Sandvik Group Magazine
Meet Sandvik #1–2025

Meet

The future of aerospace engineering

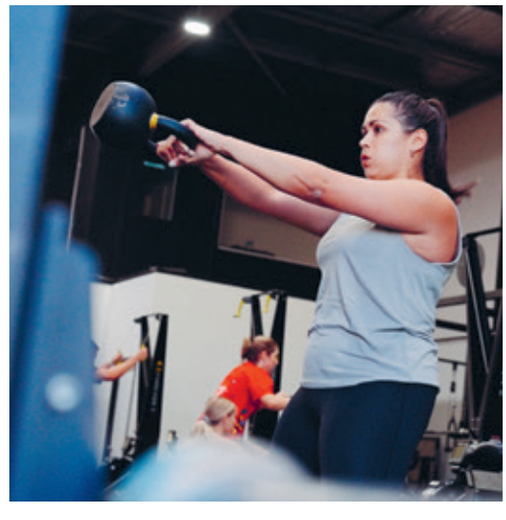
Growth:
Tooling solutions that take off

Innovation:
New AI app facilitates maintenance

Interview:
"Build diversity through different experiences"
Simone Tomaz

SANDVIK

In this issue:



Meet Sandvik, a Sandvik Group magazine
Editor-in-chief: Marita Sander, *marita.sander@sandvik.com*
Production: Content Innovation
Print: Falk Graphic, May 2025
Published in Swedish and English, in printed form and on our website *home.sandvik*

Reaching new heights

During the pandemic years, many believed it would take a long time for the aerospace industry to recover from the sharp decline in air travel between 2020 and 2023. But already in 2024, air traffic had risen to levels higher than before the pandemic, and the positive trend appears to be continuing.

In this issue of Meet Sandvik, we take a closer look at the aviation industry. In 2024, the sector accounted for 4 percent of our revenue, and it is a customer segment that continues to grow.

The aerospace industry is often criticized for its greenhouse gas emissions and is working intensively to reduce its environmental impact. One way is through the use of lightweight materials in the airplanes, which help lower fuel consumption.

Aerospace production requires advanced tooling solutions and airplane components are often made from heat-resistant materials that are challenging to machine—such as titanium, superalloys or composite materials. Sandvik has the knowledge, tools and processes needed and we are in a strong competitive position. We have also acquired several companies within CAM, digital solutions and solid round tools that have further strengthened our capabilities.

Sandvik offers solutions for aircraft manufacturing, but our expertise also extends into space. We have for example developed metal powder that can withstand the extreme conditions encountered there, with temperatures exceeding 2,700 degrees Celsius, which you can read about on page 21. Happy reading!

Stefan Widing, President and CEO

Award-winning CoroCut®

The totally re-engineered platform for parting and grooving, CoroCut®, has revolutionized the tooling industry. The team behind the innovations recently earned the prestigious “Wilhelm Haglund Medal to the Product Developer of the Year”.

Introduction of a rail interface on smaller insert sizes improves stability during profiling and side turning operations.

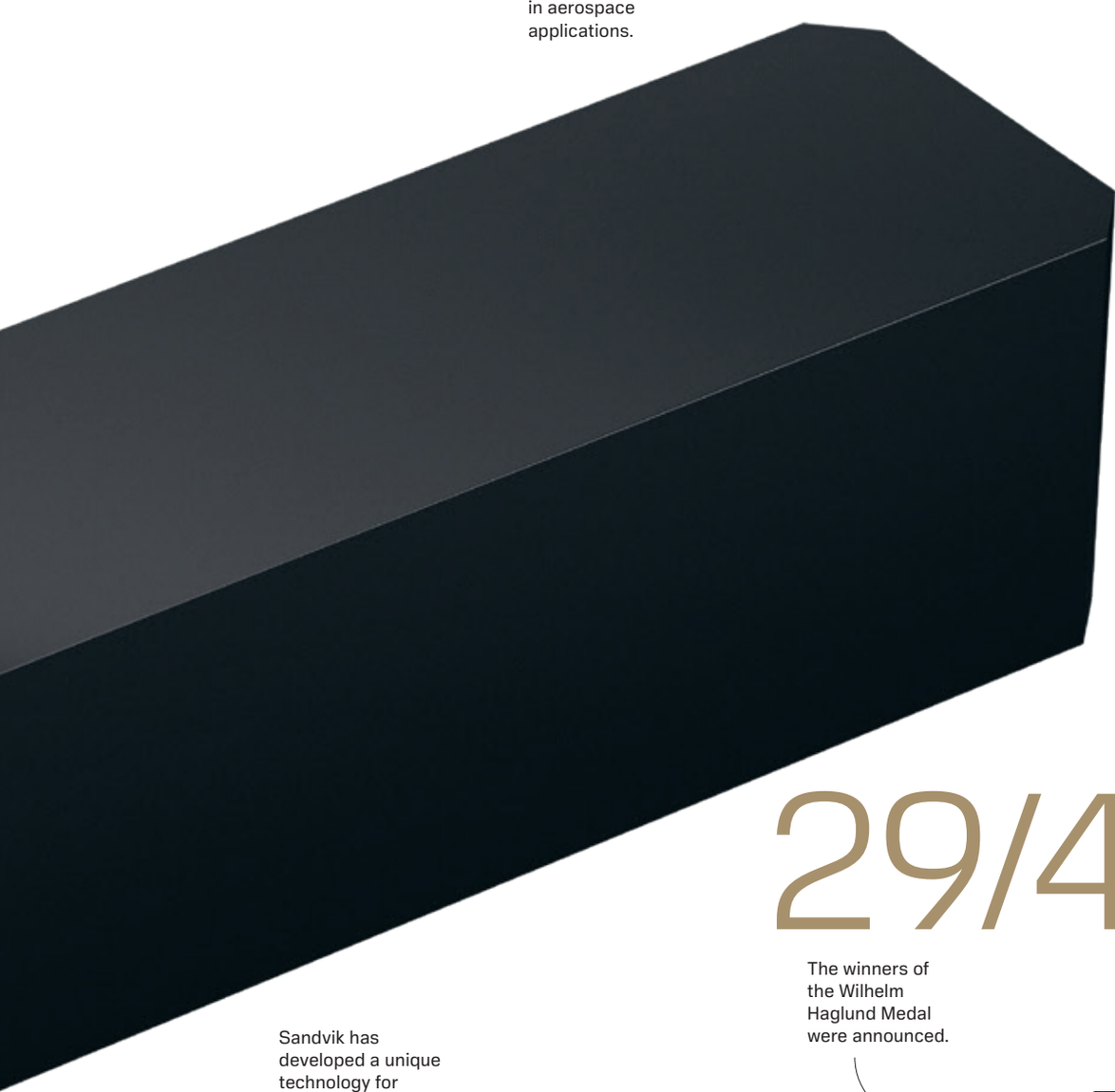
Enhances cooling efficiency, which is crucial for increased and predictable tool life.

