

MAPS:

VAT's technology and market lead creates new growth opportunities in the Digital Revolution.

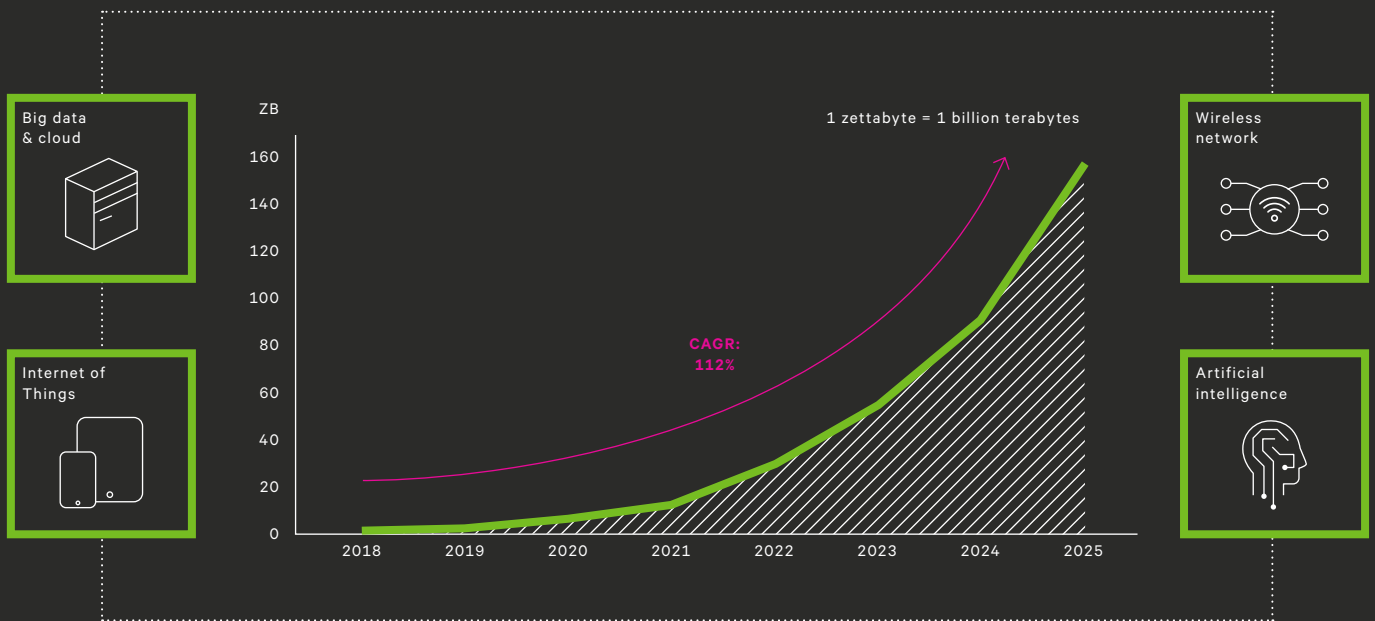
Megatrends like artificial intelligence, the Internet of Things and cloud computing continue to gain momentum, driving demand for semiconductors, digital displays and other devices. VAT's advanced vacuum valves are mission-critical in the manufacture of these products. The following pages show some of these technologies and how VAT is creating value today and what it plans for the future.

MEGATRENDS DRIVE GROWTH

The role of digitalization in our lives continues to grow rapidly. Every second of every day, unimaginable amounts of data are being generated, collected, transmitted, analyzed and stored. It's an impossible task without increasingly sophisticated semiconductors and the VAT vacuum valves needed to fabricate these technologically demanding products.

The world is on the verge of explosive growth in data generation

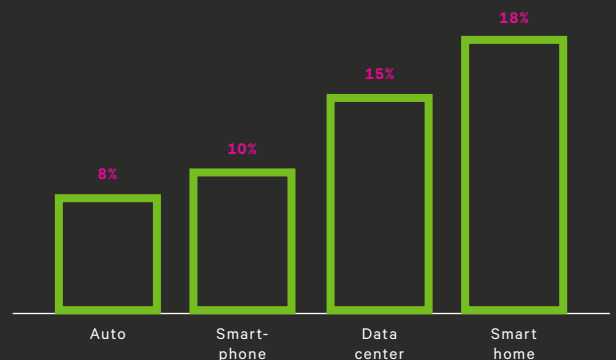
Actual and forecast amount of data created worldwide 2010–2025 (in zettabytes) ¹



Semiconductors play an increasingly important role in everything from renewable power grids and data centers to cars, homes and medical devices.

