+150 years on – Sandvik still challenges the market

Sandvik Materials Technology (SMT) is a familiar name to readers of Stainless Steel World. As a leading developer and manufacturer of products in advanced stainless steels and special alloys for the most demanding environments, SMT has a stellar reputation in the global market. The company places heavy emphasis on its R&D activities, and this commitment allows it to improve customers' productivity, process reliability and cost efficiency while often reducing the environmental impact in a wide variety of industry segments. We spoke to Portfolio Manager at Tube division Jane Eriksson in Sandviken, Sweden, about recent developments and how Sandvik continues to 'raise the bar'- albeit a stainless steel one – in the global market.

By Joanne McIntyre

Jane Eriksson: "We have the focus to continuously work on further developing products."

R&D Centers

Today Sandvik has R&D Centers established all over the world. The largest R&D units are based in Sweden, Finland, Austria, Germany, the UK and the US. A joint Sandvik R&D Center is under development in Pune, India and another one is under development in Shanghai, China. "We have a long tradition of investing in R&D," continues Jane. "This is the cornerstone of our business, we always strive to be innovative and with our unique R&D competence and capability in materials technology our R&D centers support and further improve our close cooperation with customers, all with purpose to meet the future demands in the market. Our R&D centers are engaged both in developing new materials and in working closely with customers to solve problems with the materials that they may be using."

"Over the years the applications our customers are involved in have become more demanding and the environments more challenging. This has driven the need for improved material lifetimes and risk reduction. Key incidents that have fuelled these developments were Deepwater Horizon and the Fukushima accident. For us material safety is essentially to ensure our customers industrial processes to be safer and more efficient."

Working closely with customers

Long term customer relationships are important to any business, and Sandvik has dealt with some companies for up to 45 years. "Working close to

"I can honestly say that it's a privilege to work in a company with so much experience and history behind it," smiles Jane. "Sandvik was founded over 150 years ago and that sense of history is palpable when you join the company; there are many highly experienced people here with outstanding knowledge in their field. We are very proud of this, and it also gives us an extra boost to continue such a tradition and foresee the needs of the people. Every day we are working with materials to make a difference to our customer. I really believe that this is one of the strengths of the company; we have the focus to continuously work on further developing products and the portfolio to offer the best solutions to our customers. Our team really is passionate about what they do."

Jane joined Sandvik ten years ago when she took up a position within marketing in the Sandvik Materials Technology Tubes division. In 2013 Jane was appointed Portfolio Manager for Standard products, which includes overall responsibility for the company's standard tubular and pipe products, hollow bar products and tubular products going into high temperature applications.

customers is important and in some cases also crucial, our customers have the best understanding and knowledge about their processes and we know the material and in many cases also the general application side, together we can make a difference. As an example we have a customer who wants to use higher temperatures in their processes, while the material they are currently using can't do that without compromising corrosion resistance or safety. Our R&D and technical marketing teams are working closely to help them identify the best possible solution, our task is to find an alternative material which will meet their demands, which may even be one of the many materials we already have in our portfolio." Occasionally Sandvik develops new tailor-made materials for a customer and this is one way in which the market pushes material evolution.

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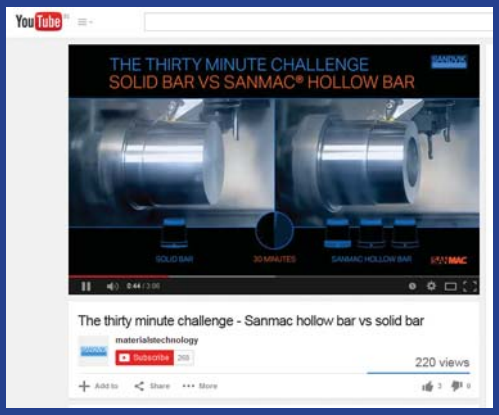
Material evolution – machine friendly hollow bars

In many cases the development of a new material is an evolution, not a step in an entirely new direction. "We will often find ways to evolve an existing material to improve within the standard, making it a more commercial product," explains Jane. "While we and all of our customers work to certain standards there is of course a difference between the higher and lower scales within that standard; we always strive to be as good as possible within the standard."

30 Minute Challenge



Machine shops are constantly looking to minimize their machining time per component in order to increase productivity while combating increasing costs and competition to meet customer demands. There is, however, only so much real machining time available and it is imperative that this is utilized to the full. Now companies have an opportunity to triple the available time. Traditionally in the US, solid bar is the material of choice when it comes to machining components. However, when a central bore is being machined Sandvik argues that by selecting near-net-shape, machine optimized hollow bar, machine shops could significantly increase their output.
This material choice can greatly influence productivity and profitability. By direct, real time comparison from a Sandvik machining video it can be seen that in the time it takes to produce just one complete component from solid bar, three components can be produced from Sanmac® hollow bar. See 'The Thirty Minute Challenge' at: http://youtu.be/8bvQC3-F9II

A good example is the company's hollow bar product. "An extruded product, which is usually machined to produce components, a substitute for solid bar for various industries. These machine shops are constantly looking to minimize machining time, increase productivity and save time and energy. We can now help customers maximize outputs and reduce machining time by a factor of 1.5 by supply of Hollow Bars in machinability enhanced materials; this means they can produce 3 components in the time it would traditionally take to produce one. We have invested forty years of development and resources into these materials, continuously developing them to achieve a highly consistent, machinability enhanced product. The high degree of consistency means customers can work 24/7 should they wish to."
"These products are not exotic materials, they are traditionally 304, 316 or duplex stainless steel, where we see a steadily increasing need , so we are able to help customers significantly increase output. A further upgrade of these Sanmac ® hollow bars will be available during 2015." (See box '30 Minute Challenge').

Business strategy

"Our business strategy has always been to be one of the best materials suppliers in the world," continue Jane. "At the core of our group we have a great team who focus on developing products and practices that can really support our customers. At the moment for instance there is a strong focus on energy and energy efficiency, as this an important area today. We have a wide product range and thousands of customers in many different industries, but what never changes is that we want to work closely with our customers regardless of their location. We're a global company with a strong local presence in over 120 countries and that is important for our customers. They have local people they can call for support and service when they need support, who have the strength and experience of our global company behind them."

About Jane Eriksson

While Jane has a busy job at Sandvik, her Bachelor of Science in Industrial Management and Engineering has given her a solid background. "Working with a global team is challenging because we are culturally diverse, and I find this aspect really interesting and motivating.
Prior to doing my BSc I had been a pre-school teacher, and while this seems like a huge change, which it is in many respects, I am very glad that I have that experience , as I think this has given me the advantage of pedagogical training and educational skills and probably have contributed a lot to how I act as a leader. My philosophy of leadership and how to become / maintain to be a successful company is about the people in the organization, they are the one that will make the difference."

Sandviks' strategy is to produce products as close to the market as possible, whether that is in Asia, Europe, or the USA.

Global machining and piping system trends

Much of the supply of these machining and piping products comes from stock. Jane explains that this is a very important factor for customers because they know that availability can be guaranteed from one day to the next.

"We have a wide network with a broad supply chain, but we also supply to distributors who sell on our products; different channels are utilized in different parts of the world. However whichever market we are in, in recent years we have seen two strong trends emerging. The first is that apart from appreciating product quality, the relationship that companies have with their suppliers is increasingly important. Many companies, and especially the bigger ones, don't want a large number of suppliers as this consumes resources. Many of our customers prefer to work with fewer suppliers but in a closer relationship. This in turn is driving the second trend, which is our ability as a leading manufacturer to build up a relationship with our customers and talk to them about safety and social responsibility. This is very important to us because it includes the safety of both the environment and of our own people and our sub-contractors."

These trends have both emerged in response to the realization that low cost suppliers simply cannot supply the same high quality products as we can, and heightened awareness of the long reaching consequences of any accidents. Cost, efficiency and responsibility are all closely connected."

New applications in some areas

Sandvik has many ongoing projects, one of them, without possibility to right now giving any details are looking into how it can extend the lifetime of materials being used in demanding applications with high temperatures and highly corrosive environments.

"We've seen that it's possible to extend the lifetime of material from 2-3 months to one year or more. This is an interesting project and hopefully we can launch the product and give more details shortly."

"Our people are of course aware of developing markets around the world and we're open to exploring new areas to expand into. The company is enlarging its geographical footprint but rather than focusing on a particular country, we believe it's important for us to deliver improved products overall, such as our hollow bars. It's our policy to produce products as close to the market as possible, whether that is in Asia, Europe, or the USA so we have production facilities in all these locations. We have the ability and technology to tailor products to our customers' needs, regardless of where they may be located around the world."

"In recent years we've seen a continuation of the trend for higher alloys to take over from the standard stainless steels. This is a reflection of the higher demand that we see around the world in some sectors, and in particular within the energy sector, for higher productivity and increased material lifetimes. This is driving demand for nickel based and other alloy metals. It's an issue which is continuously on our agenda. And it is essential for us to remain highly responsive to what is happening in any industry right now."

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Facts & Figures

Name:	Sandvik Materials Technology, Part of the Sandvik Group
Product areas:	Tube, Strip, Primary products, Wire & Heating Technology
Turnover:	about 14,000 MSEK* (2013) / EUR1.536 billion
Number of employees:	7,113 (2013)
President:	Petra Einarsson