The previous SpringLock design has been replaced with a screw clamping solution keeping the internal coolant, providing higher and more stable clamping force and eliminating the loss of clamping force.

2022

Launch of the new platform.

Development of new geometries optimizes performance for low feeds and small depths of cut, particularly in aerospace applications.



A Sandvik developed PVD coating platform enabled the innovation. The platform will also enable future product solutions.

29/4

The winners of the Wilhelm Haglund Medal were announced.

The team:

Claes Andersson, Principal R&D Engineer.
Gunnar Jansson, Senior R&D Engineer.
Erik Glans, Senior R&D Engineer.
Carl-Fredrik Carlström, Principal R&D Engineer.

Sandvik has developed a unique technology for pressing inserts with very small edge radii along the entire edge line.

Record order for battery-electric equipment

→ Sandvik has received a major order from mining company South32 to supply an underground mining equipment fleet for its greenfield Hermosa project in Arizona, US. The order is valued at approximately SEK 750 million, of which the majority consists of battery-electric vehicles (BEVs), making it the largest ever BEV order for Sandvik.

→ Peruvian mining company Compañia de Minas Buenaventura has selected Sandvik for delivering underground mining equipment in Peru. The order is valued at approximately SEK 320 million and includes loaders and drills, which will be used at three of Buenaventura's underground mines. In addition to the equipment order, Sandvik will supply spare parts, components and maintenance service.

→ Sandvik has also been awarded a major order for underground mining equipment from a leading mining customer in Southeast Asia. The order is valued at around SEK 450 million and includes development drills, cable bolters and load and haul equipment.

The order is the largest BEV order ever for Sandvik.

Verisurf is active on the North American market.

Surfs up on California acquisition

Sandvik has signed an agreement to acquire Verisurf Software, Inc., a US-based 3D metrology software solutions provider headquartered in Anaheim, California. Verisurf offers modular-based easy-to-use software solutions for quality inspection, assembly guidance, and reverse engineering, that are built on the Mastercam® Design (CAD) platform.

"Verisurf will strengthen our metrology offering and ability to support the growing customer demand for precision measurement and quality assurance in manufacturing. The acquisition fits very well with our strategy to grow in digital manufacturing and provides comprehensive solutions for our customers to drive efficiency and productivity," says Stefan Widing, President and CEO.

On the move

Björn Axelsson became Head of Human Resources and a member of Sandvik Group Executive Management team in February. Axelsson joined Sandvik in 2019 and was most recently Vice President Human Resources and EHS at Sandvik Mining and Rock Solutions.

Johanna Kreft has been appointed Executive Vice President and General Counsel of Sandvik. She will become a member of the Group Executive Management team and join the company in October. She currently holds the equivalent position at Alleima. Kreft previously worked as a lawyer at Sandvik for 15 years, most recently as General Counsel for the business area Sandvik Materials Technology, which was spun off from Sandvik and listed as Alleima in 2022. She succeeds Åsa Thunman, who is leaving Sandvik to take on a similar role at the construction group Skanska.

Scott Ravenscroft, David Magnall, and Luke Sanders received the award from CEO Stefan Widing. Jodie Cosby was also part of the winning team but not present at the award ceremony.

Collaboration boosting sustainability

A joint initiative from Vericut and Seco has been recognized with the Sandvik Sustainability Award in Memory of Sigrid Göransson for its significant contribution to reducing environmental impact in machining.

By optimizing numerical control (NC) programs using Vericut® Optimizer software, manufacturers can reduce cycle times, energy consumption, and tool wear. In tests, the solution reduced machine energy consumption by 18 percent and resulted in a substantial increase in tool life.

The stand-alone software is easy to adopt and suitable for manufacturers of all sizes. Combined with Seco's efforts to improve product circularity, the solution helps customers operate more efficiently and sustainably.

The award was presented at the 2025 Annual General Meeting in April.

News in brief

Capital Markets Day replay
On May 20–21, Sandvik arranged a capital markets day event at its Gimo site in Sweden. The event offered an opportunity for institutional investors, financial analysts, financial media and other key stakeholders to get an update on the company's equity story, including key achievements and strategic priorities. It also showcased its latest innovations and technologies. Presentations and slides from the Capital Markets Day are available on home.sandvik/investors.

Shareholders' day
The Annual General Meeting (AGM) of Sandvik took place in Sandviken, Sweden on April 29. The General Meeting re-elected Board members Claes Boustedt, Marika Fredriksson, Johan Molin, Andreas Nordbrandt, Susanna Schneeberger, Helena Stjernholm, Stefan Widing and Kai Wärn.

Johan Molin was re-elected Chairman of the Board. The AGM resolved on a dividend of SEK 5.75 per share.

Heavy-duty crusher reduces costs

Sandvik Rock Processing Solutions has launched a new heavy-duty wheeled jaw crusher, UJ313, that is ideal for the quarrying and recycling industries. The electrically powered jaw crusher delivers optimal performance and eco-efficient rock processing. The jaw crusher offers reduced operating costs, lower carbon emissions, and enhanced safety.

The new wheeled jaw crusher, UJ313.

Transforming quality control in manufacturing

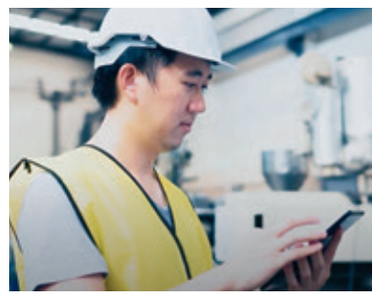
The metrology solution ZeroTouch® transforms quality control in fast-paced manufacturing environments by providing real-time, in-line or nearline dimensional inspection. Using advanced laser technology, the solution captures high-precision digital twins of parts. Non-conformities are immediately flagged, and data is reported to the systems or displayed on screen.

By eliminating the need for secondary visual inspections and manual measurements, the solution prevents defects like dents and porosity from reaching later stages. The system also tracks process trends in real-time, enabling early identification of potential issues before scrap or rework occurs.

