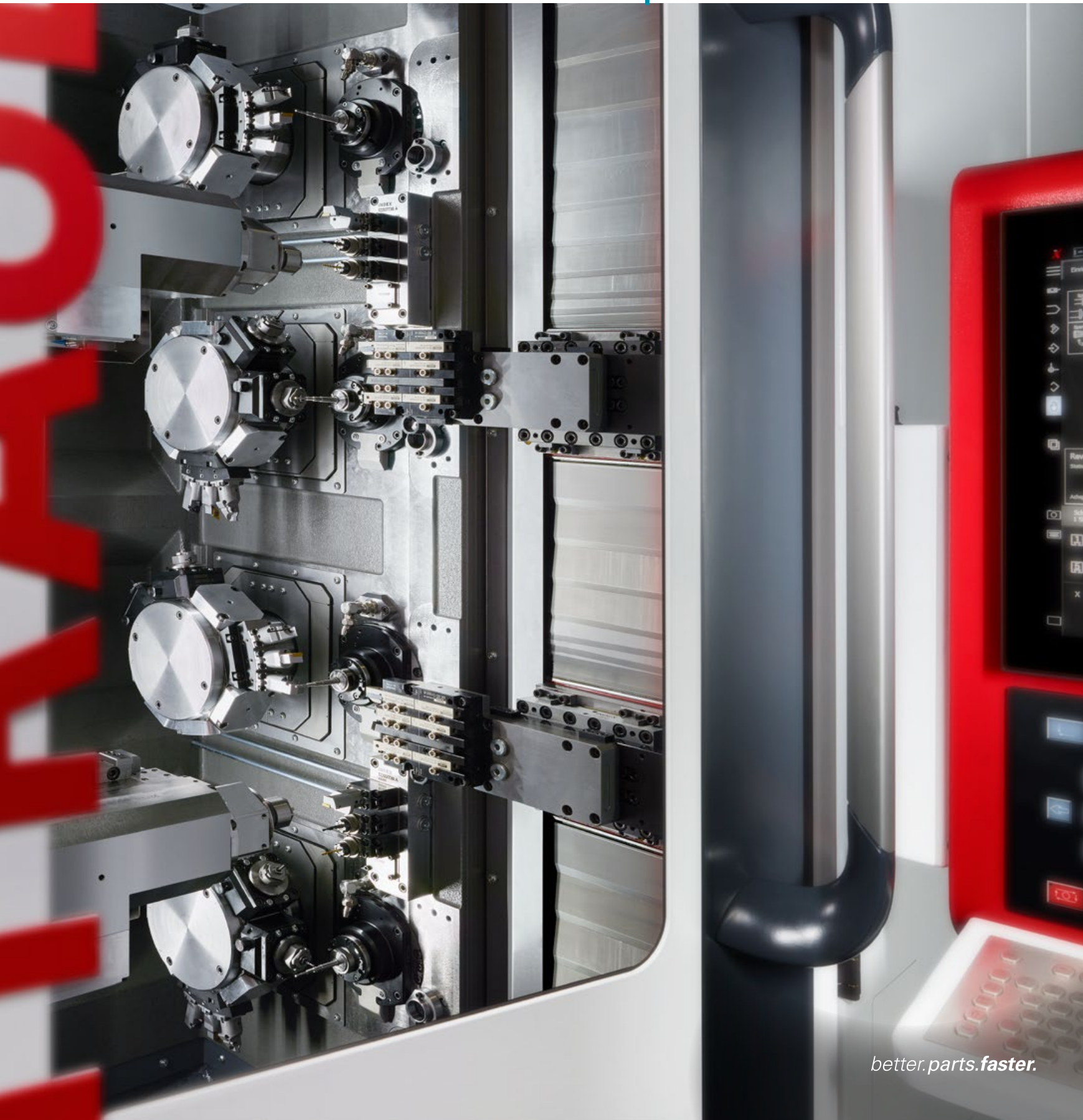
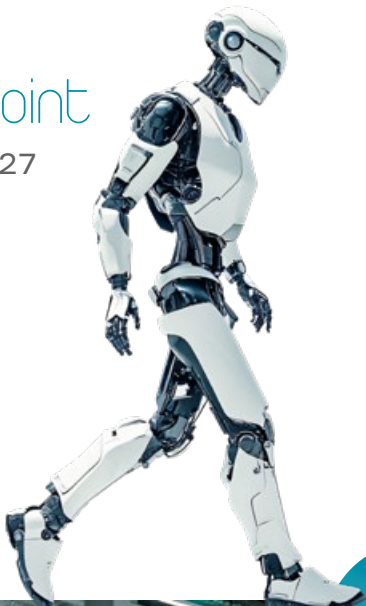


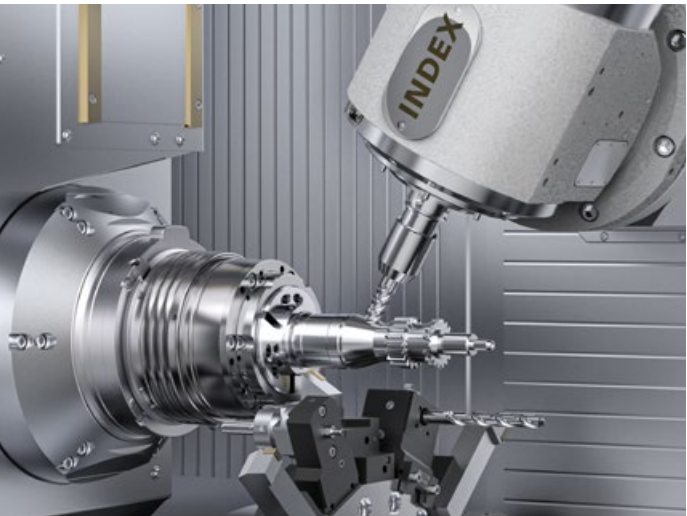
TURNINGpoint



better.parts.faster.



World
premiere



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Reiner Hammerl, Dr. Dirk Prust and Roberto Deger
INDEX Group executive management (from left)

Dear customers and friends of the company,

After several difficult years, the global economy appears to be gaining momentum again — albeit at very different rates from one region to another. The US market has been providing positive momentum for some time now, and, during the first half of the year, European and Asian markets also returned to a growth trajectory. Much of this growth is being driven by delayed investment finally coming to fruition. Even more important, however, are investments in new technologies coupled with rising production volumes. Examples of fast-growing markets include cooling and power infrastructure for AI data centers, humanoid robotics, and the aerospace industry. The components used in these applications often have to be manufactured in high volumes while meeting demanding precision requirements. At the same time, manufacturers cannot compromise on the flexibility needed to accommodate a wide variety of workpieces. These challenges are further compounded by the growing need to keep systems running around the clock to control costs, even as skilled workers — and the willingness to work shifts — become increasingly scarce. Our answer is auto-

mated machining solutions, including machines capable of automatic setup. Combined with Closed Loop technology and automatic tool changing, even on the turret, they make truly autonomous production a reality.

At this year's AMB in Stuttgart and IMTS in Chicago, we will unveil two new machine developments that significantly expand our portfolio of solutions for precisely these manufacturing challenges. The new compact INDEX G160 turn-mill center, also available as the TRAUB TNX160, and the new compact TRAUB MS12-4 multi-spindle turning machine open up entirely new possibilities for achieving even greater manufacturing efficiency. Our automation solutions, extending all the way to self-setting manufacturing cells, complete our comprehensive portfolio. Learn more in this issue of TURNINGpoint, and experience these new machines and automation solutions live at AMB and IMTS.

We warmly invite you to visit us, and we look forward to seeing you there! 

With four main spindles and turrets, up to four counter spindles and additional tool carriers, the TRAUB MS12-4 delivers four times the productivity of a single-spindle machine — while requiring less floor space and lower investment costs.

World
premiere

The world's most productive sliding/fixed headstock turning machine!

Our world-first innovation, the TRAUB MS12-4 multi-spindle sliding/fixed headstock turning machine delivers up to four times the output of a conventional single-spindle machine. Its entirely new approach enables unprecedented productivity on an exceptionally compact footprint, making it ideal for high-volume manufacturers of pins, screws, and many other small-diameter workpieces of moderate complexity.



The TRAUB MS12-4 combines the advantages and logic of a single-spindle machine with the productivity of a multi-spindle turning machine. This solution allows four workpieces to be produced simultaneously, with machining on up to eight spindles at the same time ensuring very short cycle times.

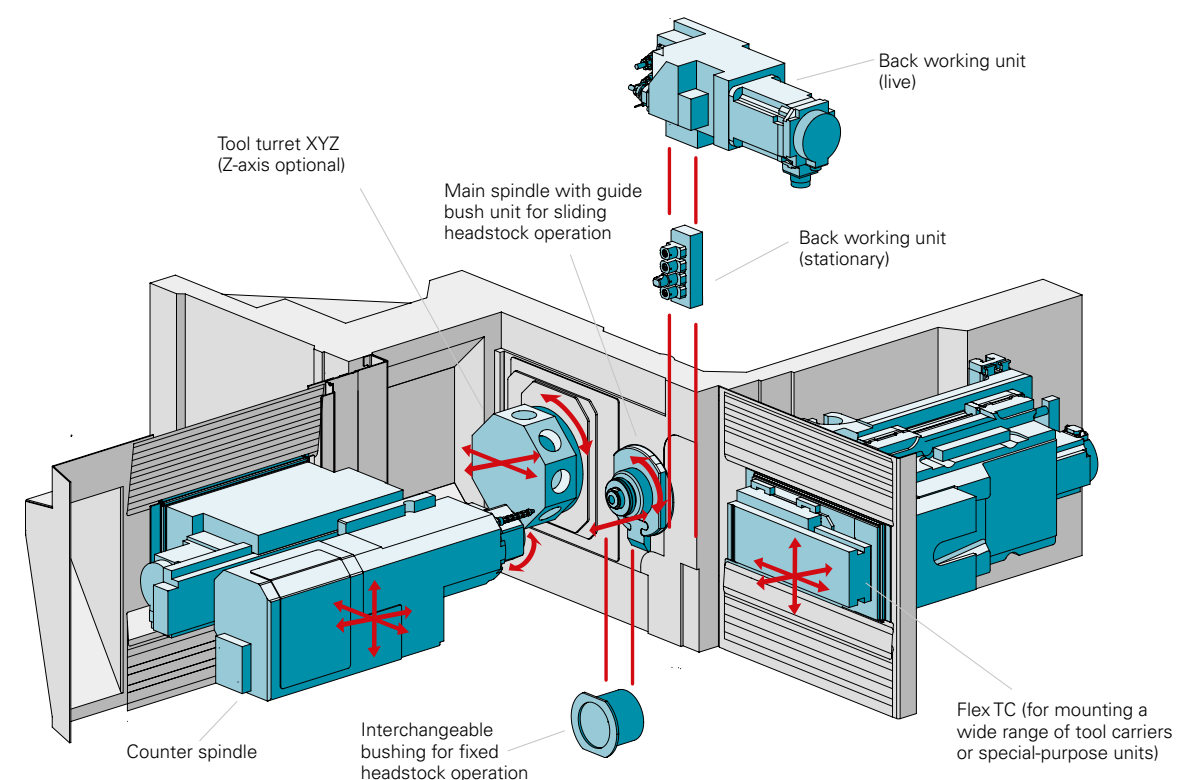
Benjamin Klotz
Head of Development &
Design Engineering at
INDEX

The new TRAUB MS12-4 is a sliding/fixed headstock turning machine for workpieces ranging from 3 to 13 mm in diameter—but with four main spindles. Unlike the considerably larger INDEX multi-spindle turning machines, the revolutionary TRAUB machine is based on an entirely new way of thinking that does away with the conventional spindle drum and sequential machining approach. Instead, the TRAUB MS12-4 is based on the principle of the TRAUB TNL12 single-spindle sliding headstock turning machine, as explained by Benjamin Klotz, Head of Machine Development: “This system of four main spindles, four tool turrets, and two or four counter spindles, plus up to four additional flexible tool carriers, combines the single-spindle approach with the productivity of multi-spindle turning machines.”

