deco magazine

112 02-2025 ENGLISH


starrag
bumotec
The Bumotec 191neo machining centre combines high efficiency & autonomy for advanced performance.
191neo
PERFORMANCE HAS A FUTURE
SHOWROOMVUD.STARRAG.COM
Or on our BUMOTEC YOUTUBE channel with numerous movies of applications

In production, saving time is always important. The Swiss DT 7 and Swiss DT 10 are designed to ensure stable, high-quality output by simplifying programming and reducing setup times.

IMPRESSUM

Circulation
17,000 copies

Available in
French / German / English / Italian / Spanish / Polish / Portuguese for Brazil / Chinese

Publisher
TORNOS SA
Rue Industrielle 111
CH-2740 Moutier
www.tornos.com
Phone +41 (0)32 494 44 44

Technical writer and publishing advisor
Brice Renggli
renggli.b@tornos.com

Managing editor
Joëlle Chatelain
chatelain.j@tornos.com

Graphics and desktop publishing
Claude Mayerat
CH-2830 Courrendlin
Phone +41 (0)79 689 28 45

Printer
Druckhaus Süd Medien GmbH
DE-50825 Köln
Phone +49 221 387 238

Contact
decomag@tornos.com
www.decomag.ch

SUMMARY

“Shaping the future also means giving the next generation a stimulating, innovation-driven work environment.”

Jens Thing, CEO, Tornos Group

Training the next generation, elevating know-how

Jens Thing, CEO, Tornos Group

In a constantly evolving machine tool industry, the challenge isn't just technological—it's human. Recruiting qualified talent in technical fields is becoming a major global issue. And yet, these careers are exciting, modern, and full of purpose. It's our responsibility to make them visible, accessible, and attractive.

At Tornos, we believe the best way to shape the future is by investing in know-how. That's why we are fully committed to passing our industry's key skills on to the next generation—and doing it with the right tools.

Today, training no longer happens only in classrooms. Online tutorials, educational videos, collaborative platforms, and our industry's leading influencers like TITANS of CNC are opening new doors. These new formats speak to young talent. They are accessible, hands-on, and engaging. They spark interest in the fascinating world of high-precision machining, advanced production technologies, and intelligent machine tools—a world we live and breathe every day.

Being active on social media, using the communication channels young people prefer, and working with influential voices in our industry have become essential to creating a real connection with them—and showing just how relevant, dynamic, and full of opportunity technical careers can be.

The Swiss Machining Academy, launched last year in partnership with TITANS of CNC, is a perfect example. Free, online, and already adopted by tens of thousands of users around the world, this educational platform is a game changer. It enables people to learn, train, and grow at their own pace, with no geographic barriers. It also gives companies a powerful new argument to attract curious and motivated talent.

This knowledge transfer is important because behind every machine is a skill. Behind every complex part is a precise move, a trained eye, and unique expertise. And because every skill passed on is a win for the entire industry, Tornos is fully committed to keeping this know-how alive and growing.

Shaping the future also means giving the next generation a stimulating, innovation-driven work environment. It means providing them with modern production tools, connected systems, and high-performance machines. It means showing them that technical careers are not only essential, but also meaningful and creative.

We're proud to be part of this movement and proud to help build—with you—a strong, human-centered, and sustainable industrial future.

The Swiss DT 7 and Swiss DT 10 pack Tornos turning performance into an ultracompact design, optimized for minimal footprint on the shop floor.

Building on the proven legacy of the Swiss DT family:

introducing the new Swiss DT 7 and Swiss DT 10

In today's challenging market, manufacturers need machines that offer reliability, precision, and return on investment. Whether you produce connectors, micromechanical parts, or watchmaking components, your business depends on solutions that are both powerful and practical.

TORNOS

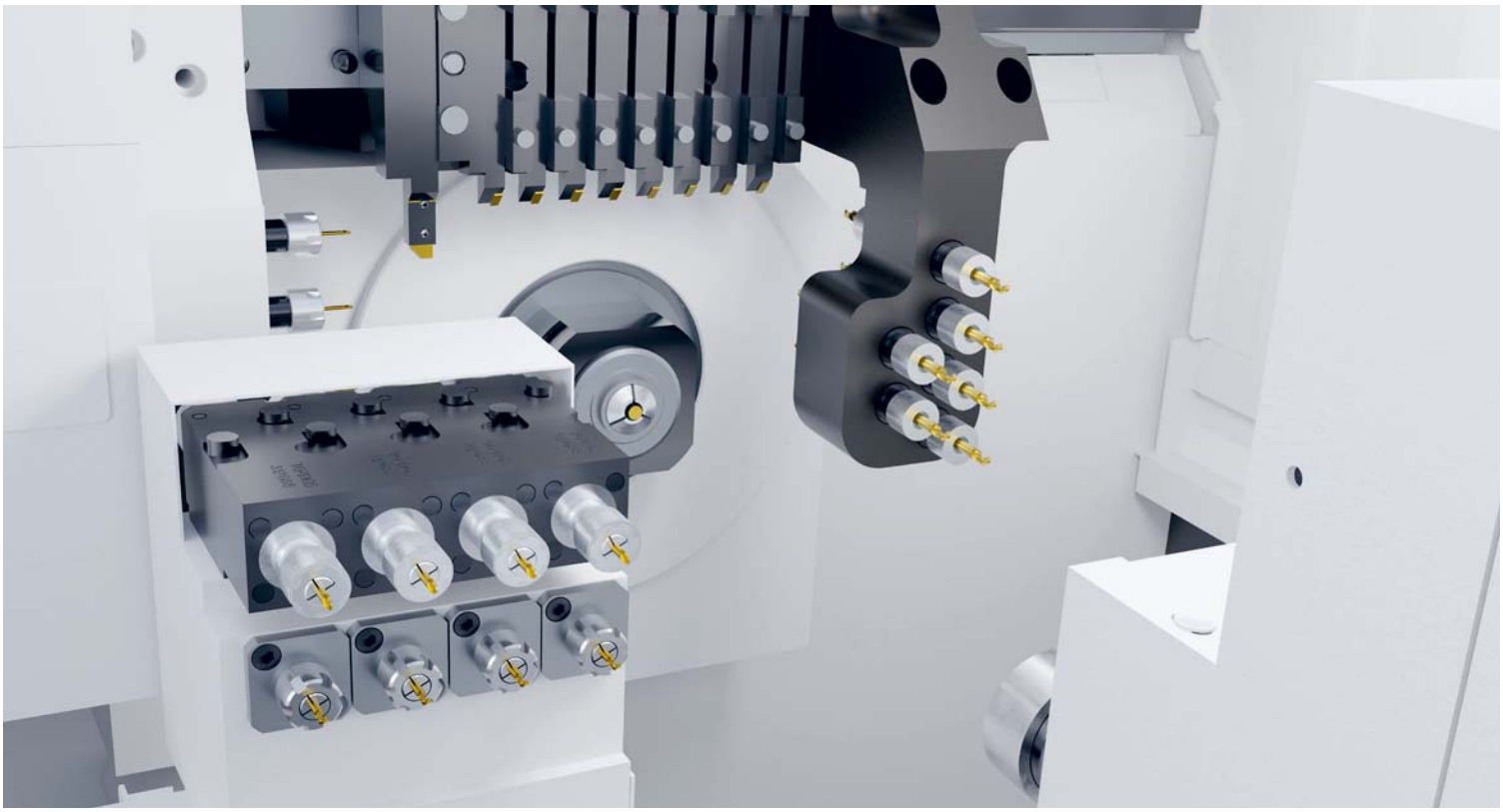
Tornos SA
Industrielle 111
CH-2740 Moutier
Switzerland
Tel. +41 32 494 44 44
tornos.com

Building on the proven legacy of the Swiss DT family, the new Swiss DT 7 and Swiss DT 10 combine proven Swiss performance with productivity-enhancing features, all within a compact, space-saving footprint. They deliver tangible commercial benefits by increasing productivity, optimizing part quality, and increasing flexibility on the shop floor.

These new models are available in six-axis configurations and they push the boundaries of what compact turning machines can achieve— accommodating up to 33 tools, including eight driven tools, for maximum versatility and one-setup machining of complex parts.

Accelerate productivity and reduce costs

When every second counts, machines that cut cycle and setup times can make the difference between profit and loss. The Swiss DT 7 and Swiss DT 10 are



engineered to drive efficiency at every level of production—making them ideal for shops focused on throughput, quality, and operational simplicity. These new models from Swiss DT family reduce cycle times by up to 10 % and setup times by up to 15 %. They minimize scrap, improve surface finish, and allow faster transition between part families or setups.

This is achieved through a combination of intelligent design and powerful components: a rigid cast-iron base for stable production, a counter spindle on three linear axes for precise cutoff and back operations and a set of four live tools rotating in the same direction. This setup enables faster, more reliable production across a wide range of parts.

Compact design, space-saving footprint

Floor space is limited in most workshops, and every square meter matters. The Swiss DT 7 and Swiss DT 10 are designed to deliver full machining performance in a compact footprint, helping you make the most of your available space.

With a footprint of just 1.85 square meters—compared to Swiss GT 13's 2.47 square meters—these machines save up to 25 % floor space while offering the same six-axis capability.

You get more productivity per square meter—boosting both flexibility and profitability. This is not achieved by compromise. Instead, it reflects an optimized layout, refined engineering, and an emphasis on modularity.

Faster setup, smoother production

In production, saving time is always important. The Swiss DT 7 and Swiss DT 10 are designed to ensure stable, high-quality output by simplifying programming and reducing setup times.
With TISIS, Tornos' low-code programming software, operators can easily create and manage machining sequences. This intuitive platform reduces setup time by up to 15 % and ensures perfect synchronization across all operations.
Combined with faster chip-to-chip times and a highly rigid cast-iron base, these machines offer excellent production stability and superior surface finish, making it easy to handle even detailed or demanding geometries with confidence.

Guide bush conversion in just 15 minutes

Quickly adapt your machine to suit different part lengths or materials. Switch from guide bush to non-guide bush mode in only 15 minutes — no complex adjustments needed. This helps reduce raw material waste when producing short parts, while maintaining machining stability and precision for longer components.

Active Chip Breaker Plus (ACB Plus)

Efficiently manage chip evacuation and avoid production stops—ensuring smoother, more reliable machining. By preventing the creation of long, stringy chips, ACB Plus helps improve surface finishes, maintain process stability, and reduce tool wear by 30–50 %. With a simple G-code command, the system adjusts oscillation parameters in real time to keep cutting conditions under control and production flowing.

Active Thermal Management : Ensure dimensional accuracy and consistent part quality even during long production runs. This advanced system stabilizes machine temperatures, minimizes thermal distortion, and helps preserve precision while extending the lifespan of critical components.

Discover the Swiss DT 7 and Swiss DT 10 via your nearest Tornos representative.

tornos.com

serge meister sa

www.meister-sa.ch

multidec®-5000

UTILIS multidec® swiss type tools

THE PERFECT CUT-OFF TOOL FOR YOUR SWISS-TYPE LATHE!

