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## A TURBULENT TIME

**WE STARTED 2022** with a sense of optimism as the restrictions following the pandemic were gradually lifted in most parts of the world. Unfortunately, the situation has since become significantly more uncertain with the outbreak of a war in Europe.

The war in Ukraine has led to unimaginable human suffering. We have prioritized the safety of our employees, and it has been fantastic to see the great engagement throughout the organization to support our efforts. On February 28th, we suspended our business operations in Russia, and we continue to evaluate how we can act in the most responsible way in the long term. The war will have consequences on many levels, and its impact on the macroeconomic environment is currently difficult to predict.

There have also been reports in the media that Sandvik has previously sold products to Russian companies in the arms industry. The companies have both civilian and military businesses. When these reports reached us, we immediately launched our own investigation, with the support of external experts. We have not found evidence that we have

violated any sanctions, but we have identified some cases of sales where we do not have complete documentation that ensures that the products were only used for civilian purposes. These cases occurred primarily before 2018, when we strengthened our processes for regulatory compliance considerably, and we are constantly working to improve our routines.

In this issue of *Meet Sandvik*, we focus on the future of manufacturing, namely digitalization and automation. In the past year, Sandvik has completed many acquisitions with a focus on digitalization, and we are convinced that this is how we will build our future growth. Read more on page 20.

At the 2022 Annual General Meeting, it was decided that Sandvik Materials Technology will be distributed to the shareholders and a new company, Alleima, will be listed on the stock exchange. I am convinced that this will be the best situation for both Alleima and the remaining Sandvik for the future. Read more about the spin-off on page 24.

**Stefan Widing,**  
**President and CEO**

# GOING FOR GOLD IN THE DESERT

In the burnt hills of the Sonoran Desert – Mexico's hottest – Minera Penmont (Fresnillo Plc) operates one of the country's largest open-pit gold mines, La Herradura. Sandvik provides service and equipment to the mine.

For Sandvik, boosting productivity and efficiency for its customers is important, but equally important is increasing safety. With automated technology and intelligent drill rigs, Sandvik is also helping La Herradura find ways to operate more sustainably. ■







## OPEN HACKATHON

In March, Sandvik-supported Engineers Without Borders Sweden held a 42-hour open hackathon to foster innovation on humanitarian challenges addressing the UN Sustainable Development Goals. During the Engineering for Humanity Weekend 2022 participants focused on four areas: Recycling & Waste Management, Education, Capacity Building and Construction. The Engineering for Humanity Award went to Gustavo Villaescusa Escudero, Javier Poveda, Jan Sopejstal and Emilio Domínguez Sánchez for their plastic recycling plant. ■



Team Hasselborg won the bronze medal in the Olympics 2022.

## OLYMPIC BRONZE MEDALIST

Curling is hotter than ever – at least in Sweden, where Team Hasselborg earned a bronze medal after beating Switzerland. The Sandvik-sponsored Team Hasselborg won a gold medal in the Olympic games in South Korea in 2018 and ended up sweeping

for third place in this year's event.

"I'd never thought I'd be so proud over a bronze," says vice skipper and former Sandvik employee Sara McManus, whose team came in fourth place in the World Championships in Canada in March. ■



The proud Sandvik communications team.

## SANDVIK WINS AWARDS

Swedish Magnet Awards has given Sandvik a silver award for its "Bird in the Mine" campaign promoting electrification in mining, as well as a bronze award for its "Life-changing innovations" campaign. Magnet Awards, a nonprofit knowledge and inspiration group, holds an annual championship in employer branding, celebrating companies that make a difference. ■

[home.sandvik/electric](https://www.home.sandvik/electric)

[home.sandvik/life-changing-innovations](https://www.home.sandvik/life-changing-innovations)



The Tampere test mine was used for 5G network trials.

## NOKIA DEPLOYS 5G TECHNOLOGY IN TAMPERE TEST MINE

Nokia has deployed the world's first 5G Edge Slicing solution on a live commercial network. The innovative solution allows operators to offer their enterprise customers next-generation, secure, reliable and high-performing services over commercial 4G and 5G networks. Nokia and mobile operator Telia are running a live trial at the Sandvik test mine in Tampere, Finland. The

trial demonstrates how next-generation 5G Edge Slicing functions can operate with different mining equipment and digital applications. Jari Collin, CTO, Telia Finland, says, "Sandvik is investing heavily in digital mining technologies and the technology environment in its test mine in Tampere. Our advanced 5G network is making the network more efficient." ■



## LOCKER FOR INCLUSION

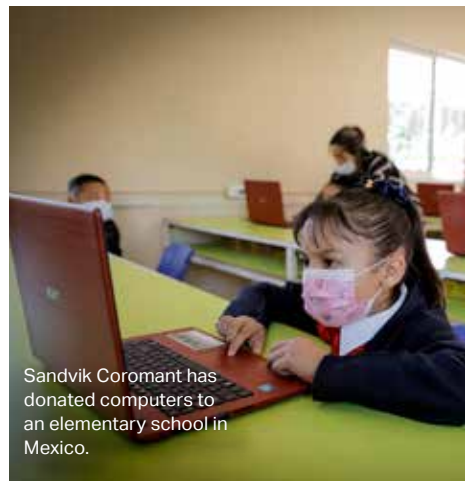
RedLocker is a "vending" machine with free menstrual-care products – a concept developed with the goal of creating equal and inclusive environments. Sandvik has installed 140 RedLockers at its facilities in Sweden.

"For Sandvik, the collaboration with RedLocker is a practical way to show our strong commitment and progress in gender equality and inclusion," says Johan Mildner, Country HR Coordinator Sweden, Sandvik Group. ■

## SANDVIK DONATES COMPUTER EQUIPMENT

Support for education is one of the priorities in a recycling and social responsibility campaign by Sandvik Coromant. In partnership with local organization UNETE, it donated computer equipment for the Miguel Hidalgo Elementary School in Querétaro, Mexico, as a way to help close the gap on access to technology for education in the country.