Key megatrends expected to drive sustainable growth

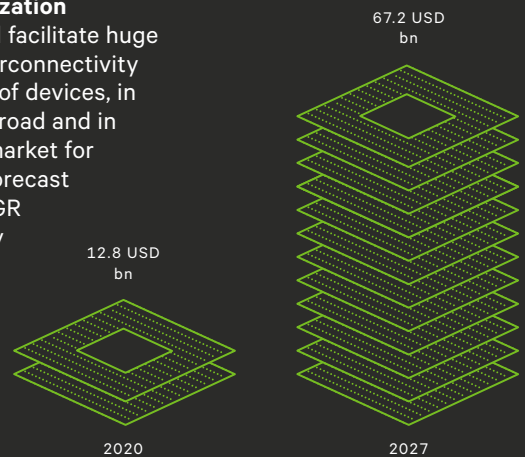
Forecast growth in semiconductor content 2020–2025 ¹



The Digital Revolution is just beginning and will radically transform many industries

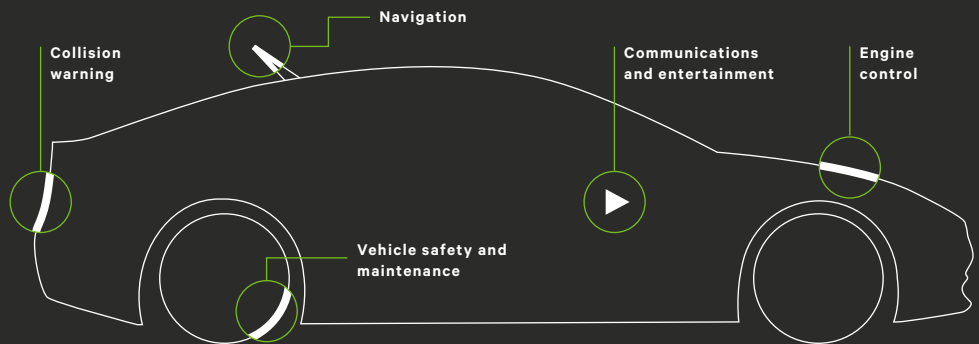
5G mobile networks key to growing digitalization

5G networks will facilitate huge increases in interconnectivity among all kinds of devices, in industry, on the road and in the home. The market for 5G chipsets is forecast to grow at a CAGR of approximately 27% from 2020 to 2027.



E-VEHICLES AND AUTONOMOUS DRIVING

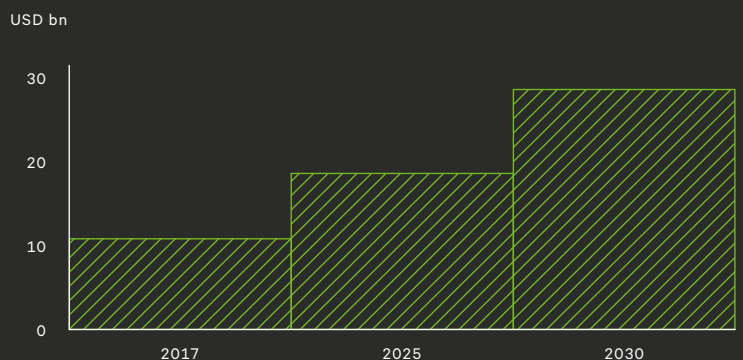
The amount of communications and computing power in both personal and commercial vehicles continues to grow quickly. This will drive semiconductor and vacuum valve demand well into the future.