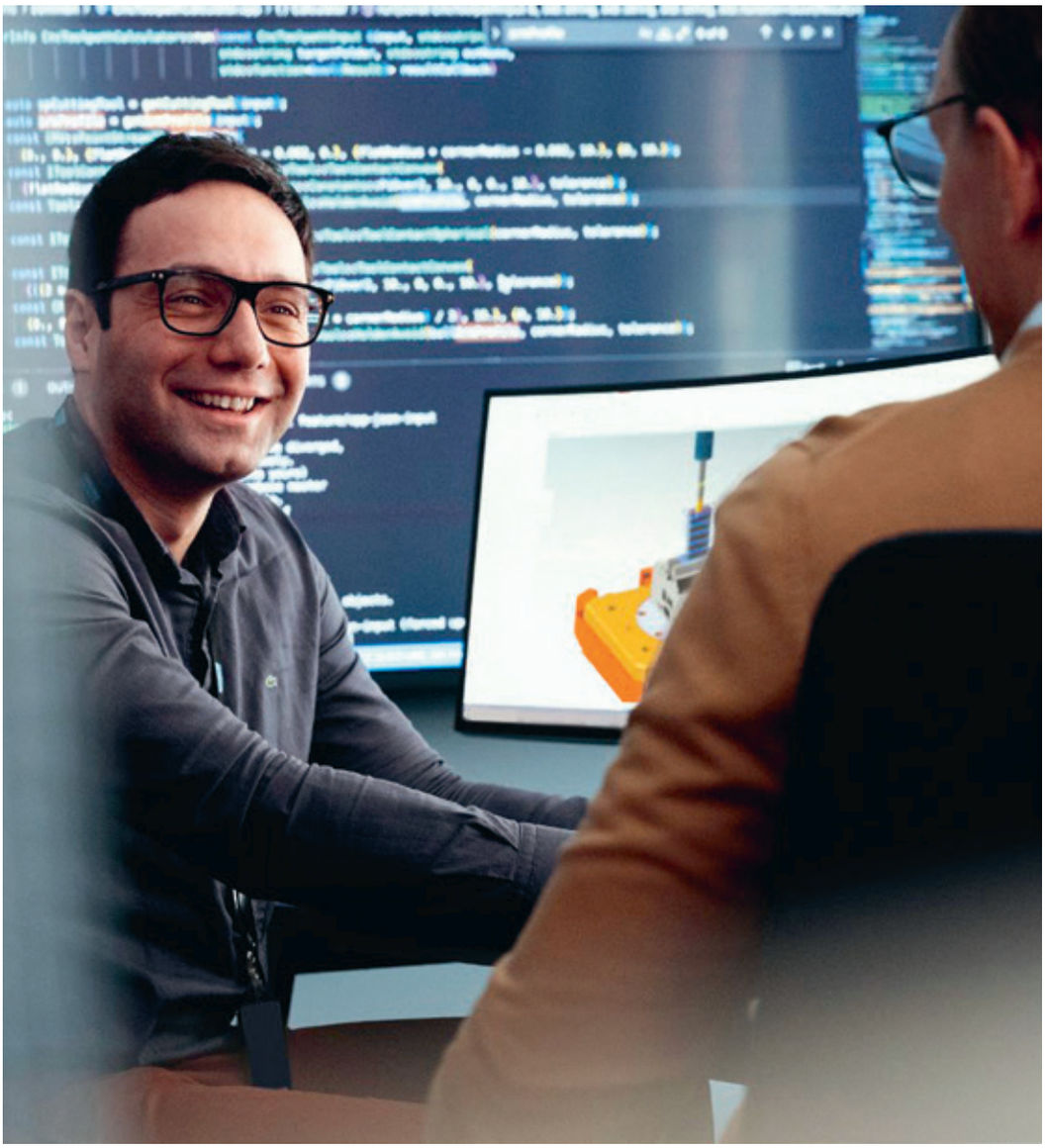
Metrology solution ZeroTouch® uses advanced laser technology.

The shop that connects people and processes

SigmaNEST® Connected Shop is a set of software tools that shares timely information and user-friendly control throughout the shop. The solution integrates CAD/CAM nesting, shop floor control, and business system functions for increased efficiency and profitability. The software tool provides single-source programming for all machine types as part of a modular solution that streamlines quoting, scheduling, tracking, and Material requirements planning (MRP) execution with shop-wide accuracy.



The SigmaNEST® Connected Shop optimizes manufacturing.



6 levels of automation

Sandvik has developed a whitepaper on automation in component manufacturing together with consultant EY.

The whitepaper was based on a survey among 350 component manufacturers of various size, representing North America (41 percent) and Europe (59 percent). 80 percent of the respondents said they expect to increase their automation levels by 2030, which underscores the industry's urge for improved efficiency and competitiveness.

Participants identified two production-related challenges: increased component complexity and a need for more skilled staff.

"Our survey highlights that while advanced shop floor equipment is essential for initial automation steps, the true advancement comes from continuous investment in employee training and real-time data collection," said Eric Murander, Head of Business Development and M&A.

Download the whitepaper via the QR code.

News in brief

Looking back on 2024
Sandvik Annual Report 2024 was released on March 10 and is available at annualreport.sandvik. CEO Stefan Widing summarizes the year as a solid performance in an uncertain environment. Despite lower demand in key end markets, Sandvik delivered solid profitability and a strong cash flow, while continuing to advance it strategy.

Download or order a copy of the Sandvik Annual Report 2024 here:

Acquisition of demolition company
Sandvik has signed an agreement to acquire OSA Demolition Equipment, an Italy-based manufacturer of demolition tools and hydraulic hammers. OSA's range of attachment tools will enhance Sandvik's offering and position in the demolition and recycling segment. In 2024, the company had revenues of approximately SEK 150 million.

Q+A: Kim Simelius

The Head of Patent for the mining and rock processing businesses describes how Sandvik drives innovation through patents.

"We're not just protecting ideas, we're enabling technologies that make mining safer, more sustainable and more efficient."

What makes patents such a vital part of innovation?

"Every patent tells a story of how we're improving the world. These inventions enable real change – from safety solutions for autonomous mining vehicles to battery-powered equipment. When we protect these inventions, we're not just documenting technology and obtaining intellectual property; we're defining and capturing the building blocks that shape the future of mining."

How do you lead a globally diverse patent team?

"Our team spans eight countries, bringing together different competencies, ages and cultural perspectives. This diversity isn't just talk – it's a necessity for our success. When we create a good environment for collaboration, you can combine various viewpoints and expertise, enabling innovation and the success of the team."

Do you have any favorite patents?

"After 25 years in the patent field, I still find each invention thrilling. It's like discovering something entirely new each time. There are many patents I'm particularly fond of, but three come to mind immediately: a cool solution to easily swap the battery of a battery electric loader; a crusher mantel for high-quality crushing of rocks; and a way to see how an autonomous mining vehicle picks the route in a mine."

Tools for take-off

By Jonas Rehnberg

As aerospace rises to new heights, how can manufacturing solutions advance industry growth and sustainability goals?

Ticket to the future of aerospace

Record air travel drives aerospace recovery, propelling industry-wide decarbonization initiatives.