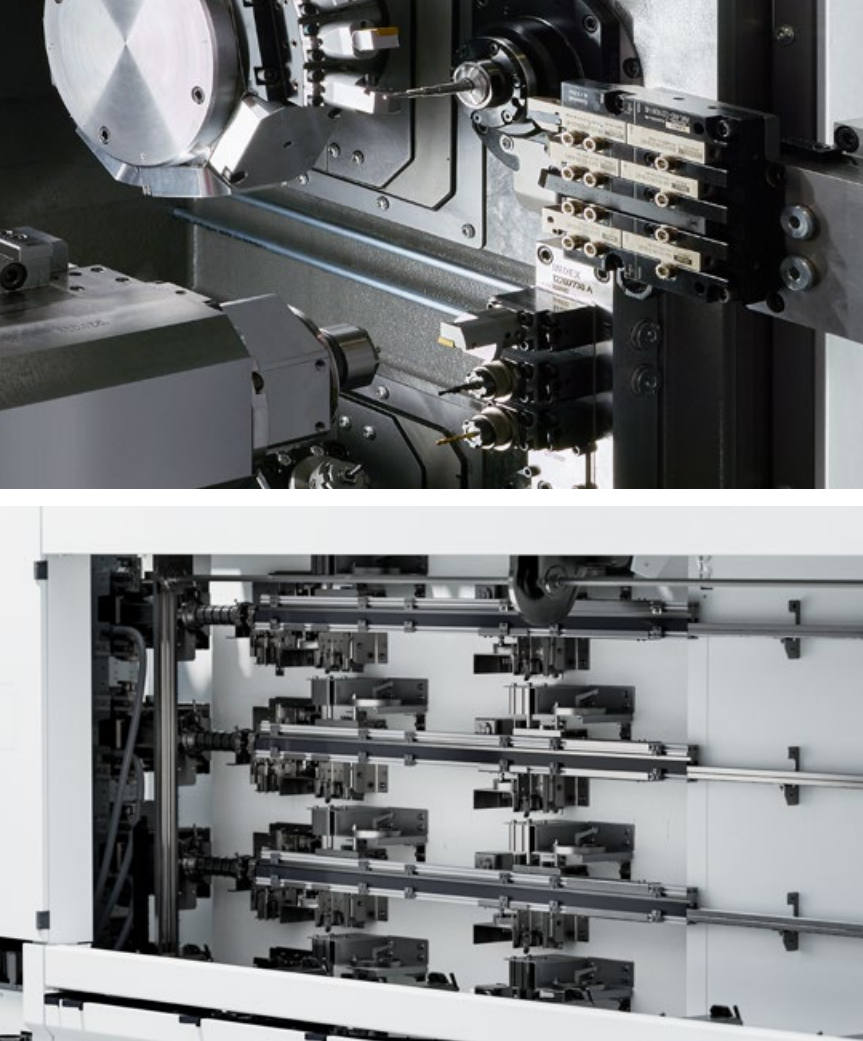
The main spindles with integrated Z-axis enable production in either fixed or sliding headstock operation. The tool turrets are equipped with an X-axis, a Y-axis, and, optionally, a Z-axis. The up-to-four counter spindles and up-to-four flexible tool carriers, known as Flex TCs, are each equipped with a linear 3-axis system (XYZ). As a result, all tool carriers and counter spindles can be adjusted in X, Y, and Z. Control is provided by a newly developed Mitsubishi control system with dual NCUs.

Reducing costs through application-specific configuration

What makes the TRAUB MS12-4 particularly attractive is its modular design. In addition to a full-specification version with all the machine components and axes described above, further



The TRAUB MS12-4 is based on four vertically stacked machining systems, each approximately corresponding to a single-spindle machine rotated by 90 degrees.



Top left: The new machine solution supports a wide range of customer-specific configurations.

Bottom left: Workpieces are loaded via a bar loading magazine integrated into the machine featuring patented diameter-independent bar guidance.

Right: Finished workpieces are flushed into integrated parts bins.



Watch the film now:
➤ www.index-group.com/ms12-4-film-en

equipment variants are available, allowing the multi-spindle fixed/sliding headstock turning machine to be configured precisely to the requirements of the workpieces being machined.

For typical turned parts, where the majority of machining takes place on the main spindle side, a configuration with four main spindles and only two counter spindles is particularly economical—especially when back end machining accounts for between 30 and 60 percent of the main-side machining time. In this case, the main spindles operate with a time offset, while the counter spindles handle back end machining for two main spindles each. Thanks to these intelligent configuration options and the associated lower investment costs, the machine still achieves four times the output of a single sliding headstock turning machine.

The number of Flex TCs can also be configured. They are required whenever the machining process on the workpiece makes this technologically necessary. This is the case when long workpieces must be rough and finish turned in a single pass, or when special operations such as whirling, polygon turning, or gear cutting are required.



Many workpieces with diameters of up to 13 mm place only minimal demands on back end machining and do not require special operations. For such workpieces, stationary back working units can be installed instead of the flexible tool carriers. This offers customers a further cost-optimized equipment configuration.

Precision through W-serration interface

To machine demanding workpieces, the tool turret features eight live stations, which can also be equipped with multiple tool holders. The new KPS36 compact tool holder interface with W-serration combines high power density and rigidity with excellent repeatability during setup. Quick-change systems on all tool holders speed up tool changes.

Thanks to its slide plate with W-serration, the flexible tool carrier can be equipped in a variety of ways—with standard or quick-change tool holders, as well as high-frequency spindles, deep-hole drilling units, or live special-purpose units, such as for thread whirling.

Advantages over four single-spindle machines

With fewer machine components than four single-spindle machines, the system still delivers four

» Our four-spindle sliding/fixed headstock turning machine delivers outstanding performance for applications in medical technology, precision optics and mechanics, electrical engineering, robotics, and other industries requiring small-diameter components.

Bernd Reutter is Head of Technical Sales for multi-spindle turning machines at INDEX



times the productivity with a significantly smaller footprint. The control system and all peripheral equipment, such as the bar loading magazine, chip conveyor, cooling lubricant cleaning system, and mist extractor, are required only once. In addition, the machine, including the control cabinet and bar loading magazine, forms a single transport unit.

Advantages over conventional multi-spindle machines

Compared with a conventional multi-spindle turning machine with a spindle drum and corresponding sequential machining, the new TRAUB MS12-4 offers several strengths. Benjamin Klotz explains: “Since each position functions like a single-spindle machine in its own right, you only need to program one position. The control system takes care of everything else.” In addition, the same tool can be used multiple times within the process—an important feature in the production of small workpieces that conventional multi-spindle machines cannot provide.

Advantages may also arise in terms of cycle time. A conventional multi-spindle turning machine demonstrates its strengths when all individual processes require a similar amount of time. If this is not the case—for example during a deep-hole drilling process—all other positions must wait. With the TRAUB MS12-4, this is not an issue. It completes its cycle in a continuous single-spindle process, without waiting for other operations.

Automation across the board

Naturally, the TRAUB MS12-4 is also designed for automated operation. INDEX has developed a fully integrated bar loading magazine for the machine, featuring four vertically stacked, patented guide tubes. The diameter-independent guide channels ensure close and continuous material guidance at all times, even without change parts. The bar capacity is generously dimensioned and can be replenished without stopping the machine. Remnants can be unloaded through the counter spindle housing. Finished parts can be flushed out or transferred to a robot cell via a linear unit. ✕



What sets the TRAUB MS12-4 apart

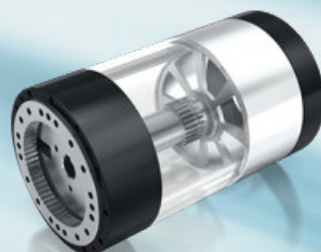
- ▶ Compact machine design for high productivity per unit area
- ▶ Simple conversion from fixed to sliding headstock operation with live guide bushing
- ▶ Large tool capacity thanks to turrets, Flex TCs, and back working units
- ▶ Consistent use of quick-change tooling systems for setup-friendly production
- ▶ Integrated bar loading magazine with diameter-independent, close-tolerance material guidance
- ▶ Energy-efficient high-pressure cooling lubricant pumps with variable-frequency control up to 120 bar

➤ www.index-group.com/ms12-4



Actuators—the muscles of a robot

A humanoid robot must be able to walk, balance, grip, and lift. To do this, it needs actuators; every joint is equipped with an actuator. Each actuator consists of a motor, transmission, sensors, and encoder, converting electrical energy into controlled motion. The actuator's transmission provides the torque required for the respective joint.



Humanoid robots—no motion without precision

What does the INDEX Group have to do with modern robotics? Quite a lot. For robots to walk, grip, or assemble like humans, they depend on highly precise components for joints and actuators, and for load-bearing, structural and precision mechanical functional components. We provide manufacturing solutions to match, and our customers already have the expertise to put them to work—drawing on their experience in electric mobility, medical technology, and other high-end industries.

Almost everyone has seen it: At a half marathon in Beijing, hundreds of humanoid robots lined up alongside human runners, crossing the finish line ahead of many of them. In the years ahead, these human-like robots are expected to play an increasingly important role in many other areas of our lives.

Companies around the world are currently developing humanoid robots for commercial applications. Their greatest potential lies in industrial manufacturing and logistics, particularly for labor-intensive, physically demanding, and repetitive tasks.

The projected growth is enormous: In its Robotics Trends 2026 report, the International Federation of Robotics (IFR) predicts that, this year, humanoid robots will make the transition from the prototype stage to real-world deployment. Consultants Roland Berger, in their study, Humanoid Robots 2026, already speak of a breakthrough for humanoid robots in manufacturing and estimate the long-term market potential at up to 4 trillion dollars. That would put it on par with today's global automotive industry. This opens up tremendous opportunities for companies that manufacture precision transmissions and bearings, as well as other drive components and structural and functional components. ➤

Humanoid robots—no motion without precision

Perfection in motion

Actuators, the drive units inside the robot, are without question the mechanical core of every humanoid system. They deliver precisely controlled, powerful motion at every joint. The demands placed on their manufacturers are huge. They are very much comparable to those in the automotive, medical technology, and aerospace industries: exceptional precision, complex geometries, cost-effective complete machining, and repeatable processes.

Many INDEX Group customers are already well acquainted with the manufacturing requirements for these drive components. Proven machining solutions on INDEX and TRAUB machines have been available for years. Depending on production volumes and component size, components for strain wave gearboxes, planetary gears, and planetary roller screw drives can be manufactured highly efficiently—and fully automatically—on production turning machines, sliding/fixed headstock turning machines, multi-spindle turning machines, and turn-mill centers. In many cases, the manufacturing technologies required can be adapted from proven applications in other industries.

Knowledge transfer

The market readiness of humanoid robots presents a significant opportunity for INDEX customers already manufacturing demanding parts such as transmission components, shafts, and housings. Whether producing gearings or retrofitting and upgrading existing machines for these applications, INDEX technology specialists are ready to provide their expertise. 

A humanoid robot's hand alone can contain twenty or more actuators, enabling it to replicate the remarkable dexterity of the human hand.

Strain wave gearbox

Strain wave gearboxes are highly precise, backlash-free transmissions consisting of a wave generator, flexspline, and circular spline. The flexspline is a thin-walled, flexible steel cup with external teeth that requires extremely high manufacturing precision.

Planetary gear

Planetary gears consist of a sun gear, multiple planet gears, a ring gear, and a carrier. The drive shaft rotates the sun gear, which meshes with the planet gears. The drive shaft, often featuring gearing machined directly into the shaft, places stringent demands on precision, strength, and surface quality.

Planetary roller screw drive

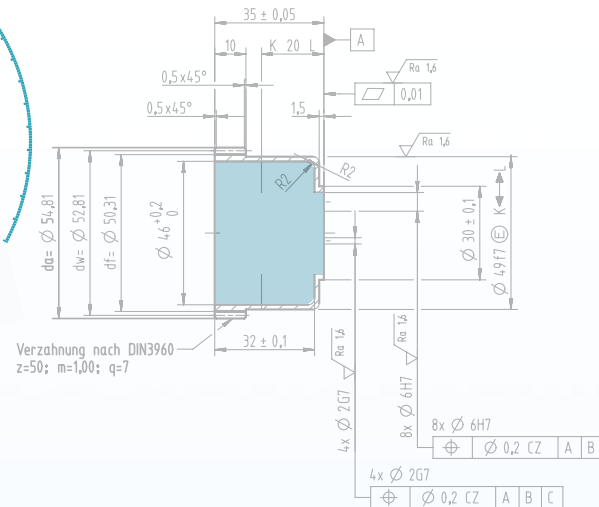
Planetary roller screw drives consist of a threaded spindle, a nut, and multiple threaded rollers positioned between them that orbit the spindle. Manufacturing the planetary rollers demands the highest levels of precision and surface quality, as the rollers transfer the load from the spindle to the nut.

High-precision and profitable manufacturing solutions



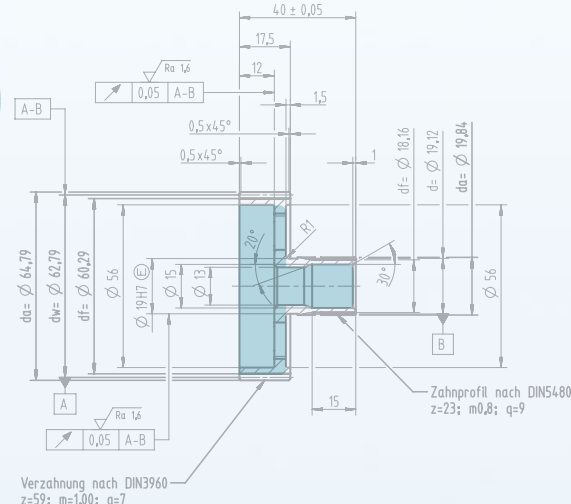
Flexspline

-  34CrNiMo6 / SNCM439
-  Ø 55 x 35 mm
-  55-60 seconds (from blank)
-  INDEX MS40-8



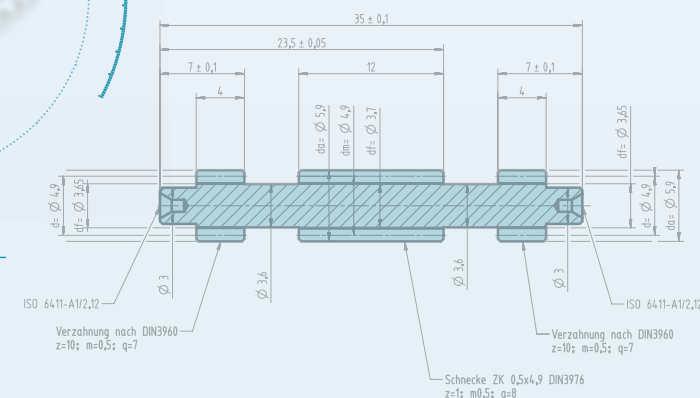
Sun gear

-  16MnCrS5
-  Ø 65 x 40 mm
-  4 minutes 20 seconds
-  INDEX G160/ TRAUB TNX160



Planetary rollers

-  34CrNiMo6 / SNCM439
-  Ø 6 x 35 mm
-  18 seconds
-  TRAUB MS12-4



INDEX MS40-8 Multi-spindle turning machine

- Power skiving or gear hobbing using live tool holders
 - High output thanks to INDEX multi-spindle technology
 - Integrated robotic automation for loading and unloading
 - Compact design for high productivity per unit area
- www.index-group.com/ms40-8



INDEX G160 + TRAUB TNX160 Turn-mill centers

- Spacious work area
- Efficient complete machining of bar and flange components
- Large tool capacity with vertical chain magazine
- Short setup times thanks to tool loading during machining and W-serration interface on the tool turrets

► www.index-group.com/g160 and [/tnx160](http://www.index-group.com/tnx160)



TRAUB MS12-4 Sliding/fixed headstock turning machine

- High-productivity sliding headstock turning machine with four spindles
- Efficient complete machining of complex parts from bar stock
- Compact design with integrated bar loading magazine
- High-speed whirling for efficient thread production

► www.index-group.com/ms12-4



The INDEX Group’s Managing Directors in conversation with the TURNINGpoint editorial team (from left to right): Reiner Hammerl, Roberto Deger, and Dr. Dirk Prust

Stability in challenging times

The past five years have been challenging. The COVID-19 pandemic, supply chain disruptions, an unpredictable global political and economic environment, wars, and the recession in Germany have made it difficult for the German machine tool industry to stay on course. The TURNINGpoint editorial team spoke with the INDEX Group’s executive management about how the company has maintained its financial stability, successfully transformed its product portfolio, and positioned itself for the years ahead.

Dr. Prust, Mr. Hammerl, and Mr. Deger, what course did you set, as the INDEX Group executive management, to meet the challenges of the past few years? How did you succeed in keeping INDEX on a sound financial footing?

Dr. Dirk Prust What really carried us through these turbulent years was, first and foremost, our outstanding and dedicated team and the tremendous expertise they bring. At the same time, we asked a great deal of them in terms of adaptability. We laid the strategic groundwork as early as 2015. In particular, we began diversifying both our product portfolio and our target markets at an early stage. Over the past five years, we have expanded our Deizisau site and invested in enlarging and

modernizing both our production and administrative facilities. One particular focus was our iXperience Center, our new customer training and demonstration center.

How have your other sites benefited from these investments?

Dr. Dirk Prust In the medium term, we are consolidating our operations in Germany around two locations. In addition to the investments already made in Deizisau, we plan to expand the site further and develop it into the application center for all machine series. Final assembly — supported by our facility in Slovakia — and our engineering departments will be concentrated in Reichenbach. Further expansion projects for order processing and administrative functions are also planned in



When developing new machines, we closely focus on what our customers need to remain competitive. That may mean fully automated high-end machines or user-friendly machines designed for simpler workpieces, in line with our “good enough” strategy.

Dr. Dirk Prust
Chief Technology Officer
and Chairman of the
INDEX Group

Deizisau. As a result, activities at our headquarters in Esslingen will be reduced step by step. All investments at our German sites are aimed at streamlining and optimizing processes while modernizing our manufacturing and assembly operations. We are also investing in our Slovakian facility in Malacky, which supports our assembly operations.

Aside from strengthening the Reichenbach and Deizisau sites, what other objectives have you pursued in recent years?

Reiner Hammerl One of our key priorities has been, and continues to be, expanding into new industries to reduce our dependence on the automotive sector. Before 2020, more than 60 percent of our revenue came from automotive customers. Today, that figure has fallen significantly to around eight percent, which comes as no surprise to us. We recognized our dependence on the automotive industry early on and responded proactively to the coming industrial transformation. As a result, we have successfully opened up new application areas for our multi-spindle turning machines, which were primarily used for high-volume automotive production for many years. These areas include, for example, the fluid systems industry, along with mechanical engineering, medical technology, and aerospace.

Turn-mill centers have also become an increasingly important part of the INDEX portfolio, with an entirely new machine series developed from the ground up.

Reiner Hammerl That’s right. We were convinced that turn-mill centers, and the automated complete machining they enable, would become a key success factor for many industries. This is why we systematically analyzed market requirements, which we translated into detailed machine specifications and progressively implemented across the various machine sizes of the new INDEX G series. The market has confirmed that we made the right decision. The G series has become a real success story, most recently rounded out at our 2026 Open House with the introduction of the compact INDEX G160. Our turn-mill centers have set the benchmark in the industry.

What other changes to your product portfolio do you see as particularly significant?

Dr. Dirk Prust Increasing the productivity of both our existing and future machines is at the heart of our strategy. On the one hand, that means continuing to enhance machine performance itself. On the other, rising cost pressures and the shortage of skilled workers mean our customers need solutions that extend beyond



the machine and help improve OEE (Overall Equipment Effectiveness). That’s why, alongside machine development, we place great emphasis on increasing machine utilization. That is, on autonomous production with automation, closed loop technology, stable processes, digital support, and more. Another increasingly important area is extending the service life of existing machines. Our service, retrofit, and rebuild offerings will play an even greater role in meeting these requirements going forward.

These developments in your product portfolio and your focus on a broader customer base were key elements of the INDEX Strategy 2025. How would you assess its success?

Dr. Dirk Prust First of all, I think it’s fair to say that we’ve executed the strategy successfully. Today, we’re far more diversified across promising industries, giving us an excellent foundation for future growth, which is the focus of our Strategy 2030. But before we look ahead, let’s take a moment to look at the present, or rather, at the past year. What do the numbers tell us?

Roberto Deger Considering the external conditions, 2025 was a solid year for us, particularly compared with the industry as a whole. Revenue increased by 3.4% to 475.3 million euros, while

incoming orders rose 9.5% over 2024 to 490.1 million euros. That said, we still fell short of our own growth ambitions—something we intend to change with our Strategy 2030.

Let’s take a look at Strategy 2030. What are your priorities for the next years?

Dr. Dirk Prust Over the past several years, our primary focus has been on efficiency and product alignment from Germany for global markets. Our new strategy goes well beyond that. It includes a number of initiatives aimed at strengthening our international presence. The key question is: How can we work even more effectively with our subsidiaries and sales partners to develop and serve global markets over the next several years?

Reiner Hammerl Starting with identifying emerging megatrends, global market needs, and the opportunities they create for our machines. We are developing new applications here. Humanoid robotics is a good example. Manufacturing these robots requires large volumes of mechanical components. That raises important questions for us: Which components are needed? How can our machines produce them efficiently? Our solutions for applications like these must—and will—be ready when the market is. ➤

» We recognized our former dependence on the automotive industry, then accounting for around 60 percent of our revenue, at an early stage and responded proactively to the coming industrial transformation. Today, the automotive industry accounts for only about eight percent of our business, while revenue from other industries has grown significantly.

Reiner Hammerl
Managing Director,
Sales & Marketing



We intend to further strengthen our role as a lifecycle partner, supporting our customers throughout the entire lifecycle of their machines.

Roberto Deger
Chief Financial Officer



What else is included in your new five-year plan?

Roberto Deger We intend to further strengthen our role as a lifecycle partner, supporting our customers throughout the entire lifecycle of their machines. From application consulting and the sale of machines and automation solutions to support for automated manufacturing processes, we’re expanding the range of services we provide. We’re also broadening our maintenance and service offerings. As manufacturers face an ongoing shortage of skilled personnel, demand for these types of services continues to grow. We see this as an important business opportunity for the future.

Growth requires looking beyond Germany and Europe. What does your global strategy look like?

Dr. Dirk Prust Machining requirements vary considerably from one region of the world to another. To succeed in markets such as Asia and South America, our machines and processes must be tailored to local requirements. That’s why we’re expanding our engineering and manufacturing capabilities at key locations, allowing us to better understand local market needs and respond more quickly.

Reiner Hammerl India, for example, has long been an attractive market for a technology leader like INDEX. The new trade agreement between India and the European Union makes that market even more promising. Accordingly, we invested in a new branch office in Bangalore, which officially opened in February 2026. In addition to our service, sales and application engineering

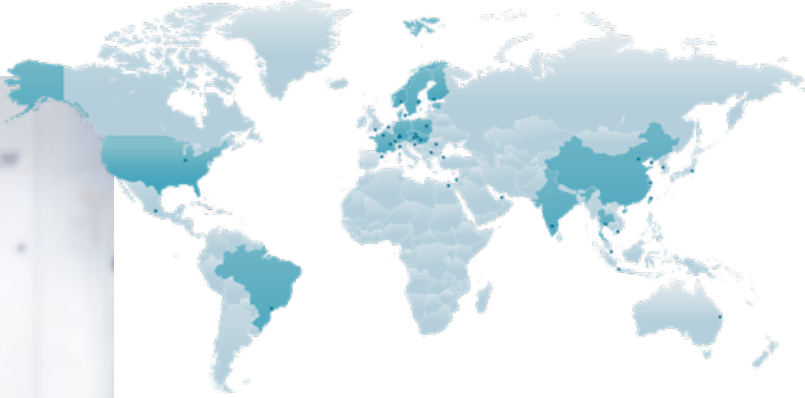
teams, we’ve already hired our first software developer there—the nucleus of a future software development team.

Dr. Dirk Prust At our new subsidiary in Thailand, we will establish our own mechanical engineering and assembly operations. Meanwhile, our subsidiary in Brazil already has its own machine development organization focused on local market requirements. As a result, we’ll be able to offer more market-specific products in the future.

Developing products that meet market needs is also key to success in Europe. At this year’s Open House, you unveiled a world premiere that enables your sliding headstock customers to produce in a far more efficient way.

Dr. Dirk Prust Yes, we’re very proud of our revolutionary new TRAUB MS12-4 multi-spindle sliding/fixed headstock turning machine. In principle, it combines the productivity of four vertically stacked single-spindle TRAUB TNL12 machines. In the same amount of time and on roughly the same floor space it can produce four times as many parts as a single TNL12, while costing significantly less than four separate machines. Quite simply, it’s the world’s most productive sliding/fixed headstock turning machine. Given the space constraints that many manufacturers face, particularly in Europe, it offers an ideal way to further increase both productivity and competitiveness. An existing machine—even one from a competitor—can be replaced by a single MS12-4. The result is at least four times the productivity without requiring additional floor space. That’s exactly the objective we set out to achieve. ✂

For 112 years, the INDEX Group — with its INDEX and TRAUB brands — has been one of the world’s leading manufacturers of machine tools.



1,900 employees

6 production sites

13 sales and service companies

Global network of more than 80 locations



With 12,000 m² of floor space, hg medical's new US facility offers virtually unlimited growth potential.

Quality first!

Medical screws, nails, staples and plates are products that often remain in the body permanently. This places a special responsibility on manufacturers such as hg medical. Compromising on quality is not an option. Every part must be perfect. For their turning operations, the production teams rely on TRAUB machines. They value their precision, repeatability, and stability — qualities that help ensure every implant meets the highest medical standards.



We've had excellent experience with these machines at our facility in Germany. They are ideally suited for complex orthopedic components.

Sebastian Schmid is a process developer at hg medical in Raisting (Bavaria, Germany)

hg medical is a leading contract manufacturer of orthopedic, trauma, and surgical implants for the upper and lower extremities as well as the spine. The US affiliate, hg medical USA in Huntington, West Virginia, was established in 2015, complementing hg medical GmbH, which was founded in Raisting, Germany, in 2007. To better serve the growing US market—which accounts for 95 percent of hg medical's customer base—the company invested in a second US facility in Holland, Michigan, in 2023. With 12,000 m² of floor space, the new facility offers virtually unlimited growth potential.

The Holland, Michigan operation was established remarkably quickly. The key figure on site is Daniel Kahn, General Manager of hg medical USA. In January 2023, he took on the task of building the new US facility from the ground up. "We used our German facility and its equipment as a blueprint, but rebuilt the entire manufacturing infrastructure from scratch with the goal of

becoming the world's leading contract manufacturer of orthopedic implants." Recruitment efforts got underway in parallel. The first machines were commissioned in September 2023.

Today, the Holland facility is fully validated and ready for production. As of January 2026, hg medical employs 53 people at the site. Over the coming years, the workforce is expected to grow to around 250 employees. Additional major investments in turning technology are also planned.

Choosing the right machines is a key success factor

The demands placed on the machines are considerable: tight tolerances, demanding materials, and maximum process reliability. "We are a true quality-first company," emphasizes Daniel Kahn. "Accordingly, our investment decisions are driven by a clear objective: achieving repeatable quality at the highest level." ➤



TRAUB sliding headstock turning machines are ideally suited for tight tolerances, demanding materials, and maximum process reliability.



» Anyone who has worked with sliding headstock turning machines before will get up to speed with the TNL machines very quickly. The user interface is intuitive ... Once a machine is set up, it runs so reliably that the operator only needs to keep an eye on tool wear.

Daniel Kahn is General Manager at hg medical USA

From left to right: Rainer Gondek, INDEX Head of Global Marketing, Mike Dyer, INDEX Regional Sales Manager, Daniel Kahn, General Manager, Levi Six, CNC Team Lead at hg medical, and Matt Voyles, Director of Customer Support, INDEX Corp.



Watch the film now:
» www.index-group.com/hg-medical

For its turning operations, hg medical chose INDEX as its technology partner. At its Holland facility, the medical technology specialist currently operates two TRAUB TNL20-9B sliding/fixed headstock turning machines. An additional TNL32-7B has already been ordered, and the number of TRAUB TNL machines is expected to grow to ten in the foreseeable future. “We’ve had excellent experience with these machines at our facility in Germany. They are ideally suited for complex orthopedic components,” explains Sebastian Schmid, process developer in Raisting, who is supporting Daniel Kahn in establishing the production environment. Schmid also highlights the INDEX MS22-8 multi-spindle turning machine. Following its successful deployment in Raisting, it is expected to become part of the manufacturing operation in Holland in the future as well.

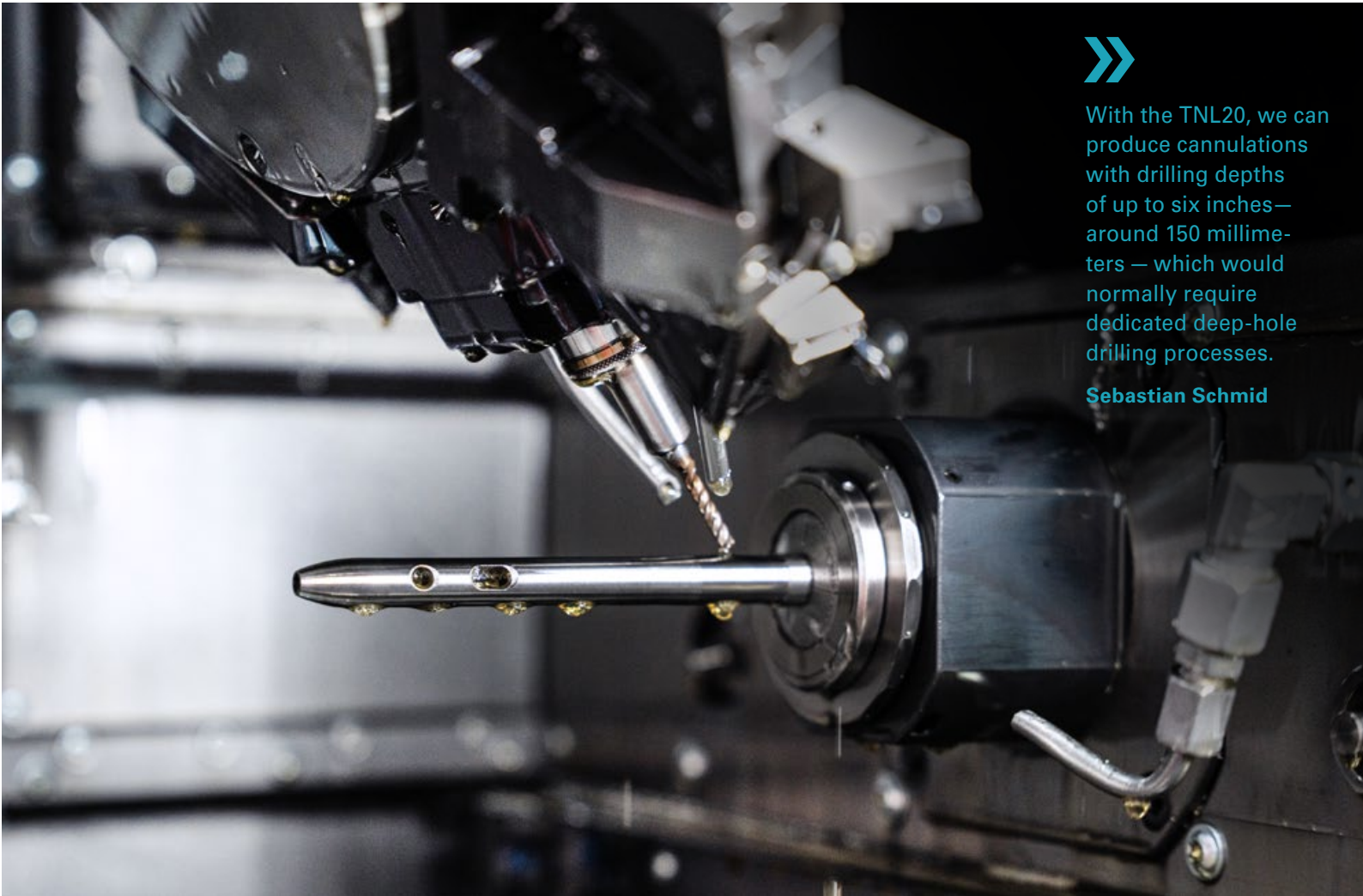
Ideal for cannulated nails and screws

Kahn himself has been working with INDEX technology for more than five years. He points to the strengths of his TRAUB machines: “With the TNL20, we can produce cannulations with drilling depths of up to six inches—around 150 millimeters—which would normally require dedicated deep-hole drilling processes.” The advantage is clear: a single setup,

fewer clamping operations, reduced variation, and significantly greater process stability.

Alongside deep-hole drilling capability, Kahn regards pinch milling as another key productivity factor. In this process, two tools machine the workpiece simultaneously, for example when milling hex profiles. “Instead of six individual steps, two faces can be machined in parallel,” says Kahn. “That results in substantial cycle time savings without compromising accuracy or stability.” hg medical currently uses the TRAUB TNL machines to manufacture intramedullary nails and long cannulated screws. Looking ahead, the company plans to expand their use to additional complex orthopedic instruments. All parts leave the machine completely finished.

Kahn is particularly impressed by the productivity, robustness, and ease of operation of the TRAUB machines: “Anyone who has worked with sliding headstock turning machines before will get up to speed with the TNL machines very quickly. The user interface is intuitive. The ability to program directly at the machine gives us tremendous flexibility. And once a machine is set up, it runs so reliably that the operator only needs to keep an eye on tool wear.” »



» With the TNL20, we can produce cannulations with drilling depths of up to six inches—around 150 millimeters—which would normally require dedicated deep-hole drilling processes.

Sebastian Schmid

Strong local service

No matter how capable the machines are, reliable service remains essential. Kahn’s experience with INDEX has been consistently positive. “We’ve never had any trouble getting support at short notice. The technicians are readily available, and response times are short.” He also appreciates the proximity of

the INDEX Corporation facility in Noblesville, Indiana, which offers the full range of INDEX and TRAUB products. The motto is “local for local.” As a result, production personnel do not need to travel to Europe for training. Instead, they receive training on INDEX and TRAUB machines at the company’s training center in Noblesville. X

hg medical manufactures complex orthopedic components such as bone nails on TRAUB sliding headstock turning machines.



German facility



Photo: hg medical

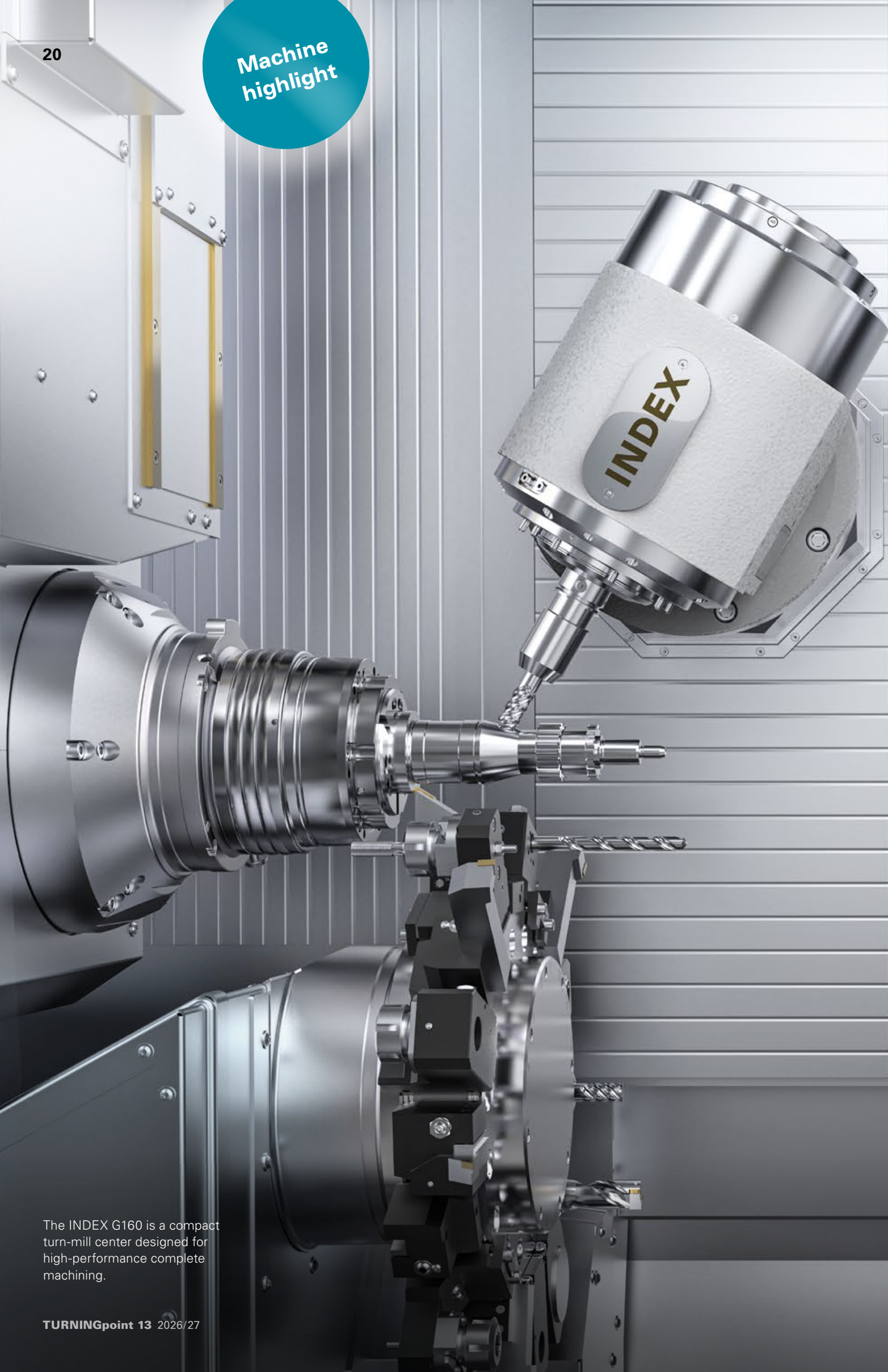
US facility

**Orthopedic implants—
Made in Germany/Made in the USA**

hg medical GmbH was founded in Raisting, Germany, in 2007. The company employs 240 people and is certified to ISO 13485 and FDA 21 CFR requirements. In 2015, hg medical USA was established in Huntington, West Virginia, where it employs 35 people. A second US facility was added in Holland, Michigan, in 2024.

At all locations, hg medical manufactures high-quality orthopedic implants for bone surgery from titanium, stainless steel, and PEEK.

hg medical GmbH, 82399 Raisting, Germany
hg medical USA LLC, Huntington, WV 25701
» www.hg-medical.com

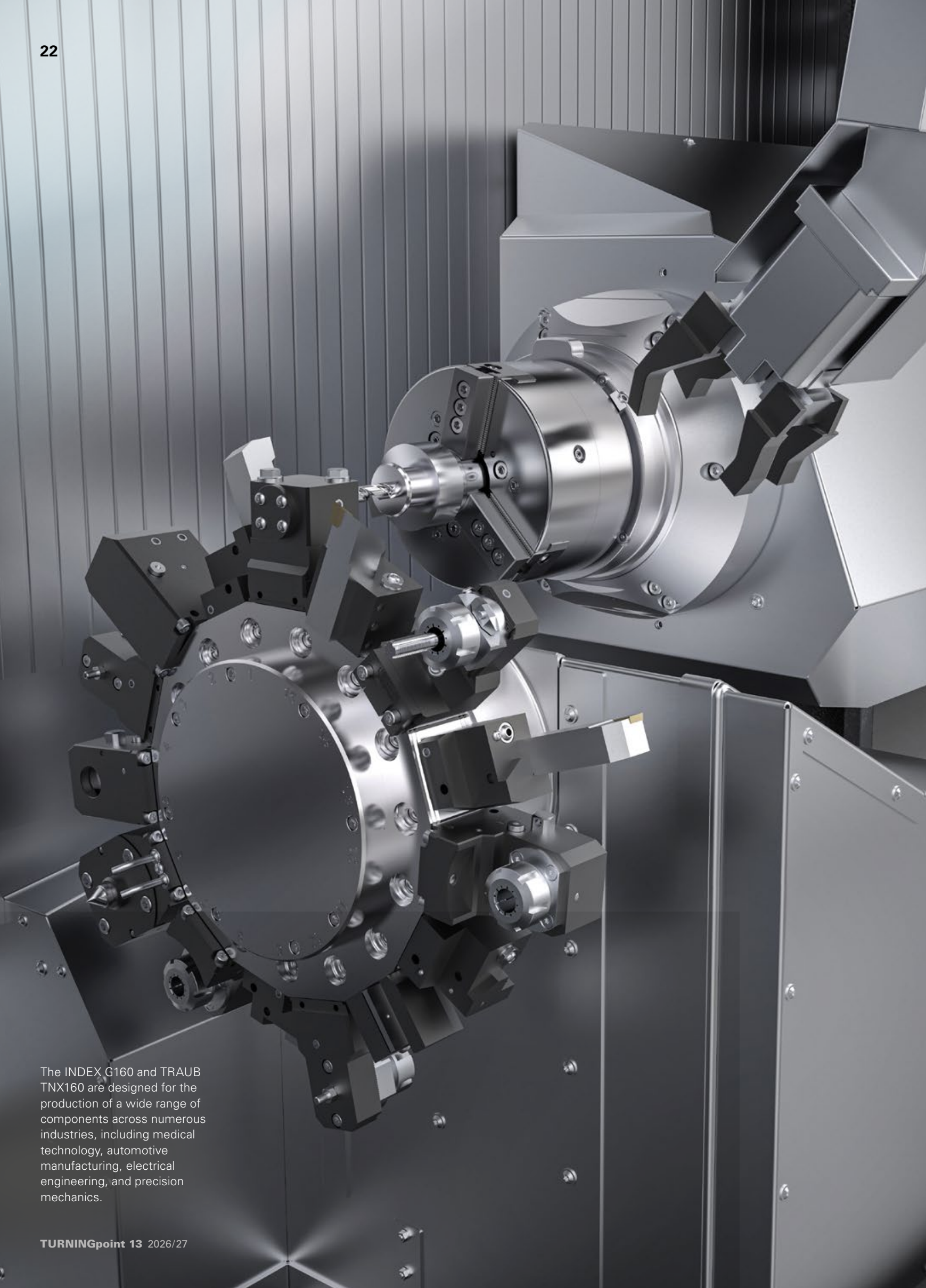


The INDEX G160 is a compact turn-mill center designed for high-performance complete machining.

Maximum performance on a minimal footprint— INDEX G160 and TRAUB TNX160

The new INDEX G160 compact turn-mill center made its public debut at the INDEX Open House 2026. An identical version will be presented as the TRAUB TNX160 at AMB and IMTS. Both machines impress with their exceptional productivity per unit area.





The INDEX G160 and TRAUB TNX160 are designed for the production of a wide range of components across numerous industries, including medical technology, automotive manufacturing, electrical engineering, and precision mechanics.

Our new versatile turn-mill centers



A key feature of the new turn-mill centers is the wide range of options available, including turning and motor milling spindles as well as peripheral equipment. These options enable every customer to configure a machine tailored to their specific requirements while optimizing investment costs.

Alexander Hammer is Head of Development, Single-Spindle Turning Machines

The INDEX G160 presented at Open House 2026 sees us completing our turn-mill center portfolio. Conceptually, the smallest member of the G series is based on the proven INDEX G200.2, while offering even greater milling performance.

In addition to an expanded range of turning spindles, the available options enable application-specific, cost-optimized machine configurations, including a choice of two motor milling spindle variants.

The highly dynamic direct-drive turning spindles offer a bar stock clearance of either 42 mm or 65 mm. Based on their technical specifications (speed: 7,000/6,000 rpm; torque: 65/170 Nm), the 42 mm variant is ideally suited for small workpieces, while the larger version is also recommended for workpieces requiring a clamping device diameter of up to 175 mm.

Tool carriers — the choice is yours!

The INDEX G160 and TRAUB TNX160 can be equipped with up to two lower tool carriers, which are fitted as standard with a Y-axis and can operate on both the main spindle and the counter spindle. Each tool carrier provides 15 stations with a VDI 25 interface. The live stations of the TRAUB TNX160 offer a maximum speed of

6,000 rpm (6.8 kW, 21.6 Nm at 25% DC), while the INDEX G160 offers up to 7,500 rpm (7.5 kW, 18.5 Nm at 25% DC). Alexander Hammer, Head of Development, Single-Spindle Turning Machines, points to an interesting detail: "Only the tools currently engaged in machining are supplied with cooling lubricant, contributing to high energy efficiency."

In the upper tool carrier, customers have access to a high-performance motor milling spindle with a B-axis. The highly compact direct-drive milling spindle, available with either an HSK-T40 or Capto C4 interface, comes in two versions: one rated at 32,000 rpm (17 Nm) and the other at 18,000 rpm (29 Nm). While the high-speed version is ideal for five-axis line-by-line milling of free-form surfaces using small tools, the higher-torque spindle is also suitable for heavy-duty machining. Both milling spindles support internal coolant delivery at up to 80 bar, offering advantages for deep-hole drilling and difficult-to-machine materials, for example.

The motor milling spindle is supplied by a newly developed tool magazine. This consists of a vertical chain magazine with 60 tool slots as standard, optionally expandable to 90. A double gripper automatically loads tools into the milling spindle. ➤



Integrated automation solutions for efficient production

The linear unit can be used for workpiece unloading and is designed for parts weighing up to 5 kg, with diameters of up to 65 mm and lengths of up to 200 mm.



iXcenter — the INDEX automation solution Ready to go!

- ▶ 6-axis robot for up to 7 kg payload with integrated gripper control
- ▶ Double gripper as standard
- ▶ Pallet storage for blanks and finished parts
- ▶ Easy in-house relocation possible



Application-specific automation

“Application-specific automation was a key consideration in the development of our new INDEX G160,” says Alexander Hammer. He cites the bar loading magazine as the simplest form of automation, for which the machine provides a UNIMAG 5 interface. This interface supports the connection of the INDEX MBL76 bar loading magazine, available for 3 m or 4 m bars and offering excellent bar-guiding characteristics. In addition, the interface also supports third-party equipment.

The conventional solution for workpiece unloading is the proven linear unit, which picks up the finished part and places it on a conveyor belt. Significantly more options are provided by the integrated workpiece handling unit (WHU) developed by INDEX. It is equipped with three axes and can be used for loading and unloading as well as for remnant handling. High-end automation is available with the INDEX iXcenter,

which supports fully automated operation with a pallet storage system. It is docked to the machine to safely and flexibly load and unload blanks and/or finished parts. Downstream processes such as cleaning, measuring, and deburring can also be integrated in the robot cell.

Additional peripheral options

For automated machining, it is essential to inspect and measure tools inside the machine. For this purpose, INDEX offers various systems, ranging from tactile methods to laser solutions that detect geometric changes and cutting-edge wear on the tools in the motor milling spindle without contact.

INDEX also offers an extensive range of peripheral equipment options. Several chip conveyors are available, including a slat conveyor and a slat band conveyor. Both emulsion and oil can be used as the cooling lubricant. The cooling approach of the INDEX G160 includes two solutions: a 14 kW heat

exchanger that exclusively manages the temperature of the machine, and a 20 kW cooling unit that additionally maintains the cooling lubricant at the desired temperature.

A leader in energy efficiency

Another key focus is the energy efficiency of the machine. INDEX is a leader in this field, thanks to a host of design features. Examples include regenerative energy feedback during braking operations—a proven technology that has been in use for decades—and the use of variable-frequency-controlled pumps. “In addition, the high acceleration rates and rapid traverse speeds reduce peripheral operating times and therefore energy consumption,” adds Alexander Hammer.

Siemens Sinumerik ONE—
a future-oriented control system

The INDEX G160 is equipped with the latest generation of Siemens’ Sinumerik ONE control system. Described by the manufacturer as a “Digital Native CNC,” this control system is optimized for highly productive machine tools and impresses with seamless interaction between the virtual and real worlds. Its system architecture and software functions leverage the capabilities of the latest processor technologies, enabling different machining functions to run in parallel without compromising performance. At the same time, users with existing Sinumerik expertise will immediately feel at home with the Sinumerik ONE. ✕

For users of the INDEX G160, the Siemens Sinumerik ONE primarily provides a modern and robust control platform. It forms the basis for safe machine operation while also simplifying integration with automation equipment and higher-level IT systems.

Stefan Großmann is Head of Control Technology at INDEX



What sets the INDEX G160 and TRAUB TNX160 apart

- ▶ Motor milling spindle with Y/B-axis for 5-axis machining on the main spindle and counter spindle
- ▶ Efficient complete machining of bar stock and flange-type workpieces
- ▶ Compact design for maximum productivity per unit area
- ▶ Short setup times thanks to tool loading during machining and W-serration interface on the turrets
- ▶ Extensive automation solutions
- ▶ INDEX G160 with Siemens Sinumerik ONE control

▶ www.index-group.com/g160
▶ www.index-group.com/tnx160



Mr. Großmann, what do you see as the key strengths of the Sinumerik ONE?

The current Siemens Sinumerik ONE is a sustainable CNC platform for the years ahead. It provides the technical underpinnings for meeting today’s requirements while supporting future developments. It delivers high computing performance and supports state-of-the-art interfaces for integrating our machines into automation solutions, manufacturing execution systems, and our customers’ IT environments. In addition, many functions can be implemented using standard Siemens functionality. This reduces software complexity, lowers maintenance overhead, and simplifies operator training. Sinumerik ONE also offers the foundation needed to meet growing cybersecurity requirements and to operate connected machines reliably for many years.

The INDEX G160 is the first machine in the INDEX portfolio to feature the Sinumerik ONE. Which INDEX machines will follow, and when?

For us, the decision to equip the INDEX G160 with Sinumerik ONE was the logical next step. As a new machine, it is consistently built around the most advanced control platform available. Building on this foundation, we will migrate the remaining machines to the Sinumerik ONE by the end of 2027. Following the G series, the C series, the ABC machines, and the B machines will be transitioned. Migrating our multi-spindle turning machines represents a particular challenge and will receive special attention due to their technical complexity. By the time the Cyber Resilience Act comes into force in December 2027 at the latest, all affected machines will be equipped with the Sinumerik ONE. ✕



The turnkey project also included automation: INDEX installed an upstream workpiece carrier system with a linear unit. In combination with the integrated workpiece handling unit (WHU) and a double gripper, it enables the INDEX G220 to operate autonomously.

Complete machining including power skiving

Manufacturing ring gears for multi-stage planetary gears requires a variety of turning and gear-cutting operations. To meet this challenge, Framo Morat relies on complete machining. The solution is the new INDEX G220 turn-mill center, which, among other capabilities, supports power skiving. Using this gear-cutting technology, the machining team produces high-quality straight and helical internal and external gears. For Framo Morat, the automated INDEX G220 is an investment in the future, expanding the range of components that can be manufactured while simultaneously improving gearing quality.



Thanks to its dynamic performance, high rigidity, and excellent damping characteristics, this multifunctional machine provides an ideal platform for power skiving gearing. This turn-mill center gives us tremendous flexibility. We can combine multiple operations and take full advantage of the benefits of complete machining.

Stephan Bennert
is the Head of Production
at Framo Morat

Framo Morat, based in Eisenbach, Germany, is a renowned developer and manufacturer of gearing components and complete drive systems for a wide range of industrial applications. Stephan Bennert, Production Manager and member of the management team, points out that “we are experts in both subtractive metal machining and plastics injection molding—a combination that is undoubtedly unique in our industry.”

The machining department is impressively equipped. A wide range of manufacturing processes is available, from turning, milling, and gear cutting to heat treatment and hard finishing. This enables Framo Morat to manufacture internal and external gears, worm gear sets, rotor shafts, pinions, sprockets, and a wide variety of special profiles to customer specifications.

Framo Morat has relied on a partnership with INDEX for its turning operations since 2003. At that time, the gear specialists invested in four INDEX G160 turn-mill centers for bar stock machining. For chucked parts, they selected INDEX V160 vertical turning centers, which have since undergone extensive retrofitting by INDEX. Framo Morat also recently upgraded two existing INDEX G250 machines. Ralf Ziegler, the responsible INDEX Regional Sales Manager, provided consulting support: “Among other things, we added a linear unit, making it possible to machine both shaft-type parts from bar stock and complex chucked parts.”

Power skiving on a turn-mill center

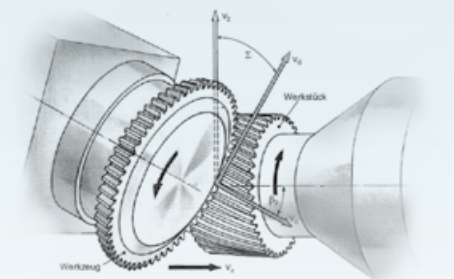
One highlight of the current machine fleet is the INDEX G220 turn-mill center, delivered in early 2025. In addition to turning and milling ➤



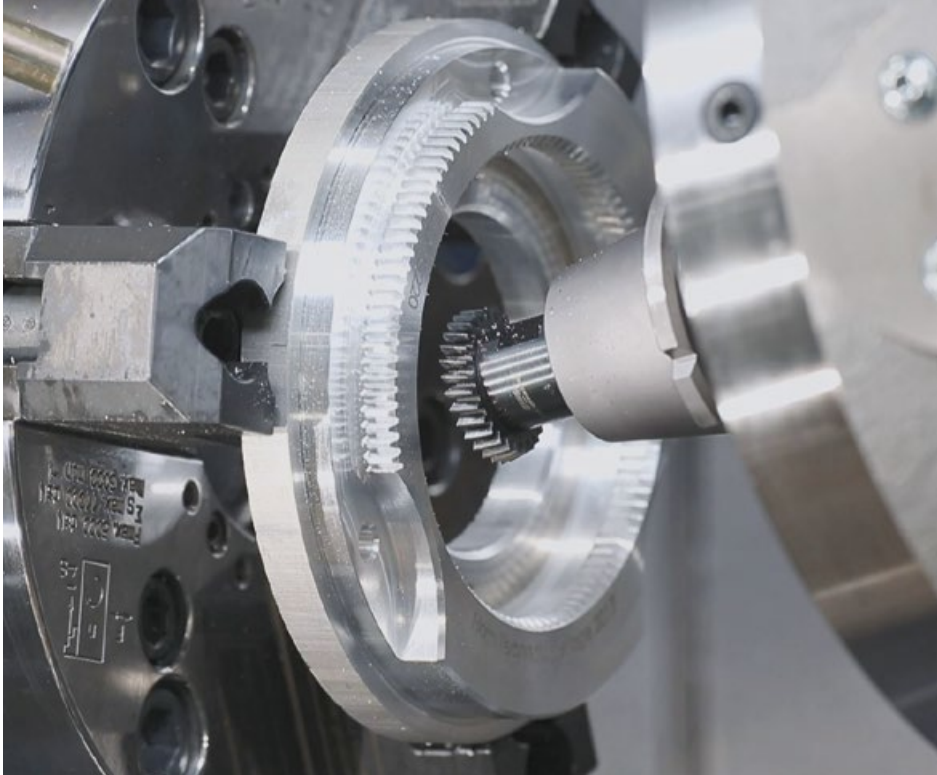
This ring gear requires two sets of internal gearing. With power skiving, that's no problem.

Power skiving

is a productive, continuous machining process for internal and external gears. It enables flexible gearing modifications to the profile and flank, defined positional orientations of bores and slots, as well as controlled deburring, relieving, and chamfering of gearing. It is also possible to machine close to shoulders and produce tapered gears. Thanks to their rigidity and damping characteristics, INDEX turn-mill centers are ideally suited for power skiving.



www.index-group.com/powerskiving



Power skiving on the INDEX G220 turn-mill center: This process combines cutting and rolling operations in which the tool and workpiece rotate synchronously.

The ring gear for a three-stage planetary gear features one helical and one spur internal gear profile, as well as an external knurled geometry for press-fitting into the housing. All three profiles are produced by power skiving.

Photos of the workpieces: Framo Morat

operations, its high-performance milling spindle also makes it ideally suited for power skiving. This process combines cutting and rolling operations in which the tool and workpiece rotate synchronously. It enables precise soft and hard finishing of internal and external gears.

Daniel Rombach, Head of Work Preparation and CAM Programming was responsible for the purchase. The certified industrial foreman and mechanical engineer has been with the company for 20 years and is highly experienced in gear manufacturing: “For most tasks, we use dedicated machines—for gear hobbing and, in particular, gear shaping. At the same time, we were looking to introduce power skiving, which can achieve gear quality levels up to two classes better than gear shaping.”

Rombach discovered that power skiving can be performed on the INDEX G220 turn-mill center with impressive quality: “Thanks to its dynamic performance, high rigidity, and excellent damp-

ing characteristics, this multifunctional machine offers an ideal platform for power skiving gears. What makes it particularly attractive for us? This turn-mill center gives us tremendous flexibility. We can combine multiple operations and take full advantage of the benefits of complete machining.”

Perfectly meshed project planning

There were even more reasons for choosing the INDEX G220. “In addition to the technical capabilities and quality of the turn-mill center, our positive experience with INDEX machines and the people behind them was a major factor in our decision,” says Stephan Bennert. “Another factor was INDEX’s development expertise in the field of power skiving. That expertise was essential for introducing this process on the G220.”

Mert Turan, Head of Sales Germany West at INDEX, recalls the intensive discussions: “We offered the INDEX G220 as a turnkey solution,

Read more customer success stories:

www.index-group.com/success



complete with fully functional power skiving on an acceptance workpiece supplied by Framo Morat.” And Daniel Rombach confirms: “We were able to configure the machine exactly as we had envisioned. But it was never just about this particular component. Introducing and establishing power skiving in our operations was equally important. Once again, it became clear that we have a very strong partner in INDEX.”

Multifunctional machine increases flexibility and quality

For the acceptance part, Rombach and his team selected a ring gear for a three-stage planetary gear. The thin-walled cylindrical steel pipe, measuring approximately 80 mm in diameter, requires an internal helical gear profile for the first planetary stage. Spur gears are required for the second and third stages. The outer surface receives a knurled geometry, which is used to press-fit the ring gear into the die-cast housing.

“With the INDEX G220, we can handle turning, gear cutting, and deburring,” says Daniel Rombach. “That gives us a high degree of flexibility when it comes to component design and enables significant process improvements.” These improvements result in higher gear quality, which translates into lower noise emissions in the planetary gear in the case of the ring gear. Rombach also points out that the knurled geometry is produced by power skiving with a



From left to right: Framo Morat Production Manager Stephan Bennert and Daniel Rombach, Head of Production Planning, together with Ralf Ziegler and Mert Turan from INDEX, celebrate the successful installation of the INDEX G220: “Our new machine can do more than just turn and mill—it can also cut gears efficiently.”

clearly defined geometry, something that was not possible with the conventional metal spinning process: “As a result, we are in a far better position to meet the requirements specified by our design engineers for press-fitting in the housing.” Stephan Bennert adds: “The investment has delivered exactly what we hoped for. Power skiving has expanded our capabilities, while integrating multiple machining technologies into a single machine has given us even greater flexibility.”



Photo: Framo Morat

Customized gear technology and drive solutions

Framo Morat is part of the Franz Morat Group, which has more than 114 years of experience in gear and drive technology. The group combines expertise in precision gear machining and plastics injection molding, employing around 700 people, and operating subsidiaries in the United States, Poland, Mexico, and Türkiye in addition to its headquarters in Eisenbach, Germany. Revenue totaled approximately 110 million euros in 2024.

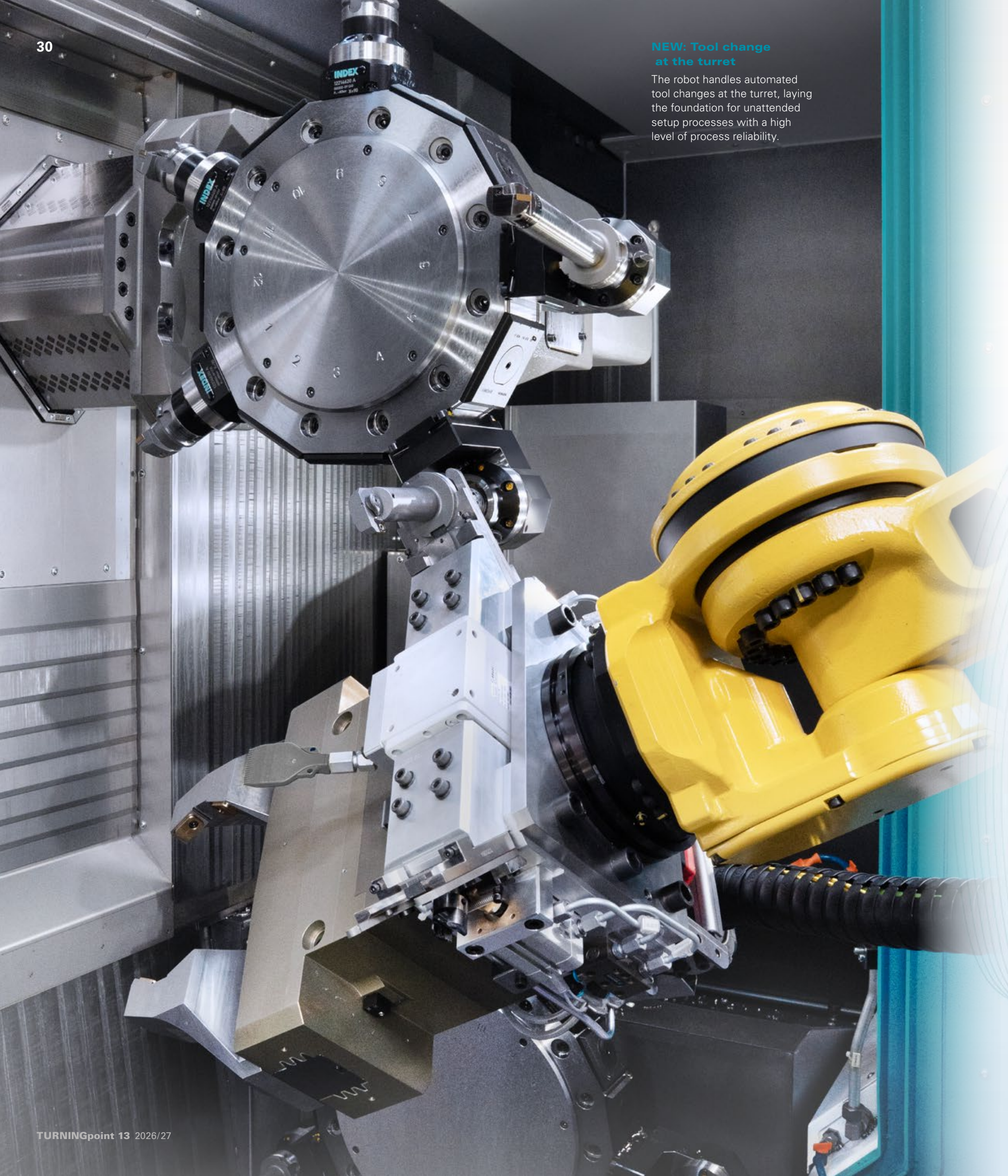
Framo Morat develops and implements innovative drive solutions for a wide range of industrial applications. Its portfolio ranges from gears and transmission components to complete electromechanical drive systems, all tailored to individual customer requirements. Its products are used in applications such as mechanical engineering, rehabilitation equipment, and intralogistics.

Framo Morat GmbH & Co. KG, D-79871 Eisenbach, Germany

www.framo-morat.com

NEW: Tool change at the turret

The robot handles automated tool changes at the turret, laying the foundation for unattended setup processes with a high level of process reliability.



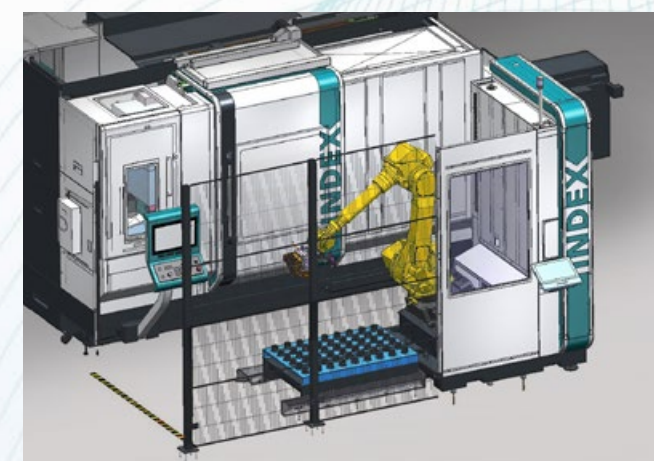
New products and innovations for 2026/27



Tool change at the turret

Automated tool changes at the turret using a robot open up new possibilities for low-staff setup operations in your iXcenter-automated turning machine. Tools can be exchanged automatically, for example in the event of tool breakage or when switching to sister tools, increasing process reliability. In the future, tool changes via the motor milling spindle integrated into your INDEX turn-mill center will also be possible.

➤ **Contact us for attractive retrofit offers!**



iXcenter automation

A cost-effective entry-level version of our proven iXcenter robot automation system is now also available, featuring a flexible safety enclosure and additional solutions for economical, unattended operation of your machine in multi-shift production. No-code/low-code programming via the iXpanel enables rapid setup of the automation system, including retrofit applications.

➤ www.index-group.com/ixcenter



Geometry measurement as a service

Maximum precision and availability for your INDEX or TRAUB turning center/turn-mill center: We measure the work area of your machine wirelessly and quickly, detect deviations at an early stage, and help prevent quality issues and unplanned downtime. Regular condition analyses ensure high OEE and allow maintenance interventions to be planned proactively throughout the entire lifecycle of your machine.

➤ **For more information, contact our customer service!**



Greater transparency with the EnergyApp

The INDEX EnergyApp makes the energy consumption of your machines fully transparent. From total energy consumption to consumption per part, continuous data acquisition and analysis help identify savings potential and improve the efficiency of your production operations. Simple retrofitting with the Siemens Sentron PAC2200 energy meter enables integration with iX4.0 or existing energy management systems.

➤ www.index-group.com/ix40



After an extensive evaluation process, August Manser AG chose INDEX as its partner for the future expansion of its turning operations.

Equipped for the future

Machining is one of the core competencies of system supplier August Manser AG, based in Altstätten, Switzerland. In 2019, the company began looking for a partner to help future-proof its turning operations. It chose INDEX. Today, twelve machines cover the full spectrum of turning applications.



Manser machines parts with diameters of up to 120 mm on its INDEX machines in small production runs. The INDEX C100 and C200 are mainly used for machining higher-volume parts with diameters ranging from 30 mm to 80 mm.

Located in the heart of the St. Gallen Rhine Valley, August Manser AG has evolved over the past 50 years into a service provider with a broad range of capabilities. "Our strength lies in the realization of complete mechanical and mechatronic systems and equipment, which we primarily supply to customers in mechanical engineering, the semiconductor industry, and medical technology," says Michael Manser, who took over management of the company from his father six years ago. "We provide our customers with solutions ranging from product innovation and development to industrialization, component manufacturing, and assembly, all the way through to turnkey systems."

Precision machining for individual orders and complete systems

More than 16,400 m² of production and assembly space is available at the Altstätten site. Turning and milling are the company's two equally important core competencies. Metrology is

another key capability. In addition, Manser's production operations encompass numerous supporting processes, including grinding, EDM, marking, and various cleaning methods.

"Our employees are the heart of our company," says Michael Manser. For this reason, the people in charge place great importance on continuously investing in the expertise of their workforce as well as in new machines, technologies, and automation. "We want to provide our teams with the very best tools so that they can fully apply their knowledge and experience. This is the only way for us to respond flexibly to customer requirements while ensuring high quality and short lead times."

Turning operations—from prototype to production

In 2019, the company's management decided to reposition its turning operations. "We asked



Efficient machine setup is especially important to us. In this respect, INDEX machines offer clear advantages thanks to the W-serration interface on the tool carriers and the Virtual Machine.

Michael Manser
is CEO of August Manser AG





August Manser AG’s turning machine fleet currently comprises nine INDEX C series production turning machines, a TRAUB TNL20 sliding headstock turning machine, an INDEX G220 turn-mill center, and an INDEX B400 universal turning machine.

» We asked ourselves which supplier we wanted to partner with for the future. We were looking for a partner whose turning machines could meet all our requirements, from prototype production to full-scale manufacturing.

Michael Manser is a longstanding, committed INDEX customer

ourselves which supplier we wanted to partner with for the future,” explains Michael Manser. “We were looking for a partner whose turning machines could meet all our requirements, from prototype production to full-scale manufacturing.” His machining team then launched an extensive evaluation process involving numerous machine tool suppliers. INDEX, headquartered in Esslingen, Germany, with its Swiss subsidiary in St-Blaise, ultimately came out on top. “The decision was based on a wide range of criteria, including cost, service, productivity per unit area, accuracy, and much more. Consistency in terms of the control system, user interface, and software support was also an important factor.”

Since then, Manser has invested in nine INDEX production turning machines — four INDEX C100s and five C200s. The company has also expanded its INDEX machine fleet to include a TRAUB TNL20 sliding headstock turning machine, an INDEX G220 turn-mill center and an INDEX B400 universal turning machine. “Our six years of experience with INDEX machines have confirmed that we made the right choice,” says the company owner.

Michael Manser particularly appreciates a number of characteristic INDEX strengths. They include the machines’ stability, rigidity, and high repeatability, as well as the short machining

times they achieve. He is also very positive about the machines’ accessibility. “Efficient machine setup is especially important to us. With our small and medium-sized batch sizes of up to 1,000 parts, setup operations are a frequent requirement.” Michael Manser goes on to explain: “One major advantage is the patented, highly precise INDEX W-serration on the tool holders. The W-shaped profile allows the base holders to be aligned on the tool turret quickly and with a high degree of process reliability. Repeatability is measured in microns.”

Software speeds up setup and programming

To keep the time required for setup, machine initialization, and programming to a minimum, Manser’s employees make extensive use of the INDEX Virtual Machine. This software solution replicates virtually the full functionality of every INDEX machine tool, enabling users to simulate machining operations with a high degree of accuracy.

Because the INDEX Virtual Machine is based on the original control and machine geometry data, NC program errors can be identified during simulation and corrected during programming. “This software is a real boost to throughput times and process reliability,” says Michael Manser. His turning team also uses INDEX Virtual Pro, a programming support tool that

simplifies and accelerates programming through intuitive input screens, parameterized processes, and geometry functions.

High productivity per unit area

The backbone of Manser’s turning operations is formed by the C series production turning machines, which, according to the company owner, deliver outstanding efficiency and flexibility: “Thanks to three turrets, a counter spindle, and high-speed drives, we achieve extremely short machining times. Combined with the machines’ compact footprint, this results in high productivity per unit area.” Because the machines are intended to operate in three-shift production whenever possible, while staffing is limited to a single shift, all INDEX C series machines are automated with bar loading magazines and the integrated INDEX workpiece unloading unit with conveyor belt.

Greater precision through complete machining

The Swiss turning specialists primarily use the INDEX G220 turn-mill center whenever complete machining is a key requirement. “Our customers’ requirements are becoming increasingly demanding, particularly when it comes to tolerances,” says Michael Manser. “When a component comes off the machine complete in a single setup, reclamping errors are eliminated, for example. As a result, we achieve greater precision with a high degree of process reliability.” One key feature of the INDEX G220 is its powerful motor milling spindle, whose hydrodynamically



supported Y/B-axis offers significant advantages. It enables a wide range of drilling and milling operations, including full 5-axis machining.

The INDEX B400 means that Manser also has a solution for the efficient production of simpler components and smaller batch sizes. The universal turning machine is suitable for both small and large chucked workpieces and shaft-type parts in virtually any quantity, including those made from difficult-to-machine materials. The machine also plays an important role in training: Manser’s apprentices learn turning on the B400, ensuring a smooth transition into production once they complete their apprenticeships. ✕

At August Manser AG, more than 4,500 m² of assembly space is dedicated to the production of mechanical and mechatronic assemblies and complete systems.

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» www.index-group.com/success



Photos: August Manser AG

From precision machining services to complete systems

August Manser AG was founded in 1972; today, it is a family-owned company specializing in mechanical and mechatronic systems and equipment. Its capabilities span the entire value chain — from innovation and product development to precision manufacturing of complex turned and milled components, assembly of mechanical and mechatronic assemblies, and delivery of market-ready production products, including comprehensive after-sales service. The company employs around 100 people at two locations in Altstätten, Switzerland.

August Manser AG, CH-9450 Altstätten, Switzerland
» www.manser-ag.com



The new iXcenter for INDEX multi-spindle turning machines combines a compact robotic solution with a high degree of flexibility, as a variety of processes can be integrated into the base cell. This ensures reliable and secure workpiece handling.

Compact base cell for high-volume production

The new robot-assisted iXcenter MS gives INDEX multi-spindle turning machines a purpose-built automation solution. The compact base cell, mounted directly on the machine, automatically unloads and handles the workpieces and can additionally carry out defined secondary processes such as measuring, cleaning, deburring, and marking. The result is a stable, low-staff production environment with consistently high process quality.

Additional processes that can be integrated:



Cleaning



Preserving



Brush deburring



Marking



Measuring and more

The already highly productive INDEX multi-spindle turning machines gain a further significant boost in performance with the iXcenter — particularly through the option of low-staff production during second and third shifts.

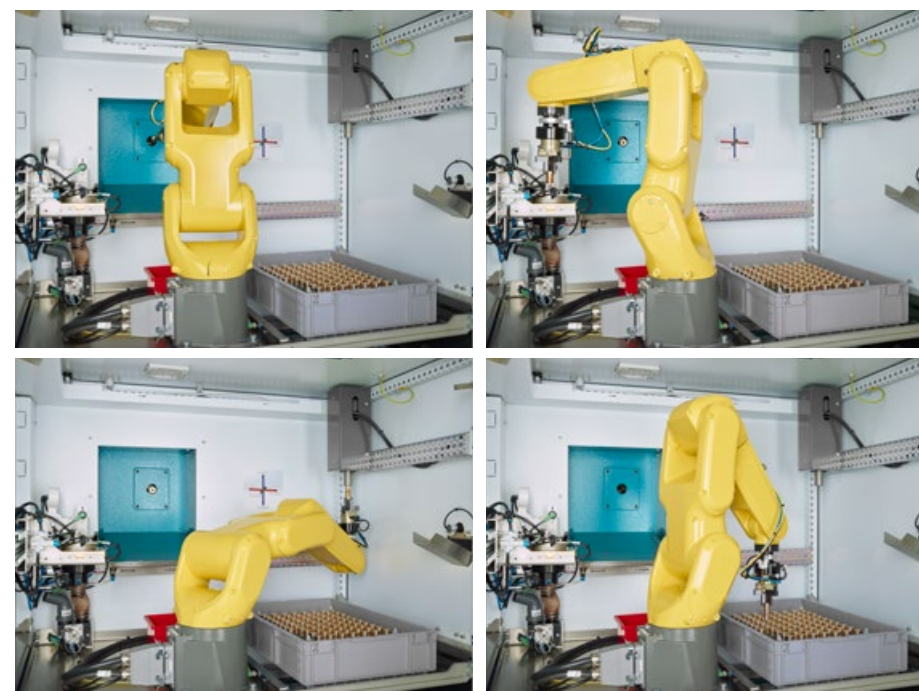
Because the machines feature extremely short cycle times, the iXcenter has been specifically designed for rapid cycle sequences. A conveyor belt running across the base cell transports part pallets horizontally, allowing the robot to pick and place finished parts directly and without unnecessary movement. Unlike the iXcenter solutions for single-spindle turning machines, which use a vertical pallet arrangement, this approach offers direct access with minimal auxiliary times.

Despite its horizontal layout, the base cell remains exceptionally compact, with a footprint

roughly equivalent to that of a Euro pallet (1200 x 800 mm). As a result, the iXcenter fits neatly beneath the electrical cabinet extension of conventional INDEX multi-spindle turning machines while allowing unrestricted access to the work area.

For error-free autonomous production

Thanks to its modular design, the iXcenter can integrate a wide range of process steps, including measuring, cleaning, deburring, and marking. The ability to integrate a measuring or test fixture with matching measurement software, and the INDEX closed loop interface are of particular interest for extended autonomous operation. This enables continuous monitoring of the production process, with dimensional deviations automatically compensated through tool offsets — ensuring maximum process reliability during extended production runs. ✕



NEW: The iXcenter for INDEX multi-spindle turning machines

- ▶ Compact, ergonomic integration with INDEX multi-spindle turning machines
- ▶ Reduced costs through low-staff production
- ▶ High flexibility thanks to modular, expandable functions
- ▶ Future-proof investment, expandable, and closed-loop capable
- ▶ Easy retrofit for common INDEX multi-spindle turning machines

▶ www.index-group.com/ixcenter-ms



In the past, we had our grinding discs manufactured by specialist external suppliers. We then decided to bring production of this key component in-house. Since discovering the INDEX R200 turn-mill center for this application in 2017, we have achieved machining results that fully meet our expectations.

Max Fetzter
is the Head of Production at WMF Professional Coffee Machines



These WMF coffee machines are high-end systems widely used in the foodservice industry. To ensure consistently high beverage quality, each of the up to 800 individual components must itself be manufactured to equally high and consistent quality standards.

Figure: WMF Professional Coffee Machines

Coffee making perfection through digitalization

Grinding discs are some of the key components of professional WMF coffee machines. For many years, they ensure perfectly ground coffee beans, so that every cup delivers the same great taste time after time. Achieving this requires the grinding discs to be machined with a high degree of repeatability. To meet the required quality standards, WMF's production team relies on INDEX R200 turn-mill centers. By embracing digitalization — in other words, by connecting machine tools and assembly operations to the iX4.0 IoT platform — the company has succeeded in further improving both quality and productivity in manufacturing.

Whether fully automatic coffee machine, automatic portafilter solution, or fully automatic filter coffee machine, a professional WMF coffee machine consistently delivers perfect coffee. That is no coincidence. Since 1927, the company, headquartered in Geislingen, Germany, has built up a center of excellence for coffee that brings together development, procurement, production, and sales at a single location. This is where WMF's professional coffee machines are manufactured, all of which meet what Mathias Keller, Head of Industrial Engineering Manufacturing at WMF Professional Coffee Machines, considers a key quality criterion: "Maximum repeatability. By that I mean that, with identical settings, the coffee always tastes the same—regardless of whether it is brewed in Munich, Hamburg, or Milan."

Perfect grinding discs

The grinder is primarily responsible for this consistency. It contains one stationary and one

rotating grinding disc. Since 2017, WMF PCM machines this component on the INDEX R200 turn-mill center. David Häge, a member of the Industrial Engineering team responsible for production planning in the turning department, has continuously refined the machining processes used to manufacture the grinding discs. His conclusion: "When it comes to quality, output, and ultimately manufacturing costs, our grinding disc production is second to none."

Häge highlights the INDEX R200's principle, which he considers ideally suited to the machining of grinding discs: "The two motor milling spindles can handle simultaneous 5-axis machining in two independent subsystems and achieve record-setting cycle times." Machining quality is equally impressive. The mechanical engineering technician attributes this to the high rigidity, thermal and dynamic stability, and vibration damping characteristics of the INDEX R200. ➤



Mathias Keller (left) and David Häge (center) in conversation with Dr. Christopher Kohl, iX4.0 specialist at INDEX: "The data we collect not only gives us opportunities to improve productivity. It also provides the evidence we need to justify new investments, which in turn contribute to long-term process improvements."



Left: Production Manager Max Fetzer and Mathias Keller from Industrial Engineering use the status dashboard to keep track of production activity.

Top right: WMF's production facility is home to five INDEX R200 turn-mill centers dedicated exclusively to the manufacture of grinding discs.

Bottom right: A useful tool: the iXmobile app. It sends push notifications to smartphones and tablets whenever unusual events or conditions occur.

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WMF's production team was so impressed by this solution that the company invested in five of these turn-mill centers dedicated exclusively to the production of grinding discs.

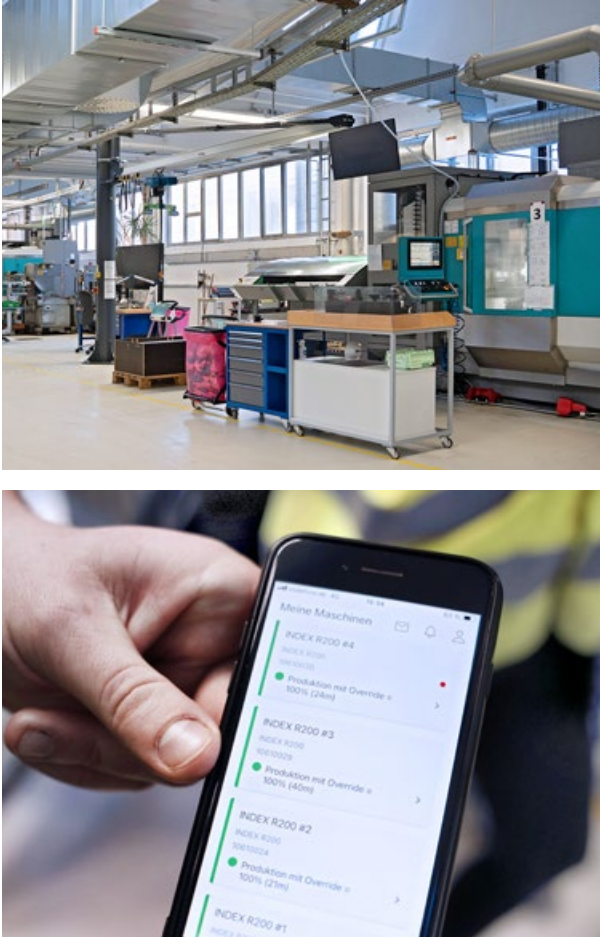
Increasing productivity through digitalization
For several years, Groupe SEB's PCM division in Geislingen has been driving shopfloor digitalization across the company. When plans to introduce new digital systems in production became tangible around two and a half years ago, INDEX was already present with its iX4.0 IoT platform. "We had previously used the free trial version of the iX4.0 Go package on one of our INDEX R200 machines," recalls Mathias Keller. Keller and Häge were convinced that the acquired data and its intuitive presentation would quickly generate benefits for Industrial Engineering and, in particular, for production planning. Production Manager Max Fetzer also recognized the potential of the INDEX solution to further improve the efficiency of his production area. Based on these experiences and assessments, the team decided at the end of 2023 to roll out the iX4.0 system across all five INDEX R200 machines.

WMF Professional Coffee Machines currently uses the iX4.0 Basic package, which includes diagnostic functions for troubleshooting as well as remote support via teleservice and video transmission. In addition, the PCM team select-

ed the iX4.0 StatusApps, which provide particularly valuable support for production personnel. The apps ensure transparency regarding machine uptime and downtime. Production Manager Max Fetzer explains: "We use the iX4.0 apps to identify patterns—for example, whether downtime repeatedly occurs at the same time of day and whether the cause can be traced back to process-related issues. We've already identified vulnerable tools, eliminated those weak points, and reduced costs as a result."

He and his colleagues also regard the iXmobile app, which runs on smartphones and tablets, as especially useful. The system sends push notifications to operating personnel whenever unusual events or conditions occur. Using the iXmobile app, the INDEX machines also report when the bar loading magazine is running low or when fill levels on the machine approach critical thresholds. "Extremely useful," says Mathias Keller. "Notifications like these help prevent machine downtime. And if you compare the cost of iX4.0 with the machine-hour rate associated with even a short outage, the system pays for itself through alerts like these alone."

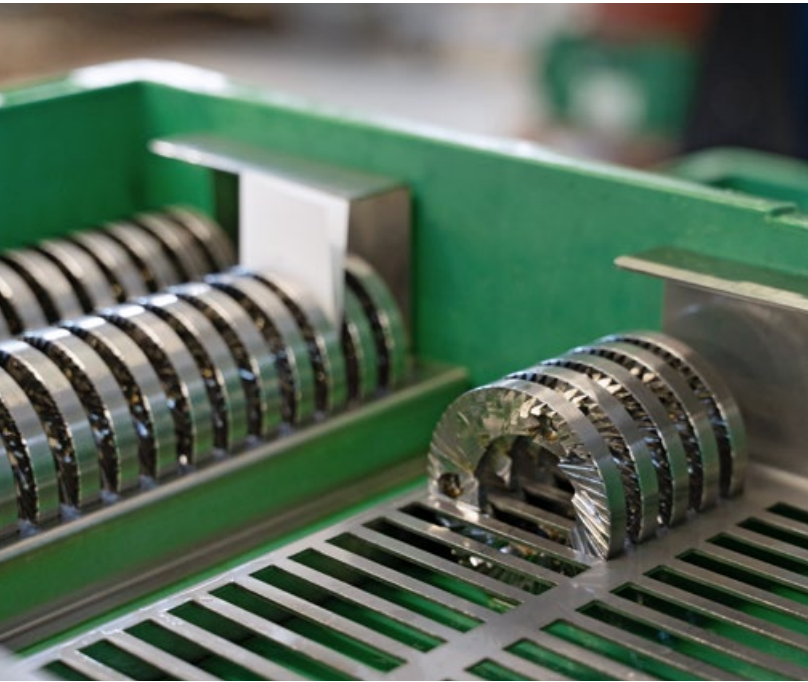
Push & pull information plus status dashboards
INDEX offers a variety of ways to access events, data, and analyses. In addition to the iX4.0 MobileApp, which is primarily used for



push notifications, the iX4.0 web applications provide more in-depth information. Users log into the website and can then retrieve productivity analyses, compare individual machines, evaluate alarm logs, and much more using a pull-based approach. For Production Manager Fetzer, this data provides valuable insights: "During the ramp-up from two-shift to three-shift operation, these analyses quickly and transparently showed us what needed to be changed in order to achieve stable output levels. Within four weeks, we increased output in three-shift operation by five percent—iX4.0 played a part in that."

As a third visualization option, INDEX offers what are known as status dashboards that continuously display production activity without requiring user interaction. At present, one such dashboard is installed in the production manager's office. However, there are plans to display the dashboard on large monitors in the production hall. After all, visualization and transparency are important for employees as well.

INDEX iX4.0 across the entire production facility
In WMF's turning department, all twelve CNC turning machines from other manufacturers have now been connected to the iX4.0 IoT platform alongside the five INDEX R200 machines. "It didn't take much time," says Mathias Keller. Installation was carried out by an INDEX service



technician together with an independent external service provider responsible for wiring the machine signals. "It was completely straightforward," Keller concludes. "The costs are also reasonable and, thanks to the fixed-price model, easy to budget for." Christopher Kohl adds: "Integration is easiest with new INDEX machines because they are already prepared for iX4.0. But we can also support older INDEX machines and third-party equipment through our IoT connector solution." X

The grinder, with its two grinding discs made of high-chromium alloy steel, is of fundamental importance to the taste of the coffee. The complex geometry of the discs is machined on INDEX R200 turn-mill centers in a single setup.



Photo: WMF Professional Coffee Machines

WMF Professional Coffee Machines—Designed to Perform

WMF GmbH, headquartered in Geislingen an der Steige, Germany, has been part of Groupe SEB since 2016. The global leader in small household appliances offers a portfolio of 45 renowned brands, including SEB, WMF, Tefal, Rowenta, Moulinex, Krups, Lagostina, All-Clad, Emsa, and Supor. Groupe SEB is active in more than 150 countries and generates annual revenue of more than 8 billion euros. One billion euros of that total comes from the professional division, which includes WMF Professional Coffee Machines at WMF's headquarters in Geislingen an der Steige.

WMF GmbH, D-73312 Geislingen, Germany
www.wmf-coffeemachines.com

INDEX inside



New Tech Center opens in Bangalore

The opening of our new Technology Center in Bangalore Aero-space Park, sees us expand our presence in one of Asia’s most dynamic industrial markets. The facility combines a showroom, applications engineering, and service, enabling even closer customer support on site. At its heart is a state-of-the-art showroom for demonstrations, test machining, and events.

INDEX has been active in India for more than 25 years. With the Indian subsidiary established in 2023 and the new facility, we are further strengthening our local expertise. Our goal is to provide even more comprehensive support to customers throughout the entire manufacturing process by combining global expertise with a strong local presence.



Open Factory at the INDEX site in Malacky, Slovakia

INDEX Slovakia welcomed numerous visitors from Central and Eastern Europe to its 2026 Open Factory in Malacky this June. The focus was on tours of the assembly operations and the two-story Hall 3, which opened in 2025 and expanded logistics and assembly floorspace to 8,300 m². The program also included live machine demonstrations and a partner exhibition. On the third day, the site opened its doors to employees and their families.

Malacky manufactures assemblies for all INDEX single-spindle machine series, including control cabinets, power frames, and tool carriers. The site also handles refit projects and systems for 3D metal printing subsidiary One Click Metal.



Investments at our German locations

The INDEX Group continues to invest in the future of its German locations. At Deizisau, the new iXperience Center brings training and customer service together in one central location, both physically and organizationally. Reichenbach is growing as well: Engineering and development, along with electrical engineering and controls engineering, have recently been brought together in modern facilities.

These steps take INDEX closer to its goal of consolidating all technical functions across its Reichenbach and Deizisau locations. Further reorganization measures are already planned for early 2027. In this way, INDEX is laying the foundation for more efficient processes, shorter paths, modern manufacturing and assembly solutions, and an even stronger focus on our customers’ needs.



ยินดีต้อนรับ INDEX Thailand up and running

Since April 2025, INDEX Machine Tools (Thailand) Co., Ltd. has been expanding our presence in Southeast Asia, creating the foundation for manufacturing, engineering, sales, and service in the ASEAN region. Located in the Ta Sit Industrial Estate in Rayong Province, southeast of Bangkok, the facility is at the heart of a strong industrial region, providing ideal proximity to our customers. Managing Director Oliver Prpic is driving the development of local production for CNC turning machines while expanding sales and service activities.

At the same time, local supplier structures are being established to strengthen the local sourcing strategy. Production is scheduled to begin at the end of 2026 with a variant of the INDEX C200. The goal is to establish a technology hub with growing regional value creation.



Exhibition and event highlights 2027

- SHOT Show, Las Vegas, USA
IMTEX, Bangalore, India
INTEC, Leipzig, Germany
MECSPE, Bologna, Italy
INDUSTRIE, Lyon, France
INNOTEC, Bern, Switzerland
STOM-TOOL, Kielce, Poland
CIMT, Beijing, China
INDEX Open House, Deizisau, Germany
PMTS, Cleveland, USA
EXPOMAFE, São Paulo, Brazil
SIAE, Paris Air Show, Le Bourget, France
EMO, Milan, Italy
MSV, Brunn, Czech Republic
METALEX, Bangkok, Thailand
ENGIMACH, Gandhinagar, India
- › January 19–22, 2027
› January 21–27, 2027
› March 2–5, 2027
› March 3–5, 2027
› March 15–18, 2027
› March 16–19, 2027
› April 6–9, 2027
› April 19–24, 2027
› April 13–16, 2027
› May 4–6, 2027
› May 4–8, 2027
› June 14–20, 2027
› October 4–9, 2027
› October 2027
› November 2027
› December 1–5, 2027



INDEX
OPEN HOUSE
2027

Save the date!
April 13–16, 2027
Deizisau / Germany



NEW @ INDEX



New Managing Director for INDEX Thailand

Oliver Prpic has served as Managing Director of INDEX Thailand since 2026, and possesses more than two decades of international experience in the machine tool industry. He previously held management and sales positions with leading German machine tool manufacturers.
We wish him every success!

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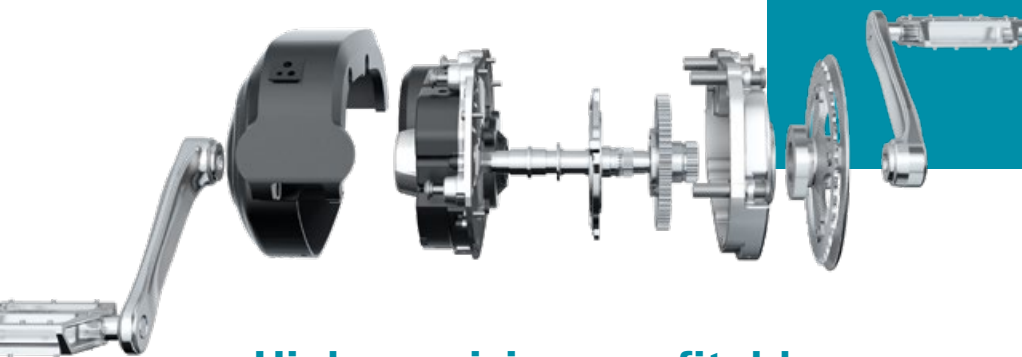
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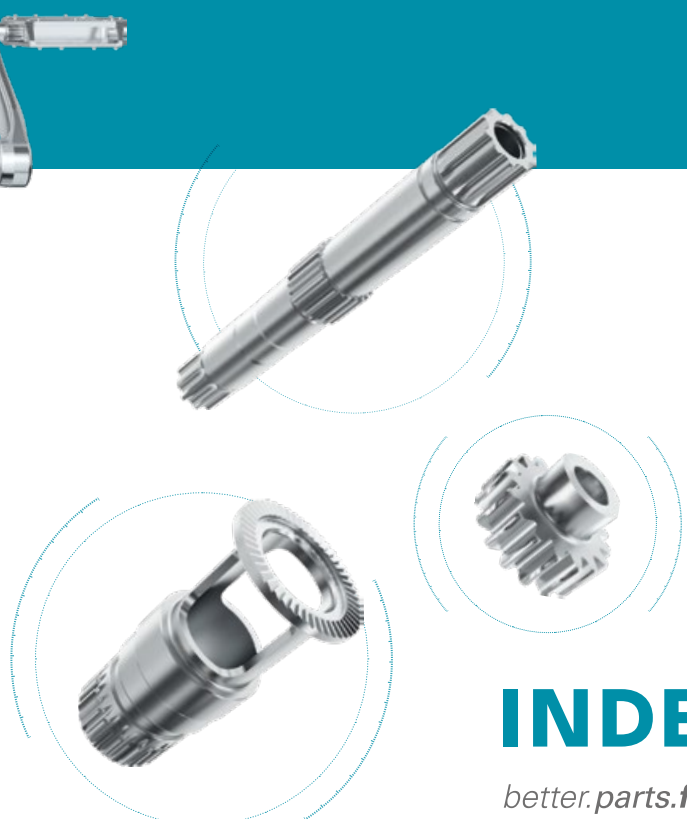
**Create parts
that make our world
a better place!**



High-precision, profitable manufacturing solutions

A wide range of electric motor components, including stators, rotors, drive shafts, and crankshafts, is already being produced on INDEX turning centers, turn-mill centers, sliding headstock turning machines, and production turning machines. Discover the innovative manufacturing solutions that enable you to produce components with exceptional accuracy and efficiency.

Find out more:
www.index-group.com/mobility-solutions



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