High-vacuum in e-vehicle production

- High-precision coatings on moving parts to reduce friction, electrical flux
- Safer environment for battery production and testing

Forecast autonomous vehicle semiconductor sales 2017–2030 ²

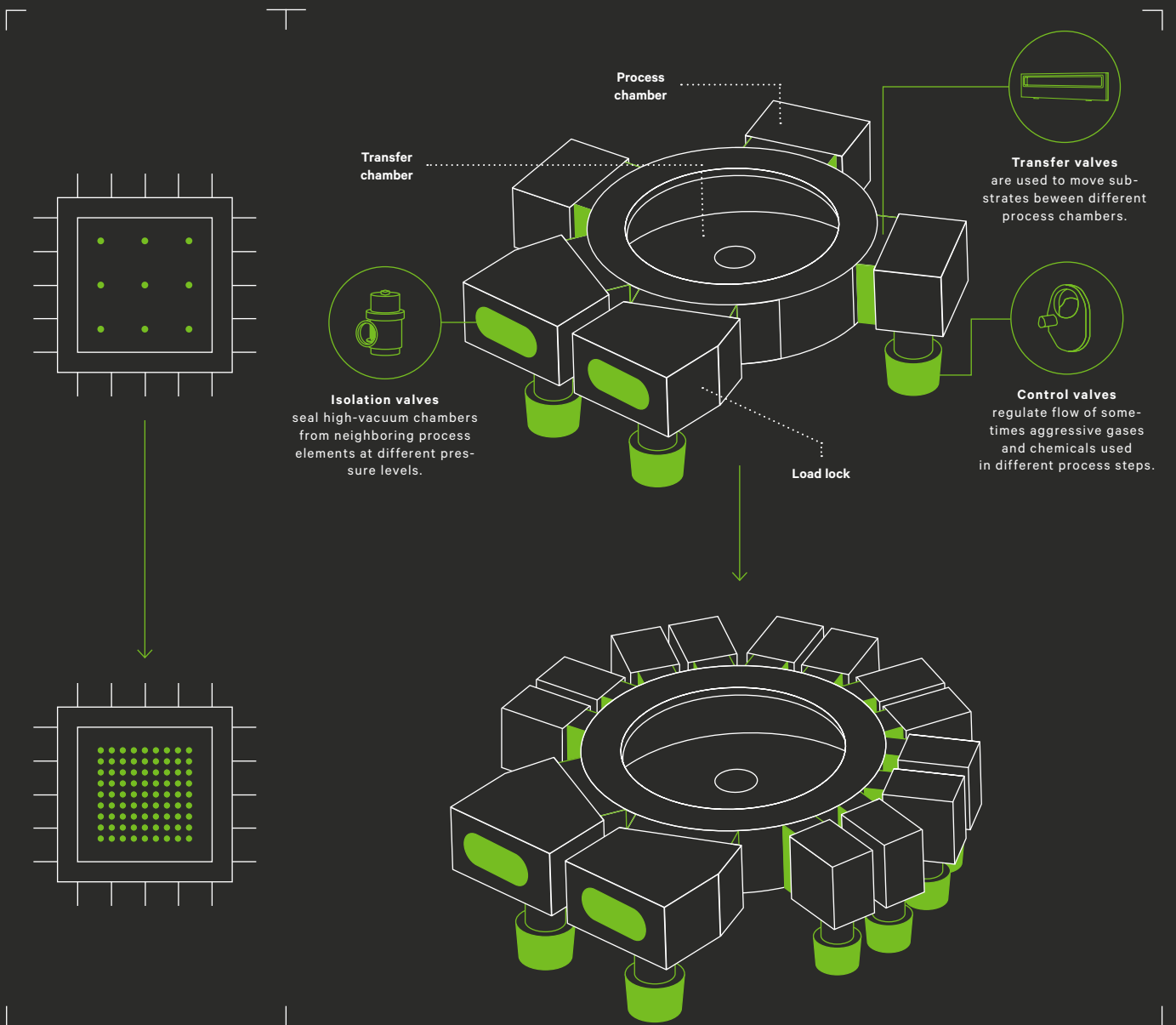


MISSION-CRITICAL TECHNOLOGY

The global digital revolution would not be possible without the pure vacuums enabled by VAT valves. Manufacturing at the molecular scale is being adopted by more and more industries, which plays to VAT's competitive advantage in high-end vacuum valves.

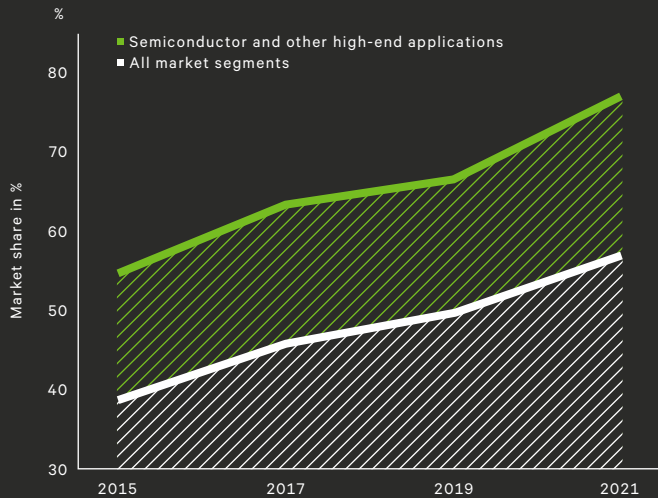
Smaller chip nodes require a longer wafer path

As the density of transistors on a chip increases, so does the number of process steps. This, in turn, requires more, and more advanced, vacuum valves.



High-end market share

VAT has the largest share in the fast-growing semiconductor market ¹



VAT with a proven track record in R&D

Active patents and applications in 2020

>400

New specification wins in 2021

>110

Budget focused on disruptive technologies

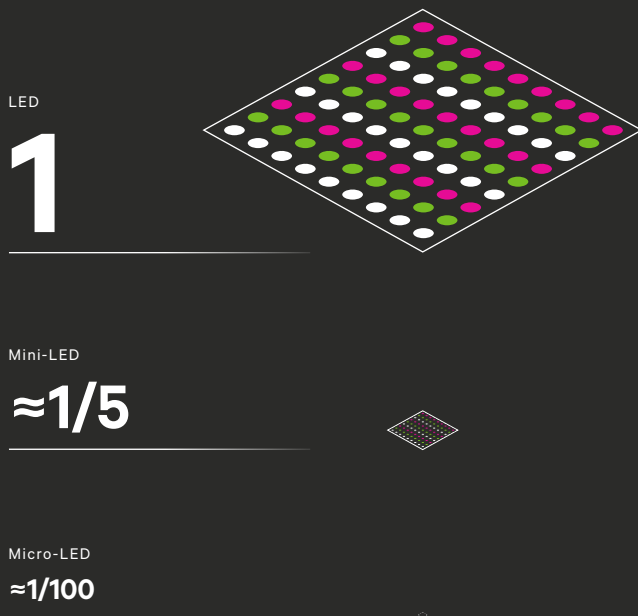
>10%

Investment in R&D as share of revenue

5-6%

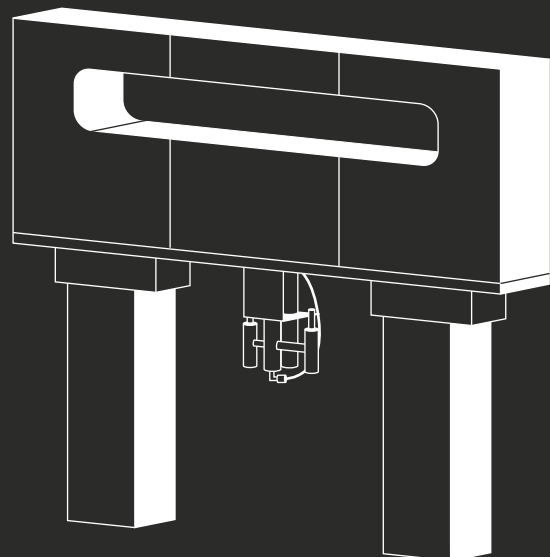
Ever-smaller display technologies

LEDs (light-emitting diodes) are widely used in TV screens, but the technology is changing rapidly. LEDs are getting smaller, brighter and more energy efficient.



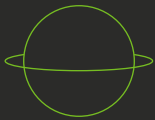
VAT transfer valve for display manufacturing

Every pixel in a micro-LED display is self-luminous, dimmable and can be switched off. A 4K screen may need more than 24 million LEDs. These delicate components can only be made under high-vacuum conditions, where VAT valves play a key role.



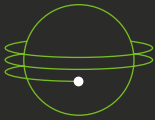
FLEXIBLE GLOBAL FOOTPRINT

VAT's approximately 2,500 employees worldwide design and produce 250,000 valves a year in three locations, serving customers quickly, efficiently and reliably through the business cycle.



Global value chain

We continue to strengthen our global footprint, a competitive advantage in cost, flexibility and customer service.



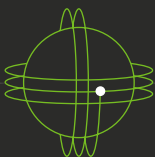
Integrated footprint

Seamlessly linking all of our business processes improves time to market, quality and reliability.