As demand for air travel reached record levels in 2024, airlines achieved their best-ever load factors, according to the International Air Transport Association (IATA). Revenue passenger kilometers rose by 10.4 percent compared with 2023 and by 3.8 percent compared with pre-pandemic 2019. Global airline revenues look set to surpass USD 1 trillion in 2025; not bad for an industry some predicted would not survive Covid-19.

"Looking to 2025, there is every indication that demand for travel will continue to grow, albeit at a moderated pace of 8 percent that is more aligned with historical averages," said IATA Director General Willie Walsh in Business Travel News.

John Schmidt, Global Aerospace Lead

Ramping up production is a key issue for an industry plagued by a massive backlog of orders.

John Schmidt, Global Aerospace Lead at Accenture.

Global airline revenues look set to surpass USD 1 trillion in 2025.

at consultancy firm Accenture, shares the upbeat view: “We’re definitely beyond 2019, even if the rate of growth differs among regions. Growth and revenues are up for aircraft makers too and while fewer aircraft have been delivered, MRO (maintenance, repair and overhaul) drove year-over-year growth for 2024.”

Some observers have predicted that air travel will ultimately prove untenable given its current climate footprint. Schmidt, however, points out that “the sector only accounts for 2.5 percent of global greenhouse gas emissions, which is a fraction of what the combined truck fleet emits.” He adds: “The industry has been striving to reduce CO_2 emissions since long before the climate change issue first surfaced, mainly because fuel consumption has always been the number one cost driver for airlines.”

The global aviation industry has pledged to try to achieve net-zero emissions by 2050, a goal to which Schmidt comments: “It’s a bit unlikely that we’ll get there, but the push is certainly there. The challenge is to continue to

→

leverage the technology to be able to drive value in the industry while reducing costs and lowering carbon emissions to attain more sustainable operations."

Advances in materials
Lower aircraft weight, improved fuel efficiency and a switch to non-fossil fuels or electric propulsion are contributing to more sustainable air travel. Advances in the aerospace industry are often linked to advances in materials – specifically the strength-to-weight ratio and the temperature resistance of new materials. The materials of choice these days for aerospace engines are heat-resistant super alloys, (HRSA) an advanced mix of specialty metals, nickel, cobalt, iron and some TiAl (titanium aluminide)-based alloys.

Digital manufacturing is a cornerstone in transforming the industry and reducing its sustainability footprint. Many non-structural aircraft body parts and engine components have complex forms and lend themselves to 3D printing.

Additive manufacturing underway
New materials and new manufacturing methods are key, according to Jeff Wheless, Growth & Strategy Research Leader at Accenture, who offers an example: "GE's landmark 3D-printed fuel nozzle tips are 25 percent lighter and five times more durable than their conventionally manufactured counterparts. It's not just a way of getting rid of weight but of designing things that can be manufactured more efficiently."

Boeing has produced over 70,000 3D-printed parts across aerospace applications; a mix of thermoplastics and metallic parts. "The tolerance and quality demands of these new AM (additive manufacturing) materials are very high, often tighter than for conventional parts, which requires more precise machining tools for

569

Boeing's total 2024 jet plane orders – of which 417 were 737s.

25%

Reduced weight of GE's 3D-printed fuel nozzles versus conventional versions.

"There is every indication that demand for travel will continue to grow."

The aerospace industry's new materials and 3D printing technologies require advanced machining solutions.

Jeff Wheless, Growth & Strategy Research Leader at Accenture.

post-processing. That in turn creates new manufacturing opportunities and challenges for machine tool manufacturers such as Sandvik," Wheless adds.

Ramping up production is another key issue for an industry plagued by a massive backlog of orders. Besides more efficient tools, this calls for workforce reskilling to handle more automation, digitalization and new manufacturing methods. Continuous education and training will be essential to equip the workforce with the skills needed to navigate the future of aerospace manufacturing.

Sandvik has long supported all leading aerospace Original Equipment Manufacturers (OEMs) by combining sustainability with better tools, optimized cutting parameters, and a holistic approach to tooling.

Today's aircraft fleet is approximately 80 percent more fuel-efficient than 50 years ago.

Fuel for greener flights

The fuel efficiency of aircraft has been consistently improving since the first passenger jets were introduced in the 1950s. Each new generation of plane has reduced emissions by around 15–20 percent and the overall fuel efficiency of the fleet is around 80 percent better than 50 years ago, according to IATA.

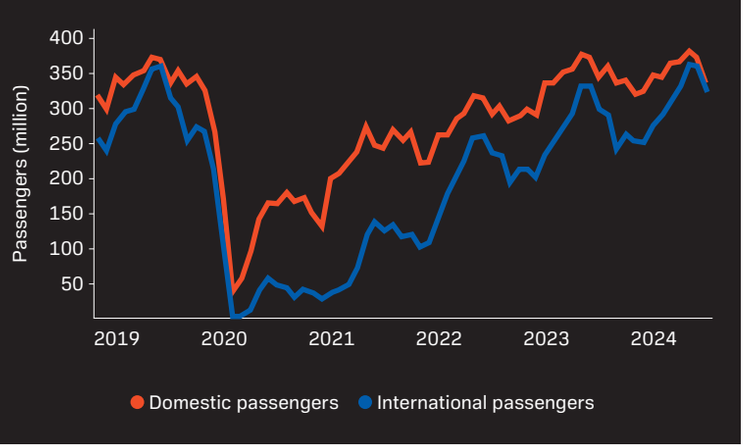
Sustainable Aviation Fuel (SAF), currently used in commercial aviation, can reduce CO_2 emissions as it is produced from a number of renewable resources including waste fats, municipal solid waste, and agricultural and forestry residues.

In addition to new types of fuel, engines powered by electricity (pure or hybrid), batteries or hydrogen are helping to achieve the net-zero goal. From the mid 2030s, new propulsion technologies and advanced designs may provide an opportunity to move away from traditional jet engine and tube-and-wing flight.

2024 aircraft deliveries and order backlog

	2024 deliveries	Order backlog
Airbus	766	8,658
Boeing	348	5,595
COMAC	12	713–1,000 (C919 only)
Embraer	73	374

Global domestic and international air traffic
January 2019–September 2024



Source: ACI World

Making up for lost time

Airbus and Boeing dominate the global commercial airliner market. Together, they produce all of the world's widebody passenger aircraft and have supplied 93 percent of the world's single-aisle aircraft over the last five years.

Other players include Comac of China and Brazil's Embraer. When a national airline places a large order with an aircraft manufacturer, that often comes with demands for local production. India and China are examples of markets that are witnessing a sharp rise in demand for air travel as the affluent middle class grows.

Tooling up for next generation aerospace

New materials and digital manufacturing enable lighter, safer, more fuel-efficient aircraft, with Sandvik as a key contributor.

Photo Airbus Group / JV Reymondon

50 percent of the structure in the Airbus A350 utilizes advanced carbon fiber composites.