According to UNICEF, a third of school-age children worldwide had no access to distance education during the pandemic. ■



Sandvik Coromant has donated computers to an elementary school in Mexico.

MEGHAN WEST:

# “WE’RE GENUINELY A FAMILY”

Their first software was called “Meghan,” named after the founder’s daughter. Now she runs the company. Meet Meghan West, the CEO of Sandvik-acquired CNC Software.

Meghan West is a CNC digital native. Two weeks before she was born, her father started the company where she is now the CEO. The company, a Connecticut-based CNC software company, is best known for its Mastercam® suite of applications, but the software was called “Meghan” for the first few years of the company’s existence. She was interested in the company’s operations from an early age. When she was growing up, her father came home and brainstormed with her about the business’s challenges and opportunities.

At age 14, she accompanied her father to Japan on what she considers her first business trip. She credits hundreds of mentors who have helped shape her career, including people from the company’s reseller network around the world, some of whom she has known since she was a teenager.

With applications that drive CNC machining tools, CNC Software operates at the intersection of software and manufacturing, two historically male-dominated industries. West says gender was never an issue when she was growing up, and she has been fortunate not to have encountered the type of resistance that faces many women in those fields.

Part of her role as a leader now, she says, is to show other women that they can succeed. “The more exposure women have to see other women in manufacturing or software, and more importantly in leadership positions, the more they believe that it can happen for them as well,” she says.

“We talk a lot about the diversity of thought,” she says. “Without women in manufacturing, we miss out on half the population’s input into an industry that impacts our day-to-day lives.”

## How did CNC Software become the leader in CAD/CAM software?

Part of it was good timing. We got into the industry right at the beginning, when CAM was starting to take off. The other reason we became so widely used was that we developed a reseller network. We sell to resellers around the world, and they sell and support the product and the software locally in their territories.

## What special value or knowledge does CNC Software bring to Sandvik?

First, there’s our extended reach in the CAM market. We bring a level of understanding of what it takes to satisfy our customers. The second value would be our reseller network. We have the





**MEGHAN WEST**

**Title:** CEO and President of CNC Software

**Background:** Bachelor's degree in marketing from Bentley College, master of business administration in management from Hawaii Pacific University

**Age:** 38

**Lives:** In the U.S. states of Connecticut and Hawaii

**Family:** Husband and two children, ages 10 and 7

**Interests:** Hiking and paddleboarding in Hawaii

most technical, business-savvy and successful reseller network around the world in the manufacturing industry.

**How did you come to be involved with Sandvik?**

We have been partners with Sandvik for a long time. We have coordinated projects together to develop tool paths that work well with the Sandvik tool brands. Partnerships are an important part of the manufacturing industry.

**What are the advantages of connecting with Sandvik?**

Sandvik has a similar approach to the customer experience and the manufacturing industry. For them it's not just about revenue, it's not just about a business, it's about a passion. Mastercam® is extraordinarily successful at creating an evolutionary product. But when it comes to the revolutionary, to looking at things that are truly innovative or big technology changes, we did not have the





Discussions at the Connecticut headquarters.

resources or the capacity to be able to do that. Now we have got the best-in-class diversity of thought that we're connected to. We have people who are genuinely passionate about making sure that the manufacturing industry gets delivered the best experiences and the best products.

**How would you describe the corporate culture?**

They say that companies tend to take on the personality of their leaders. My dad started the company two weeks before I was born, so I literally grew up in this industry and this company. My mom was the CFO and my uncle was the vice president. They all work hard and understand the importance of a strong work ethic, but they also like to play hard. I still consider the company very much a family. We are not just a company – we are a group of individuals who are going through a unique experience at any given time. Leading with compassion and putting people first are the things that make it feel like we are genuinely a family.

**What is your view of the digital landscape?**

Currently there are a lot of individual products that communicate with each other, but the con-

nection is clunky. I see the digital landscape of the future as a seamless dance between products so that the end result is a user experience that is intuitive, efficient and pleasant for the user. We are up against these experiences for millennials and the next generations of virtual reality and cloud experience and instant gratification. I see our products needing to follow up to that, making sure our users have the best experience they can have.

**How do you envision the manufacturing industry in a few years?**

We saw so many industries suffer in the pandemic, while manufacturing was strong and healthy. The reason is that manufacturing is a critical component of humanity's ability to exist. We need to manufacture things, and that's only going to continue to expand. More players will get into the digital landscape, with more innovative technology. This industry is customer-driven. We can't put out wild and crazy products that customers aren't interested in using. I think Sandvik has said it best: We are partners in the industry we serve. ■



Change of shift at the Sandvik plant in Sandviken, 1970s.

# SANDVIK CELEBRATES 160 YEARS

This year Sandvik celebrates 160 years in business – a business built on a foundation of innovation and customer focus.

**SANDVIK WAS FOUNDED** in 1862 by Göran Fredrik Göransson, who was the first person to succeed in using the Bessemer method of steel production on an industrial scale. At an early stage, operations focused on high quality, added value, investments in R&D, close contact with customers and exports. This strategy has remained unchanged through the years.

"We are about to enter another new era

– the world of digitalization," says Sandvik President and CEO Stefan Widing. "We are rapidly broadening our digital offering and expanding into new technologies, such as additive manufacturing and metrology. And while we do this, our key focus remains the same – our dedication to customer productivity, profitability and sustainability. We are ready and excited to take on the next 160 years."



**1858**

On July 18, trials to produce steel utilizing the Bessemer process succeed at the Edske blast furnace.



**1862** ↑

Högbo Stål & Jernverks AB is founded on January 31 in Sandviken, Sweden, by Göran Fredrik Göransson and his associates.



**1876**

Participation in the U.S. Centennial International Exhibition (the World's Fair) in Philadelphia. Sandvik is officially used as a brand name for the first time.

**1890**

Strip steel for gramophone springs becomes a best-selling product.

**1901**

Shares of Sandvikens Jernverks AB are introduced on the Stockholm Stock Exchange.

**1911**

Orders are received for precision strip from a major typewriter manufacturer in Italy.

**1919**

Sandvikens Jernverks's first subsidiary in the U.S. is established with an office in New York City.

**1920**

Electric melting in an induction furnace is introduced.

**1942**

The Sandvik Coromant brand name is established following collaboration with KF Industri's Lumalampan.



**1943**

The first cemented-carbide tools for metal cutting are manufactured. Subsidiaries in Italy and Finland start local production. Sandviken becomes a town.

**1947**

Production of Bessemer steel is closed in Sandviken. Long-term agreements regarding rock tools are finalized between Sandvikens Jernverks and Atlas Diesel. The "Swedish method" concept in rock drilling makes a breakthrough.

**1951**

Production of cemented-carbide products begins in Gimo, Sweden.

**1956** ↓

Sandvik acquires its first computer.



Managing director Erik W. Forsberg pressed the start button on the company's first computer in Sandviken, 1956.



**1964** ↑

Specially designed Sandvik saws are utilized when stone sculptures from the Abu Simbel Temples in Egypt are moved in conjunction with the construction of the new Aswan Dam at the beginning of the 1960s.

**1966**

A campaign is initiated in Sweden to recruit women for the purpose of reducing the existing labor shortage.

**1968**

Annual sales exceed SEK 1 billion.



**1969** ↑

Sandvik is first in the world with Gamma Coating – surface-coated cemented-carbide inserts.

**1971**

Sandvik rock drills are used to drive the world's longest road tunnel through the Saint-Gotthard Massif in Switzerland.

**1972**

The company name is changed to Sandvik AB from Sandvikens Jernverks AB.

**1973**

Sandvik acquires 65 percent of all shares in the Seco Tools group. Sandvik now has 57 subsidiaries.

**1991**

The tunnel project under the English Channel makes use of cemented-carbide mineral tools from Sandvik.

**1994**

A plant for cemented-carbide tools is inaugurated in Langfang, China.

**1997**

Finnish mining equipment company Tamrock is acquired, the largest acquisition ever in the history of Sandvik.

**2001**

Automation and remote control in mining machinery is tested in mines in Canada and Sweden. The concept is named AutoMine®.

**2002**

A majority shareholding is acquired in the German tool manufacturer Walter AG.

**2013**

Sandvik invests in additive manufacturing (3D printing).

**2018**

Sandvik is recognized as one of the most sustainable companies in the world (Global 100 Most Sustainable Corporations in the World) by Corporate Knights.

**2021**

Sandvik makes 14 acquisitions in strategic growth areas such as manufacturing software, solid round tools, ground support and mine planning.



# A COMMITMENT FOR THE FUTURE

By joining the United Nations-backed Science Based Targets initiative, Sandvik is committing to net-zero carbon emissions by 2050 at the latest. Applying science-based targets is not only good for the planet, it also makes perfect business sense.

**IN DECEMBER 2021**, Sandvik committed to the Science Based Targets initiative (SBTi). The SBTi is a partnership between the Carbon Disclosure Project, the UN Global Compact, the World Resources Institute and the Worldwide Fund for Nature.

Targets are considered "science-based" if they are in line with what the latest climate science deems necessary

to meet the goals of the Paris Agreement. Setting a science-based target provides a clearly defined pathway for companies to reduce greenhouse gas emissions accordingly. The targets are independently assessed and approved in line with strict criteria.

Sandvik adopted ambitious climate targets in 2019, aiming for a 50 percent

“This is part of our business model. We always start with the needs of our customers and develop solutions that help them become more sustainable.”

reduction of CO<sub>2</sub> emissions by 2030.

“Our targets are already science-based,” says Mats W. Lundberg, Head of Sustainability at Sandvik. “We’re an engineering organization, so for us, joining SBTi is in part a way of getting our 2030 targets verified by a very credible third party. But more importantly, it is a way of ensuring that we create a bigger longer-term target, and it helps us plan for what happens after 2030.”

Lundberg points out that this long-term commitment makes perfect business sense, for several reasons. “A good example is the need to build a new factory,” he explains. “If you know that you need to be net zero by 2050, you won’t build something that you’d need to rebuild 20 years from now, which you might if you only have the 2030 targets. Business decisions and sustainability therefore start to merge.”

The net-zero target will also reduce the future cost of energy needed for operations. The cost of fossil fuels and electricity is expected to increase, and a plan for having net-zero emissions will save money. Sandvik can also make longer-term contracts for the procurement of renewable energy.

A third-party stamp of approval has a big business benefit, Lundberg says. “It adds credibility, which is great for investors and shareholders. All our major shareholders want us to do this. If companies they own are part of SBTi, that adds value to their investments.”

There are many business reasons to join SBTi, including competitiveness. Customers demand sustainable solutions and want to work with suppliers that can help them fulfill their own sustainability targets.

Sandvik can make the largest environmental impact through its products and solutions. Carbon emissions related to the user phase account for the major share of the company’s total carbon footprint. Electric mining equipment, eco-efficient rock processing and digital manufacturing, and improving customer productivity and efficiency are but a few examples.

“This is part of our business model,” Lundberg says. “We always start with the needs of our customers and develop solutions that help them become more sustainable. We can play a unique role in helping them become more sustainable in a way that no one else can.” ■



**LISTEN!**  
Mats W. Lundberg and Carina Silberg, from pension provider Alecta, discussed sustainability in a podcast episode.

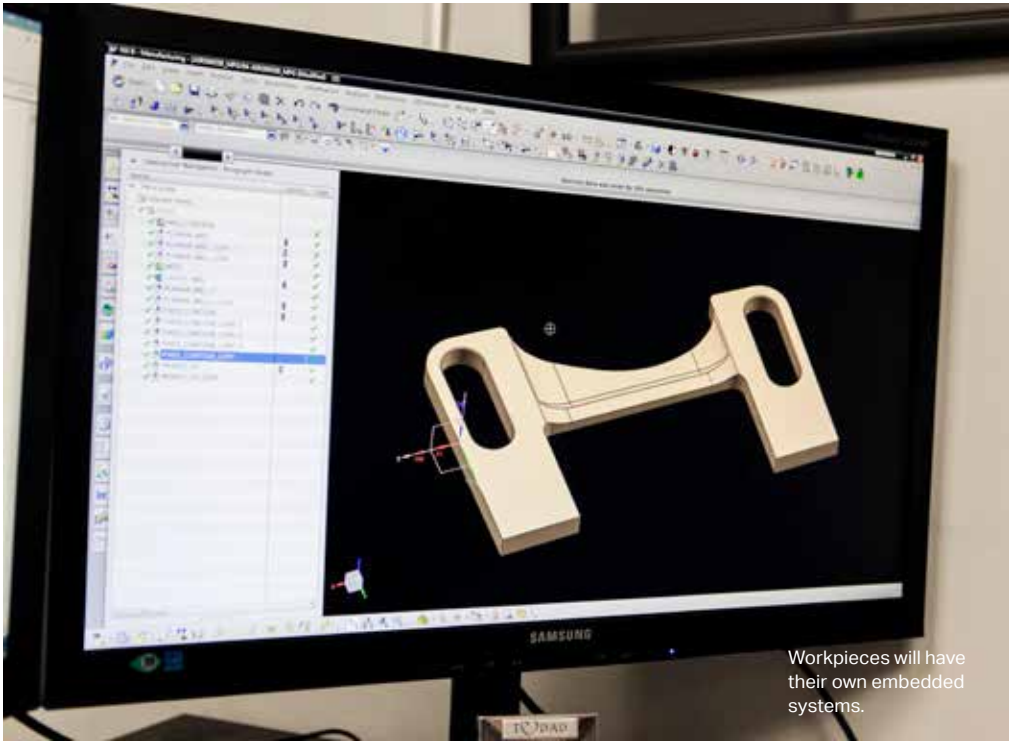






# MANUFACTURING IN THE DIGITAL ERA

To be in the forefront of the manufacturing industry, corporations need to adapt to an increasingly digital world. For Sandvik, it is a means to keep delivering productivity for its customers. →



**DIGITAL MANUFACTURING** offers huge potential – to improve productivity, reduce lead times, reduce working capital and improve cash flow. But how will the smart manufacturing of the future work?

In the future all machines, from milling machines to welding robots, will be networked with one another, according to German research organization Fraunhofer. Every workpiece will have its own embedded system, storing various pieces of information on, for example, the customer, the workpiece’s desired configuration and its destination. It will be possible to uniquely identify and localize raw parts. Not only will they know the processing steps necessary, these parts will also be networked with the production machines and will be able to communicate with one another to decide exactly when they are to undergo which production step.

In the future, the entire line will no longer stop when a given station fails. Instead, workpieces and machines will work together to replan the processing sequence. The result is a “self-organizing” adaptive manufacturing process that no longer requires constant human intervention, while remaining under human control.

**IN ORDER FOR** smart production to run smoothly, the humans and robots involved have to continuously report exactly what they are doing and, for example, how long parts subject to wear have until they fail. Everything taking place in the real factory will be represented in parallel in the virtual factory. Experts refer to this connection between the real and virtual worlds as a cyber-physical system, or CPS.

The economy is hoping for several advantages from the digital transformation of industry,

“The flexible factory of the future will make it possible to manufacture according to customer preferences.”

not least that the flexible factory of the future will make it possible to manufacture according to customer preferences and make production changes ranging up to the integration of new machines at any time without substantial effort. Machine utilization levels will be higher, the consumption of resources will drop, and there will be fewer rejects.

**SO FAR**, larger manufacturing enterprises have been the main beneficiaries of smart-manufacturing innovations, while smaller manufacturers have lagged behind.

“The challenge is helping smaller manufacturers obtain tools that are neither too expensive nor too complex to collect the necessary data themselves,” says Stephan Biller, CEO of Advanced Manufacturing International Inc. in the February 2022 edition of *Smart Manufacturing* magazine. “But there is good news for the smaller enterprises: advances in the past decade have made factory optimization better, easier and more cost-effective.”

The digital transformation will require new skills and competences from the workforce, an issue addressed by the World Economic Forum (WEF) in a recent report.

“The new world of work in the fourth industrial revolution is rapidly becoming a lived reality for millions of global workers and companies,” says Saadia Zahidi, a member of the WEF’s managing board and head of its Center for the New Economy and Society. “The inherent opportunities for positive outcomes for workers, the economy and society are enormous, yet crucially depend on bold action from all concerned stakeholders to instigate reform in education and training systems to prepare workforces for the skills of the future.”

Businesses around the world are increasingly

taking the lead in upskilling and reskilling their own workforces as well as their surrounding communities, equipping what they hope will be the next generation of their workforce with skills for the future.

One example is Sandvik India, which is providing young people with a springboard for a career in manufacturing and access to some of the industry’s most cutting-edge technologies. “The younger generation of India holds significant potential to close the skills gap, once they are trained with the technical knowledge needed for modern jobs,” says Kiran Acharya, managing director of Sandvik Asia. “India has entered a golden period that’s set to last until 2040, due to a shift in the population’s age structure.”

Sandvik Coromant has partnered with the Indian government to establish the Sandvik Coromant School of Manufacturing Excellence to train Indian youth from underprivileged and marginalized backgrounds. Based at the Industrial Training Institute in Pune, the school educates students on advanced metal-cutting techniques. ■

Read the interviews with Nadine Crauwels and Christophe Sut in which they talk about the digital transformation within Sandvik Manufacturing and Machining Solutions and how it will contribute to increased sustainability and efficiency.



# CLOSING THE LOOP

Digitalized manufacturing enables a closed-loop production that results in increased efficiency, reduced waste and improved quality. Sandvik has rapidly expanded its digital offering to automate and connect the manufacturing value chain, from design and planning to preparation, production and verification.

