

Providing Industry Answers

While numerous companies aim to provide products and services, FEI strives to offer solutions that will accelerate breakthrough discoveries, increase productivity, and, ultimately, change the world.

Images by John Roeland

Working across a variety of different markets such as materials science, electronics, life sciences, natural resources, and industrial manufacturing, FEI is a pioneer organisation dedicated to the pursuit of meaningful answers to the most complex research challenges. The company is solutions-driven and committed to help providing answers to the daunting questions that drive its customers.

Hein Gijssbers, Senior Vice President of Global Operations, brings a wealth of global experience in numerous industries that is vital to the ongoing work FEI does. “My career in the industry started many years ago in R&D. Then I worked in several activities around manufacturing and sorting logistics. I worked for several years in high-volume electronics, so I understand what it’s like producing millions per year. I then left and worked in Japan and Belgium.”

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“For the last 10 years before I started working with FEI, I was with Philips Healthcare, responsible for global operations of MRI, meaning factory sourcing, logistics, and customer service. During the last stage of that assignment, I was Senior VP for commercial operations, responsible for optimising the field, and there were all kinds of challenges around fulfilment, logistical alignment, back-office structures, and so I restructured those activities. Three years ago, I joined FEI in my current role.”

As FEI is a major international corporation, Hein recognises the importance of thinking and working like a global company. “We are a global player, which means we have to start acting globally as one company, so I think transforming global operations means fulfilling our orders consistently with the right quality. In my opinion, that was one of the challenges for us. FEI has been growing so fast, so another big challenge that we had to face was supply chain, be it in industrial

capacity or attracting enough talent for the company. In a broader sense that also meant keeping consistency and consistently supplying to our customers.”

One of the great challenges that FEI faces stems from the varied nature of the business. “We build microscopes and we think of ourselves as being an innovative leader that enables our customers to create meaningful answers on their challenges. So we provide solutions to customers for them to increase productivity and other challenges they have. For example, if we supply to the semiconductor industry, taking into account an increase of complexity in the structure of semiconductors, it means growing our ability to show our customers more complex machines with 24/7 support. For an organisation that was traditionally more focused on laboratory environments, this creates an opportunity.

“Furthermore, entering new markets like oil and gas means we have to commit ourselves to >



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provide answers to a very different new set of research challenges. The complexity of FEI is different compared to other companies in this area. If you go to Philips Healthcare, they have a multitude of solutions in one customer base, being hospitals. The challenge of FEI is that we have solutions that have to be provided to customers across a whole spectrum of industries—from semiconductor customers, to oil and gas customers, to universities like Manchester, and everything in between. In that sense, we are more challenged than other companies, not just because we do a lot of complex technology, but because our customers span across a large spectrum, all facing very specific and unique research questions.”

Given the complexity of FEI’s operations, Hein sees value in creating ecosystems that enable an exchange of work and ideas. “At the main locations of FEI, we carry out activities that support building specific ecosystems. We have a facility in the US where we are deeply focusing on the semiconductor industry. In Europe, we are more focused on materials science and life sciences, so the technology that is needed in the ecosystem in Eindhoven benefits from the other companies that are based in the area, using the same technology from the same vendors. We have a very unique ecosystem in Acht around fine mechanics and creating movement on the micron scale, which is very specifically organised.

“In Brno, the Czech Republic, we are known for good reason. It’s not only because we have slight cost advantage; it’s because we are in the right ecosystem of vendors around us that provide the needed technology, and which also has the ability to attract the right talent. Brno is a city with 400,000 inhabitants and 90,000 students, and half of them are people that want to do mathematics, electronics, and mechanics studies. In addition to that, vendors are conscious of what we do, and in



very central locations. I think we have one very unique advantage in our company: we have the ability to take the best of the ecosystems because we are located where they are.”

By building these ecosystems, FEI is placing itself where its customers and suppliers are. “I think it would be far more difficult for a company like FEI if we had to do that in China or India. Being in the Czech Republic gives us a cost advantage that is in line with what we would be able to do in China.