Nicklas Bylund, Director Engineering Projects at Sandvik Coromant in Durham, USA.

Advanced tooling solutions are critical for success in the aerospace industry and Sandvik provides tools and processes for the manufacturing of components for aircraft structural parts and engines. “Working shoulder to shoulder with aerospace companies at our dedicated aerospace engineering competence centers, Sandvik is pioneering advanced cutting tools, modular tooling solutions and software that save time and reduce inventory,” says Nicklas Bylund, Director Engineering Projects at Sandvik in Durham, USA.

“Quality and safety are the primary objectives in aircraft manufacturing”, adds Jérôme Cavin, Global Manager Engineering Projects Aerospace at Sandvik, based in Chongqing, China. “Designers never compromise on these aspects for the sake of efficiency or cost savings. They can create very complex designs and try new materials as long as they are safe and can save weight and/or improve fuel efficiency.”

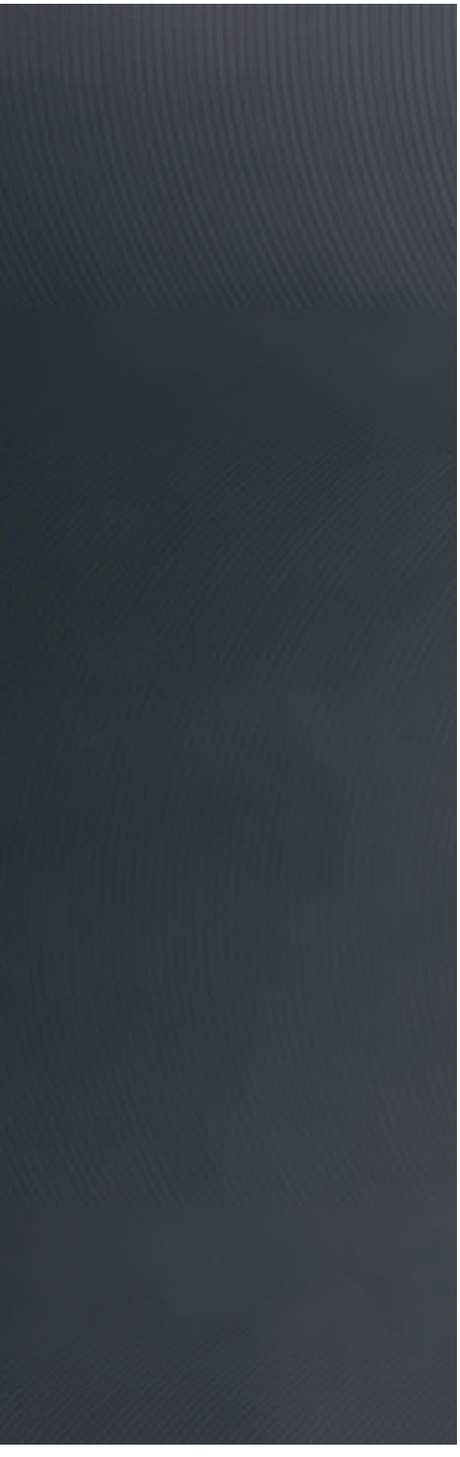
Innovations lead the way for spacecraft

Aerospace components are often made of heat-resistant materials that are challenging to machine, such as titanium, superalloys and composite, with lower cutting speeds and shorter tool life. Advanced composites like carbon fiber reinforced plastics (CFRP) are becoming more prevalent in aerospace due to their high strength-to-weight ratio, and some 50 percent of modern aircraft structures, like the Airbus A350 and Boeing 787 Dreamliner, are made from CFRPs.

Given the complexity in component design and the demanding specifications, choosing the most suitable tools and machining method is vital. According to Bylund, this is where CAM tools from Sandvik can make a major difference. “Our CAM suite optimizes manufacturing yields and shortens lead times, while our tools are adapted to the extremely tough requirements on components used in aircraft manufacturing.”

Sandvik Silent Tools™, a family of tool holders, is favored.

Jérôme Cavin, Global Manager Engineering Projects Aerospace at Sandvik Coromant in China.



Cavin says: “The CAM expertise of Sandvik supporting our optimized processes is our number one differentiator.”

In addition, Sandvik offers programs for process development and training to embed the routines for safe and cost-efficient manufacturing to deliver quality results for every component. Rigorous safety standards, expensive materials and tight tolerance levels require tools that do their job.

Sandvik Silent Tools™, for example, is a family of tool holders for turning, milling, boring and drilling that is favored by aircraft manufacturers. The tool holders are designed to minimize vibrations through a dampener inside the tool body, which is ideal for sensitive aircraft parts where the slightest vibration may jeopardize component quality. “The majority of customers use these tools for long overhangs; however, even with shorter overhangs, large productivity increases, and surface quality improvements are to be gained,” says Bylund.

“The customers plan ahead and develop the components they need for overall efficiency and safety, then it’s up to us find a way to manufacture it. This makes our job so interesting, challenging and fun,” says Cavin. The results, he adds, are “machine tools that are more efficient, use less power, and are able to machine more complex components, using dynamic turning or milling.”

If aircraft manufacturing is an application with extremely tough demands on materials and tools, this is even truer for spacecraft, where Sandvik innovations also lead the way.

Sandvik has developed metal powders uniquely tailored to meet the extreme needs in space. The material used for combustion chambers in rocket engines, for example, must be able to withstand combustion gas at 3,000 K (2,727°C/ 4,941°F). It is therefore equipped with hundreds of liquid-nitrogen cooling channels with the gas-atomized, copper-based alloy Osprey® C18150 (CuCrZr).

Global supply chains

The aerospace industry relies on global supply chains with a network of subcontractors and production facilities. Being a global company with a presence in all major markets, Sandvik has a strong position in times when tariffs and other impediments to trade increasingly favor domestic sourcing. “Sandvik is able to smoothly coordinate deliveries and projects across different regions and we have a competitive advantage when customers shift production to other countries. Our global network, with engineering skills and hardware across different locations, supports customers,” notes Bylund.

Being a supplier to the aerospace industry requires top-notch solutions, but those who can deliver are in it for the long ride. The backlog of orders at aircraft manufacturers currently equal more than ten years’ worth of production. “Years of underproduction, an aging global aircraft fleet, and steady growth in global travel are driving strong demand across all segments of aviation services,” according to investment bank Harris Williams.

Both Boeing and Airbus landed among their largest orders ever in 2023; nearly 500 jets in total. The traditional duopoly, however, is being challenged by new players. “We see really important back orders of some 1,200 aircraft from the new Chinese player COMAC,” says Cavin.

“It feels great being a passenger on an airplane we have helped manufacture!”