Future VAT

A high-performance global operation with motivated and empowered people delivering maximum customer satisfaction.



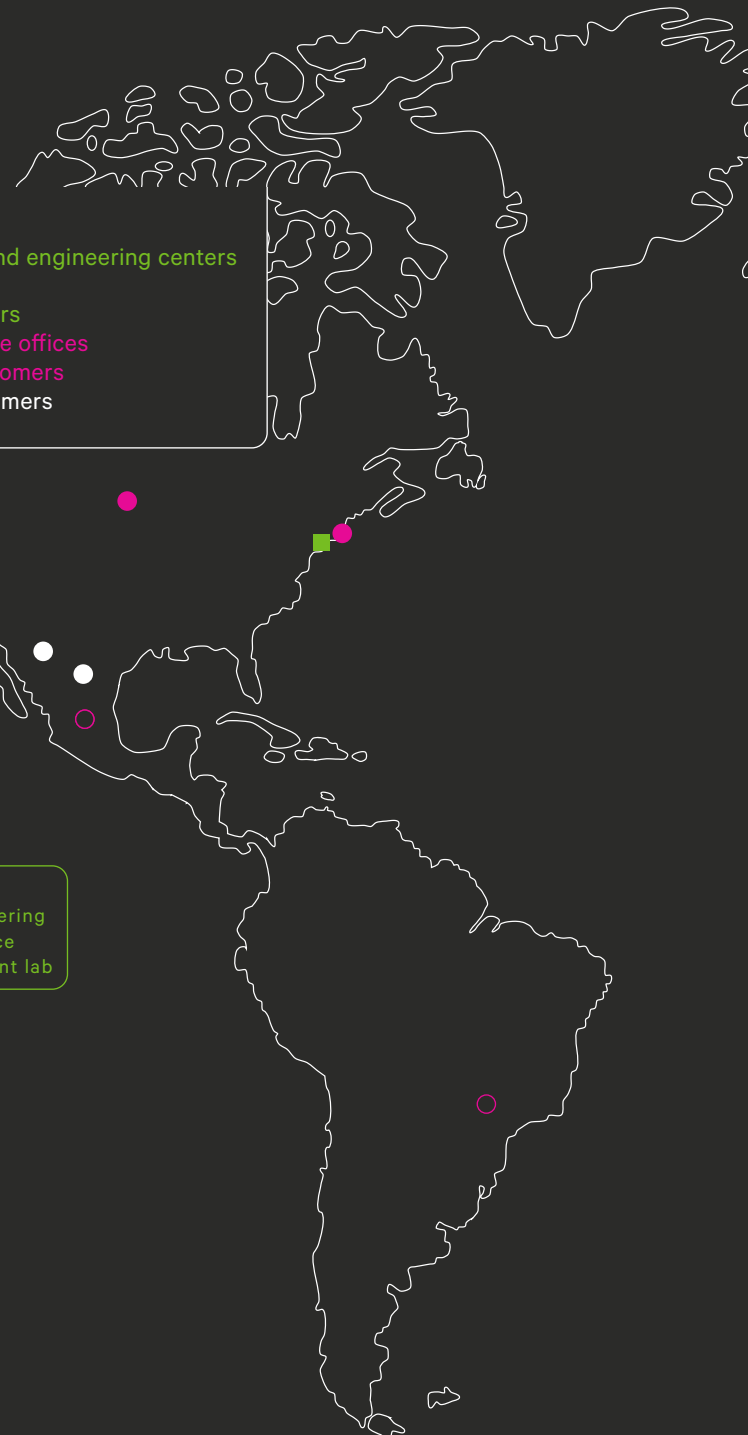
Sustainable value creation 2020–2025:

- Net sales of CHF 1.5 bn by 2025
- 32–37% EBITDA margin band
- 60–70% free cash flow conversion

