.8	48.9	8.0%	46.7	13.1%	145.3	120.9	20.2%
Inter segment sales	15.0	17.9	-16.2%	22.2	-32.4%	54.3	64.9	-16.3%
Segment net sales	187.9	193.6	-2.9%	273.2	-31.2%	585.8	764.1	-23.3%

Global Service

in CHF million	Q3 2023	Q2 2023	Chg. ¹	Q3 2022	Chg. ²	9M 2023	9M 2022	Chg. ²
Order intake	27.9	34.9	-20.1%	68.1	-59.0%	96.8	184.5	-47.5%
Order backlog	30.0	40.8	-26.5%	73.6	-59.2%	30.0	73.6	-59.2%
Net sales	36.9	45.3	-18.5%	54.6	-32.4%	132.0	155.3	-15.0%
Inter segment sales	-	-	-	-	-	-	-	-
Segment net sales	36.9	45.3	-18.5%	54.6	-32.4%	132.0	155.3	-15.0%

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

Q2 and half-year 2023 results

6M 2023 Highlights



Slowdown in semiconductor spending shows expected impact on Q2 and H1 orders, sales and profitability

7



Orders down y-o-y but up sequentially

Decrease in y-o-y orders reflects lower investment activities mainly in Semiconductors; Global Service in-line with softer market conditions, especially in semiconductors; Advanced Industrials less severely impacted



Strong Q2 business execution

Negative sales development driven by weak orders and FX headwind; execution of order backlog softens sales decline



Lower profitability

EBITDA-margin impacted by lower volumes and FX headwind
Operational cost reduction measures are implemented and maintaining readiness for expected market recovery



Investments into the future

R&D spend and investment in additional production capacity in Malaysia on track; construction of Innovation Center started



Outlook for 2023 reiterated

Investment conditions in Semiconductors expected to remain soft but gradually improving; growth is forecast in Advanced Industrials; Global Service segment sees weaker market conditions due to lower demand in its semiconductor business

Focus remains on cost, R&D, capacity – readiness for next upcycle

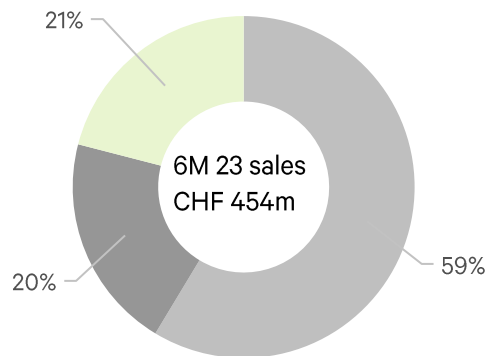
Our business focus & performance

Semiconductors remain our driving force, Advanced Industrial softens down-cycle



Our markets

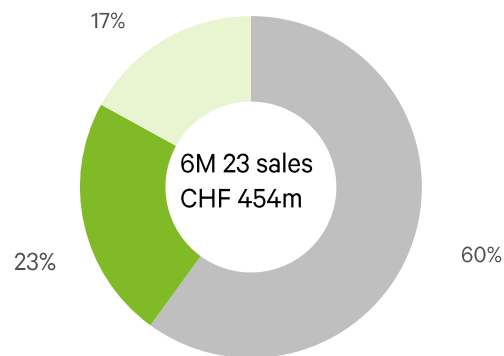
Sales breakdown by market segment 6M 2023



~75% of VAT's
Group sales are
semiconductor
related

■ Semiconductor ■ Advanced Industrials ■ Global Service

Sales breakdown by region 6M 2023



■ Asia ■ Americas ■ EMEA

Our business focus & performance

Strong backlog softens the blow from weak orders



Our business segments (Share of 6M 2023 net sales)

Valves
(79%)



Global Service
(21%)



Delivering outstanding performance

292 (-55%)

6M 2023 order intake
(M CHF)

454 (-17%)

6M 2023 net sales
(M CHF)

29.2%

6M 2023 EBITDA
margin

37 (-53%)

6M 2023 free cash
flow (M CHF)

41 (+13%)

High specification
win level maintained

0.6x

Leverage ratio
(NET debt / LTM EBITDA)

Strategic Pillars to VAT2B

VAT's business units are well positioned to harness the major megatrends



11

Digitalization



- Strong semiconductor growth across all markets
- **IC market** >USD 1 trillion by 2030
- Wafer Fab Equipment (WFE) to grow to USD 150-170bn by 2030
- Benefits **all** our businesses

Energy and Emissions



- **Energy demand** with double-digit growth; needs to be generated with low GHG emissions
- ADV benefits from solar, nuclear and coating (batteries)
- Mid-term **carbon capture**, long-term **fusion** – both vacuum intensive

Population Growth and Aging



- Growing demand in **biotech and life sciences**
- ADV benefits from analytical and medical non-invasive equipment, and medical inserts
- Medical drives 10% CAGR on ICs

SAM market growth (CAGR 21-27)

WFE +8%

Renewable Energy +8%

Life Science & Analytical Instr. +7%

VAT Strategic Pillars

Focus on four strategic priorities to sustain and accelerate performance to 2027 and beyond



1



Gain market share in all our core businesses and markets

2



Expand Share of Wallet (SoW) with adjacencies

3



VAT2B: Build strong capabilities and further improve operational excellence

4



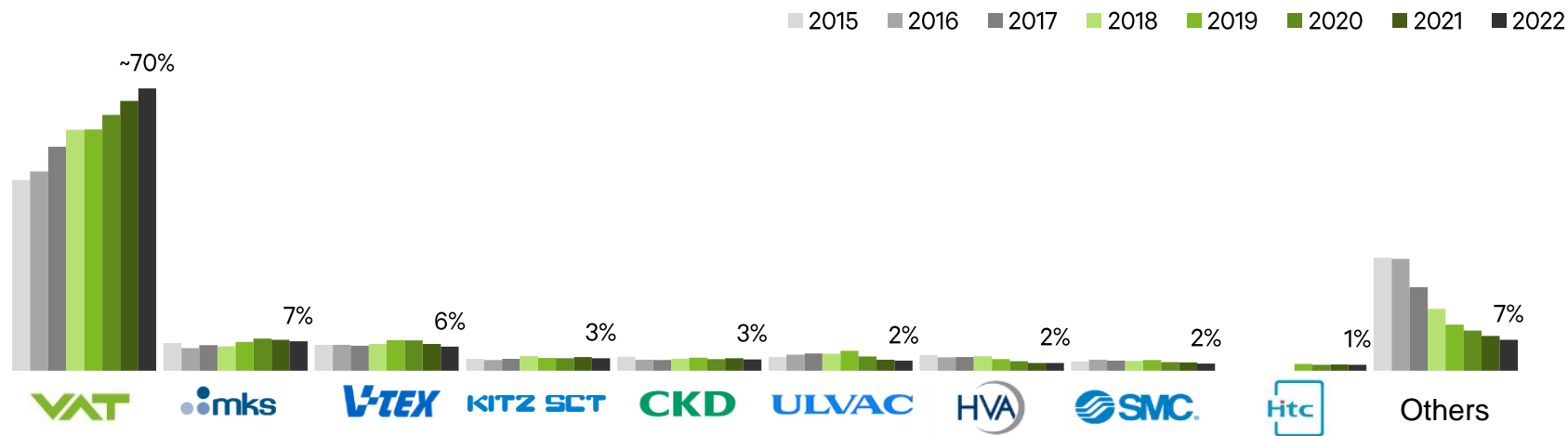
Execute VAT's ESG strategy that creates value for all stakeholders