Recycle, reuse, refurbish

Sandvik recycles tungsten carbide used in tools and inserts through a program to preserve and protect remaining reserves of tungsten, a scarce resource.

Wolfram Bergbau und Hütten is a business unit within Sandvik and a world-leading tungsten powder and tungsten carbide producer, has a proprietary recycling process that is clean, efficient and provides metal powder with the same high quality as from virgin raw materials.

While recycling is important, reuse or refurbishment is preferred. Tool management and reconditioning services increase resource efficiency and save customers money. Reconditioning brings tools back to original quality, extending product life cycles before material recovery.

Sandvik continually improves collection and regrinding processes according to Jérôme Cavin, Global Manager Engineering Projects Aerospace: “Customers are eager to regrind solid round tools such as drills and solid endmills. This means much less environmental impact, plus great cost savings for them.”

From dawn workouts to mining

Simone Tomaz is responsible for the parts, services and consumables business often called aftermarket, for the Crushing and Screening Divisions in Oceania. She leads a team of 114 people who help to keep mining operations running efficiently.

By Emily Mankert
Photos Joel Barbitta

At 5:00 a.m., while Perth is still sleeping, Simone Tomaz is already at the gym, preparing for another day at Sandvik. The Vice President of Aftermarket leads a business unit that delivers a significant part of Sandvik Rock Processing Solutions revenue in Oceania. “We identify equipment failures before they become critical, ensuring customers maximize production with existing equipment. We’re partners in their success, not just suppliers,” she says.

Aligned with customer needs

Parts, services and consumables, often referred to as aftermarket, include a comprehensive suite of services from technical support and process optimization to product upgrades and equipment refurbishment. The services are essential to keeping mining operations run smoothly. “Our team has an extended scope compared to traditional aftersales teams. In addition to the usual technical sales, we have project management, services, and engineering teams. Combining those areas aligns us more with our customers’ needs,” says Tomaz.

In today’s mining landscape, where companies focus on “doing more with less,” Tomaz sees significant growth potential. “We’re targeting expansion in screening media, field services, and spare components,” she says. Through refurbishment of screens, exciters, and equipment, her team helps deliver optimal performance throughout each asset’s life cycle.

“Sustainability is a company-wide effort, and our teams are on the front lines of making a difference. We’re driving material circularity initiatives and contributing to energy savings through improved equipment performance,” says Tomaz.

The aftermarket team is dedicated to maintaining equipment performance long after the initial purchase.

“The continued decline in mineral ore grades means operations need to process more rock for the same output. This creates demand for solutions that maximize existing equipment capacity. We’re also seeing increased focus on predictive maintenance and remote monitoring – areas where our engineering expertise provides significant advantages.”

A personal and professional journey

Growing up in Brazil in a family of mechanical trades, Tomaz was immersed in engineering from an early age. Surrounded by mechanical parts, she learned the craft through hands-on experience with welding, painting, and assembly. While her three brothers followed the family tradition of becoming mechanics, Tomaz took a different path. She was the first in her family to pursue a university education.

Her journey includes roles across Sandvik departments, time spent in China, and valuable experience at BHP, one of the world’s largest mining companies. This diverse background influences her leadership approach and her advice for aspiring leaders is to: “Build diversity inside you through different experiences and roles. You can only connect with people if you connect on the same level – no hierarchies, just treating everyone as a human being.”

Living in Perth with her husband (whom she met while working at Sandvik in China) and two young daughters, Tomaz balances leadership responsibilities with family life through structured routines. Her 5 a.m. gym sessions mark the beginning of her day.

“The discipline required in both professional and personal life is similar,” says Tomaz. “It’s about priorities and having the right support system. My husband is essential to how we manage our household. We approach family tasks practically – school preparation, meals, logistics – with the same collaborative mindset I apply at work.”

“Our goal is not selling equipment but ensuring the customer makes the most of it.”

Simone Tomaz

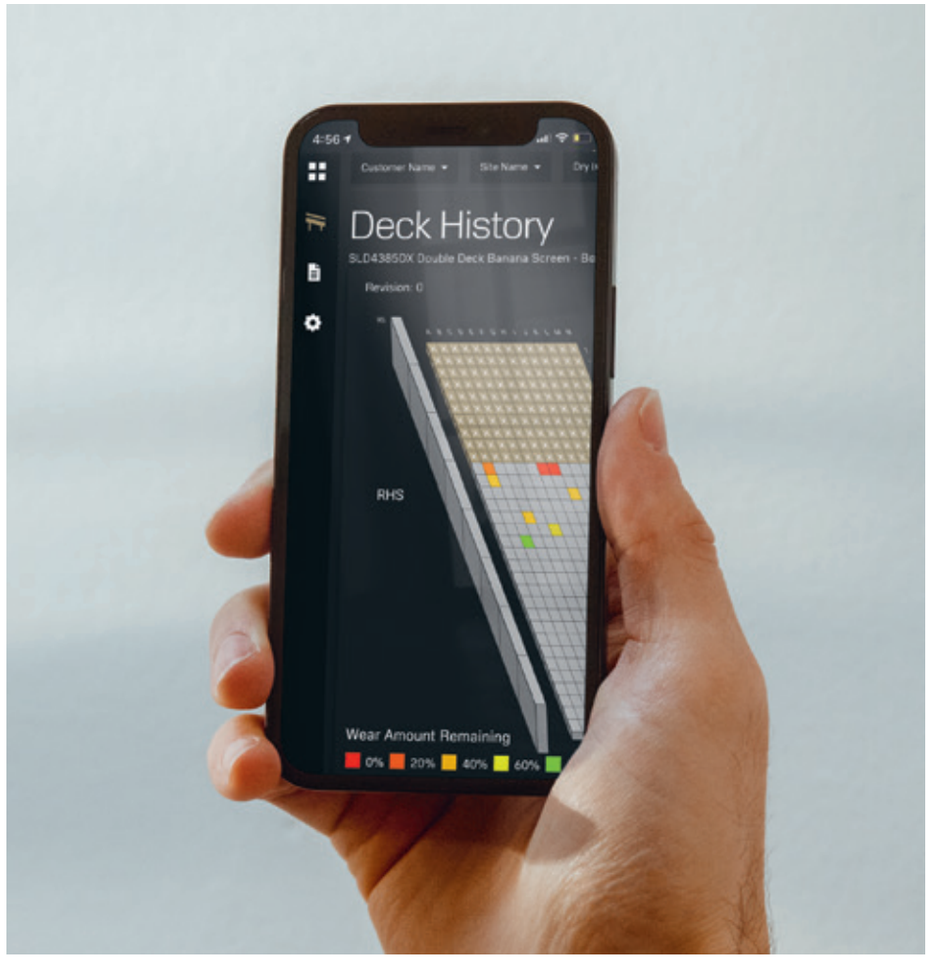
Location: Perth, Australia
Role: Vice President Aftermarket, Sandvik Rock Processing Solutions
Hobbies: Sports and literature

Watch the film with Simone Tomaz:

Improving efficiency with AI

WearApp™ is a new AI tool for the rock processing industry that enables customers to improve efficiency.