SCAN ME!
And find out more about multidec®-5000.

future since 1915

■ **UTILIS AG, Precision Tools**
Kreuzlingerstrasse 22, 8555 Müllheim, Switzerland
Phone +41 52 762 62 62, Fax +41 52 762 62 00
info@utilis.com, www.utilis.com

UTILIS® Tooling for High Technology

75+ years schwanog

SCHWANOG CONFIGURATOR

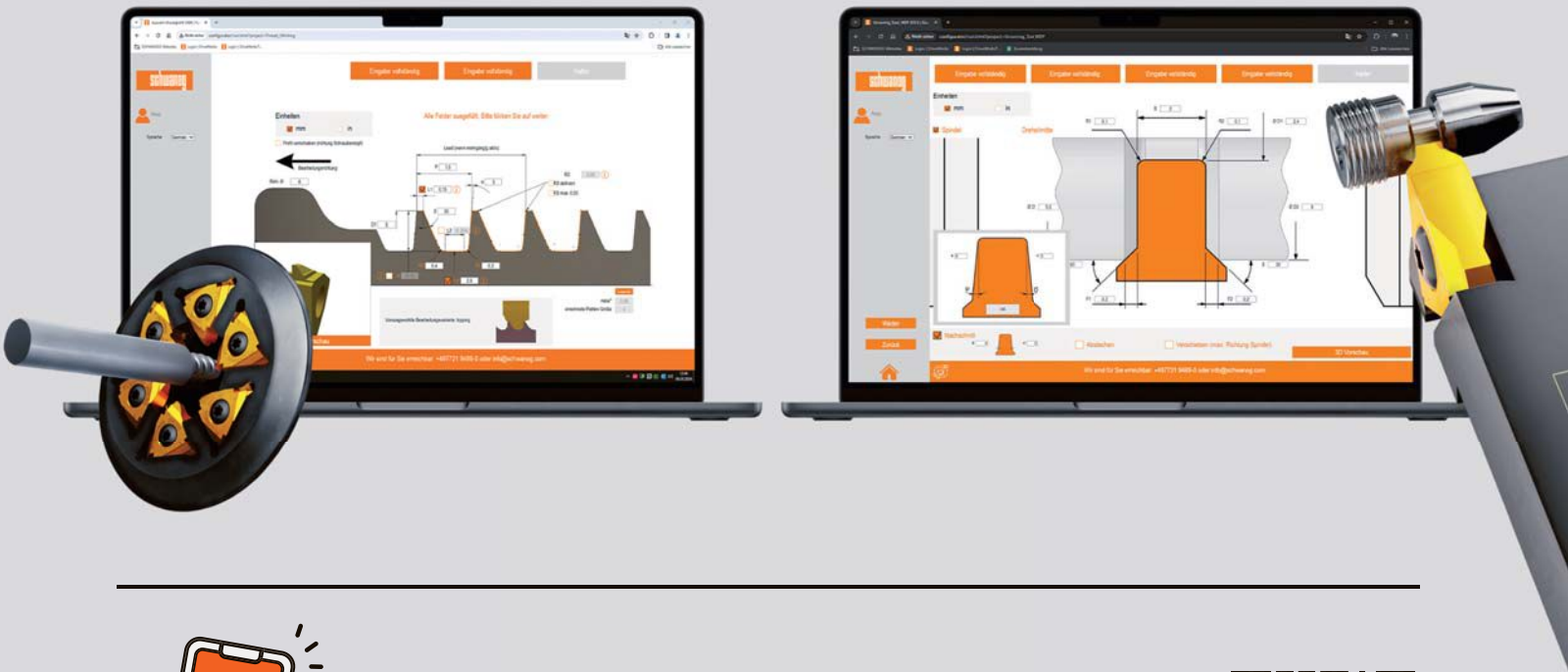
Configure tools and use the online shop function –
with product overview, drawing management, price overview,
quote requests, and online orders.

Quotation

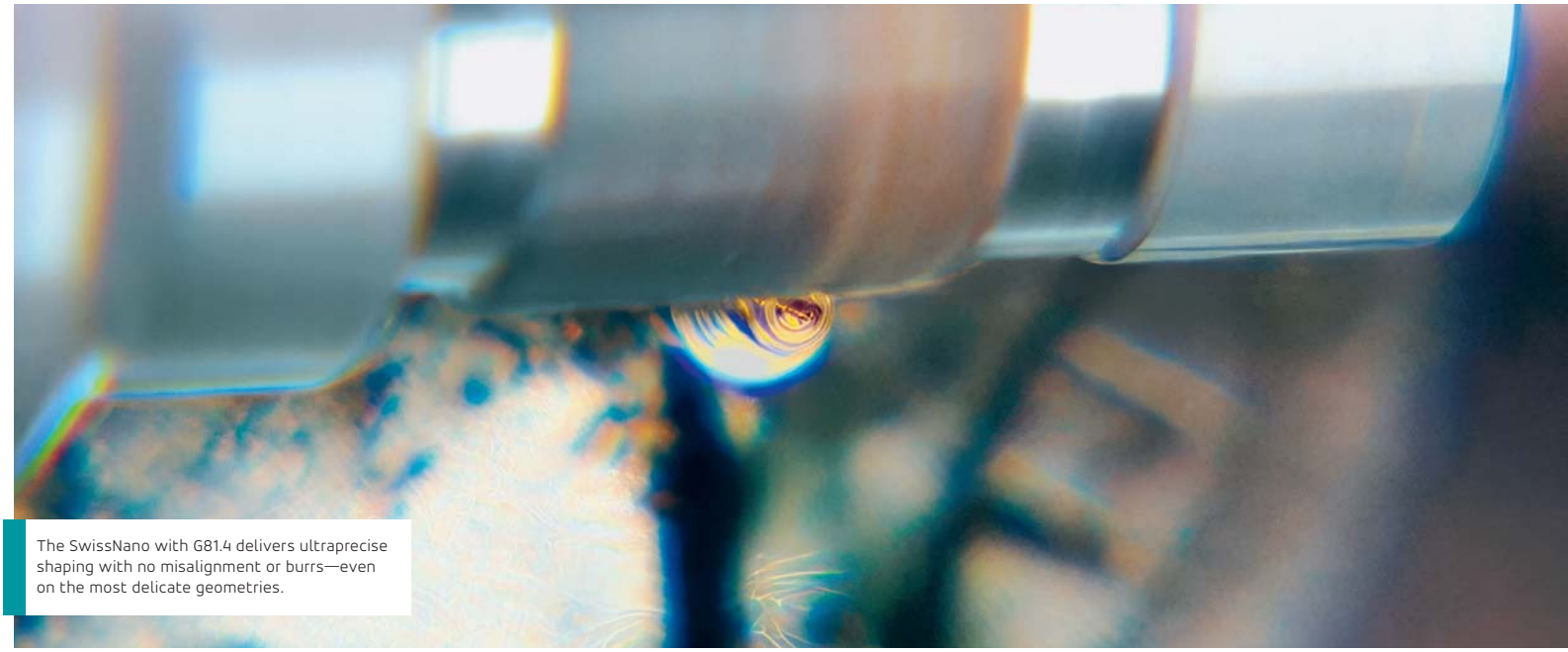
Purchase Order

Prices

Tool drawing



SCAN QR-CODE NOW AND REGISTER IN SECONDS!



The SwissNano with G81.4 delivers ultraprecise shaping with no misalignment or burrs—even on the most delicate geometries.

New advanced cutting option on SwissNano:

precision to match your ambitions

Tornos now offers an advanced cutting option (G81.4) on the SwissNano, ideal for operations requiring maximum precision, whether double cutting, precise polygon cutting or complex operations.

TORNOS

Tornos SA
Industrielle 111
CH-2740 Moutier
Switzerland
Tel. +41 32 494 44 44
tornos.com

The challenges of micropart machining

In micropart machining, gear cutting and deburring can sometimes pose challenges. Traditionally, a second pass with a milling cutter was sometimes necessary to correctly deburr the part. However, during this step, the perfect alignment of the passes could cause cyclic misalignments, resulting in size variations on some teeth and requiring time-consuming and complex manual corrections.

The benefits of the G81.4 option

The new G81.4 function provides flexible and reliable synchronization between the workpiece spindle and the tool spindle. This enables:

- ***Simple, precise and stable shaving:*** *This eliminates the phenomenon of progressive offset. The teeth are machined to the correct dimensions throughout the cycle, without cyclic variations.*

- ***Perfectly aligned double shaving :*** *The second pass is rigorously aligned with the first, ensuring consistent accuracy without manual correction.*
- ***High-precision polygon cutting :*** *Polygon cutting operations that require fine synchronization benefit greatly from this feature.*
- ***Superior surface finish :*** *The finish is flawless, with burrs eliminated during double cutting.*
- ***Fast and reliable setup :*** *Programming is simplified, positioning is optimized, and the risk of error is significantly reduced.*
- ***Optimized tool life :*** *Direct control of the cutting speed helps to preserve the tool for longer.*

Who is it for ?

This option is available on the SwissNano 7 and SwissNano 10 (with compatible FANUC numerical control). It is designed for manufacturers seeking perfect control of shaving, deburring or polygon cutting, particularly for microparts and high-precision components.

How does it work ?

The advanced shaving mode is simply activated by the code G81.4 and deactivated by the code G80.4. The user simply sets the key parameters and starts the cycle. The system ensures synchronization regardless of the direction of rotation or the position of the cutter (above or below the workpiece).

For more information, contact your Tornos specialist or the visit Tornos website. Step up to advanced shaping and achieve new standards of precision with the SwissNano.

tornos.com

The Swiss XT 26 expands the Swiss XT range with a compact, well-sized solution for bars up to 25.4 mm—combining footprint efficiency, versatility, and platform consistency.

SWISS XT 26: strengthening product *line consistency*

With the introduction of the Swiss XT 26, Tornos completes the Swiss XT range by delivering a perfectly balanced solution for bars up to 25.4 mm in diameter. This strategic addition enhances the overall clarity of the platform and reflects a practical response to real market needs.

TORNOS

Tornos SA
Industrielle 111
CH-2740 Moutier
Switzerland
Tel. +41 32 494 44 44
tornos.com

A logical step in platform evolution

In Tornos' product-naming convention, the number associated with each model corresponds to the maximum supported bar diameter—a simple, intuitive system well-established in the Swiss DT and Swiss GT lines. Until now, 25.4 mm capacity was available only as an option in the Swiss XT family. With the Swiss XT 26 now a dedicated model, the XT platform becomes fully aligned with Tornos' broader portfolio: Swiss XT 16, Swiss XT 26, and Swiss XT 32.

This move is far from cosmetic. It reflects a strategic decision to improve portfolio readability and simplify the machine selection process for end users and distributors alike. The new model offers a clear value proposition—both technically and commercially—while reinforcing consistency across the Tornos ecosystem.

A response to field experience

This evolution was largely driven by customer need: The 26 mm option was frequently selected, underlining its relevance for real-world applications. Converting this popular configuration into a full-fledged model was the natural next step. The Swiss XT 26 is now readily available worldwide as an independent model.

A cohesive three-model platform

With the launch of the Swiss XT 26, the platform gains structural coherence. Each model serves a clearly defined segment:

- ***Swiss XT 16:*** *high-speed precision (12,000 rpm spindles) for smaller diameters*
- ***Swiss XT 26:*** *versatile, balanced performance for complex parts*
- ***Swiss XT 32:*** *heavy-duty capabilities, including non-guide-bush machining of parts up to Ø 38 mm*

Despite their different capacities, all models share a compact footprint, powerful 10.5 kW spindles, and the flexibility of three independent tool systems, with a uniform programming approach via TISIS.

Swiss XT 26: midrange powerhouse

The Swiss XT 26 embodies the technical DNA of the range. It is available with eight or nine linear axes, supports up to 40 tools, and can be equipped with an optional B axis for more complex machining and a Z2 axis for the enhanced flexibility of simultaneous machining with two tools. Its spindles offer a torque of 26 Nm, and speeds of up to 10,000 rpm, making it ideal for parts of medium complexity.

As with all Swiss XT machines, the Swiss XT 26 enables users to reduce raw material waste on short parts and maintain stability for longer components—all without complex adjustments.

Quickly and seamlessly switch between guide-bush and non-guide-bush modes by adapting the machine in just 15 minutes to suit different parts lengths and materials

Smarter software, cleaner chips

With TISIS, Tornos' low-code programming software, operators can easily create and manage machining sequences. This intuitive platform reduces setup time by up to 15 % and ensures perfect synchronization across all operators. By preventing the creation of long, stringy chips, Active Chip Breaker Plus (ACB Plus), helps improve surface finishes, maintain process stability, and reduce tool wear by 30–50%. With a simple G-code command, the system adjusts oscillation parameters in real time to keep cutting conditions under control and production flowing.

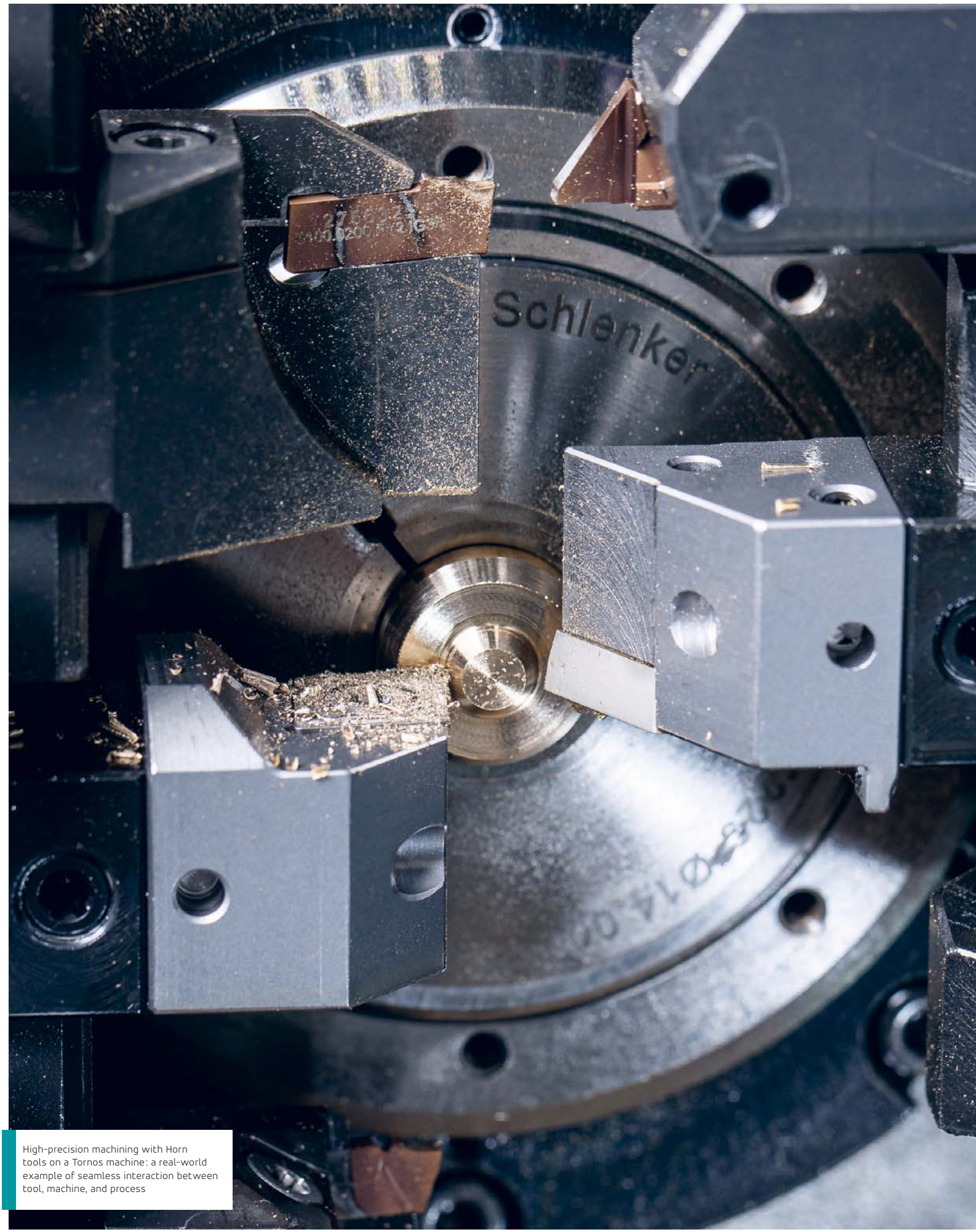
Built for sustainable performance

Like the rest of the platform, the Swiss XT 26 is engineered with sustainability in mind. It strikes a fine balance between environmental responsibility and uncompromised productivity. Tornos' Eco Mode reduces standby power consumption by up to 75 %, and a preheating function accelerates ramp-up while minimizing energy consumption.

A strategic addition that just makes sense

The Swiss XT 26 is more than a technical enhancement : It's the logical solution to the market need. Positioned between the Swiss XT 16 and Swiss XT 32, it ensures continuity in the platform, clarity in the portfolio, and simplicity in the field.
It is a model that reflects customer use, product strategy, and manufacturing logic—the missing link that completes the Swiss XT platform.

tornos.com



High-precision machining with Horn tools on a Tornos machine: a real-world example of seamless interaction between tool, machine, and process

PAUL HORN AND TORNOS COMBINE THEIR TECHNOLOGICAL EXPERTISE

Unlocking the full *potential*

As high-end machine tools become increasingly similar in key performance parameters, the entire process—the interaction between machine and tools, automation, and reduction of idle times—takes on growing importance. During tooling manufacturer Paul Horn's Technology Days 2025 in Tübingen, Germany, experts from Tornos and Horn demonstrated the full potential of seamless synergy through the machining of a titanium bone screw and a conceptual drill.

Central to these demonstrations was Tornos' Swiss XT Swiss-type automatic lathe. Unveiled at AMB 2024, the Swiss XT pushes the boundaries of what's possible. It is designed specifically for complex parts used in the automotive industry, hydraulic and pneumatic systems, and medical technology sector. Versatility is a standout feature of the Swiss XT, available in two configurations with eight or nine linear axes, and three bar capacities (16, 25.4, and 32 mm). The nine-axis version also includes a Z2 axis for deep drilling and balanced turning.

“With capacity for up to 42 tools, the Swiss XT is well equipped for diverse machining tasks.”

The Swiss XT offers unmatched flexibility, accommodating up to five driven tools, including rotating tools suitable for demanding operations like thread whirling and gear hobbing. Its modular machining area enables the seamless integration of additional attachments such as whirling or angled milling tools, making it ideal for diverse part production.

The Swiss XT 32 can optionally be equipped with a plug-and-play B axis, which significantly enhances its versatility. This B axis allows for the integration of rotating tools, a high-frequency spindle, and the execution of complex operations such as drilling and tapping at various angles. With this module, the machine handles multi-axis machining with great flexibility, especially for frontal operations.

The Swiss XT 32 features four tooling systems, including one with a B axis dedicated to frontal machining. It can accommodate up to 42 tools, including 12 for back operations. With its two spindles, four tool systems, and the Z2 axis on the second system, the machine enables simultaneous machining with multiple tools. Its open architecture allows up to three tools to operate simultaneously on the main side, while back operations are handled independently via the rear tooling system.

To showcase the capabilities of this underappreciated machine, Tornos’ Thomas Heine and Horn’s Hermann Reinhardt developed two special demo parts featuring a wide range of operations.

The best solution for every task

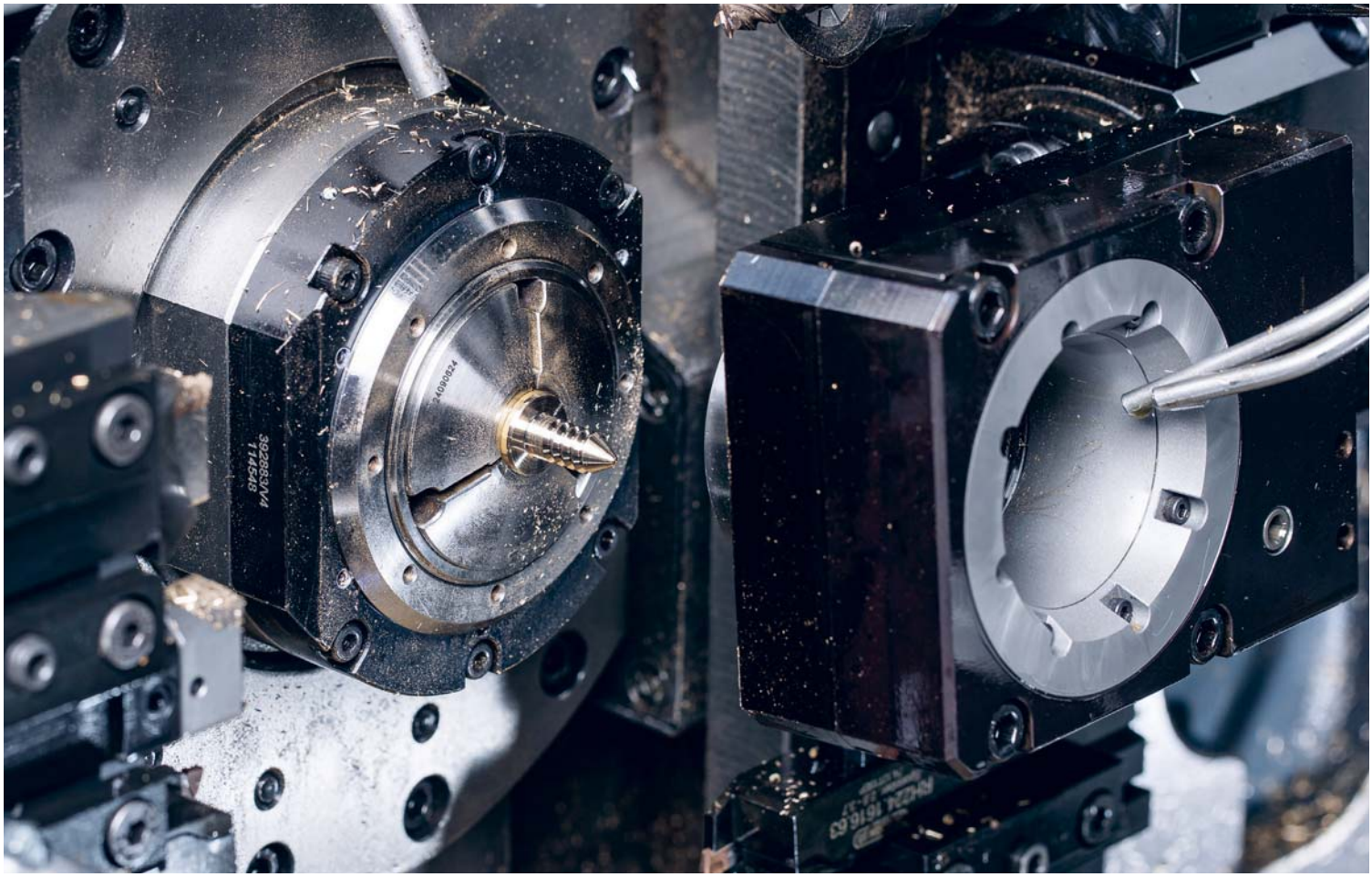
Roughing, finishing, internal boring, profile turning, internal grooving, thread whirling, thread chasing, chamfering, axial grooving, drilling, and slotting: the Supermini modular tool system from Paul Horn GmbH provides the ideal solution for each machining step. Together, the project leads selected the most suitable tools and developed an effective machining strategy.

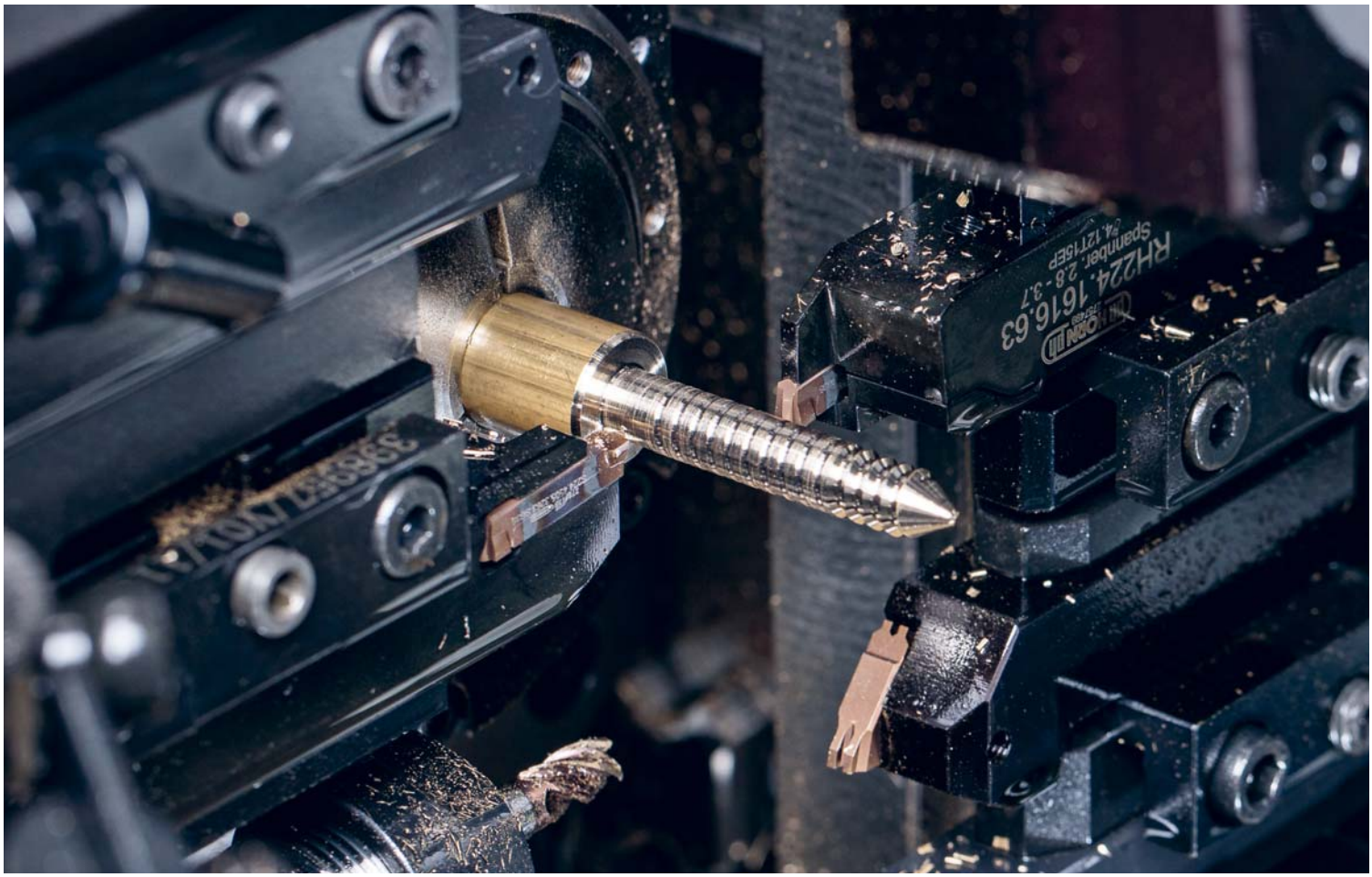
On the brass bone screw, the external thread was partially whirled and partially chased, showcasing the differences between the two methods. For both chasing and whirling, Horn precisely custom configured the form inserts to match the screw profile and the process. The internal thread was chased in counter operation. Typically, three tools operate simultaneously in the process.

To avoid long chip problems during internal boring, the new Supermini 105 with an integrated chip breaker in the insert was used. Making a big contribution to chip management was Tornos’ Active Chip Breaker Plus (ACB Plus) on the Swiss XT; ACB Plus enhances chip control during small-diameter machining and when working with hard-to-cut materials. Technology partners Tornos and Horn have already manufactured this screw from titanium. They used the SG3P coating, which was developed in-house, for this purpose. This high-performance grade enables higher performance in the manufacture of bone screws and the efficient machining of difficult-to-machine materials. The in-house coating also stands out for its short delivery times.

A conceptual drill and operator-free changeover

Equally challenging was the second demo part, a conceptual drill machined in brass. Highlights included simultaneous milling of a spiral and demonstrations of various form grooving and axial grooving techniques. Only minor adjustments were needed to achieve optimal surface quality.




RH24.16.63
Spannber. 2.8 - 3.7
R4.12T16EP

Another highlight of this partnership: The machine can switch between the two workpieces automatically without operator intervention. With capacity for up to 42 tools, the Swiss XT is well equipped for diverse machining tasks. Simply load the correct computer numerical control (CNC) program, and the machine starts producing the required parts seamlessly.

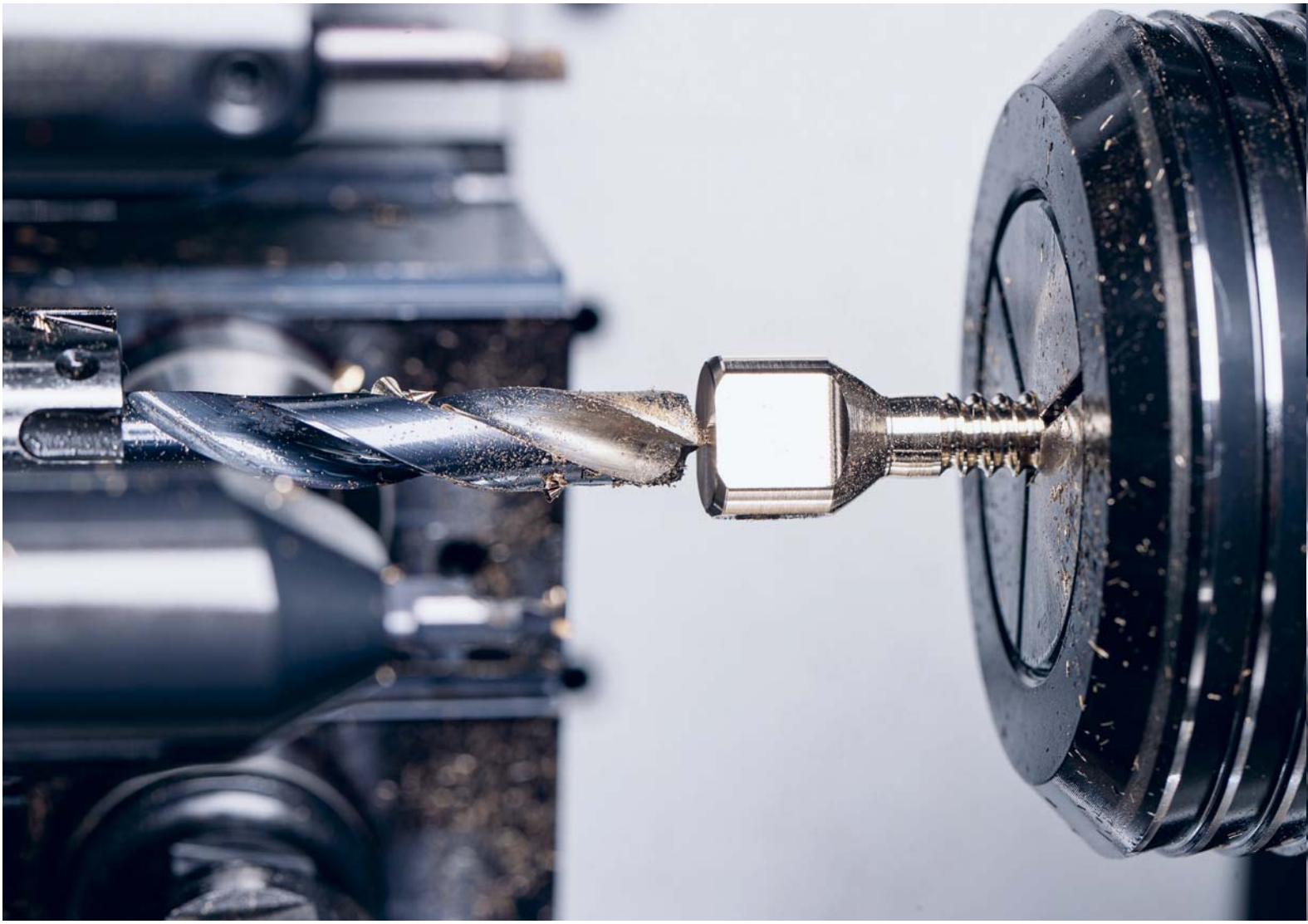
Mastering complexity

Thanks to TISIS, operating the Swiss XT is surprisingly straightforward despite its complexity. This programming software provides powerful features to simplify machine management and streamline production workflows.

The integrated ISO editor offers an intuitive interface for creating, modifying, and optimizing machining programs. A Gantt chart visualizes the critical path of the part across the machine's three channels, enabling efficient production planning and resource allocation.

A comprehensive library of machining operations allows for simple copy-paste programming, saving both time and effort. TISIS also enables virtual setup on a PC, reducing errors and ensuring compatibility.

The 2D simulation function lets operators visualize and verify tool paths to ensure precision and process reliability. When a new part file is opened, the feed



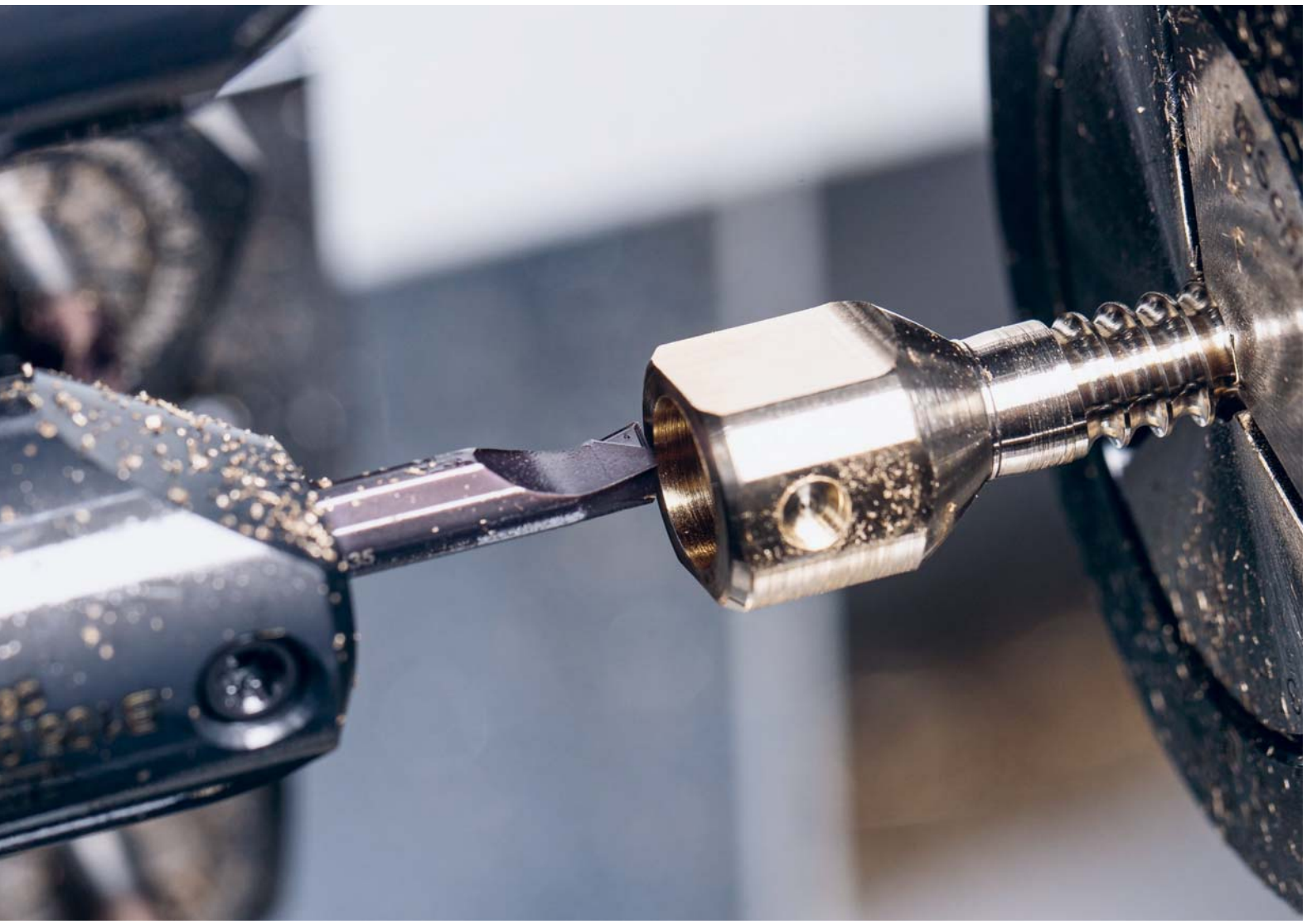
rate and cutting operations are preloaded, eliminating the need for manual setup. With TISIS, operators can focus on the workpiece—confident that the machine is programmed for efficient and accurate production.

High performance, low cost

A less visible but highly valuable benefit of the Tornos–Horn partnership lies in cost efficiency. The Swiss XT boasts a competitive purchase price and low operating costs. Existing tool holders and cutting tools from Tornos Swiss GT and Swiss DT machines can also be used on the Swiss XT.

The machine's layout provides an open work area for excellent operator accessibility, while the compact design optimizes shop floor space.

For the machining of demo parts, most operations were performed using the standard tool range from Horn. A highlight was the new Supermini with an integrated chip breaker in the insert. Only a few special operations required custom cutting inserts. These new tools ensure process security through reliable chip control. In addition to the geometry, Horn has also enhanced the insert body, improving stiffness and ensuring cutting-edge stability.
The broad range of applications also contributes to



Göltenbodt®
Innovation and Precision.

GWS

THE KEY TO PRODUCTIVITY!

TITANS OF CNC TORNOS

Experience the GWS-Tooling System live in action on the Swiss GT 32 from Tornos

The GWS-Tooling System for "swiss-type" machines!

With column guide for faster tool changes

- Precise positioning and highest repeatability
- Presettable off the machine tool
- Quick changeable
- Standard shank tools applicable independently of cutting insert supplier
- Integrated and targeted coolant supply up to 100 bar (1.450 psi)
- Modular GWS-drill block for machining at main and counter spindle
- Safe and easy handling (minimized risk of injury)

Tool presetting

www.goeltenbodt.com

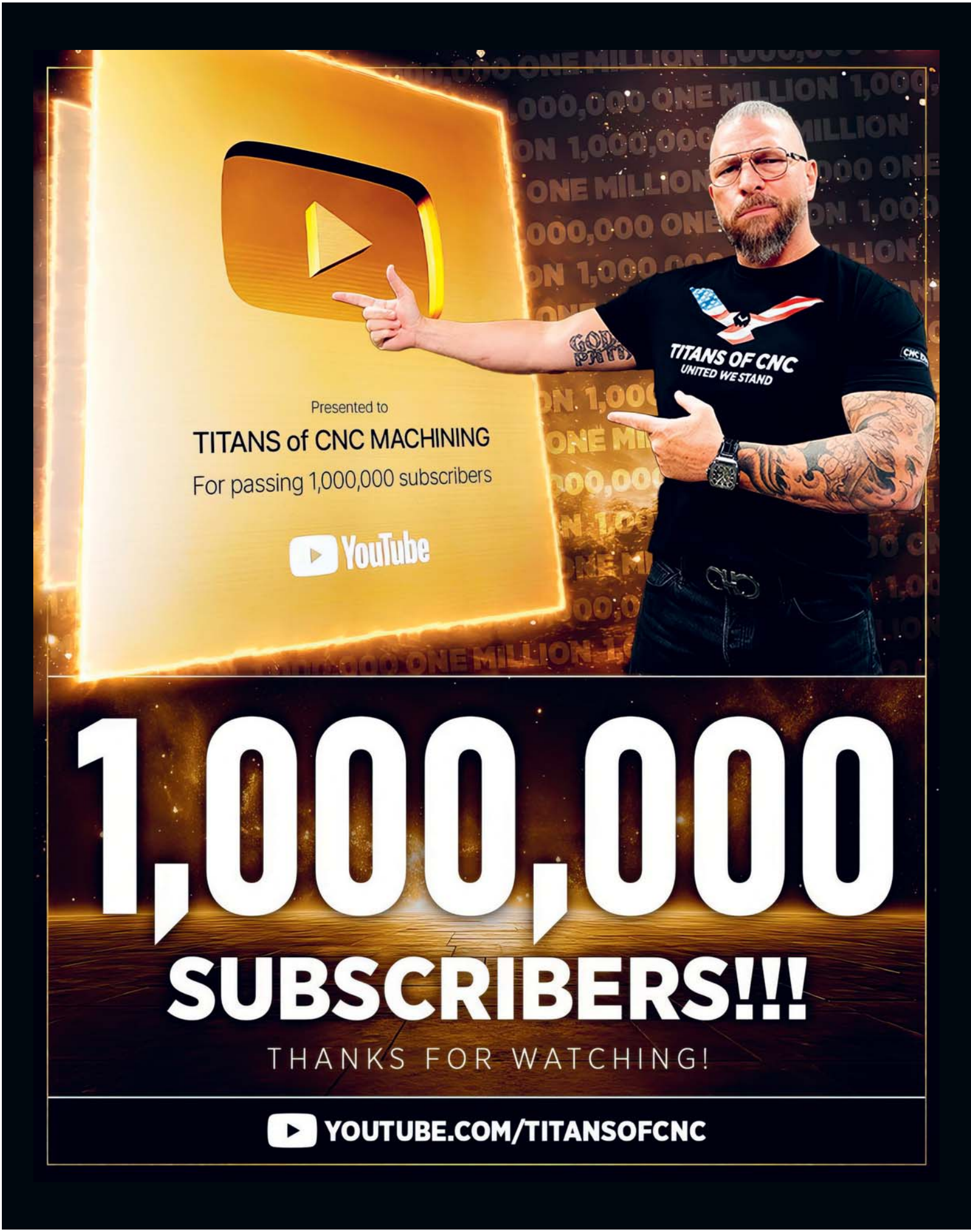
excellent cost-effectiveness. Unlike inserts with laser-cut geometries, the new Supermini's cost is comparable to that of a standard insert without geometry. Horn's tool portfolio includes around 2,500 standard Supermini variants, plus countless special solutions.

About the Swiss XT

Performance and precision are the focus of the Swiss XT's design. Equipped with liquid-cooled high-performance spindles and ceramic bearings, both the main spindle and counter spindle offer a rated power of 8.2 kW, with peak power up to 10.5 kW.

Its high torque of 20 Nm (27 Nm peak) enables efficient machining across various applications. Depending on the model, spindle speeds range from 8,000 to 12,000 rpm, delivering optimal performance for different machining scenarios.

Hermann Reinhardt (Horn) and Thomas Heine (Tornos) at the Paul Horn Technology Days, showcasing a successful technological partnership.


Presented to
TITANS of CNC MACHINING
For passing 1,000,000 subscribers
YouTube
TITANS OF CNC
UNITED WE STAND
1,000,000
SUBSCRIBERS!!!
THANKS FOR WATCHING!
YOUTUBE.COM/TITANSOFCNC

Racking up the milestones:

TITANS of CNC is a mentor to millions

There's no disputing TITANS of CNC's leadership role in educating, connecting, and lifting up the global community of manufacturing technology students, educators, and professionals. The proof is in the numbers: The Tornos' technical education partner continues to hit one milestone after another, including reaching 1 million YouTube subscribers in April 2025—and the momentum just keeps growing.

TORNOS

Tornos SA
Industrielle 111
CH-2740 Moutier
Switzerland
Tel. +41 32 494 44 44
tornos.com

Based in Flower Mound, Texas, United Sates, TITANS of CNC began as a small, California machine shop, pivoting to technical education when founder and CEO Titan Gilroy realized in talking with customers that manufacturers were facing a colossal skills gap with the retirement of Baby Boomer machinists. Armed with impeccable credentials—including precision parts manufacturing for such high-profile customers as SpaceX and Blue Origin—Gilroy launched a TV show showcasing the industry, its people, and the technology that makes everything possible: computer numerical control (CNC) machining.

That TV show—TITAN American Built—set the stage for Gilroy's next venture: TITANS of CNC, which today is the world's most popular and credible online

resource for manufacturing technology education, with 4.6 million followers across all social medial channels, 2.2 billion video views, and more than 4.7 billion digital impressions or engagements.

'Coming out of the shadows'

Those numbers are not just impressive; they indicate a growing interest in manufacturing technology following nearly 40 years of shrinking US manufacturing employment and infrastructure. In the 1950s, around 35 percent of private-sector jobs in the US were in manufacturing; today, just 8 percent of American workers hold jobs in manufacturing. But Gilroy sees brighter days ahead for the sector.

"I think we're coming out of the shadows. As for manufacturing in the US, I have a unique perspective because I came from homelessness, I was in prison, I had no money, no opportunities in life, and no hope. I didn't even know what manufacturing was," said Gilroy of his job search following a three-year prison sting after seriously injuring two people in a bar fight.

As luck would have it, Gilroy saw a help-wanted ad for a machine shop in the San Francisco Bay area, followed up, and landed a US $12-an-hour job running a $100,000 CNC machine.

"Over the course of years, I built a life. I ended up making more money than I could have ever dreamed of. CNC machining literally changed my life," he said. "Today, I fight for everybody else who doesn't know what manufacturing is and doesn't understand the opportunities in manufacturing. Literally everything around us is CNC machined or made from a mold that was CNC machined, yet often those CNC machines are being utilized at only 30 percent of their capabilities. How do you compete if you're running your machines at such a snail's pace? At TITANS of CNC—and with the support of partners like Tornos—we're teaching students, educators, and professionals to actually thrive in a state-of-the-art manufacturing facility."

> "Without support from Tornos, there would be no Swiss Machining Academy or any of these 34,000 people benefitting from this free, world-class education."
>
> **Titan Gilroy**
> Founder and CEO, TITANS of CNC

A world of possibilities

TITANS of CNC's early YouTube videos gave Gilroy insight into the public's hunger for CNC machining education.

"All of a sudden, we were getting millions of views and I realized: All of these machinists are right there. Some were saying, 'You can't do this,' or 'You can't do that,' so I started teaching them in the comments that you actually can do a lot more than you think you can, if you do it within these parameters. Anything you can dream of, you can make on a CNC machine. I saw that we were opening up a world of possibilities for young people to actually thrive in manufacturing. That's what got us to 1 million subscribers on YouTube; it's helping us and others bring awareness to the technical trades and advanced manufacturing technologies."

TITANS of CNC's social media engagement has also given Gilroy deep insight into how people want to learn. When he began developing TITANS of CNC's curricula, Gilroy cut right to the chase.


TANSFCNC
TORNOS

"All of our milestones... are massive wins for students, schools, and the manufacturing industry as a whole."

Titan Gilroy
Founder and CEO, TITANS of CNC

"I said, 'How would I teach my own kids how to machine this part?' I approach it like this: 'Let me show you exactly what you need to know at this level,' then 'Let's go up one level and work through repetition so that you learn exactly what you need to learn,' and so on," he said.

Swiss Machining Academy

In September 2024, Tornos and TITANS of CNC—with a keen eye to the future and a passion for problem-solving—launched the free, online, easily

Tyson Gilroy takes over from Donnie Hinske at Titans of CNC and becomes the new face of Tornos content. He is a respected expert, dedicated to training and technical creation.

Tornos CEO Jens Thing celebrates TITANS of CNC reaching 1 million YouTube subscribers by presenting a symbolic award for their outstanding impact on CNC education.

accessible Swiss Machining Academy, the world's most advanced technical education platform dedicated to educating a workforce to meet anticipated global demand for CNC machinists in the coming decade.

In less than a year, the Swiss Machining Academy has grown to 34,000 users, and TITANS of CNC hosts 530,000 total academy learners exploring CNC machining technology, Swiss-type and multispindle automatic lathe technology, and grinding, and pursuing certifications through the CNC Expert platform for sharing projects, hiring and getting hired, receiving free training toward certifications, and much more.

"With our Swiss Machining Academy, you can actually buy a Swiss-type or multispindle lathe and learn to use it without needing someone to come train you on it," Gilroy said. "You can learn everything from how to turn the machine on to how to generate parts with manual programming or computer-aided manufacturing (CAM) software. Everyone who uses the Swiss Machining Academy has been totally blown away. Today, people from more than 190 countries are learning Swiss machining through our platform."

To make the Swiss Machining Academy a reality, Tornos has contributed a wide range of machines, including the SwissDECO 36 representing the automatic lathe pioneer's vision for the future of bar turning; the SwissNano micro- and nano-precision specialist; the productivity-multiplying Swiss DT 26 HP; the highly versatile, ergonomic, and modular Swiss GT 32; and the powerful, productive MultiSwiss 8x26.

"With the Swiss Machining Academy, we continue to lift up manufacturing, bring awareness to it, and empower people to realize their own professional potential and the potential of their Tornos machines. I'm blessed that we've created a company built on a foundation of service," Gilroy noted. "Without support from Tornos, there would be no Swiss Machining Academy or any of these 34,000 people benefitting from this free, world-class education."

'A massive win'

In addition to all these milestones, TITANS of CNC recently earned the Oregon Department of Education's Industry Recognized Credential, joining Michigan—a state that has recognized TITANS of CNC as the number one accredited CNC machining academy for schools.

"This milestone—and all of our milestones—are massive wins for students, schools, and the manufacturing industry as a whole, and it speaks volumes about what we can achieve together," Gilroy said, pointing out that Tornos and other partners are empowering TITANS of CNC to blaze a path to a future where individuals can shape their own success and contribute to the ever-evolving manufacturing landscape.

tornos.com

The new 20-position tool changer turns the EvoDECO 10 into a true compact machining center, combining speed, flexibility, and precision.

EVODECO 10:

versatility, modularity, and precision at their best—

and now available with an integrated tool changer

Since their creation, Tornos' DECO and EvoDECO ranges have earned worldwide recognition thanks to their exceptional ability to meet the rigorous demands of today's manufacturers, who are always looking for cost-effective, high-performance, and innovative solutions.

Tornos SA
Industrielle 111
CH-2740 Moutier
Switzerland
Tel. +41 32 494 44 44
tornos.com

With over 140 years of experience in precision machining, Tornos is an established, essential partner, widely recognized for the reliability, robustness, and superior quality of its equipment.
The EvoDECO 10, the flagship model in this series, perfectly embodies these qualities and today is a benchmark for industries that demand flawless precision and optimal flexibility.

Extraordinary modularity

Versatility is one of the EvoDECO 10's key strengths. Thanks to its fully modular machining area, the machine can be adapted precisely to the specific

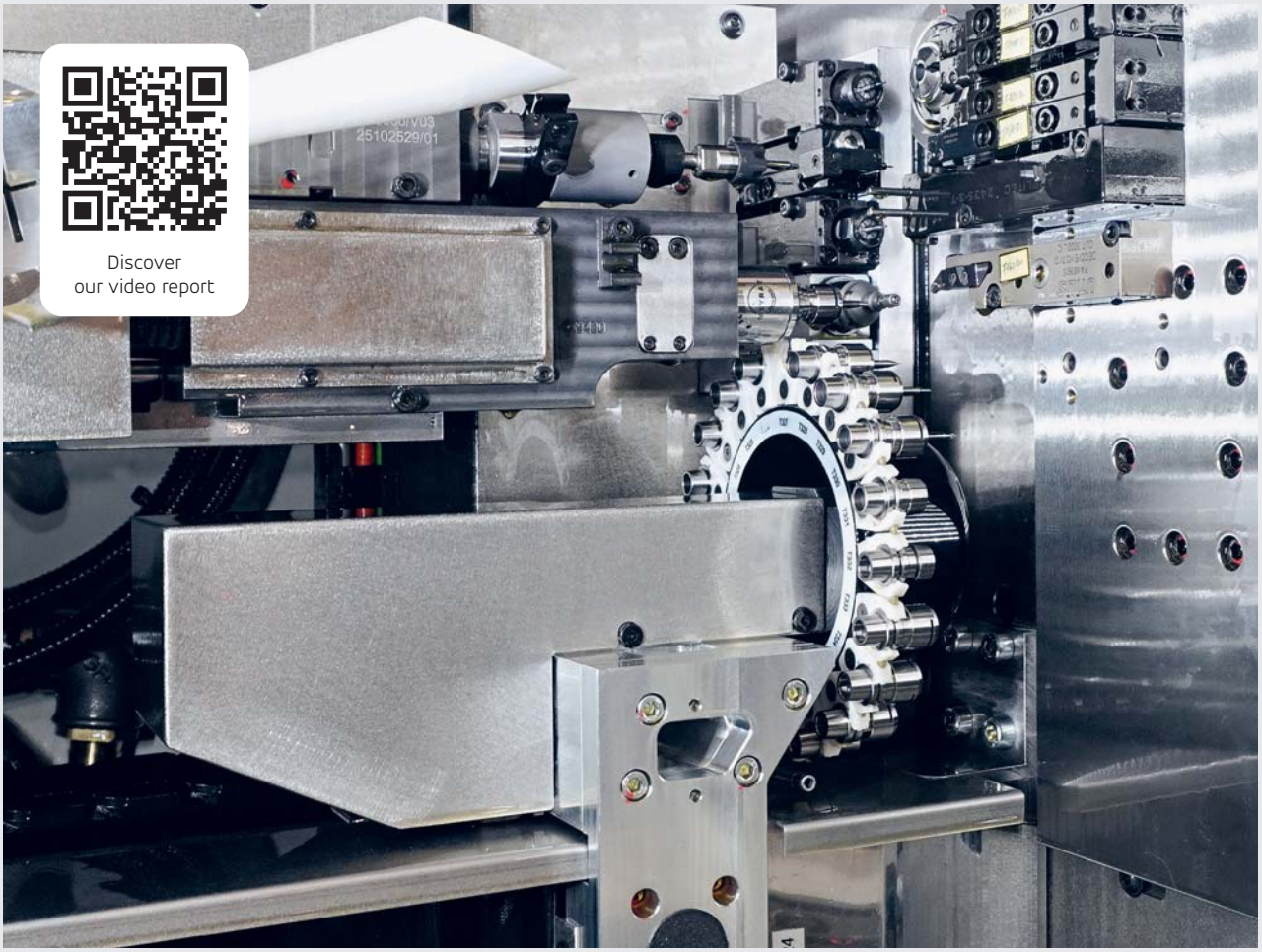
Specific development : 20-position tool changer

A high-performance milling center integrated into your turning center

To meet a specific request from a major industrial customer, Tornos has developed a major innovation for the EvoDECO 10 : a high-torque Meyrat MHT-30 ATC spindle with an integrated 20-position tool changer. Capable of reaching an impressive speed of 28,000 rpm, this spindle is compatible with several interfaces such as Regofix ER11, Powergrip and BigKaiser, offering maximum flexibility in tool selection.

This development transforms the EvoDECO 10 into a true compact milling center, combining the speed of an automatic lathe with the versatility of a traditional machining center. It is also possible to install a Meyrat MHF-30 ATC spindle as a replacement, enabling specialized operations at speeds of up to 60,000 rpm.

This technological advance ensures exceptional productivity for users, placing the EvoDECO 10 at the forefront of innovation in precision machining.



needs of each customer, whether for small customized production runs or large industrial volumes. This unique flexibility makes it easy to integrate various options such as specialized tooling systems, high-frequency spindles, and advanced automation devices. As a result, each machine can be precisely configured to the user's operational requirements, ensuring a perfectly tailored solution and maximizing production efficiency.

Unmatched productivity

Equipped with four independent tooling systems, the EvoDECO 10 stands out for its unmatched productivity. It can perform several different operations simultaneously, such as turning, drilling, milling, threading, as well as more complex processes such as polygon machining, gear hobbing, and whirling. This remarkable versatility makes it ideal for many specialized industries, ranging from the manufacture of high-precision medical components to the meticulous production of watch parts, precision electronics and aeronautics parts. By optimizing the speed and simultaneity of operations, the EvoDECO 10 contributes to significantly reduced cycle times and improved overall profitability.

Swiss precision and quality

Every component of the EvoDECO 10 reflects the rigor and precision for which Swiss products designed by Tornos are renowned. The machine is equipped with high-performance servo motors, ultraprecise ball screws, and a particularly rigid and compact structure. These features guarantee unrivaled repeatability and reliability, even on the most difficult-to-machine materials such as very hard alloys, stainless steel, and titanium. With precision down to just a few microns, the EvoDECO 10 brilliantly meets the most stringent requirements of manufacturers who demand absolute performance.

Ease of use

Despite its high level of technology, the EvoDECO 10 remains extremely intuitive and accessible to users of all levels. Its ergonomic and user-friendly interface significantly reduces the time required for operator training. Whether users are beginners or experienced, the TB-DECO or TISIS integrated software is quick to learn, minimizing operational interruptions and fully optimizing machine uptime. This ease of use guarantees fast and efficient commissioning, thereby reducing training-related operating costs.

A range adapted to all needs

The EvoDECO range is available in several diameters (10 mm, 16 mm, 20 mm, and 32 mm), each offering specific technical characteristics suited to various industrial contexts. This diversity allows manufacturers to select the model that best meets their production needs, further enhancing this machine series' exceptional modularity. No matter how complex the parts or how high the production volume, there is an EvoDECO perfectly suited to meet every industrial challenge.

To learn more about the possibilities offered by the EvoDECO 10 and discover how this solution can significantly improve your production, contact your nearest Tornos representative today.

tornos.com

Tornos has redefined its after-sales service to deliver faster, more reliable, and higher-performance support throughout the entire machine lifecycle.

A redesigned service

for support that meets your needs

Tornos' commitment does not stop at manufacturing precision machine tools. The quality of a piece of equipment is also judged by the service that goes with it. With this in mind, Tornos' Service department has undergone a major transformation in recent months, with a single goal in mind: to guarantee customers reliable, fast, and efficient support at every stage of their machine's life cycle.

Tornos SA
Industrielle 111
CH-2740 Moutier
Switzerland
Tel. +41 32 494 44 44
tornos.com

Enhanced responsiveness, shorter lead times

Responding faster and working more efficiently: that's Tornos' priority. Thanks to the integration of the e-ticketing system into the customer relationship management (CRM) system, customer request management has been completely redesigned. Now, every request is transparently centralized, tracked, and prioritized. The result? The response time when a case is opened has decreased by 19%, and the mean time to repair (MTTR) has been reduced by 20% since the introduction of the new system.

Beyond the tool itself, processes have also been optimized: Calls are now handled according to a standardized and structured procedure, ensuring quality and consistency of service. Thanks to a clear internal reorganization, each task is assigned according to individual skills and responsibilities, which greatly streamlines problem resolution.

Better trained technicians, more efficient interventions

The Tornos Service Academy, launched in June 2024, represents a major milestone in the professionalization of our technical teams. More than 50 technicians, both in-house and from our subsidiaries, have already benefited from more than 25 training sessions delivered by recognized in-house experts.

This program has a tangible impact for customers:

- *Interventions are faster and more targeted.*
- *New machine installations are optimized.*
- *Diagnostics are carried out using a methodical and structured approach.*

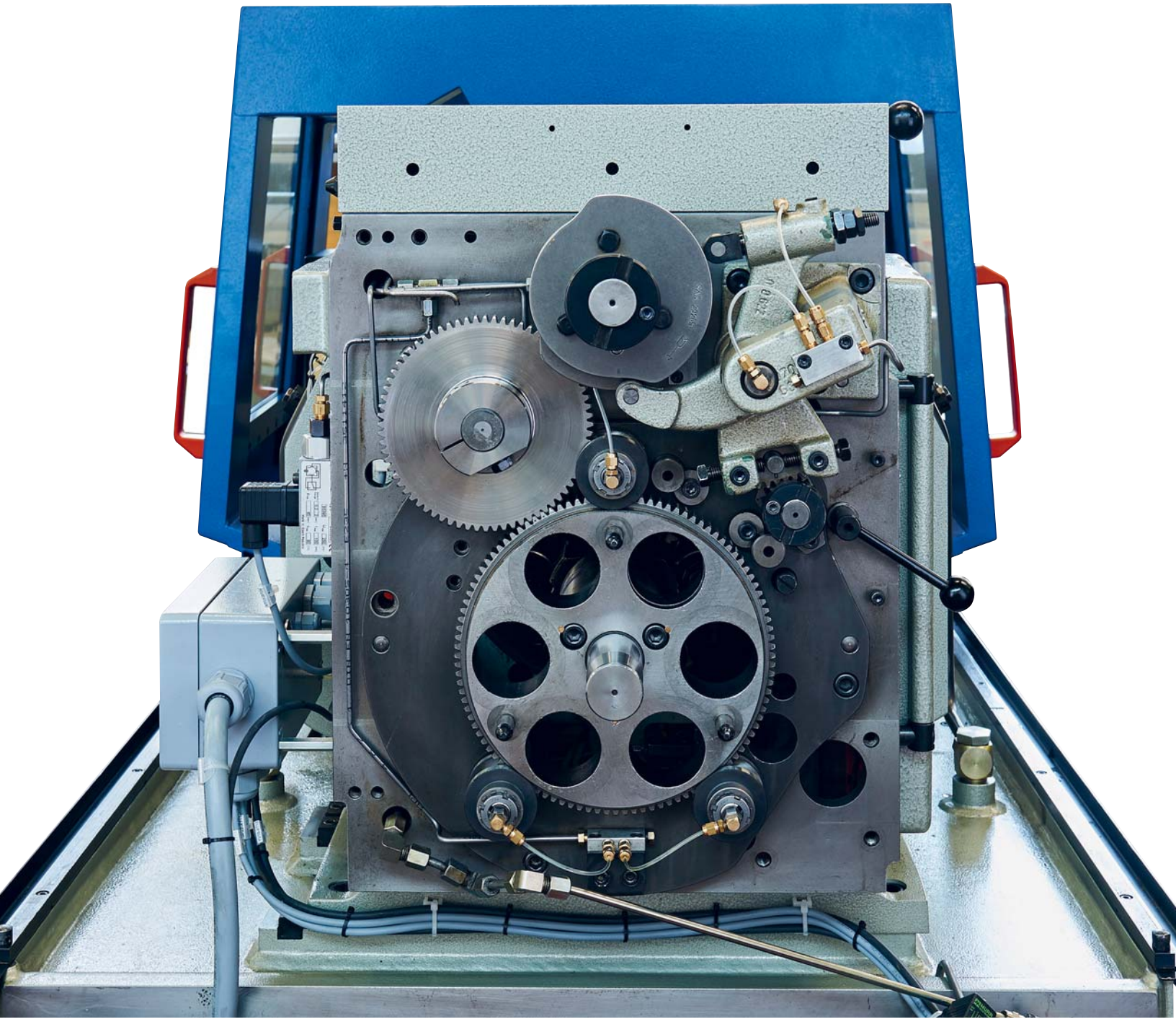
Each intervention therefore becomes a source of satisfaction, with technicians who are fully familiar with the machines, customers' environments, and the best practices to apply.

Redesigned parts management for better service

Ensuring the availability of spare parts is a major logistical challenge, especially when it comes to keeping equipment—which has sometimes been installed for more than 20 years—in service. Tornos manages tens of thousands of parts and provides support for more than 100 machine models.

In 2024, Tornos defined a smart prioritization strategy: In just one year, the availability of the 80 % most requested parts increased from 80 % to 97 %. This gain was achieved through detailed analysis of consumption flows and the development of predictive supply models.

Additionally, Tornos has migrated case management to its CRM, allowing better management of critical information, escalation of complex requests globally, and reduction of processing times. At the same time, Tornos' SPR-Catalog customer portal allows customers to quickly identify the parts they need



from the machine's serial number, access drawings and documentation, and place orders directly and securely.

Refurbished, but to Tornos standards

At Tornos, machine refurbishment has grown significantly in recent years. The DECO 10 Plus program, launched in 2021, laid the foundations for a structured offering capable of meeting today's requirements in terms of quality, precision, and performance. Although the initial stages required a few adjustments, this program has enabled the company to consolidate its processes, reinforce its best practices and build long-lasting expertise. Today, DECO 10 Plus machines can be delivered directly, ready for use.

Building on this success, Tornos has gradually extended this approach to other models: DECO 13, DECO 20, MultiDECO, MultiAlpha, bar feeders and, more recently, the SAS 16 model. The workhorse SAS 16 is now available in a "Plus" version with optional computer numerical control (CNC) cross slides. The strategy remains pragmatic: Refurbishment is carried out mainly on demand, and complete solutions are developed when the target market is clearly identified and the installed base is substantial.

Far from a simple refurbishment, each reconditioned machine undergoes a rigorous process: complete disassembly, cleaning, modernization (integration of latest-generation CNC, replacement of motors, guides and ball screws), then testing according to Tornos quality standards. The result is a machine that looks and performs like new, while offering an economical, sustainable and faster alternative. This solution has already been widely adopted by loyal customers, with very positive feedback.

Tornos Academy: training for better production

Training is a powerful lever for performance. With the Tornos Academy, the company support customers in developing the skills of their teams. The academy's training courses—in person, online, or directly at the customer's premises—enable rapid familiarization with the machine environment, programming software, and best practices in preventive maintenance.

The benefits are immediate:

- *Greater autonomy for operators*
- *Fewer errors and less time wasted*
- *Greater precision in the parts produced*
- *A significant reduction in production costs*

And tomorrow: connectivity, AI, and continuous improvement

To continue raising the level of Tornos Service, a new version of the company's CRM will be rolled out in the fourth quarter of 2025. The goal is to connect all Tornos technicians on a single platform for enhanced coordination, increased traceability, and real-time customer feedback to the Research and Development (R&D) and quality teams.

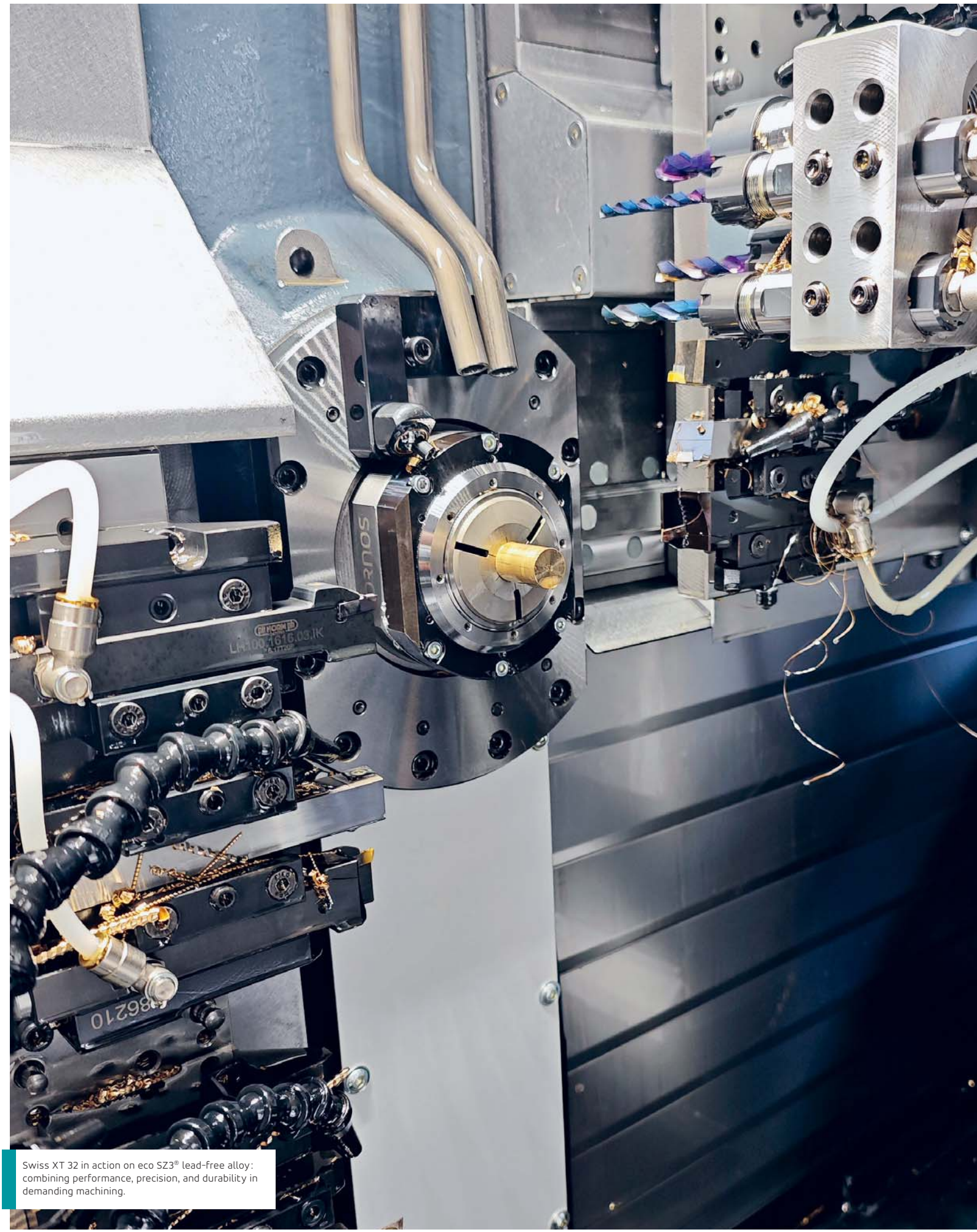
In addition, Tornos is exploring the integration of artificial intelligence (AI) into the analysis of its intervention data. Although this approach is still in its infancy, Tornos aims to process technical problems more quickly, anticipate bottlenecks and reduce intervention times.

A trusted partner, committed to performance

More than just a supplier, Tornos is a committed industrial partner. By placing service quality at the heart of its strategy, Tornos supports each customer over the long term with Swiss precision, local expertise and a constant desire to improve.

Why? Because for Tornos—and for customers—a high-performance machine starts with excellent service.

tornos.com



Swiss XT 32 in action on eco SZ3® lead-free alloy: combining performance, precision, and durability in demanding machining.

TORNOS SWISS XT 32 AND LEAD-FREE BRASS: a revolution *in bar turning*

At an open house organized jointly by Tornos France and Wieland, more than 80 companies from the bar turning and precision machining sector gathered to discover the Swiss XT 32, a machine designed to meet the challenges of machining lead-free brass. The event raised professionals' awareness about regulatory and environmental developments aimed at phasing out lead (PB) in alloys, while presenting technological solutions for maintaining productivity and finish quality.

Tornos SA
Industrielle 111
CH-2740 Moutier
Switzerland
Tel. +41 32 494 44 44
tornos.com

Background and challenges of lead-free brass

For several decades, lead has been added to brass alloys to improve their machinability. With a content of up to 3 % (as in CuZn39Pb3), brass is easier to cut: The chips are short and tool wear is limited, enabling tight tolerances to be achieved while reducing maintenance costs. However, lead is a toxic metal with a significant impact on both the environment and human health. Numerous European directives (RoHS, ELV) now impose strict limits or even a complete ban in sectors such as electronics, watchmaking, medical devices, and plumbing.

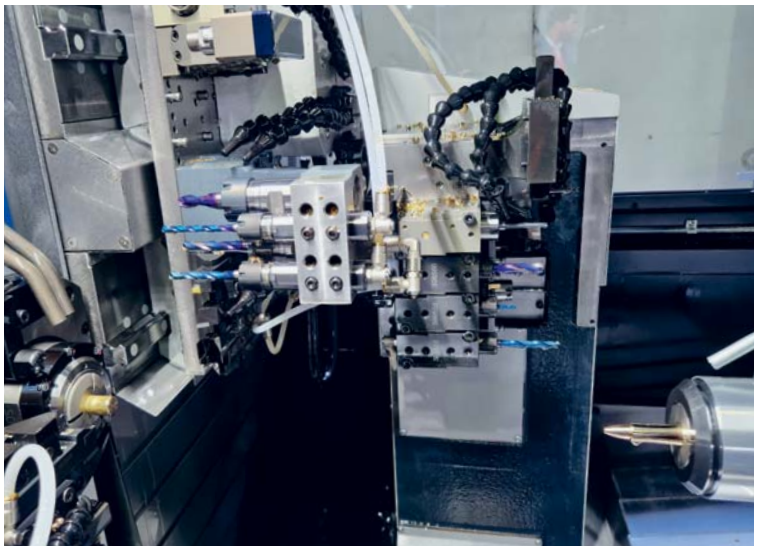
The emergence of lead-free brass

In response to these requirements, brass manufacturers, including Wieland, have developed "lead-free" alloys containing less than 0.1 % PB in order to comply with regulations while maintaining mechanical and machinability properties similar to those of traditional alloys. Wieland's eco SZ3®, highlighted at the event, is one such example: Its composition is 59.5 % copper (Cu), max 0.1 % Pb, 0.2 % silicon (Si), 0.15 % phosphorus (P) and zinc (Zn) for the remainder. It has an electrical conductivity of 13.2 MS/m (23 % IACS), a thermal conductivity of 104 W/(m·K) and a modulus of elasticity of 107 G Pa. Its machinability is 90 % that of traditional CuZn39Pb3 alloys, making it an ideal candidate to replace leaded brass.

Technical properties and advantages of eco SZ3®

1. ***Composition and compliance:*** *eco SZ3® complies with RoHS and ELV standards, guaranteeing a lead content of less than 0.1 %. Wieland also offers health approval for applications in contact with drinking water.*

2. ***Machinability:*** *Thanks to the addition of Si (0.2 %) and P (0.15 %), the alloy partially compensates for the natural lubrication lost with lead. Although the chips remain longer and more ductile, machinability reaches 90 % compared to CuZn39Pb3 brass, although suitable solutions for chip management are required.*



3. ***Mechanical strength and corrosion resistance:*** *For diameters 6–80 mm (W-R400* variant), the minimum tensile strength is 400 MPa. For diameters of 2–16 mm (variant W-R520*), it rises to 520 MPa, equivalent to CuZn40Pb2 and CuZn39Pb3 alloys. eco SZ3® also offers excellent corrosion resistance, even in humid or slightly aggressive environments.*

4. ***Forming and finishing:*** *eco SZ3® is suitable for bar turning, mechanical polishing, and electroplating. Electrolytic polishing, on the other hand, is less effective. In terms of weldability, soft soldering and brazing are highly recommended, while resistance or gas welding is moderately suitable.*

Features of Swiss XT 32

The Swiss XT 32 stands out thanks to its rare combination of extreme precision and advanced modularity, meeting the most stringent requirements in precision machining.

- ***Unmatched speed and power:*** *Its spindles reach high speeds while delivering constant torque on all axes. It provides the same power in main and counter-operation, ensuring consistent performance in dual-spindle mode.*
- ***Quick guide bush conversion:*** *The bush can be quickly adapted to different bar diameters and types, significantly reducing setup times.*
- ***Simplified programming with TISIS:*** *This software offers an intuitive graphical interface with 3D simulation and automatic path generation, reducing programming time and anticipating collision risks.*
- ***Optional B axis:*** *For angular machining or inclined drilling, the B axis can be easily mounted without complex reconfiguration.*
- ***Double-comb tool configuration:*** *Two sets of tools per comb allow for ultrafast changes, reducing downtime and improving profitability.*
- ***Optional Active Chip Breaker Plus (ACB Plus):*** *ACB Plus oscillating machining generates controlled axial oscillation, breaking chips into small pieces. With high-pressure pumps, long chips are removed efficiently, preventing jamming and overheating.*
- ***Interchangeable tools:*** *Quick-change systems allow tools (turning, carrier, boring, etc.) to be changed in seconds while maintaining positioning accuracy.*
- ***Long Z1 axis mode:*** *For long workpieces, this mode extends the working space without compromising rigidity and stability.*
- ***Advanced configurations for rotary tools:*** *Different power ratings and speeds for rotary tool motors open up possibilities for high-precision milling, tapping, and deburring.*

New Tornos Technologies France (TTF) sales representatives

Tornos France, located in the heart of the Arve Valley in Haute-Savoie, is continuing its development and strengthening its technical sales team with two new employees:

Marie Laure Levanel
(sales representative, Haute-Savoie region):

- *Joined TTF on July 1, 2024. With a technical sales diploma in mechanics, she has significant experience in the sale of pneumatic products (Bosch) and in the Standard Mechanical Components division at Emile Maurin. More recently, she was sales manager in the flexible and rigid hose sector for several industries (agri-food, cosmetics, pharmaceuticals, chemicals) and is proficient in human resources information system (HRIS), payroll, and customer relationship management (CRM) software. Her main objective is to develop the sector and build customer loyalty by placing customer satisfaction at the heart of her actions.*

Yoann Frat
(sales manager, Northern France, Belgium and Luxembourg):

- *Based in Troyes, he manages a team of nine sales representatives to provide effective technical and commercial support. After obtaining a BTS (advanced vocational training certificate) in automated mechanical systems maintenance, he started out as an after-sales service technician in the machine tool industry. A hands-on person, he gained five years of international experience in bar turning (France, Italy, Germany) before turning to sales, where he developed the "Technical Valley" for Doosan/DN Solutions and managed the Northeast region for the Decip group (Escomatic, Nomura, Famar, Biglia). With 120 machines sold, he now joins TTF, convinced of the value of the Tornos brand in supporting and advising customers.*

These new appointments illustrate TTF's commitment to combining technical expertise and a sense of service to meet the evolving needs of its customers.

Design and ergonomics

The Swiss XT 32 features a design focused on ergonomics and safety: The doors lock automatically during machining, minimizing the risk of accidental access. The machining area is largely unobstructed, facilitating bar loading/unloading and maintenance.

The demonstration: from material selection to finished part

During the event, Tornos application technician David Vachet configured the Swiss XT 32 to machine eco SZ3®. Working with specialists from Horn and Ham, they selected the cutting tools and set the cutting speeds. The main challenge was managing the continuous chips produced by this lead-free brass, as these chips are less brittle than those of lead alloys and tend to wrap around the tools.

The machine was equipped with a Promatec high-pressure pump (70 bar, five pilot-controlled outlets), ensuring precise spraying of coolant onto the cutting area. The cutting parameters, deliberately aggressive to demonstrate the machine's robustness, were: 6,000 rpm on the spindles, 0.18 mm/rev feed.

The result was spectacular: The Swiss XT 32 machined a pen consisting of three parts (cap, body, and tip) made of lead-free brass, entirely diamond-coated. The surface had a Ra value of 0.2 µm, highlighting eco SZ3®'s suitability for diamond coating.

Reactions and feedback

Many participants praised the ease of programming via TISIS, which allows each machining phase to be simulated before actual production, optimizing cycle times. Wieland experts pointed out that, despite its machinability being similar to that of leaded brass, eco SZ3® requires particular attention to cutting speed and chip management: Incorrect settings can result in poorly controlled material removal and a rough finish.

Some of the manufacturers attending the event are already considering incorporating these lead-free alloys into their medium- to high-volume production. Others expressed interest in multi-axis configurations.

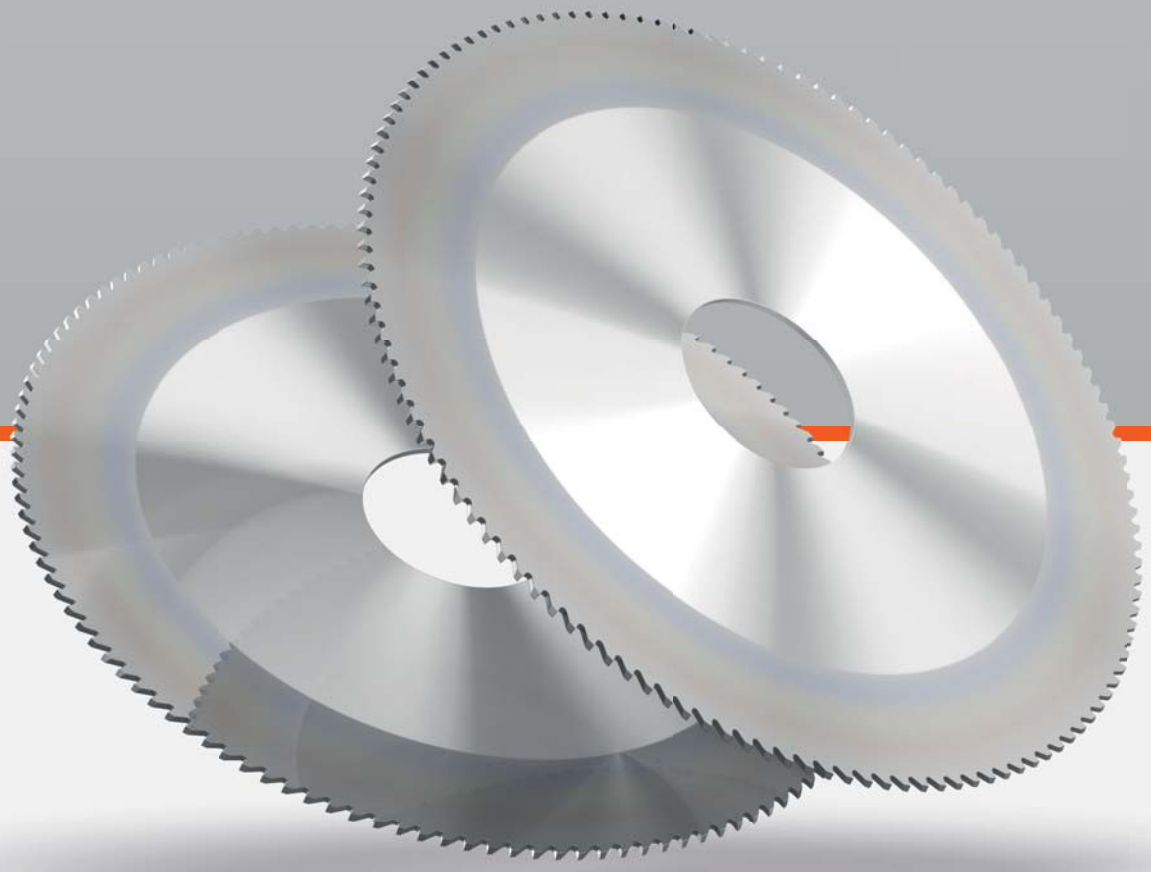
The event proved that it is possible to combine performance, precision, and compliance with environmental standards, thanks to the combination of an exceptional machine—the Swiss XT 32—and Wieland's innovative eco SZ3® alloy.

After the event, participants were invited to attend specific training courses offered by Tornos and to consult Wieland's technical resources. For more details on the Swiss XT 32, visit the official Tornos website: www.tornos.com.

To learn more about eco SZ3® and other lead-free alloys, visit the Wieland website: www.wieland.com. This synergy between material and technological innovation now represents a solution for the future of the bar turning industry.

tornos.com

APPLITEC
CUTTING TOOLS



CIRCO-Line / 1105

Discover our range of solid carbide angled slitting saws, engineered with a 20° angle for both clockwise **CW** and counterclockwise **CCW** rotation.

Learn more

TORNOS

TITANS OF CNC

TITANS OF CNC
SWISS MACHINING
ACADEMY

BRINGING THE 'BOOM!' TO TECHNICAL EDUCATION

The Swiss Machining Academy is revolutionizing the world of Swiss-type and multispindle machining by offering **FREE** online training. Powered by Tornos and TITANS of CNC, this academy equips students, educators, and the manufacturing workforce with the skills needed for success in today's precision machining industry.

Master precision, elevate your skills:
Visit **swissmachiningacademy.com** today—and be sure to follow TITANS of CNC on social media.

swissmachiningacademy.com