# CEO Interview

**What were the highlights of your first year as CEO?**
Our ability to successfully navigate the changing market situation was a key achievement. Although we had a strong first half with net sales up 18% – which helped us achieve another record for net sales in 2018 – the second half saw a significant demand slowdown. We needed to adjust quickly to keep costs proportional to the lower business activity while at the same time continuing to invest in innovation and capturing the available growth opportunities.

Thanks to the outstanding efforts of all of our people, we managed to expand our leading market share to 47% and land a record number of "specification wins" on new customer platforms which will support future growth. We maintained our EBITDA margin near 31% and delivered solid cash flow thanks to our focused working capital management. Through all of this, both the Board and the other members of the Group Executive Committee were extremely supportive as I took on this new role.

**Were you surprised by the market downturn?**
Yes, we were. We saw a remarkable two years of growth during 2016 and 2017 in the semiconductor market, driven by the rapid pace of digitalization, like data centers, the Internet of Things and e-mobility. This fueled enormous capital expenditures by semiconductor and display manufacturers, and our customers forecast this to continue into 2018 and then possibly moderate slightly during 2019. Looking back at 2018, I think we got the magnitude of the capital expenditures right as the overall semiconductor fab market grew around 16% but we underestimated the high level of inventory that our OEM customers had driven into the supply chain in the first half of 2018.

So when our customers started seeing things slowing down in Q3, they dropped their production plans very rapidly and this, coupled with the high inventory levels, meant a significantly weaker second half of the year for us. Thankfully we reacted very early to adapt to the declining sales and this allowed us to manage the year quite successfully.

**Is the market more cyclical than you had expected?**
The semiconductor market is still a cyclical market but much less than historical levels. There are many more demand drivers in today's market than there used to be, which has significantly reduced the amplitude of the cycles in the industry. Despite the slower growth in the second half of 2018, we are still at historically very high demand and investment levels. The world of cloud computing, device interconnectivity and the rapid growth in artificial intelligence requires new semiconductors designed to store and process unprecedented volumes of data, working at high speeds and consuming as little energy as possible. It also requires continuous innovation in high-vacuum solutions. We expect this to drive more stable growth in the industry for the foreseeable future.

We are also taking steps to make VAT less cyclical and have a very focused strategy to grow our General Vacuum and Service businesses and we expect significant growth from them in the next two to three years.

**Have international trade tensions played a role in the slowing demand?**
Most of our OEM customers are in South Korea, Japan and the US, so we aren't directly exposed to the China market. Nevertheless, China is an important end market for semiconductor and display equipment and trade uncertainties generally tend to delay investment decisions throughout the value chain, so we are looking forward to a resolution.

**How is VAT positioned to participate in the Made in China 2025 initiatives?**
VAT is the market leader today in China with strong market shares across all our sectors. We have very close cooperation with all the key OEMs and our

MICHAEL ALLISON, CEO

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brand is well recognized in China. However, we continue to watch the development of local suppliers and we are constantly evaluating options to maintain and increase our competitiveness.

**When do you expect the market to recover?**
At the moment, our customers in the memory chip and display sectors remain cautious with their investment plans. We have some short-term imbalance of supply and demand which is likely to lead to a lower result in 2019 after three very strong years. But we expect the industry to be back to growth in late 2019 or 2020. The steps we have taken during this slowdown to make our operation more flexible will also help us to move quickly when the market recovers. Digitalization is a long-term demand driver and as the market leader in high-vacuum valve solutions, we are very well positioned to benefit from the return to growth.

**Has the softer market affected the competitive landscape?**
Our technology lead, deep long-term customer relationships and flexible global footprint are key competitive advantages in this kind of environment. On one hand, we were able to adjust our global value chain to remain cost competitive. At the same time, we captured almost 40 significant spec wins in our semiconductor, display, general vacuum and service businesses through highly focused growth initiatives that will further build our market share and support net sales going forward.

**What can you do to drive growth?**
One lever is market share. In displays, for example, there are major OEMs where we still have a small share of wallet. We have specific development projects running to grow that share and we achieved some first successes in 2018. Growth expectations are still strong in logic semiconductors, driven by ongoing node size reductions and innovations in chip architecture, 3D structures with a greater number of layers and new materials.

All these developments require extremely pure vacuum environments for manufacturing at the leading edge node scale of 7 nanometers. As the technology leader in valves, we are in an excellent position to benefit from this trend. In addition, we can do more to expand our service offering and in the area of general vacuum there is substantial growth potential we have not tapped yet.

