

# Energising Efficiency

Avure Technologies has undergone a dramatic period of efficiency improvements in the last two years.

Images by Johan Jeppsson

**A**vure Technologies is a true innovator and leader in the field of ultra-high-pressure solutions, which are utilised in a diverse range of industrial segments. Avure Technologies is the world's leading supplier of hot and cold isostatic press solutions, fluid-cell sheet-metal forming presses, and high-pressure food-pasteurisation systems (HPP). It was the birthplace of the world's first synthetic diamond, and today boasts a global network of customers using the company's high-pressure solutions to increase their competitiveness and profitability.

Innovation and invention distinguish Avure from its competitors with the company creating the first systems to produce synthetic diamonds, employing pressures approaching 1 million psi (7,000 MPa). Avure also created the QUINTUS® wire-wound pressure vessel and frame, which is widely considered to be the safest and most reliable pressure-containment system ever designed.

Additionally, Avure was the first company to create commercially viable systems for the high-pressure removal of food-borne pathogens, substantially extending the shelf life of packaged foods without chemical additives or preservatives, and radically transforming the food industry's procedures and processes.

Avure has been a prominent and influential player in the global sphere for decades. It can trace its roots back to the mid-1950s when ASEA in Sweden was among the first to commercialise the isostatic-pressure technology. Three decades later, ASEA became a part of ABB, which carried on the important work of the market development of isostatic- and sheet-metal-forming presses. In 1999, Flow International in the United States acquired ABB's high-pressure business unit. This acquisition prompted Flow International to spearhead the expansion of high-pressure technology into the food-preservation market under the trade name of Avure.

In 2005, Avure Technologies, Inc. became a privately owned,

stand-alone company. The longevity and quality of the technology that forms the foundations of Avure is clearly evident. Presses bearing the names of ASEA, ABB, Flow, and Avure can be found operating successfully in manufacturing plants and laboratories around the world.

As a result of this history, Avure can now state that its engineers and scientists have led the world for nearly six decades in the design and construction of containment systems for pressures as high as 1 million psi. Avure has installed high-pressure systems across the globe, with many of these presses operating for more than 40 years, and with some surpassing 1 million cycles under high pressure.

To keep these units in peak operating condition, Avure provides global technical support to optimise the efficiency of the systems and identify and correct any deviations in the pressure system that may compromise safety or operating efficiency. This is a duty that Avure takes very seriously. For decades, the pursuit >



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of excellence has been embedded in Avure's corporate culture and values, resulting in an unparalleled reputation for product safety and durability.

This pursuit of excellence, quality, and service is still at the core of Avure's approach. Avure invests heavily in highly qualified scientific and technical specialists, and in fully equipped research facilities. From the company's extensive HPP research laboratory in Franklin, Tennessee, to isostatic and sheet-metal forming laboratories in Vasteras, Sweden, a testing and research facility in Columbus, Ohio, and HPP technology centre in Middletown, Ohio, Avure is leading the industry in the research and development of cutting-edge technology. On top of this, Avure is also participating in research programs with well renowned labs and research institutions around the world.

Avure is dedicated to maintaining its position as innovator and leader by ensuring its staff are well-trained, knowledgeable, and experienced. This is achieved through a focus on rigorous staff development and training, and updating and strengthening their high-pressure application development expertise.

As the company continues to grow and develop, this focus on continual innovation and learning, both for its people and products, will see Avure Technologies evolve with market shifts and consistently meet customer needs, environmental concerns, and efficiency requirements.

Jan Söderström is the CEO of Avure Technologies, and has transformed the company since he was appointed to the role in mid-2012. Jan's strategic emphasis has focused on restructuring the company around efficiency, and controlling the execution process resulting in reduced costs and lead times as well as strengthened focus on customer applications.



**"One way to understand why our presence in the global market is so huge is that we have an installed base that gives us a global footprint. We have 1,500 presses all over the world."**

- Jan Söderström

Looking towards the future, Jan believes that Avure will need to continually invest in increasing efficiency in order to grow. His aim is to reinvest in business and market development in the coming years. He wants to double Avure's revenue in the next couple of years, with a strong focus on full-service offerings for their customers in order to be a solution provider.

*The CEO Magazine* recently sat down with Jan to discuss the impressive heritage of Avure Technologies, its substantial success under his leadership, and his ambitious plans for the future.

***The CEO Magazine:* How did you utilise your previous experience and background when you joined Avure Technologies in 2012?**

**Jan:** To start with, I knew from 25 years ago about the technology that Avure was using, because in the old days, Avure was a part of the ABB Group and I was also working for ABB. I'd never been in this business before; I was in other sectors of the ABB Group. I heard a lot about this technology; it wasn't really new to me.



Throughout my life, I've been in global businesses working on global projects. For many years I was working in the transportation business in ABB, in trains. Then I was in the power sector for a number of years.

My last five years before I joined Avure were spent at BAE Systems, the global defence company. I've always been in project businesses, so I have a lot of experience in this kinds of business and working on a global basis; businesses that have >



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a huge supply chain and manufacturing units all over the globe. It is a very common and familiar environment for me. While I didn't have a lot of experiences in the technology side, I have a lot of experiences in global project businesses.

### How did you revamp the company in less than two years?

I've been in the company for over a year and a half, and when I started, I focused on restructuring the company. To start with, I changed the management team and then we started to focus on efficiency and targeted efficiency improvements. We are now more cost efficient in our core processes. We did a lot of training with our employees. We reduced

the lead time and now provide much shorter delivery time to our customers.

On the technical side, we started to modularise our products into predefined modules so that when we start to execute contracts we don't have to start the design process from the very beginning. We use modules, put them together, and that's the main reason why we've been able to reduce the number of engineering hours per contract for each customer, and have a much shorter delivery time to our customers.

We did a lot of efficiency improvements, but this year we're going to focus on volume growth and growing in the market with more contracts and more content

in each individual contract. To do that, you need to understand your marketplace. We have a good picture of where we need to be and what we need to do in the coming years to grow our business.

One way to understand why our presence in the global market is so huge is that we have an installed base that gives us a global footprint. We have more than 1,500 presses all over the world, and of these 1,500 presses, today we might be in contact with around 100 of the companies that are using the presses, so there's huge potential to go into the marketplace, go back to our current customers and see how they're doing, offer them upgrades, and do maintenance on their equipment. There's a large opportunity for development there.

To grow, we need to be more focused on the end market and get more staff who are focused on the customer applications. We will expand our organisation and we will have a stronger focus on Germany, the United States, and China. It's a change from an internal focus and improving efficiencies, to even more focus on the customer and the expansion of the business. Actually, we need to focus on both.

### In addition to increasing efficiency and reducing lead times, how has the company's make-up shifted under your leadership? Have you implemented any cultural changes?

Yes, we have to implement a change to being more focused on efficiency, lean thinking, and being more customer oriented. We needed to be more understanding of our customers' business and understand the application of the customer solution. It's another type of thinking. We had to re-focus quite a lot and that's one of the reasons why I changed the management team. I brought in people from outside who had the values and behaviours that I needed for this culture change. >

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# MAMÉ GROUP: EXCELLENCE IN THE FORGINGS INDUSTRY



Forgiatura Mamé was founded in 1905. It is known worldwide for quality and excellence in the production of steel forgings up to 50 tonnes, providing technologically advanced products for the Italian and international industry in different fields of application such as oil and gas, power generation, nuclear, naval and ship building, wind power, and heavy industry.

Forgiatura Mamé is a key business of Mamé Group in addition to AM Machining, Lion Meccanica (both machinery shops able to supply pieces in fully and rough machined conditions), and the American partner Mamé USA.

Recently, Forgiatura Mamé has pursued the winning choice of renouncing the individualism of its entity in favour of one single strength. Forgiatura Mamé and Forge Monchieri have founded a strategic alliance called M&M Forgings, which aims to create a wider operating future and represent the global excellence in the forgings industry.

Within his reference list of more than 100 customers, Avure is of course one of the most important in terms of volume, quality, products, and business relationship.

Thanks to more than 10 years of experience with Avure, Forgiatura Mamé has supplied forgings in fully machined conditions for food

presses, isotactic presses, and sheet metal forming presses. It provides pieces from one to 50 tonnes, and now thanks to M&M Forgings, up to 120 tonnes.

The valued partnership it has been able to build during these years has allowed Forgiatura Mamé to gain business, sign long term agreements, and to be a key supplier for Avure.

Forgiatura Mamé's service, production and support has guaranteed a constant supply chain of products such as yokes, cylinders, columns, and lower and upper closures, as well as offering high quality and excellent on-time delivery.

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- Jan Söderström

I would say we have a very senior management team, with people coming from ABB, Bombardier, from Rolls-Royce, and from other companies.

### How do you collaborate and communicate with suppliers and strategic partners?

I would say that more than 70 per cent of the project cost has to do with the supply chain, because we don't really manufacture, we wind the pressure vessel, assembly and test the complete product. We are really in the supply-chain business.

We have started to build up stronger relationships with our key suppliers because our plan is to continuously serve our main partners and suppliers with regular prognoses and invite them to be familiar with our strategies for the coming years, ask them to be part of those strategies, and what it means for their development.

We want to make those relationships into more of a partnership than we had before. That means that they need to understand our strategy, just as we need to understand our customers' strategy. We would like to see more joint development and collaboration between us and our suppliers and partners, such as when developing new components or products.

I don't believe in the concept of just getting the lowest price from our suppliers and partners; I want the right price from a long-term perspective. We want to work together to get the cost down. We don't want our suppliers to suffer; we want them to make even better margins than they are making today. The important thing is that we have the same defined target cost levels for the coming years. That's where we need to focus.

### Looking towards the future, how will you further drive efficiency and increase productivity?

The structure that we have to run our operation in is very stable. Due to this, we can expand the volume significantly without needing to

expand our infrastructure too much. This is a volatile business to be in, because it is project business. The increased efficiency will result in shorter delivery times to customers and shorter lead times. That will gain a lot for our customers, as when they decide to make this investment, they need it as quickly as possible.

### How will you reinvest in business and market development in the coming years?

We will increase our reinvestment in market and product development. Every year we put quite a lot of money in product development. We launched a new press in June 2013 and another in February this year. We have also launched a service package incorporating an availability guarantee. We have a good product portfolio and we continue to develop that portfolio.

We will invest in more marketing activities. We will further establish ourselves with more resources in China and we will do the same in Germany. We will also increase our resources in the United States.

### Where do you see your industry going in the future?

I think we will see significant expansion in the coming three to four years because there is so much to do in the marketplace. We operate in three business areas: metal forming, advanced materials densification [AMD], and food. In all three areas there is huge expansion in the marketplace. I'm sure that, together with our customers, we can develop new materials and new material properties in the AMD field, which is really interesting.

In the metal-forming area, there is huge expansion in the aerospace industry. The fleet of airplanes across the globe that are operating today are too few and too old. A huge increase in airplane manufacturing has started and will continue for up to 20 years. We



will be part of that expansion. In the food area we recently launched our latest product, a 525 litre press. We see a huge potential for this product on the global market.

The basic technology of the core components in the press itself and how we create this ultra-high pressure are well-established and tested Swedish invention is 50 years old. What we are really focused on now is the application of this technology to meet our customers' needs. Our business is to help our customer increase profit and competitiveness. Today we focus much more on our customers' needs and we have an engineering team that understand our customer process and requirements.

We want to be our customers' partners through the lifetime of the press. We don't want to just deliver a press and then disappear; we want to be part of our customers' business. That's our approach. This really shapes our behaviour towards our customer. I think our main challenge is to work more out in the field together with our customers.

To do so, we need to have a very good relationship with our suppliers. They are a part of our strategy, development, and future. ●