**SANDVIK HAS LONG** been a world-leading supplier of tools and tooling systems for advanced metal cutting. In 2021, the metal-cutting business was divided into two business area segments to further grow its digital offering; Sandvik Machining Solutions is an expert in machining solutions while Sandvik Manufacturing Solutions focuses on the beginning and the end of the value chain – design, planning and verification. The aim is an end-to-end digital offering that is agnostic and automates the machining process.

“Sandvik has a long experience of optimizing machining processes, and we are now able to build this competence into software and routines,” says Nadine Crauwels, President of Sandvik Machining Solutions. “From production planning and programming to tooling, manufacturing and quality control, digitalization comes in at every step and improves efficiency and along with that sustainability.”

**ONE MAJOR LEAP** on the digitalization journey came in 2020 with the acquisition of CGTech, a global market leader for numerical control (NC/ CNC) simulation, verification and optimization. CGTech’s product offering includes Vericut®, a software program used for simulating CNC machining. It brought Sandvik Machining Solutions a big step forward toward offering full machining solutions for our customers.

The pace of acquisitions accelerated in 2021, adding competence in digital manufacturing and



“Sandvik has a long experience of optimizing machining processes,” says Nadine Crauwels, President of Sandvik Machining Solutions.

software solutions. CNC Software is the company behind Mastercam®, the most widely used computer-aided manufacturing (CAM) brand with about 300,000 licenses installed. Cambrio is a leading company with an end-to-end portfolio in CAM software for manufacturing industries, and ICAM provides solutions that translate CAM data into optimized coding for guiding CNC machining operations.

**IN THE VERIFICATION** phase, Sandvik made two acquisitions: DWFritz Automation, with a leading position in in-line metrology, and Dimensional Control Systems, a leading global provider of dimensional quality management software.



Christophe Sut,  
President of Sandvik  
Manufacturing Solutions.

“Our long history and metal-cutting knowledge, combined with recent acquisitions, make Sandvik uniquely positioned to help customers of all sizes make the most of the digital transformation,” says Christophe Sut, President of Sandvik Manufacturing Solutions. “A closed-loop, end-to-end production with non-touch inspection is the ultimate goal.”

The end-to-end approach means that not just production, but data collection and even analytics will be automated. Sensor-embedded tools continuously monitor production, and quality control and verification of parts takes place in real time inside the machine. The opportunities for continuous learning – by machines as well as humans – are endless.

“We support companies in working with feedback loops, how they work with data and learn from every step in the process,” says Crauwels. “We are now able to build this competence into software and routines that are automated and don’t need to be in the head of an individual.”

Optimization of the value chain includes interaction between software and hardware, “The opposite is suboptimization,” she says. “That’s why Sandvik has chosen an agnostic approach, which means that our solutions work with software

and hardware from other vendors as well.”

Many Sandvik customers are small and middle-sized companies, and the agnostic approach helps them digitalize their operations and stay competitive.

“Engineering keeps moving forward, triggering a need to develop more complex parts and to invent new solutions,” says Sut. “More advanced manufacturing relies on digitalization to automate production and to maintain a high and even quality.”

One example of the agnostic approach is that the industrial metrology solutions – which measure production results in real time inside the machine – work irrespective of who built the tools and the machines.

“The possibility to integrate measurement in the manufacturing process ensures that all components are of the right quality as they are produced,” says Sut. “We are moving from measuring random samples in a quality-assurance measuring room to in-line. By not producing faulty components, we will use less energy and material. Good for the planet and good for business.”

**INCREASED** digitalization is strongly linked to sustainability, since efficient machine utilization and more accurate production results in less waste and fewer scrapped parts. Combined with increasing raw material and energy costs, production efficiency has a direct impact on the bottom line of customer financials as well as the climate.

Looking ahead, Crauwels says Sandvik is on a strong growth path. “Combining software and hardware creates new revenue streams and a subscription-based business model,” she says. “By complementing our growth in our core business with knowledge-based digital solutions we are set for a successful and profitable business.”

Sut agrees: “The demand for our digital solutions is stronger than the general growth in the manufacturing sector, and many applications even show double-digit growth. It’s a great market to be in right now.” ■

# TRANSFORMING THE MINING INDUSTRY

The mining industry is on the path to digitalization, and Sandvik continues to add solutions to help the industry make the shift and grow its digital maturity. A complete digital platform for optimized operations, from planning to execution, is the latest addition.

**NEW ORE DEPOSITS** are getting harder to access. Mines are going deeper, operations are getting more complex and building infrastructure is becoming more challenging. At the same time, shareholders expect improved productivity and the new generation of miners expects the mining industry to make use of new technologies. The industry needs to adapt.

“Digitalization is the answer to many of the challenges facing the industry,” says Riku Pulli, President of the Digital Mining Technologies division within Sandvik. “In the field of digital connectivity and automation, Sandvik is in a very good spot.”

**AN INCREASING** number of mines have already incorporated the use of OptiMine®, a comprehensive suite of digital solutions for analyzing and optimizing mining production and processes underground. For several years mines around the world have made use of fully autonomous mining equipment from Sandvik, such as underground trucks and loaders. The first AutoMine® automation system was developed and delivered in 2004. To help the industry obtain the benefits of digitalization, Sandvik is continually upgrading its offerings. An exciting new product to be rolled out in

2022 is a collision-avoidance system developed by the Newtrax business unit. The acquisition of Australian software company Deswik, a top-tier supplier of mine planning software, supports digitalization throughout the mining value chain.

“That makes Sandvik the first company to offer a complete end-to-end digital solution, which makes us unique on the market,” says Pulli. “We can offer a platform that goes from mine planning all the way to execution and back again.”

**CLOSING THE LOOP** is of great importance, as all data collected from the mining operations can be used to improve planning and optimize the entire operation.

“These new capabilities will also help us build and develop even better products and solutions to help our customers design mines that are optimized, for instance, for automation and electrification – a megatrend in the industry and the path toward more sustainable operations,” says Pulli.

All mines are different, though, and the grade of maturity varies a lot. “Different mines have different needs, and their short-term objective can vary,” says Pulli. “I believe we have the most com-



Sandvik can offer a broad portfolio of digital mining solutions.

prehensive portfolio on the market, with solutions for companies at all levels of maturity.”

For many, the first digital step is to make use of My Sandvik, a service offering that allows customers to connect their equipment to remote monitoring services for preventive maintenance to avoid unexpected downtime. My Sandvik does not require any big changes in the way customers operate their mines and equipment, Pulli explains, but it still provides very powerful tools to get more out of the fleet.

“Combined with the mining process systems

“That makes Sandvik the first company to offer a complete end-to-end digital solution, which makes us unique on the market.”

OptiMine™ and AutoMine™,” he says, “this capability shifts the entire mining operation to digital and makes it safer, fully transparent and much more productive.” ■



The name Alleima combines the words alloy and materials, explains Göran Björkman, President of Sandvik Materials Technology.

# A HISTORIC DECISION

On April 27, the Annual General Meeting voted according to the Sandvik Board proposal of separation and listing of Sandvik Materials Technology. The new company, to be called Alleima, is expected to trade on the Nasdaq Stockholm Exchange beginning on August 31, 2022.

**THE MOVE TO** transform the Sandvik Materials Technology business area from Sandvik into the newly formed Alleima has been two years in the making.

“We are convinced that this will increase the long-term shareholder value and that both Sandvik and Sandvik Materials Technology will develop more favorably on their own,” says Johan Molin, Chairman of the Board of Sandvik.

The separation from Sandvik provides

Alleima with a clear mandate to execute its strategy, to drive growth, materials innovation, operational and commercial excellence and sustainability.

As an independent and listed company, Alleima will further strengthen its position as a world-leading manufacturer of advanced stainless steel, special alloys and heating systems for the most demanding of industries.

“This is a fantastic opportunity for



Sandvik Materials Technology,” says Göran Björkman, President of Sandvik Materials Technology. “The separation and stock exchange listing give us an opportunity to be evaluated based on our own merits and business opportunities and not be compared with other business areas within Sandvik.”

“Today we are a world class player in our niche,” he says, “and we perform very well compared to our competitors. As an independent company, we will focus on our operations to realize our full potential with the best possible conditions for growth and development going forward.”

**THE NAME ALLEIMA** combines two cornerstones in the business – alloys and materials – with the “alei” prefix being an older version of the word “alloy.”

“Alleima as a name captures the core of our business, our history and our unique expertise in an excellent way,” Björkman says. “This will serve us very well in the future as an independent company and contribute to developing our leading position in materials technology. We will be a market leader in the advanced materials of the future.”

Several factors came into play when choosing the new name: it had to support brand positioning, convey the company’s story and differentiated the company from the competition. The name also had to be legally available in all markets and work globally in different languages.

“Alleima stands out from the competition,” says Björkman. “It is also very different compared to the name Sandvik. This has been a conscious decision enabling a fresh start. Alleima also has a high differentiation potential in our industry.”

For the future Sandvik Group, the change will enable a stronger focus on profitable growth in the company’s

remaining areas – solutions for mining and infrastructure, crushing and screening, and digital manufacturing.

The activation of the new name and brand will take place at the date of listing, August 31, 2022. Until then, the business will continue unchanged as Sandvik Materials Technology. ■

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## What happens to my Sandvik shares?

Anyone who is registered as a shareholder in Sandvik on the date of the dividend payment (August 29, 2022) will automatically receive one (1) share in Alleima for every five (5) shares held in Sandvik. More information about the distribution can be found at <https://www.home.sandvik/en/investors/alleima-listing/>

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## Path to Nasdaq

**May 6, 2019:** The Board decides to initiate an internal separation of the Sandvik Materials Technology business area.

**October 16, 2020:** The Board decides to proceed with the preparation to distribute Sandvik Materials Technology to Sandvik’s shareholders and list the company’s shares on the Nasdaq Stockholm Exchange.

**March 23, 2022:** The Board proposes distribution and listing of Sandvik Materials Technology to the AGM. The planned name Alleima is announced.

**April 27, 2022:** The 2022 Annual General Meeting approves the distribution and listing of Sandvik Materials Technology.

**August 31, 2022:** Expected distribution of and first day of trading in Alleima shares.



Instead of ending up in a landfill, waste glass can be converted into new products.

## WALKING ON BROKEN GLASS

Asphalt, water filters and coatings – Australian company Enviro Sand creates high-quality processed sand products from waste glass. The company’s VSI crusher, and the relationship that comes with it, helps Enviro Sand realize its business goals.

**IN BRISBANE, AUSTRALIA,** Enviro Sand has developed innovative technology to convert waste glass into high-quality manufactured glass sands and powders for use in a range of industries. Its products are made from 100 percent recycled glass.

“A lot of the stuff you put in your bin, if it can’t be recycled back into bottles, it will actually end up in landfill,” explains Tom

Richards, Commercial Manager for Enviro Sand. What the company does is process that waste glass, removing metals, plastics and papers, and crushing and screening the glass into various sand and powder products. These are graded and sold on to industry for use in construction as an alternative to quarried sand products as well as for sandblasting, agriculture and aquaculture and new technologies requiring glass

sands and powders such as 3D printing.

For Enviro Sand Operations Manager Kimberly Lopez Loo, the reliability of the machines at the purpose-built Brisbane facility is an important factor in building the company's business. "That gives our end customers the quality and the confidence that we have the product that they want on the floor," she says.

Enviro Sand turned to Sandvik for help in realizing that reliability as well as its future business goals. Crushing the waste glass was central to the company's process. Sandvik Technical Sales Consultant Archie Schreiber proposed installing a VSI crusher. "The results from that machine were very good," he says. "Cost-effective, energy-efficient and different to today's industry norm." And the crusher produced material that was clean and contaminant-free, without sharp edges – a good fit for Enviro Sand's needs.