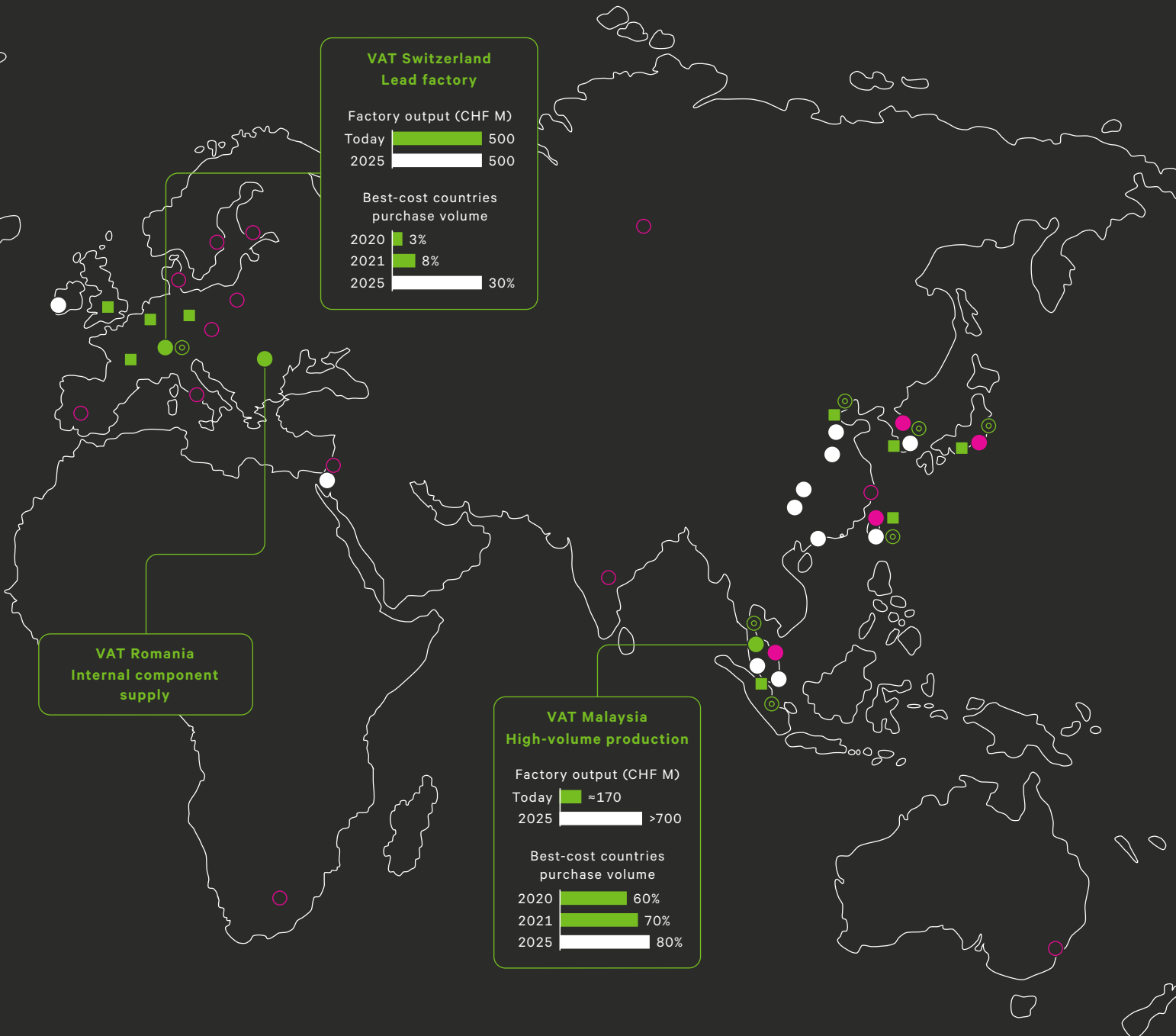
Close to customers

- VAT production and engineering centers
- VAT locations
- ⊙ VAT service centers
- VAT representative offices
- Largest OEM customers
- Largest end customers

VAT USA
Application engineering
Customer service
Particle measurement lab



Close to customers, cost efficient, flexible, resilient: making VAT more competitive, generating more value

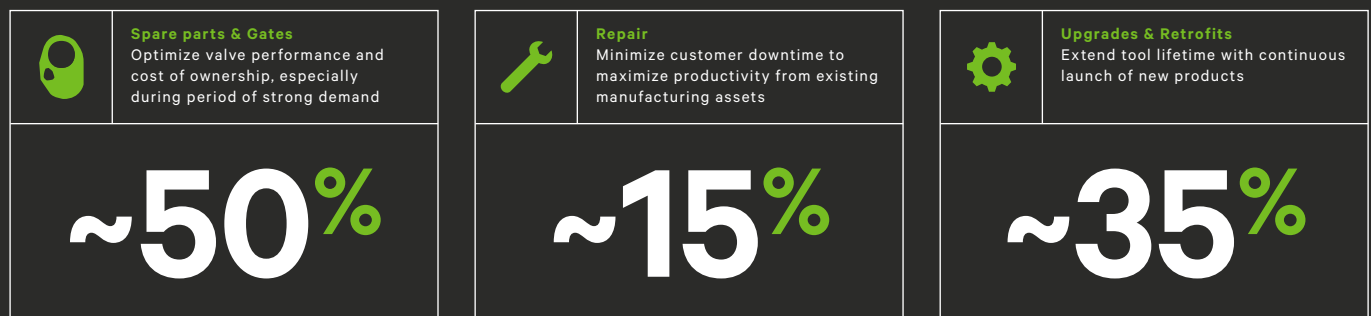


GLOBAL SERVICE

DRIVES GROWTH AND PROFITABILITY

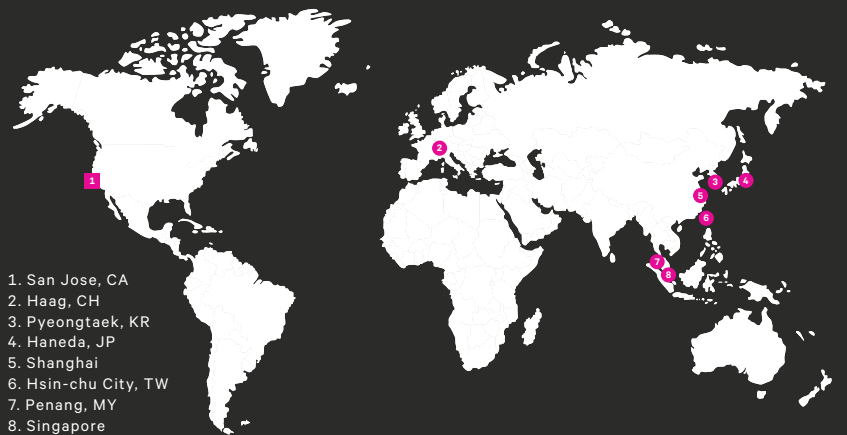
The enormous demand for semiconductors is expected to drive strong growth in VAT's service business as customers look for ways to get more from their existing assets.

Share of VAT Global Service net sales by business



VAT has the largest service network in the industry, close to customers

Fast, highest-quality service through our global service network



VAT Global Services Quick Facts

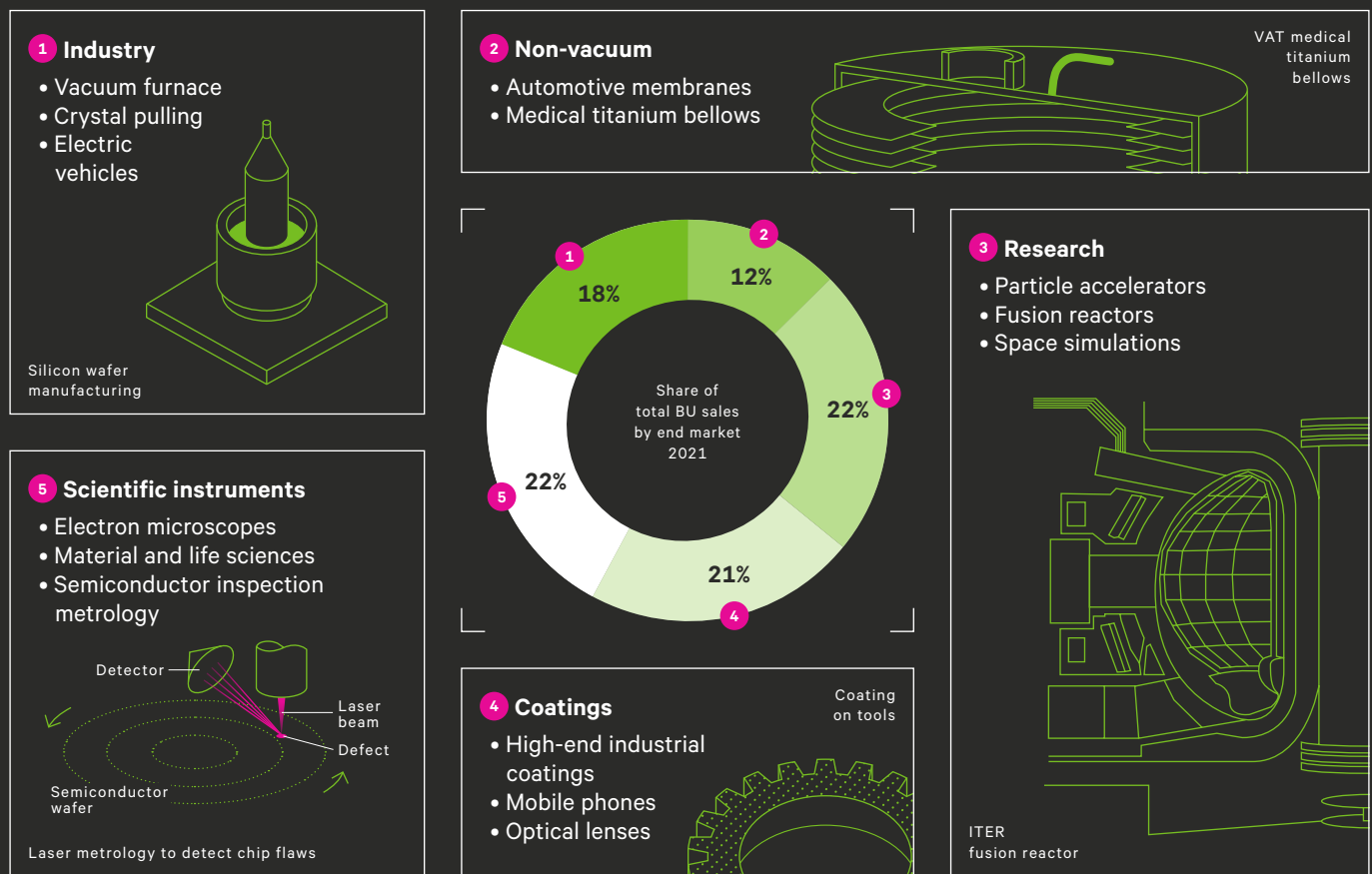
* CAGR 2000–2020



ADVANCED INDUSTRIALS:

WELL-POSITIONED FOR SUSTAINABLE GROWTH IN HIGH-PRECISION INDUSTRIES

Targeting key industries with VAT's premium vacuum valve technology



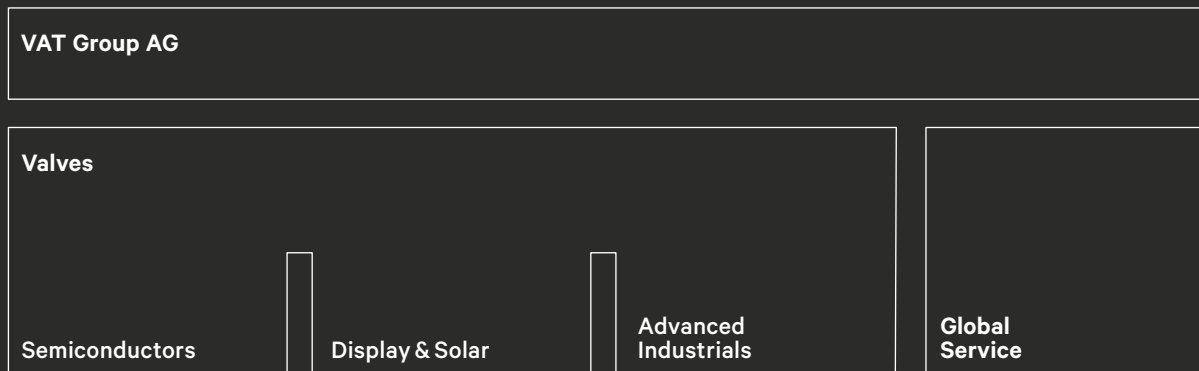
Serving more than 1,600 customers in 50 countries

14%

Advanced Industrials

ORGANIZATION

VAT Group is organized and managed in three segments: Valves, Global Service, and Industry. The Valves segment comprises the three business units Semiconductors, Display & Solar, and General Vacuum.



The VAT Group is led by the Group Executive Committee (GEC) consisting of the CEO, CFO, and COO. The GEC is supported by the Group Management Board and Group Functions.