There are also organizational levers for growth. We added new management expertise in our Global Service segment in 2018 and at the beginning of this year we established a new senior management focus on Strategy & Business Development with a new appointment as well. Furthermore, we combined the Semiconductors and the Modules business units in the Valves segment as of the beginning of 2019 to gain some scale economies and bring a tighter focus on the needs of our semiconductor customers. And in the area of innovation, we split our R&D efforts into a group developing core technologies over the long-term and another providing common engineering tools to streamline the development process.

But all these initiatives would be futile without our dedicated employees to execute them every day. To support them more effectively, we conducted a second employee engagement survey in 2018, aimed at improving the way we work together. To reflect the importance we are putting on people development, we also brought our Human Resources director into the Group Management Board. All these steps will enhance our growth potential.

**How do you aim to maintain profitability?**
A primary goal since the company went public in 2016 has been to create a scalable, cost-efficient and highly customer-oriented organization that can generate sustainable profitable growth. Those efforts continued last year. We further standardized internal processes in order handling and logistics and in engineering and product development, which will speed up time-to-market, reduce costs and support our quality initiatives. We are working more closely with suppliers to simplify and speed up our supply chain and to manage working capital more efficiently.

We also initiated company-wide cost savings projects, including a temporary flexible short-time work program implemented last October with the support of our production employees in Switzerland. This allowed us to keep our highly skilled and experienced employees through the slowdown so when the market recovers, our people will be ready to move quickly to capture the growth.

**What were VAT's most important technology innovations in 2018?**
Our end customers are developing new generations of digital devices that can store and process vast amounts of data quickly, in a small space and at low energy consumption. That requires new chip architectures, new stacking structures and new materials. For VAT, that means new high-vacuum manufacturing processes with new valve designs that provide an even cleaner process environment, capable of moving substrates through the fab faster and more reliably, and that are easier to service quickly to reduce downtime.

So we drive innovation along a number of vectors. One is the cleanliness of the products we deliver. Because they are being used in an ultra-clean environment, we have to ensure that they are manufactured, assembled and packaged with the absolute minimum amount of particle contamination. They also have to operate at extremely high levels of cleanliness, with as few particles as possible generated during opening and closing. That includes research into innovative materials for the contact surfaces during the sealing process.

To give you just a small sample of products launched in 2018, we qualified new zero-particle sealing valves for fabricating integrated circuits at 7 nanometers, supported by a newly-opened particle measurement laboratory in the US. We designed a side-by-side load-lock valve that will open up new opportunities in the wafer etching segment. A large OEM customer took delivery of a new multi-valve module that includes actuators and lifters needed to make high-end image sensors used, for example, in autonomous vehicles. And we continue to develop large transfer valves – some more than four

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meters wide – to handle G10.5 LCD display substrates and large solar panels.

Overall, we run over 100 active engineering programs which demonstrate the extent to which VAT is investing in the future.

**Will you continue to invest in capacity expansion?**

Our expansions in Malaysia over the past two years are key to creating a flexible global footprint for our business so that we can deliver the right balance of cost performance and customer focus across all of our production facilities. We brought the Malaysia plant online as planned in 2018 and will continue to broaden its product scope, qualifying new products with our customers in the region, in line with our growth plans for the important Asia market. It’s a dynamic setup that allows us to adjust capacity and costs quickly in response to changing markets.

**How do you see the market developing beyond 2019?**

There is no end in sight to the demand for more and newer chips and displays as global digitalization accelerates, augmented by advances in the use of artificial intelligence, autonomous vehicles and 5G mobile telecommunications. Asia will continue to be a key market and it’s important that we are strongly represented there, close to our customers for both product development and service. Solar photovoltaic was a strong market in 2018 and the long-term outlook is positive in this sector as well, with new materials helping to improve energy conversion and driving the need for new valve solutions. Finally, there are a lot of untapped opportunities in broader industrial applications served by our general vacuum business as the need for high-precision manufacturing continues to expand. Our continuously growing installed base will create service opportunities not only in spare parts but also in retrofits and upgrades.

**How are you positioning VAT for this environment?**

One of our key competitive strengths has been our laser-sharp focus on our core vacuum valve business and being the undisputed technology leader in this industry. This will remain a top priority for us in 2019 and beyond. We will continue to invest in R&D, to deepen our collaboration with customers to ensure we can deliver the vacuum technology they need to create the next generations of semiconductors and displays.

At the same time, we’ll continue our efforts to expand the service and general vacuum businesses, which will help reduce volatility in sales, and look at capturing market share in areas where we have so far been underrepresented. We will continue to strengthen the organization enable this growth.