Growth building on existing strong market position

Strong market position built on years of customer intimacy and superior product design



Market share Semi & related ⁽¹⁾



Source: TechInsights February 2023

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

Growth fuelled by superior product offering

VAT core competences represent both a driver of growth while holding up barriers to entry



Machining & Design

- Programming and milling excellence, including proprietary tools
- Full customization available as required
- Engineering knowhow based on 60-year history



Cleaning & Cleanliness throughout Supply Chain

- Use of self-designed, fully automated cleaning machines
- ISO6 clean-room standards from cleaning to installation in the fab
- Elimination of human factor as risk to purity



Material Know-How

- Raw materials: e.g. proprietary aluminum recipe
- Supply chain: in-house material analysis labs
- Vulcanization: Elastomers are fused to the metal gate materials



Growth through increase in vacuum content

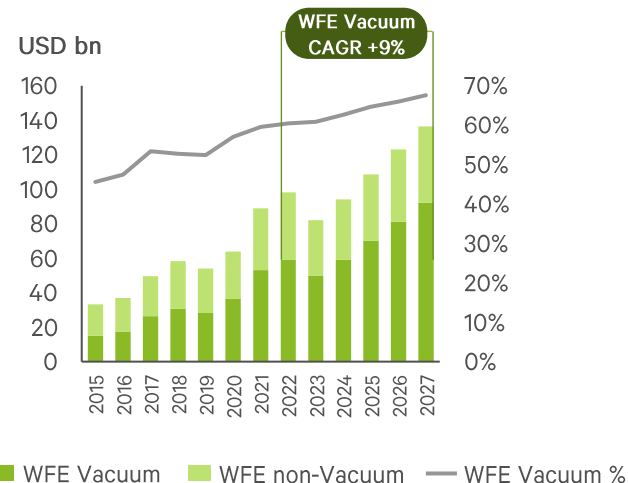
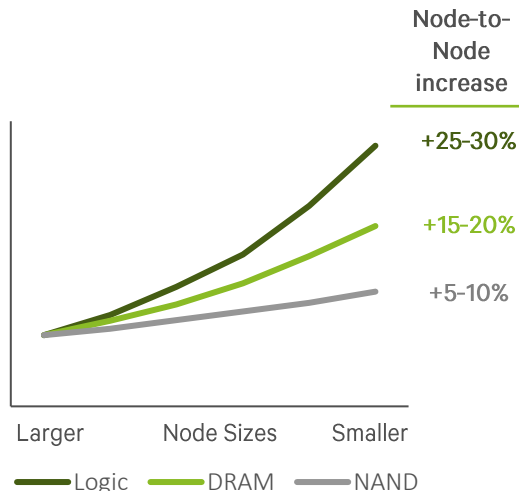
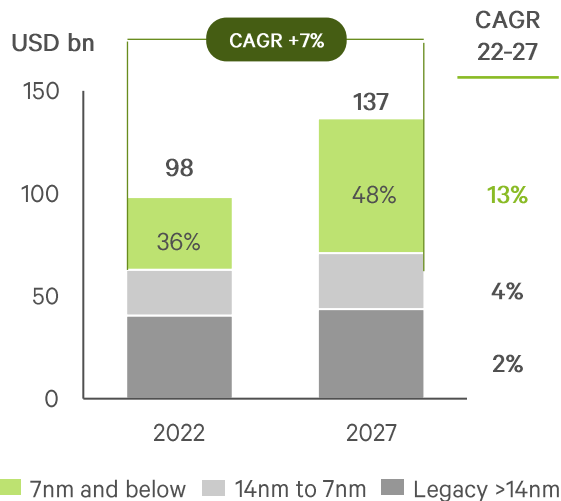
Leading edge growth to drive increase in vacuum-related WFE



Fastest growth in leading edge 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

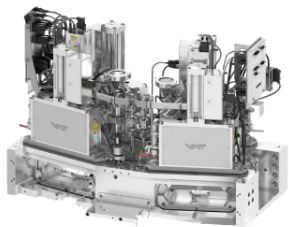


Expand SoW through Adjacencies

Adjacencies allows VAT to deliver additional products in the vacuum domain to our customers

Adjacencies are fully aligned with VAT's core expertise: Vacuum and Semiconductors

Advanced Modules

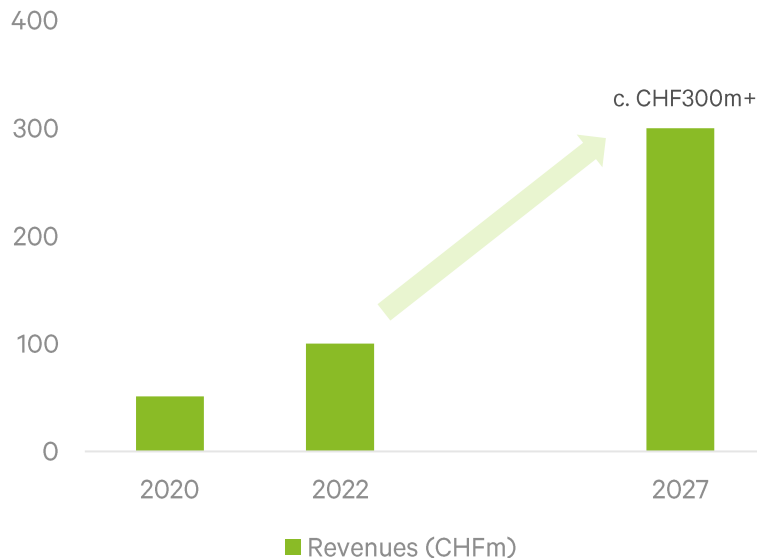


Motion Components



- Adjacencies do not compete with customer business and expertise
- Margin profile of adjacent business supportive of VAT's overall profitability profile

Adjacencies an essential element of VAT2B strategy

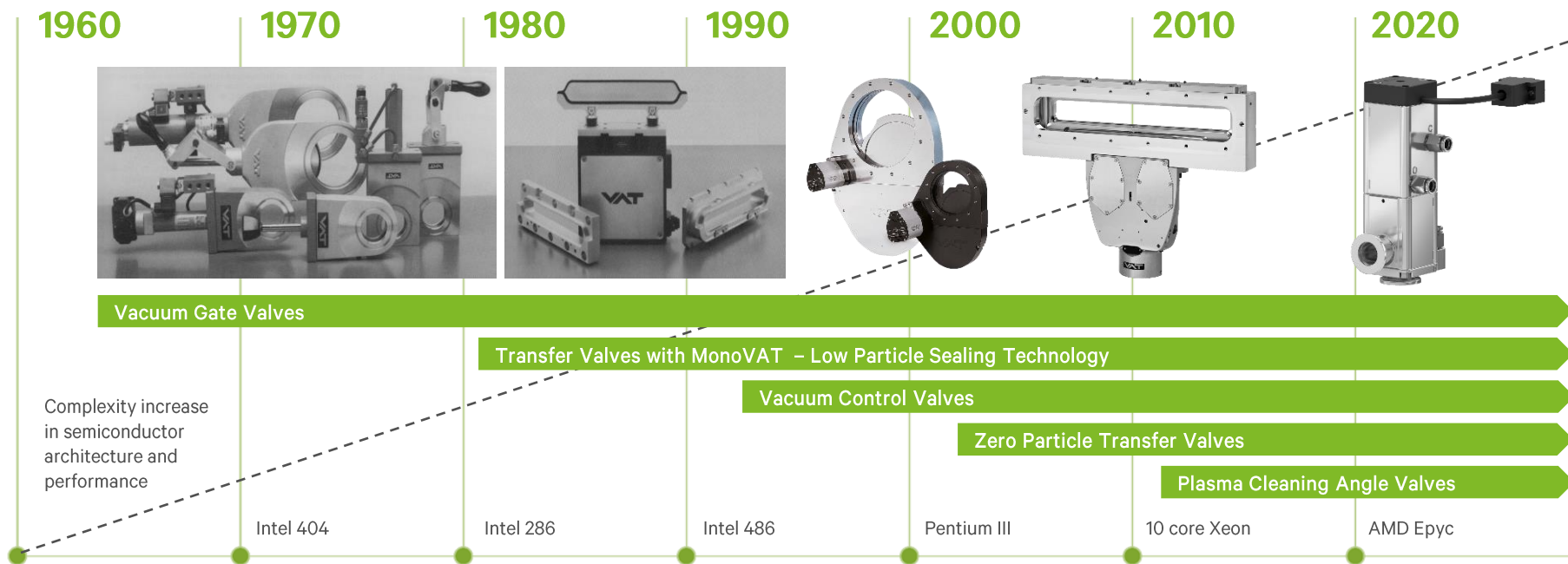


A History of Innovation

Our valves have a long heritage: Faster, cleaner, more durable, more precise – and continue to develop



Vacuum valve performance development – vs. semiconductor development



Complexity increase
in semiconductor
architecture and
performance

Intel 404

Intel 286

Intel 486

Pentium III

10 core Xeon

AMD Epyc

Vacuum Gate Valves

Transfer Valves with MonoVAT – Low Particle Sealing Technology

Vacuum Control Valves

Zero Particle Transfer Valves

Plasma Cleaning Angle Valves

Global Services ties us closely to valve lifecycle

Increases our reach to beyond the OEMs and closer understanding of how our valves are utilized



Global Services Product Offering

Spares & Repairs



- Spare Parts & spare part packages for OEMs and end customers

Gates



- Various types of Gates and Sealings

Upgrades & Retrofits



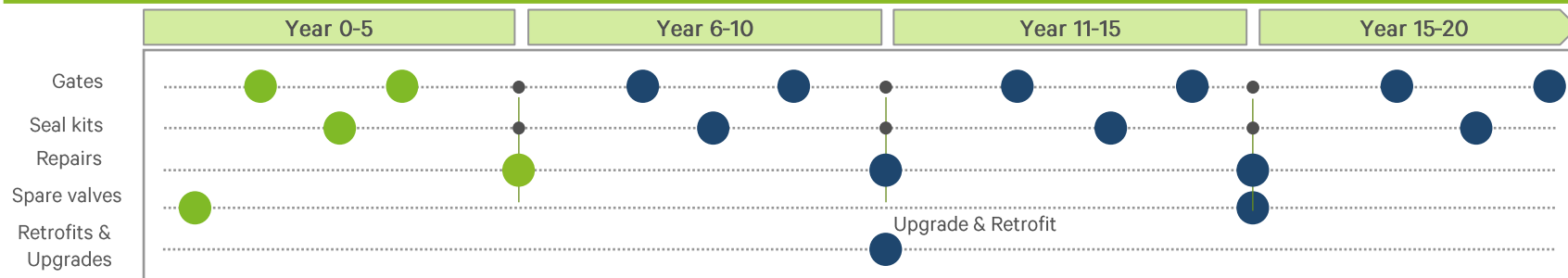
- Upgrade & retrofit of valves and motion components

Subfab



- Range of valves for forelines and abatement systems

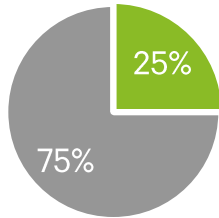
Illustrative Customer Service Journey across an OEM equipment platform's life



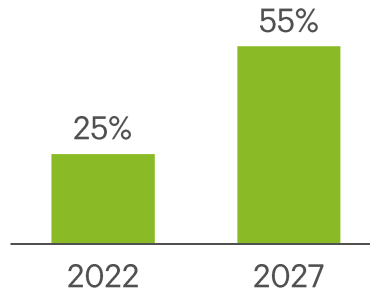
Over the course of the lifecycle, services have the potential to generate 3.5x – 5.0x the original sales value

Flexible operating model permits controlled scaling

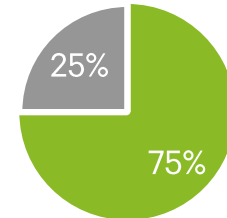
Offers +/- 30% year-on-year ramp capability while maintaining a global, best cost operating model



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 25% in 2022



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

VAT global footprint – aligned with customers



Global presence ensures proximity to the customer –
with sales and service representations in 29 countries

2 major production sites with total capacity
of CHF2bn+ by 2027

Factory output (CHFm)



Haag

As-is 800

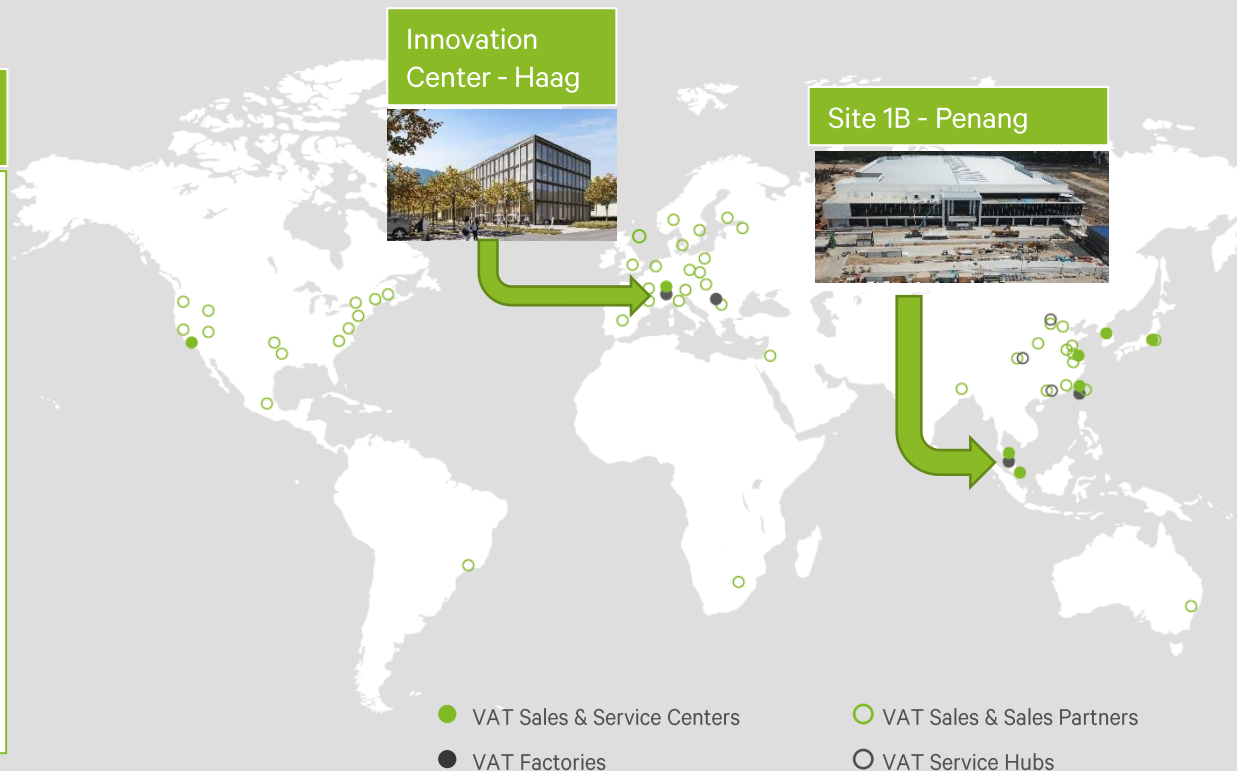
2027 1,000



Penang

As-is ~275

2027 >1,100



Our Mid- and Long-Term Strategy



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



SEMI as the CORE market and the main **technology driver** for all products and solutions



Leverage all products and technologies into Advanced Industrial applications

2022

CMD 2022

A successful valves business with 1-2% SoW

- 75% share in SEMI valves, #1 in all markets
- Growing Advanced Modules share
- #1 in Motion Components

2027

NEXT 5 YEARS

Current adjacencies will drive >CHF 200m additional sales by 2027, 2-4% SoW

- Gas inlet systems and valves (ALD)
- EUV
- Advanced Pressure Control
- Adjacencies by 2027 >CHF 300m

2032

NEXT 10 YEARS

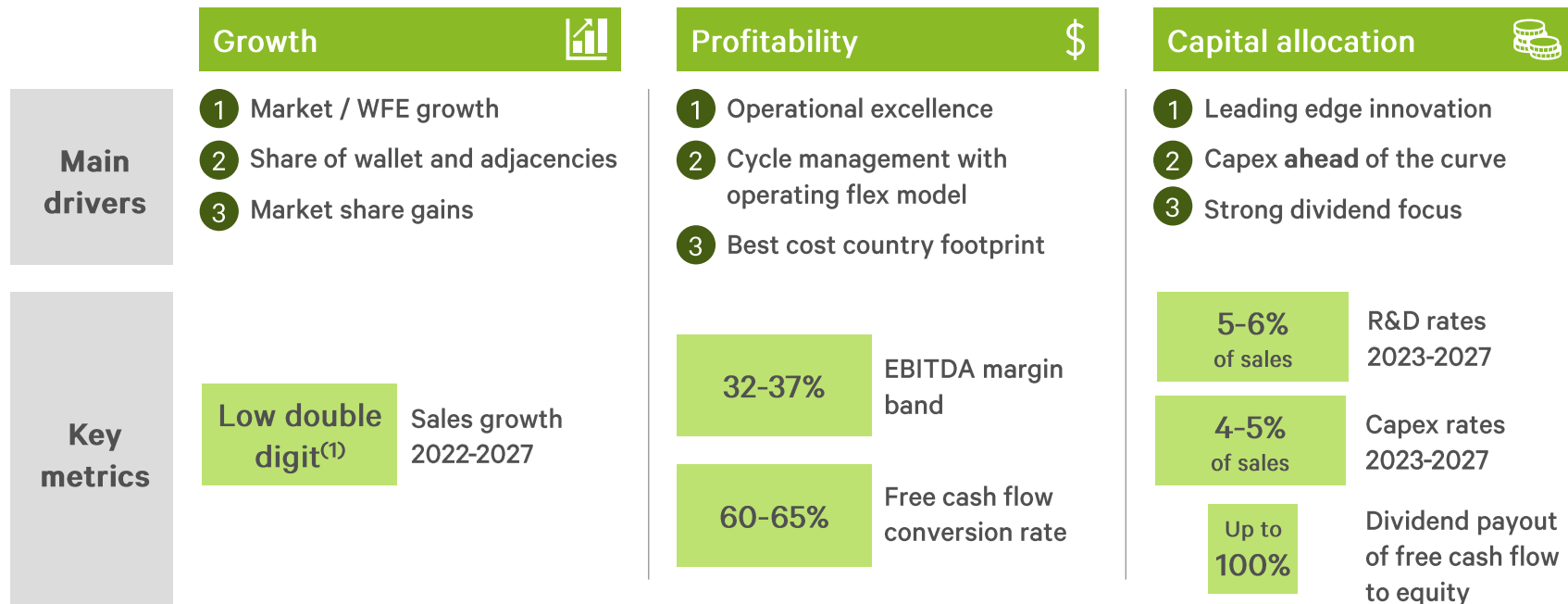
To: Vacuum sub-systems business with 4-5% SoW

VAT has a track-record of delivering on guidance



Stakeholder value proposition 2022-2027

Our sustainable value creation is based on 3 key pillars:



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

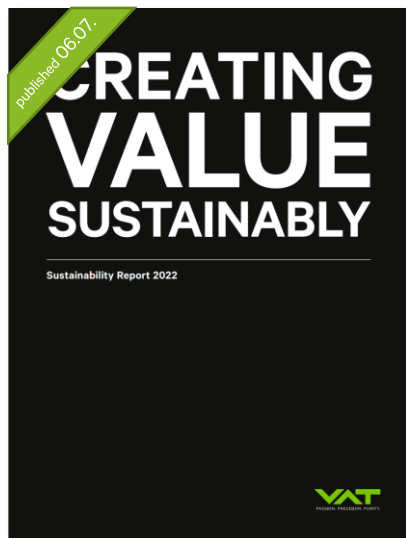
Creating Value Sustainably

Second Sustainability Report published with greater level of detail; further progress in CO2 emissions vs. 2021



Delivering outstanding results in 2022

Inaugural ESG targets for VAT



Founding member -
Semiconductor Climate
Consortium



Semiconductor
Climate Consortium
FOUNDING MEMBER

Equal pay for equal
work

Improvement
to

Advanced

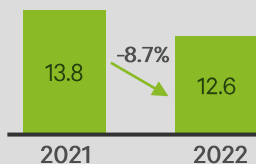


37.5%

Women
on the Board of
Directors

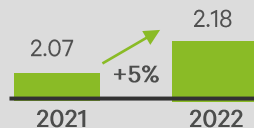
*As of May 16, 2023

CO₂ emissions in tons
per CHF 1m revenue



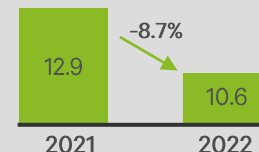
Lower emission intensity

Self-generated solar
power consumption in
kWh millions



Increased use of solar energy

LTIFR per 1,000,000
hours worked



Fewer accidents and illnesses

LTIFR= Lost Time Injury Frequency Rate

Inaugural ESG Targets

Confirmed Strategic Directives



“Today we have a much better view of how our business – along the entire value chain – affects the environment, our people and society as a whole.”

Dr. Martin Komischke,
Chairman of the Board of Directors

INAUGURAL ESG TARGETS

Based on VAT's first Materiality Assessment, improved measurement of greenhouse gas emissions and other impacts and the integration of ESG performance into mid-term strategic and operational planning, the company has established its first ESG targets for the period 2022-2030.

Climate protection

50%

reduction in Scope 1 & Scope 3
CO₂ emissions by 2025

Leadership diversity

25%

share of women in leadership
positions by 2027

Workforce diversity

23%

share of women among
new hires by 2027



25%

share of women among
new hires by 2030

Welcome to VAT

High Performance Vacuum Valve & System Solutions

2023



VAT – Serving Vacuum Needs since 1965



We offer the highest standard of valves wherever vacuum is utilised in production.

Global market leader for high performance vacuum valves,

- mission-critical components for advanced R&D and manufacturing
- processes of semiconductors, LED, solar cells, displays and other high vacuum demanding products.

Broadest valve technology and related products portfolio

- Vacuum valves, gas inlet valves, multi valve modules (manifolds)
- Vacuum chambers with integrated valves
- Motion components (like wafer lift systems)
- Edge welded bellows
- Retrofitting, refurbishment and upgrading services
- Custom engineering and ultra-clean production

Close to customer

Sales/Service representations in 29 countries.

R&D sites: Haag (Switzerland), San Jose CA (United States), Penang (Malaysia)

Manufacturing sites: Haag (Switzerland), Penang (Malaysia), Arad (Romania) and Xinwu (Taiwan).

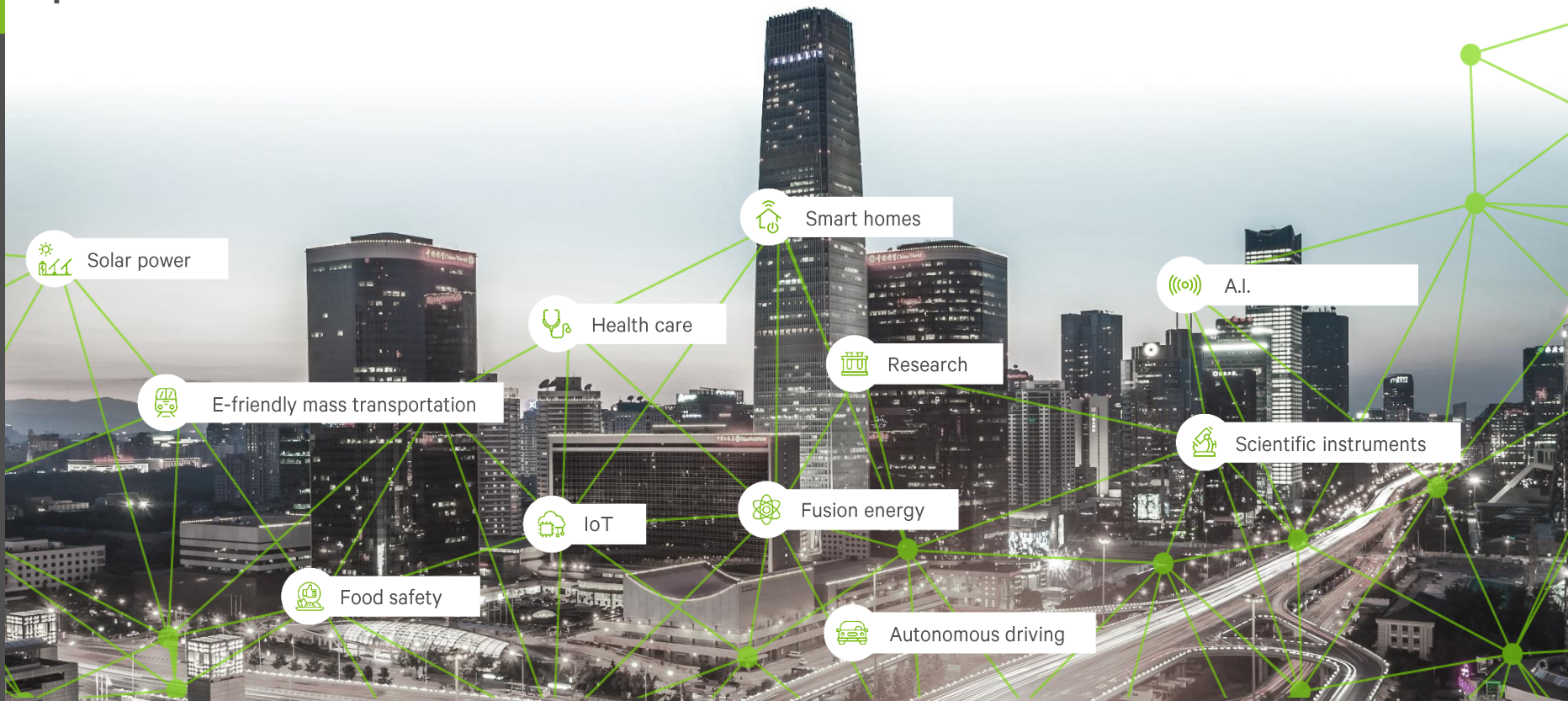
Over 2,900 employees* worldwide

*Full time equivalents (FTE)



Vacuum Technology Enables Modern Technology

Today's technological advances are based on production processes in a vacuum.

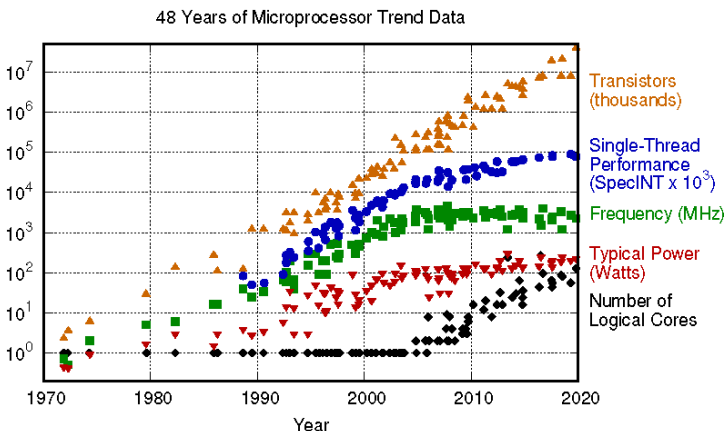


Why Do You Need a Vacuum?

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

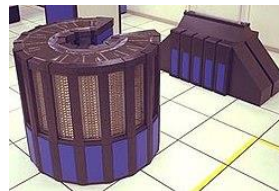
■ Transistor Density Increases

Chip design goes from 2D to 3D



■ Moore's Law in Practice

Lower energy consumption, higher performance, smaller size



CRAY-2

1985

c. 2.5 tonnes

1.5m²

1.9bn FLOPS

Use: Nuclear research



iPhone

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

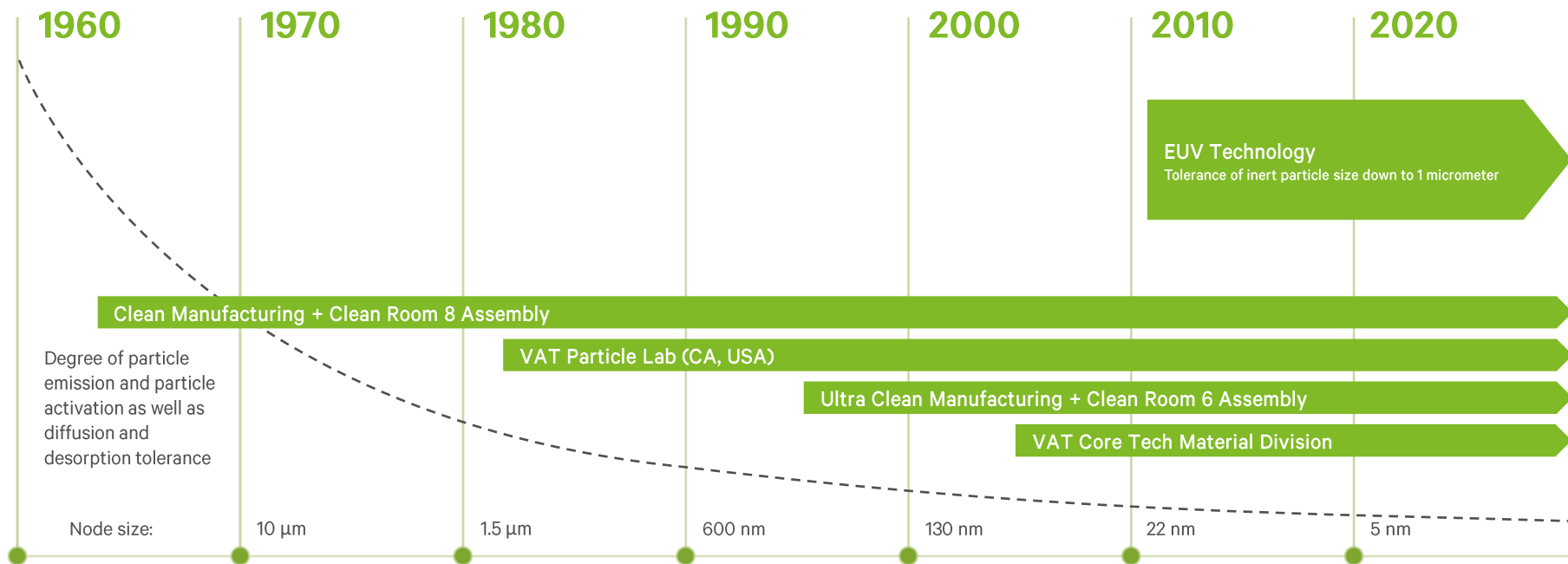
VAT has Accompanied Technological Advances

R&D is in our DNA - technological leadership is the result.



29

Vacuum valve performance development – example ultra clean vacuum development (UCV).



VAT 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)

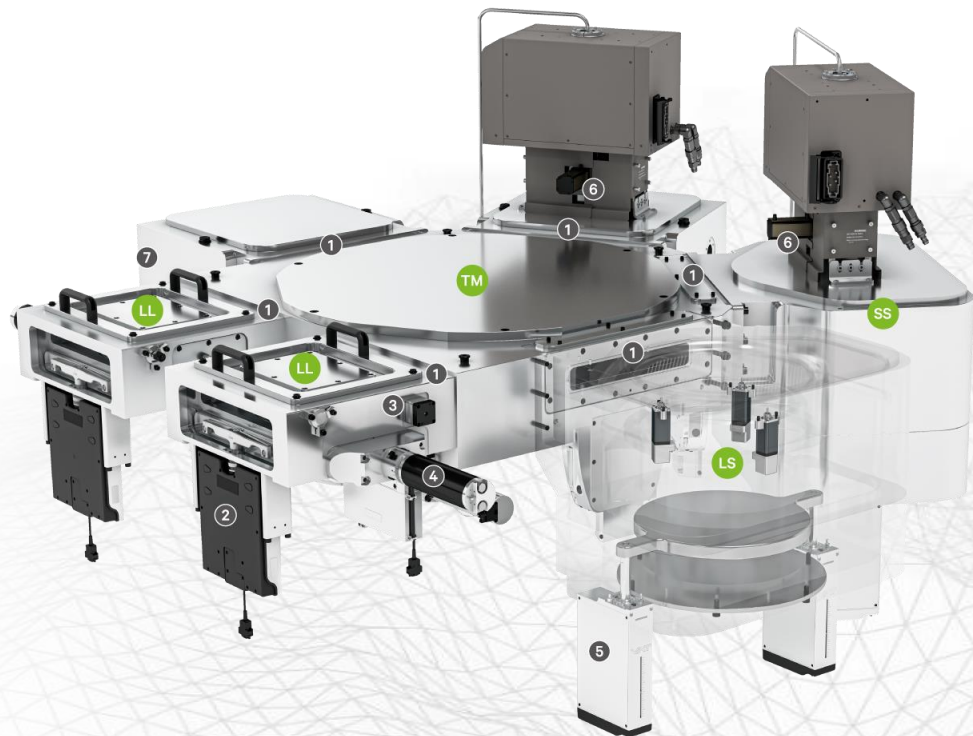
- Wafer Lift Systems
- Wafer Cassette Lift Systems
- Wafer Tray Lift Systems
- Solar Cell and Display and Substrate Lift Systems

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)

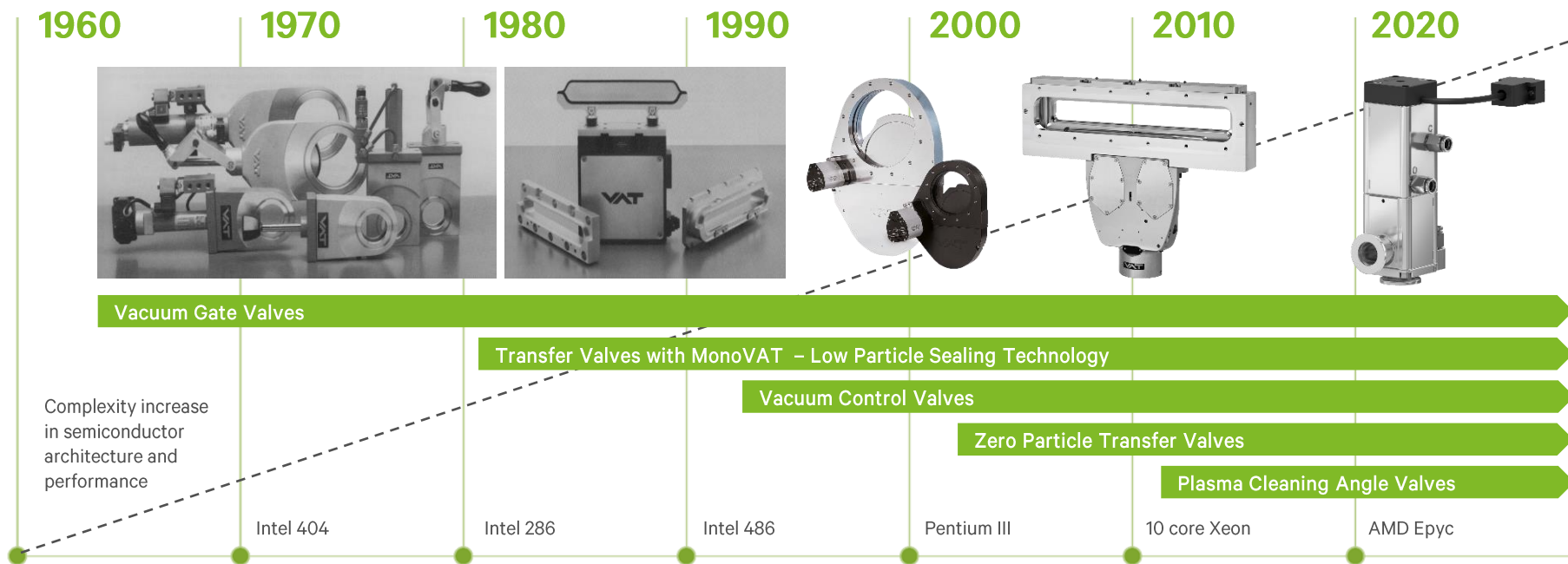


VAT Over the Years

Our products have become faster, cleaner, more durable, more precise



Vacuum valve performance development – example semiconductor development.



Complexity increase
in semiconductor
architecture and
performance

Intel 404

Intel 286

Intel 486

Pentium III

10 core Xeon

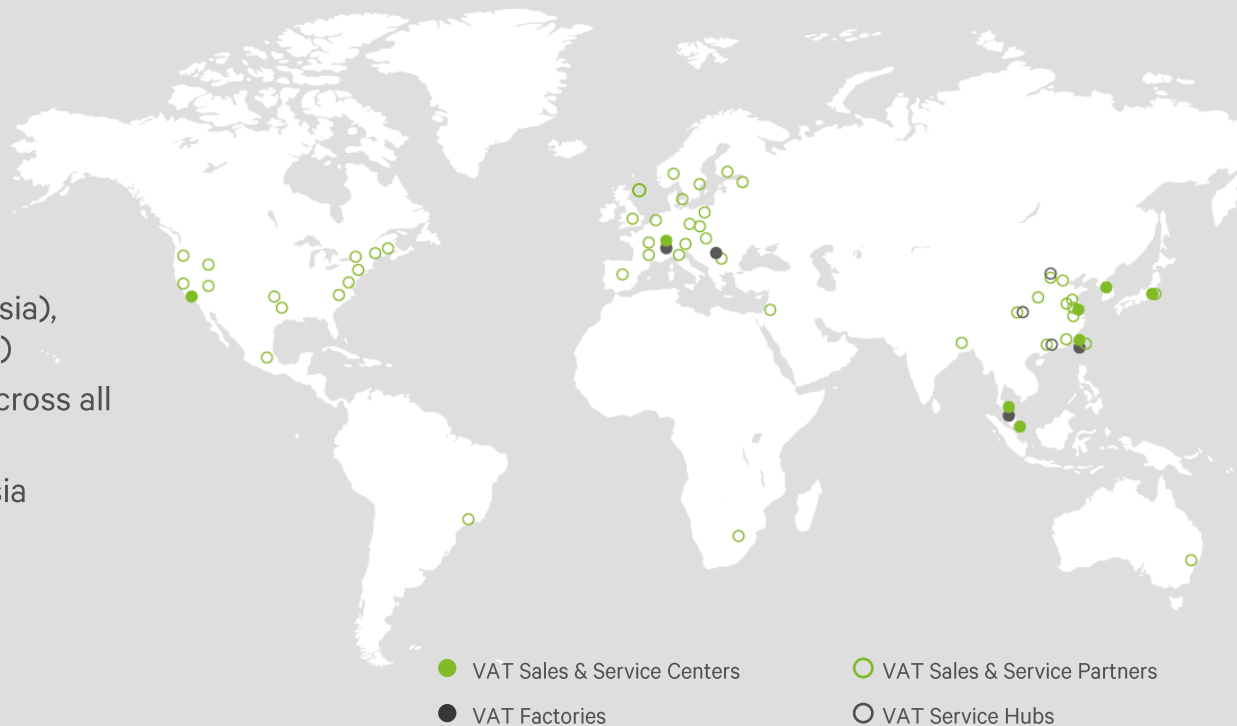
AMD Epyc

A Global Footprint for Customers

Presence on the ground providing support



- Global presence ensures proximity to the customer
- Sales and Service representations in 29 countries
- R&D sites: Haag (Switzerland), San Jose CA (United States)
- Manufacturing sites: Haag (Switzerland), Penang (Malaysia), Arad (Romania) and Xinwu (Taiwan)
- Installed base of over 1.5m valves across all industries
- 70 % of our products installed in Asia

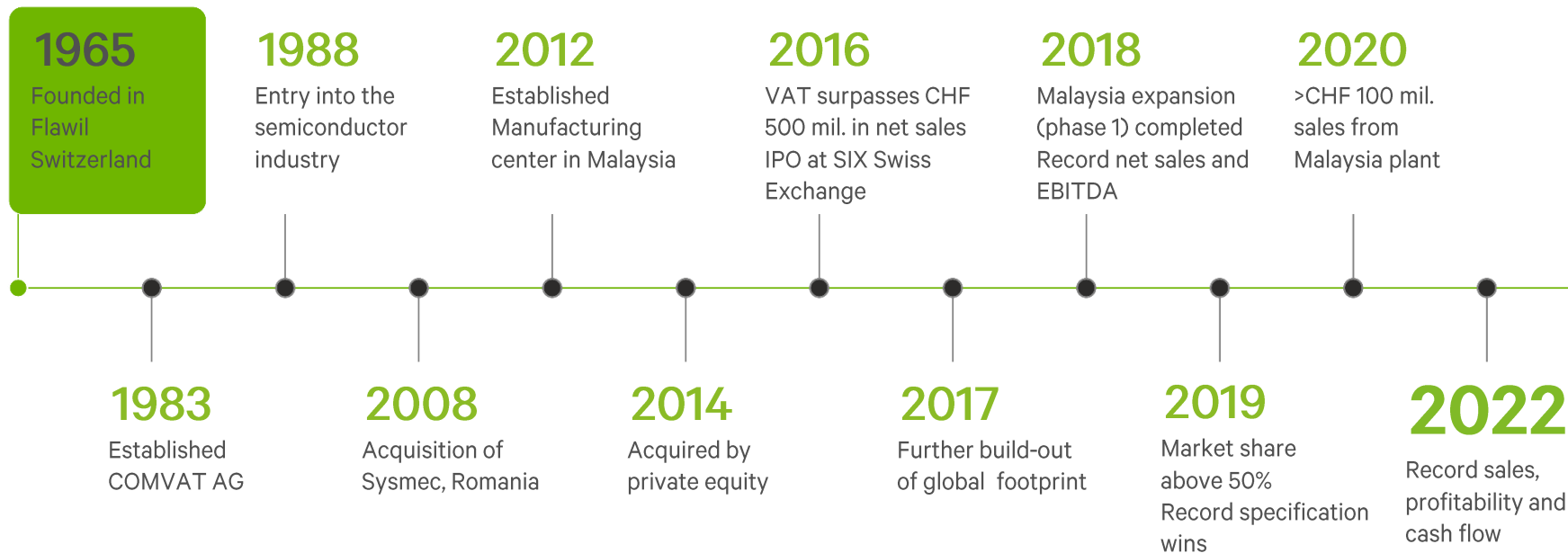


VAT Corporate History



From family-owned valve manufacturer to global vacuum-valve leader

- Over 60 years of experience in valves and over 35 years of experience in semiconductors



VAT Group Executive Committee

Highly experienced leadership with a track record of success



Michael Allison
CEO



Fabian Chiozza
CFO



Urs Gantner
EVP Semiconductor
Solutions Group and
CEO-designate as of
January 2024



Thomas Berden
COO

Enabling the US\$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:

Epitaxy

Lithography

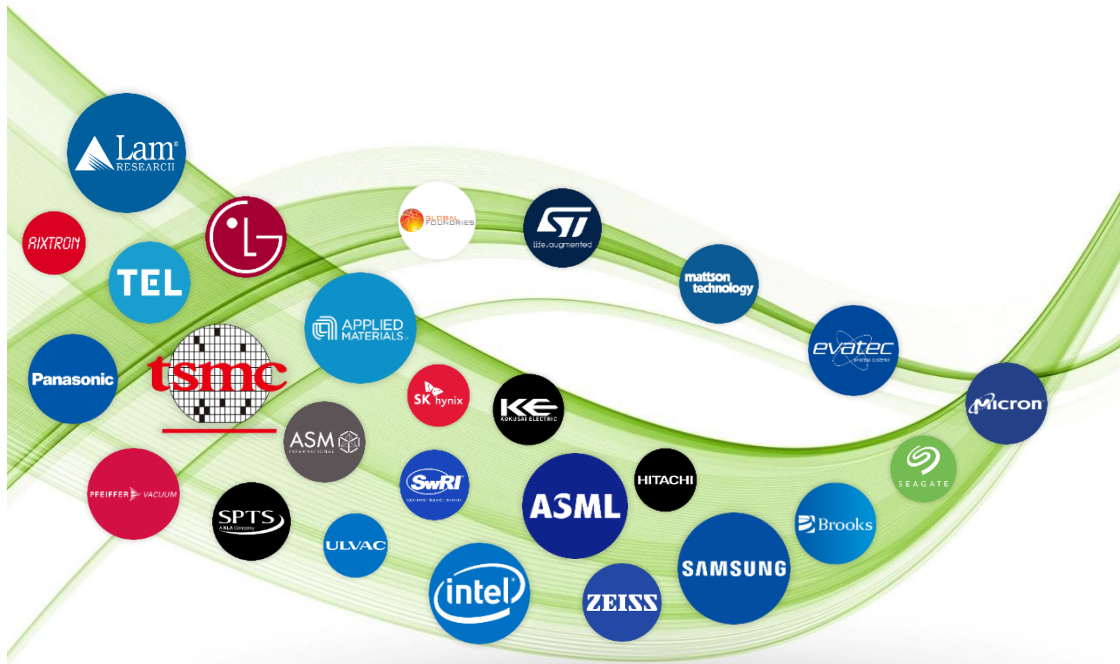
Atomic Layer
Deposition

Testing

Etch

Packaging

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



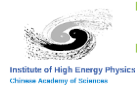
- LHC hunts for the basic constituents of matter
- VAT sector valves help avoid leaks over the large LHC volume



- 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



Visit us at

www.vatvalve.com