By Danny Chapman



The WearApp™ app has been developed by Sandvik to give its mining and construction customers maintenance information on their rock processing equipment. Enabled by AI, it predicts wear rates and remaining lifespans. It can be used to prevent unnecessary shutdowns, maintain high production rates, avoid unnecessary equipment replacements and improve productivity levels. It can save customers considerable amounts of time and money.

"It provides the sort of detailed information that has never been available before," says Matthew Cutbush, Product Manager, Sandvik Rock Processing Solutions.

Evolutionary digital tool

The app is available as an optional add-on to DeckMapp™, a digital maintenance management tool that provides customers with a single source of information for managing their screening media on site.

After downloading the tool from a website, operators can use it offline. This is particularly useful in rock processing sites with little mobile reception. Via different configurations of deck layouts, the maintenance tool gives real time information that all operators can access about the screening media on their vibrating screens.

"Most people use fancy spreadsheets to plan and record their maintenance activity. The DeckMapp™ maintenance tool helps customers manage their screening media more efficiently. Our biggest machine has 784 screening media panels," says Cutbush.

This tool helps you make sure that if a panel is wearing, you put a new panel in at exactly the right place. It can be used to record each maintenance activity in one place that everyone has easy access to, rather than trawling through emails. It saves operators a lot of time and prevents costly mistakes."

The WearApp™ app works through operators taking photos of screening media panels and then uploading those photos onto the app. AI analyses the photos, measures the size of each of the apertures in the screening media, and calculates various details. These include the life span of the panels and at what level of efficiency the apertures are still operating at.

> "It provides detailed information that has never been available before."

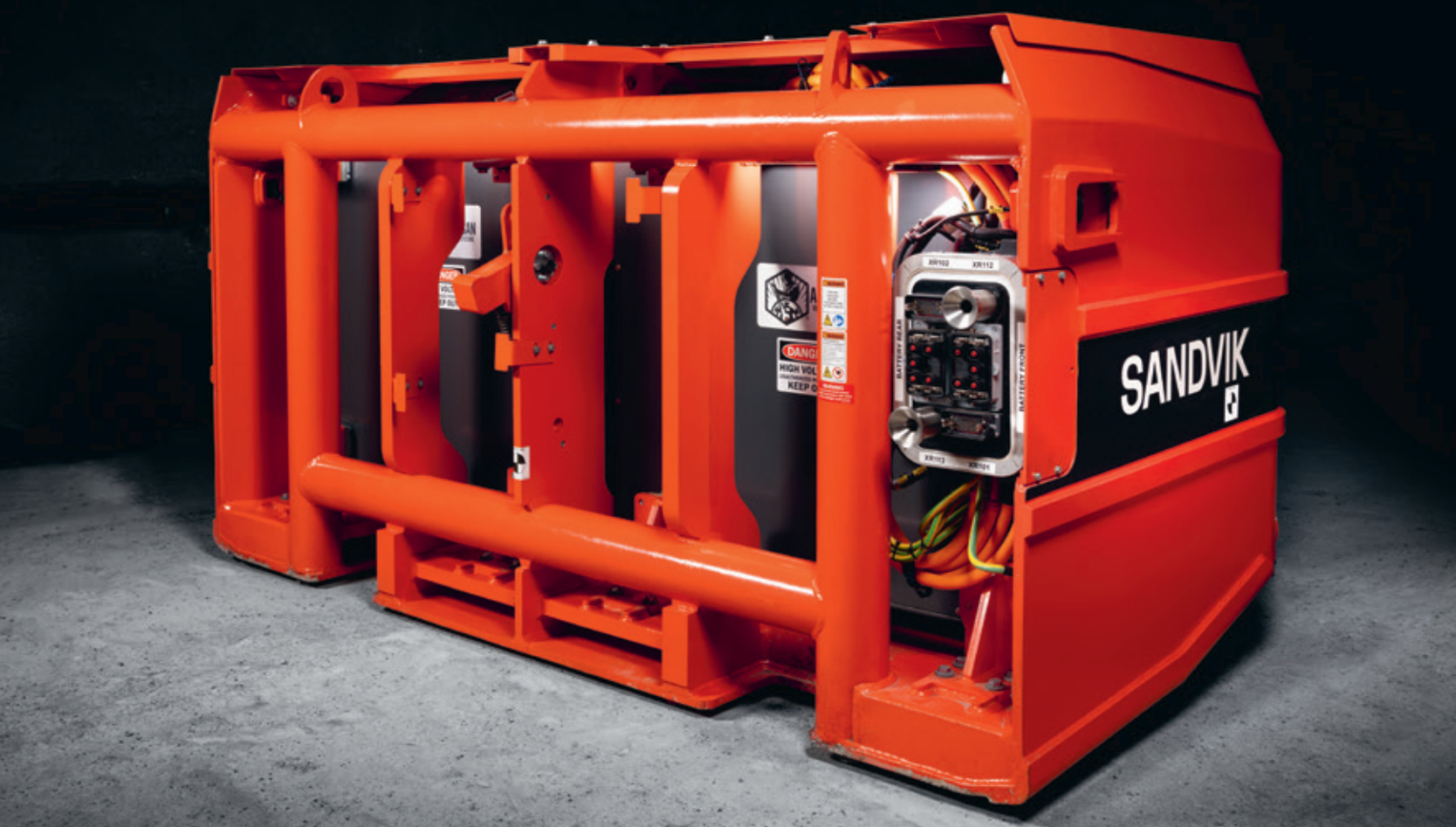
AI-powered predictions

"It makes accurate assessments that are usually made less accurately by humans. These include understanding if panels will or will not need to be replaced before the next shutdown. Making the right decision here can prevent shutdowns or efficiency drops between shutdowns, and prevent unnecessary replacement of panels that are still working efficiently. These decisions can save customers large amounts of money and make operations much more efficient."

The app was developed inhouse by Sandvik AI software engineers and Cutbush believes that the technology can be adopted for use in other Sandvik solutions.

Creating smart battery solutions

Sandvik is a world leader in electrical mining equipment, but it doesn't stop there. The company also creates the batteries used in its machines.



By Geoff Mortimore

Battery Electric Vehicles (BEVs) are the future of the mining industry and a prioritized focus area for Sandvik. Tommi Valkonen, New Technology Strategy Manager for the Load & Haul Division, leads efforts to identify and implement emerging technologies. “Our focus is on accelerating the integration of new technologies, which could mean finding better battery chemistries to use in our BEVs in the future, or other technologies that help our electric offering perform better,” he explains.