The new crusher has proved an excellent investment, providing several advantages. "It allows me to fine-tune the process," says Loo. "If I have more glass coming in, I can actually fine-tune the machine to allow it to have a bi-flow. Then I can ramp up the process and produce a higher-grade product to be able to have more stock on the floor."

**THE CONFIDENCE** the new crusher provides in production is augmented through the relationship – having access to Sandvik aftermarket services and support as well as access to process and product optimization, genuine Sandvik parts, product support and ongoing training.

This relationship is critical, says Richards. "If your plant goes down," he says, "you can get it back up and running faster than if you had to look for a bespoke solution with external contractors."



The VSI crusher from Sandvik is central to the Enviro Sand waste glass management process.

Enviro Sand says it aims to be a part of a new world vision in which the environment, people, manufacturing and financial prosperity are all valued equally and function as a whole. By providing uses for waste glass that are environmentally sustainable, the company is helping to realize that vision.

**FOR ITS PART**, Sandvik is proud to be a supplier for Enviro Sand. "Not only are we helping Enviro Sand reach its business goals," says Sandvik Asia Pacific Vice President Caroline Kloboucek, "but we are also helping the environment." ■

## ENVIRO SAND

Australian company Enviro Sand produces high-quality processed sands and powders made from 100 percent recycled glass, using innovative recycling technology developed in its Brisbane plant to recover waste glass destined for landfill. The company provides a high-quality, cost-effective and environmentally sustainable product range for use in construction and other industries as a replacement for quarried sand.

## CECILIA FELTON – NEW CFO

**SANDVIK HAS** appointed Cecilia Felton as Chief Financial Officer (CFO) and member of the Group Executive Management, effective February 1, 2022. Felton has worked within Sandvik in various positions since 2013, including acting CFO, Vice President of Group Control and Director Group Business Control. ■

## DIVIDEND 2022

**THE GENERAL MEETING** on April 27 resolved pursuant to the Board's proposal on a cash dividend of SEK 4.75 per share. Jennifer Allerton, Claes Boustedt, Marika Fredriksson, Johan Molin, Andreas Nordbrandt, Helena Stjernholm, Stefan Widing and Kai Wärn were re-elected Board members and Johan Molin was re-elected Chairman of the Board. ■



Chilean mining company Codelco has placed a major order worth SEK 400 million.

## MAJOR ORDERS

**SANDVIK HAS** received an order for underground mining equipment and automation solutions worth approximately SEK 2 billion from the mining company BHP. The equipment will be delivered to the Jansen Potash Project in Canada, which has the potential to be the largest potash-producing mine in the world, providing a rich source of potassium for soil fertilization, which supports food production. The production start is scheduled for 2027.

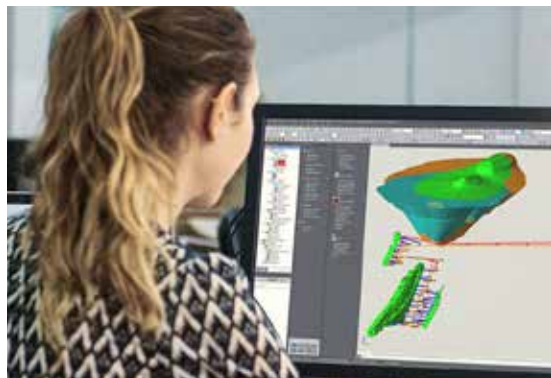
Further south in the Americas,

Sandvik has received a major order for an AutoMine® automation system and connected load-and-haul equipment, at a total value of SEK 400 million, from the Chilean mining company Codelco, to be used in the El Teniente mine. In addition, Sandvik Materials Technology has received a major order for advanced tubes for the energy segment, valued at SEK 800 million. Read more about the separation of Sandvik Materials Technology on page 24. ■

## NEW ACQUISITIONS

**IN MARCH** Sandvik finalized the acquisition of Australian-based Deswik, a leading provider of integrated software platforms that support digitalization throughout mining planning stages, an area where Sandvik had no previous presence.

Sandvik has also acquired U.S.-based metrology company Dimensional Control Systems, a leading provider of dimensional quality management software and on-site engineering services. ■



Deswik software supports digitalization of the mining industry.

# VERY STRONG FIRST QUARTER

## 3 QUESTIONS to Cecilia Felton, Chief Financial Officer, Sandvik.

### What are your key takeaways from the first quarter performance?

It is pleasing to see how well we keep executing on our shift to growth strategy. The first quarter was very strong from a business perspective with an order intake on par with all-time high levels; the fifth consecutive quarter of double-digit organic growth. Our mining business had a banner quarter yet again, and we saw a strong positive development for Sandvik Manufacturing and Machining Solutions, with good growth in general engineering as well as in the aerospace and energy segments.

We showed a good performance in terms of earnings, with an EBITA growing 27 percent to above SEK 5 billion, and a solid 20.2 percent margin despite continued logistics challenges and significant inflationary pres-



ures. We are focusing on off-setting the rising costs but are still lagging somewhat behind in some areas due to timing effects. With our strong market positions and our decentralized setup, we are well placed to be successful in these efforts.

### The macro environment is turbulent. What is important to focus on?

We have put a lot of focus on how to be agile in our operations, and given the unpredictable and turbulent world around us this is more important than ever. Cost inflation and supply chain disturbances will likely persist for longer than we had previously expected, and the war in Ukraine has exacerbated the uncertainties with regard to

the global geopolitical situation. During a period with high uncertainty like this, it's important that we continue to keep our ears close to the ground, ensure flexibility and have robust contingency plans in place for different scenarios.

### What do you expect for 2022 in terms of M&A and structural developments?

We have been in a very exciting period over the past year in shaping Sandvik for the future. We were very successful in 2021 in terms of acquisitions, with 14 additions announced, strengthening our solutions offering across our customers' value chain. The acquired companies are performing well in line with our expectations, and will also help drive innovation across the group. While we don't expect acquisitions at the same pace as in 2021, we do have very active acquisition pipelines across our business areas and are continuously looking for companies that can further strengthen our strategic agenda. ■

## CHANGES IN REPORTING: ADJUSTED EBITA

**IN LINE WITH** the shift to growth strategy, Sandvik has accelerated the pace of acquisitions. To enhance clarity on the underlying operating performance of the

Group, Sandvik introduced adjusted EBITA as an alternative performance measure in the third quarter interim report 2021. As of 2022, the adjusted EBITA will replace adjusted

EBIT as the key operating profit metric. Furthermore, from 2022 M&A transaction costs will be reported as items affecting comparability. ■

# SANDVIK AT A GLANCE

Sandvik is a high-tech global engineering group offering products and services that enhance customer productivity, profitability and safety. In 2021, the Group had approximately 44,000 employees and sales of SEK 99 billion in about 150 countries.

## BUSINESS AREAS



### SANDVIK MINING AND ROCK SOLUTIONS

A global leading supplier of equipment and tools, parts, service, digital solutions and sustainability-driving technologies for the mining and infrastructure industries.

**SHARE OF REVENUE 42%**  
**SHARE OF ADJUSTED EBIT 44%**



### SANDVIK ROCK PROCESSING SOLUTIONS

A leading supplier of equipment, service and technical solutions for processing rock and minerals in the mining and construction industries.

**SHARE OF REVENUE 8%**  
**SHARE OF ADJUSTED EBIT 7%**



### SANDVIK MANUFACTURING AND MACHINING SOLUTIONS

A market-leading manufacturer of tools and tooling systems for advanced metal cutting, expanding into digital and additive manufacturing.

**SHARE OF REVENUE 37%**  
**SHARE OF ADJUSTED EBIT 41%**



### SANDVIK MATERIALS TECHNOLOGY

A leading developer and manufacturer of advanced stainless steels, powder-based alloys and special alloys for the most demanding industries.

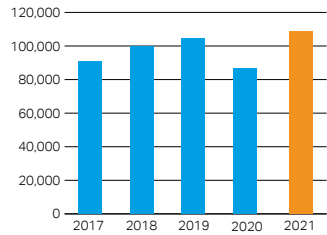
**SHARE OF REVENUE 13%**  
**SHARE OF ADJUSTED EBIT 8%**

## INDICES AND MEMBERSHIPS

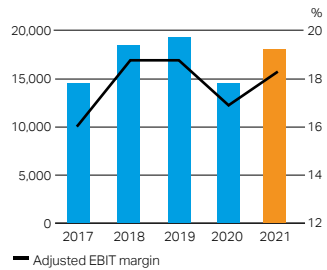


## THE GROUP

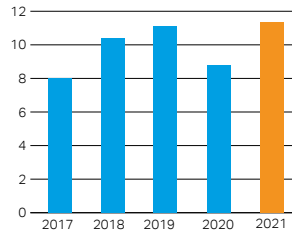
### Revenue, MSEK



### Adjusted EBIT, MSEK and adjusted EBIT margin, %<sup>1</sup>



### Adjusted earnings per share, SEK<sup>1</sup>



<sup>1</sup>) Adjusted for items affecting comparability

**MAIN CUSTOMER SEGMENTS**



**MINING**

We deliver drill rigs, rock-drilling tools and systems, mobile and stationary crushers, load-and-haul machines, tunneling equipment, continuous mining and mechanical cutting equipment, service and digital solutions, and sustainability-driving technologies to increase digitalization, automation, safety and customer productivity.

**SHARE OF REVENUE 41%**



**ENGINEERING**

Our tools and tooling systems for metal cutting, manufacturing software as well as advanced materials and components are used in engineering industries worldwide, improving productivity, profitability, quality and safety as well as reducing environmental impact. We are also a global leader in high-alloy metal powder.

**SHARE OF REVENUE 23%**



**INFRASTRUCTURE**

We offer products and services that increase safety and customer productivity in breaking, drilling, crushing and screening within the infrastructure industry. Application areas include tunneling, quarrying, civil engineering, demolition and recycling.

**SHARE OF REVENUE 9%**



**AUTOMOTIVE**

Our software solutions, tools and tooling systems for turning, milling and drilling in metals increase productivity when manufacturing, for example, engines and transmissions. Our stainless and high-alloy products are found in air conditioning and air bags, among other things.

**SHARE OF REVENUE 8%**



**ENERGY**

We offer solutions for all forms of energy production, including clean and renewable energy. We supply high-alloy products, such as stainless steel tubes, for selected niches in the most demanding industries as well as tools and tooling systems to satisfy the industry's metal-cutting needs.

**SHARE OF REVENUE 8%**



**AEROSPACE**

We work closely with the world's aerospace companies. As they apply new materials to manufacture airplanes that are lighter, safer and more fuel efficient, advanced tooling solutions, end-to-end optimization and lightweight materials are critical.

**SHARE OF REVENUE 4%**



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## **THE OBJECT** | Just another brick in the wall...

Bright Bricks in the U.K. is a professional brick-based model-building company. The company's brick artists have created an astonishing range of custom items, from toy bricks, including lifelike "brickosaurs" (dinosaurs constructed entirely of toy bricks), a full-size F1 car and a bridge that boasts close to 6 million bricks.

In 2013, Bright Bricks received a request from Sandvik. Could the company build a copy of a DD442i drill rig? Well, of course. Without further ado Bright Bricks delivered an exact replica measuring 90 centimeters long, 18 centimeters wide and 27 centimeters high, complete with rock walls.

"The drill is also electric," says Emily Neil, marketing manager at Sandvik Mining and Rock Solutions "Once it's connected to a power plug it can perform preprogrammed functions, such as 'drilling' the rock wall."

After first enriching the offices of the Sandvik facility in Tampere, Finland, the replica drill has been moved to the National Museum of Science and Technology in Stockholm. "It will be part of a mining display at the museum," says Neil, "and since the target audience is children we decided this would be a great age-appropriate way to showcase our drilling equipment."