“The uniqueness of what we are doing now is taking benefit of the ecosystems where we are. Yes, we are a global company. Yes, we have to fulfil the needs of our customers and support them in a consistent way. But we are able to do that because we are in the right ecosystems in the world for our technology. Moreover, the strength of the structure we have put in place is a result of having to grow very fast, and we were able to grow fast because we had that

talent pool coming out of the Czech Republic.”

FEI is a proven innovator in its field and this propels the company forward in continuously building new capacities in new markets. “We innovate to help our customers find breakthrough solutions that they need in their research. That is a simplified explanation for oil and gas, an explanation for different companies and universities, and the same goes for our work in the semiconductor industry. We do that by delivering the right data that gives them insights to their problems. Within our main locations, we have very specific tasks to fulfil, and I think our employees are important in achieving that.

“We are building a brand new facility in Brno. The facility is 35,000 square metres and it is the biggest electron microscopy factory in the world. We are there creating an infrastructure to manufacture and create more infrastructure for doing R&D in



Brno because we are convinced that it is the right spot where we have the ability to grow, and we won’t be hampered by attracting talent. By doing that, we have also convinced some of our major vendors to support us in the Czech Republic and Slovakia. This was achieved by several discussions with some of the CEOs of the vendors we do business with, which led to several of them already investing in that area or wanting to invest in that area.”

Hein notes that FEI is continually working to be more reliable in supply while maintaining high customer satisfaction. “I think the most important step is that quality is in the DNA of everything that we do. And that is probably the biggest requirement that we have if we are going to be a company that supplies product to support our customers. On a 24/7 basis we have to be reliable, we have to support customers as fast as we can, and I think we have made big steps in that area over the last three years. In my opinion, we now have sufficient capacity when we go live this year and we know we can take the company further. At the moment, we are a little bit capacity constrained. The

challenge of being able to grow in the coming years, from a capacity point of view, is more or less solved.”

FEI has always had a collaborative approach to the way it works with suppliers. “We have grouped our suppliers around the technologies we need in order to build our microscopes. We have suppliers supporting us on very specific technology areas. When we do our designs, we make sure of early supplier involvement, and value engineering workshops with all the suppliers for that specific development in the same room.

“Then, from an operational point of view, we have regular meetings with our top suppliers where at least one of the senior executives from FEI and one senior executive from the supplier company get together in a cooperative way to do business development. So once a year, we have a supplier day where we talk to the whole supplier community about what we have done and what we are going to do. In addition to that we have a specific topic and we have some guest speakers every year, plus our business unit leaders, our CEO, and our COO, who explain

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to our vendors what we require from them and the benefit of doing business with FEI.”

“If you are a supplier to FEI and you have made a deliberate choice to do that then you are in the deep end, because we also have a large technology base, with more than 10,000 machines out there that need to be supported 24/7 over the next 10 years. So if you are a supplier, the relationship doesn’t end with you selling the product; you also have an obligation to support our technology base for the years ahead. The relationship with this specific capital-equipment industry becomes very close. It’s very important that we have the right suppliers that also understand the business we are in and what that means from an obligation point of view for them.”

The years ahead look promising for FEI since the company is focused on providing tailored solutions for customers, which is a vital service for companies across the globe. “I think we have a very bright future because we can create solutions and workflows, like the software solutions we provide to our customers, and customers can deepen their understanding of materials and processes, and they answer the most pressing research challenges of our time.

“As I see it, we are in a unique situation with our products and we are in the right moment with the right solutions, so we can really support our customers globally because we are behaving as a seamless company. We are also making the right investments and acquisitions, so our customers see us more as part of their value chain, of their ecosystem. If we continue to deliver the right solutions with the right quality then FEI will have a very bright future.” •

“FEI and EDAX share not only a market space and a customer base, but also a philosophy to continually drive the next advancements in microscopy technology, so working with FEI is a very natural fit and always a rewarding process.” - Narayan Vishwanathan, Div. VP / Business Unit Manager, Ametek (EDAX)