For underground loaders and trucks, Sandvik maintains in-house capabilities for battery system design and manufacturing. This enables the development of mining-specific solutions and accelerates the speed of introducing new customer-focused innovations. Sandvik charging stations allow battery changes in about three minutes with the supporting systems Autoswap™ and AutoConnect™. The operator drives to the swapping bay, lowers the depleted battery and retrieves a fully charged one.

The batteries used by Sandvik are based on lithium-ion battery cells, using LFP technology. The full battery systems on a loader or a truck today have a capacity of 410 kWh, which is enough for 3–5 hours of operation per charge, while the full battery system on an underground drill rig has a capacity of 121 kWh, enough for 4–6 kilometers of driving up a mining ramp.

“Our deployed BEV fleets have demonstrated clear advantages in both productivity and environmental performance,” Valkonen notes. “And having those in-house capabilities has allowed us to, for example, add 36 percent more capacity between subsequent battery module design generations.”

Secondary applications

With equipment operational lifespans of 5–6 years and batteries typically requiring one replacement during this period, Sandvik takes a proactive approach to life-cycle management.

In the lithium-ion battery industry, batteries are typically considered to be at end-of-life at 80 percent capacity. However, mining operations present unique opportunities to utilize this remaining capacity. Sandvik batteries from high-consumption vehicles, such as trucks, can be repurposed for equipment with lower energy requirements, such as loaders, or be integrated into stationary energy storage systems, supporting site infrastructure such as lighting and charging stations.

End-of-life management

When batteries reach the end of their operational life, Sandvik ensures responsible recycling through regional partnerships. While China currently dominates recycling capabilities, initiatives are underway to develop facilities in North America, Europe and elsewhere, creating a more efficient network.

Digital innovation supports these efforts through battery passports – tracking systems that monitor life-cycle data and ownership. “This technology enables immediate access to battery usage history and performance metrics through QR code scanning, for example,” says Valkonen.

“We are proud to be at the forefront of enabling the fully electric mine of the future,” he concludes. “As pioneers in mining electrification, we are committed to driving this transformation through continued innovation.”

“Our deployed BEV fleets have demonstrated clear advantages in productivity,” says Tommi Valkonen.

Tommi Valkonen

Position: New Technology Strategy Manager, Load & Haul Division at Sandvik Mining and Rock Solutions
Joined Sandvik: 2019

Steps in the battery value chain →

1. **Raw material extraction:** Mining of lithium, cobalt, nickel, iron ore and other battery materials.

2. **Material refinement:** Processing for battery production.

3. **Cell manufacturing:** Battery cell production.

4. **System integration:** Assembly into battery systems.

5. **Primary use:** Vehicles and mining equipment.

6. **Secondary use:** Energy storage solutions.

7. **Recycling:** Material recovery and reuse.

School of industry rocks!

Göranssonska technical high school in Sandviken, Sweden, shows how industry and education create lasting value for society and business.

By Emily Mankert & Cari Simmons
Photos Johan Artursson

Facts:
Göranssonska school

→ Technical high school in Sandviken for students aged 16–19
→ Offers four years of studies compressed into three
→ All students receive international internship opportunities
→ Graduates can apply for six to ten-month positions at Sandvik
→ 70 percent of graduates pursue technical university studies
→ Strong industry connection through internships and guest lectures

Sandvik is engaged in a number of educational initiatives across the globe, from primary schools for underprivileged children in India to apprenticeships in South Africa, most often with a focus on the science, technology, engineering and mathematics (STEM) subjects.

The Göranssonska technical high school was founded in 2002 by Sandvik and the Sandviken municipality. Sandvik owns 91 percent of the school, which is named after Göran Fredrik Göransson, the founder of Sandvik.

"For Sandvik, being involved in technical education is crucial," says Sara Balmér Neyman, chairman of the school board and a Sandvik employee. "Today's industrial operators need advanced technical skills as the manufacturing processes have become increasingly sophisticated. There is fierce competition for talent in the industry, and educating these talents helps strengthen our position and give us an advantage in attracting skilled workers to meet modern industrial demands. This initiative also allows us to contribute meaningfully to society by creating a high-quality school near our production facilities."

Hands-on learning

The school offers an intensive industrial technology program where students complete four years of studies in three years, through extended school days. The education combines theoretical studies with hands-on experience in state-of-the-art workshops equipped with the latest technology.

"The support we receive from Sandvik is invaluable," says Managing Director and Principal Maria Edring. "They invest significant effort to ensure high-quality internships, welcome us for study visits, and send experts to share their knowledge on sustainability, safety, and industry trends."

A unique aspect of the program is that all students receive the opportunity to visit and intern at Sandvik facilities worldwide. "It's more than just an educational program – it's a stepping- stone into the industry. I had the incredible opportunity to visit Sandvik Mining and Rock Solutions in Australia, where I worked with engineers to help develop

First-year student Ella Johansson gains hands-on experience with industrial machinery.

Chairman of the school board, Sara Balmér Neyman, and the principal Maria Edring.

"It's a stepping-stone into the industry," says third-year student Melker Sund.

"We need to secure technical competence for the industry."

a next-generation bucket for an underground loading machine. That kind of real-world experience is invaluable," says third-year student Melker Sund.

Career opportunities

What sets the school apart is its opportunities for employment. The graduates can apply for six to ten-month positions at Sandvik, which under certain circumstances can be extended. This initial period gives them valuable time to gain work experience and reflect on their future career paths. Approximately 70 percent of graduates go on to university for further technical studies, and many later return to work at Sandvik or other industrial companies in the region. This flexibility in career paths demonstrates how the school serves both immediate industry needs and long-term professional development.

"Our engagement with the school serves two key purposes," says Balmér Neyman. "First and foremost, we need to secure technical competence for the industry – both for Sandvik and the broader industrial sector. Göranssonska plays a crucial role in attracting young talent to engineering and technical professions. Secondly, through internships with us, students gain a concrete understanding of what it means to work in modern industry and what their future professional life might look like. Additionally, we're proud that this initiative contributes positively to the local community where we operate."

It's a wrap!

Don't miss Studio Sandvik

Are you curious about what it's like to work at Sandvik or perhaps wondering if you should invest in the company? As a customer, do you want to know how to become more efficient, sustainable, and improve productivity through Sandvik equipment?

Watch Studio Sandvik for information on all this and more!

Studio Sandvik is a TV news show that takes viewers right into the Sandvik world, including news from around the globe. It was introduced in early 2024 and is broadcasted approximately every sixth week. Studio Sandvik is hosted by Sandvik employees, below you can see Paulina Jonholt and Nidhi Gokhale in action.

Watch Studio Sandvik here: