NEWS.

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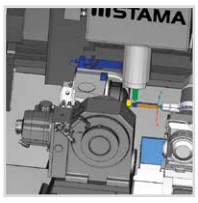
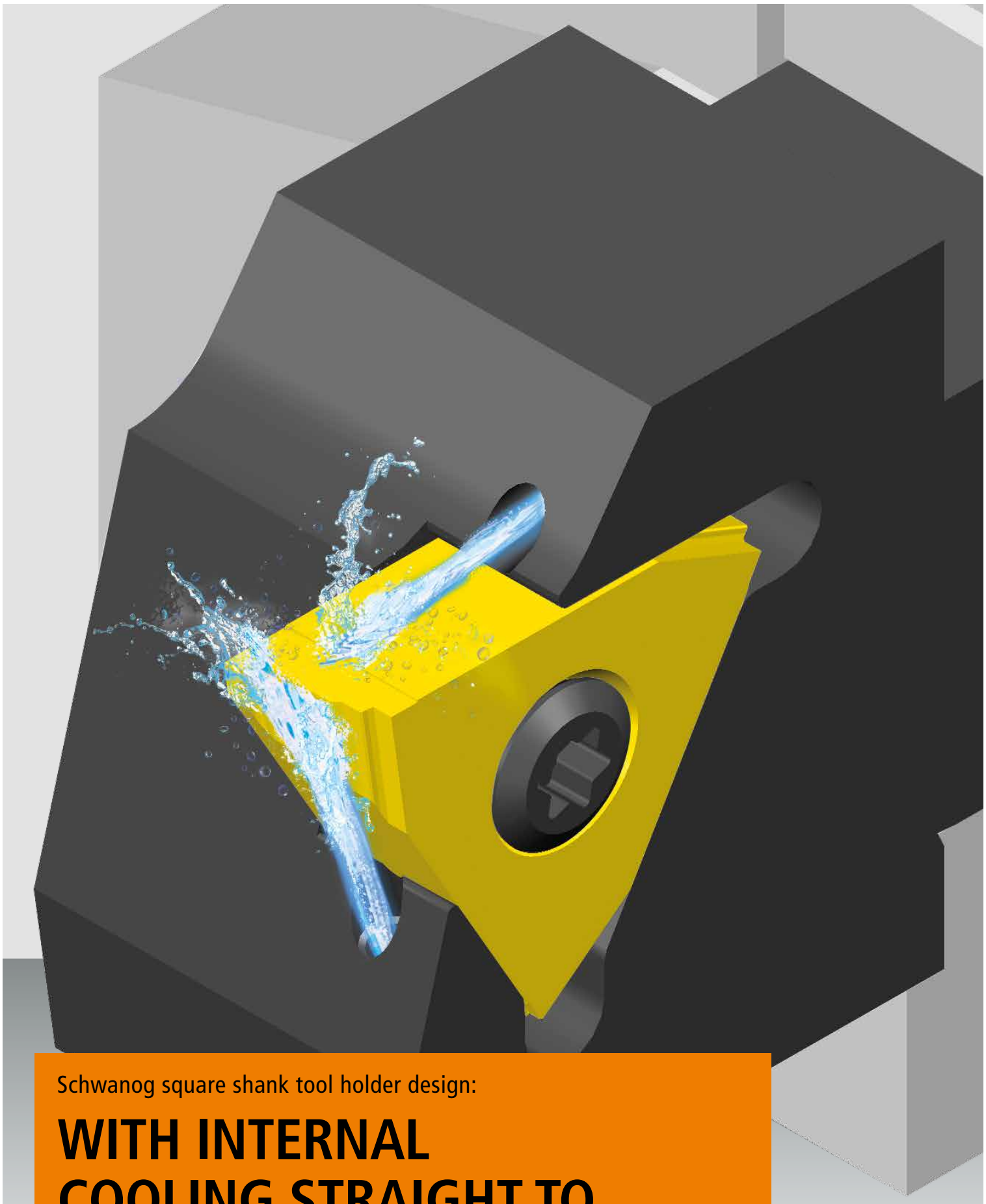
THE SCHWANOG NEWS FOR CUSTOMERS, EMPLOYEES, AND FRIENDS OF THE COMPANY.





Schwanog square shank tool holder design:

WITH INTERNAL COOLING STRAIGHT TO THE CUTTING EDGE!

PAGE 02

EDITORIAL:

Dear business partner,

in our new issue of the Schwanog News, we again present you with examples of highly productive tooling solutions and News from the world of Schwanog.

In our cover story we introduce the new Schwanog square shank tool holder design with internal coolant. Due to the coolant going straight to the cutting edge we achieve maximum tool life and improved chip flow. Read about all the facts on page 2.

In another topic on page 3, we reflect on the enormous advantages of the highly cost-effective milling of longitudinal serrations in a single pass with the Schwanog solid carbide milling cutter.

We have also invested further in our own production capabilities and have sustainably increasing our programming quality with the new simulation software "Vericut".

More on this topic on page 2 where we describe all the advantages of this software solution.

Furthermore, we report on the 25th anniversary of our highly merited employee Wolfgang Dold and on our apprentices "Lukas and Manuel" who successful passed their exams to become metal cutting machinist.

The world economic climate and the global business outlook are once again showing their positive side.

We should take advantage of these future perspectives to develop our business successfully together.

Clemens Güntert
Managing director

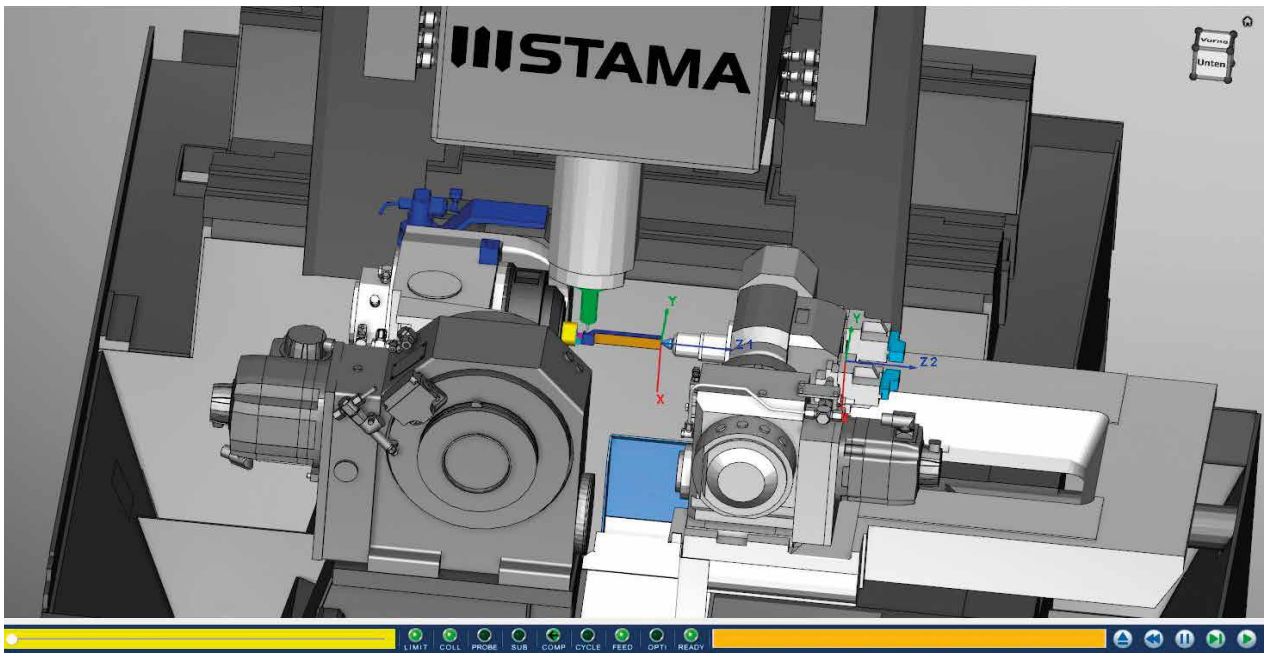
schwanog

Increasing programming quality for Schwanog toolholder manufacturing:

THE NEW SIMULATION SOFTWARE VERICUT!

With the investment in the Vericut simulation software, we can significantly increase the programming quality in the manufacture of our toolholders on STAMA machines.

Vericut performs a control function and has recently been used for all new and modified holders. As a result, we achieve a cost-effective optimization of our processes in toolholder production.



The process steps using the Vericut software:

- Usual programming via the CAM program
- Transfer of the program to Vericut including clamping devices, raw material, tools, and NC program
- Complete simulation of the NC program in the Vericut environment

With the Vericut software, it is possible for the CAM programmer or machine operator to see the effect of the programming in a real production environment. This not only significantly increases the safety aspect but also means a measurable time saving.

After the successful introduction of the Vericut software on the first two machines, further machines will follow.

Scan QR code and watch the Vericut movie ...

Fact Check:

- The CAM program used still has its absolute purpose, because the Vericut software is not programmable.
- While the CAM program only shows the CAM internal simulation, Vericut can also simulate the exact machine data (in a real environment) that will produce the toolholder at the end of the manufacturing process on the machine.
- By using Vericut, expensive machine crashes can be avoided.
- For all new and modified parts, a simulation is therefore always carried out, first by Vericut, before the Schwanog toolholder is manufactured on the milling center

Schwanog square shank holders with internal cooling:

STRAIGHT TO THE CUTTING EDGE!

Schwanog has standardized square shank holders for its PWP and WEP insertable tooling systems with internal cooling, they fit standardized VDI DIN69880 (VDI3425) holders.

All toolholders are designed for internal coolant supply straight to the cutting edge.

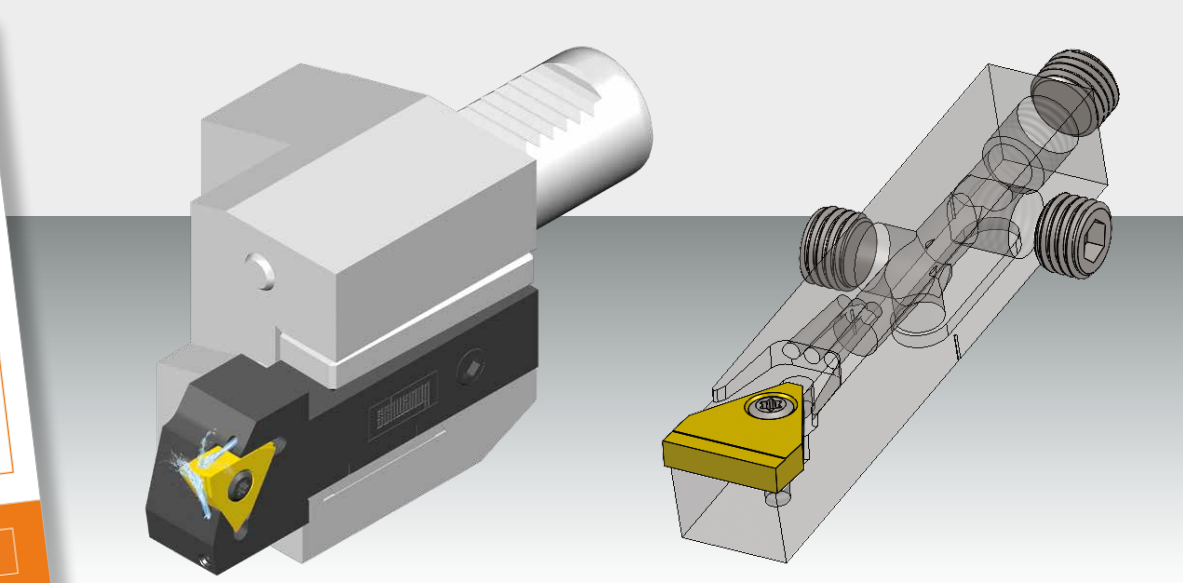
The coolant is transferred via 3 connections located on the left-hand, right-hand, and rear of the holder. Depending on the shaft size, the connections are M8x1, G1/8 or G1/4.

Square shank dimensions are additionally designed for a coolant transfer at the bottom of the holder via a bore and slotted hole.

The screw plugs included in the scope of delivery are used to seal the connections that are not required; sealing at the bottom of the holder is purely by surface pressure.

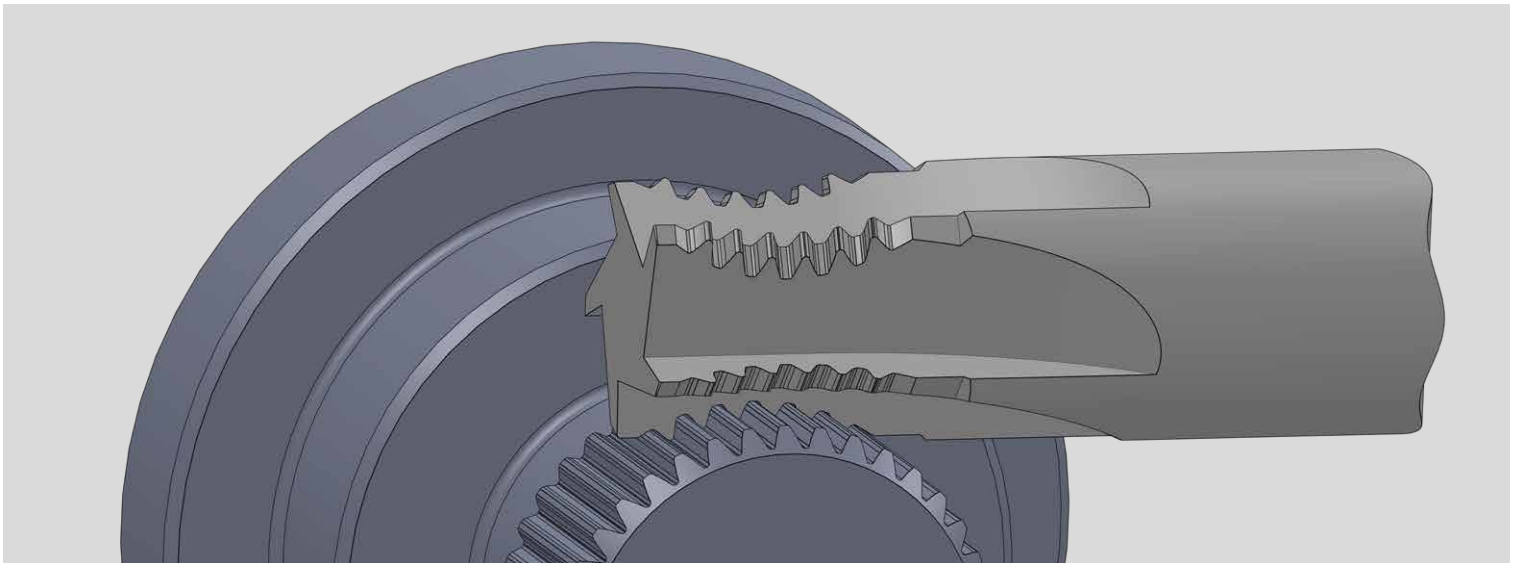
System Highlights:

- Internal coolant supply straight to the cutting edge
- Coolant connections left, right, rear and bottom
- Highly flexible, fits in all VDI basic holders
- Tool life Increase due to targeted cooling
- Improved chip flow
- Short, compact tool and head lengths



Highest precision and process reliability, through milling in a single pass:

COST-EFFECTIVE PRODUCTION OF LONGITUDINAL SERRATIONS!



For the economical production of longitudinal serrations, Schwanog offers a perfect solution with maximum precision and process reliability. Depending on the profile and accuracy requirements, several teeth can also be milled simultaneously in one cut. Of great benefit is the fact that the manufacturing process does not require any special machine-side prerequisites. Only a motor-driven tool, a C-axis and a Y-axis are necessary.

Application example:

A current application example clearly shows the cost-effectiveness that can be achieved with the new Schwanog milling cutters when manufacturing longitudinal serrations.

The benefits:

- Cost-effective production of serrations by milling
- Highest precision and process reliability
- Depending on the profile and accuracy requirement, several teeth can be manufactured in a single pass
- Simple process, only a motor-driven tool, C-axis and Y-axis are required
- Complete machining in a single pass

Technical parameters:

- Cutting diameter: Ø4 - Ø16 realizable
- Number of cutting edges: z = 3 - 6 teeth
- Gear modules 0.25 - 5 realizable

Material	QST34-3 / 1.0213
Machine	NC lathe emulsion cooled, AGW-VDI25, C-axis + Y-axis
Process	Longitudinal milling serration module 0.5 Number of teeth z=38 tip diameter - Ø19.5 Base diameter - Ø18; with 1 cut 5 teeth are milled simultaneously Tooth length 20 mm
Milling cutter	solid carbide tool cutting diameter - Ø11.7 5-tool, shaft - Ø12
Cut parameters	vc = 112 m/min n = 3050 rpm (speed) fz = 0.045 mm/tooth ➜ f = 0.22 mm/rev. ➜ vf = 670 mm/min (feed rate)
Cycle time	15 sec (8 milling cuts)
Tool life	1200 parts process reliable

Specialist in metal cutting technology:

WOLFGANG DOLD CELEBRATES 25 YEARS AT SCHWANOG!

Wolfgang Dold can rightly be called a Schwanog veteran. Because after 25 years with the company, he is one of the longest-serving employees in the Schwanog-Team.

His professional development is characterized by the passion for machining. In 1977 he completed his training as an industrial mechanic at the Anton Tränkle company in Triberg-Schonachberg. He then moved on to work for Schwanog in 1996.

To be best prepared for future challenges, Wolfgang Dold decided in 2000 to take part in further training in CNC technology Turning and Milling at the BBT, technical college in Tuttlingen.

His hobbies are riding his motorcycle and playing chess; he also enjoys participating in chess tournaments as a club player for his team Furtwangen-Vöhrenbach.

Today, Mr. Dold is one of the most experienced machining specialists at Schwanog and is a strong pillar in the production team managed by Franz Hummel.

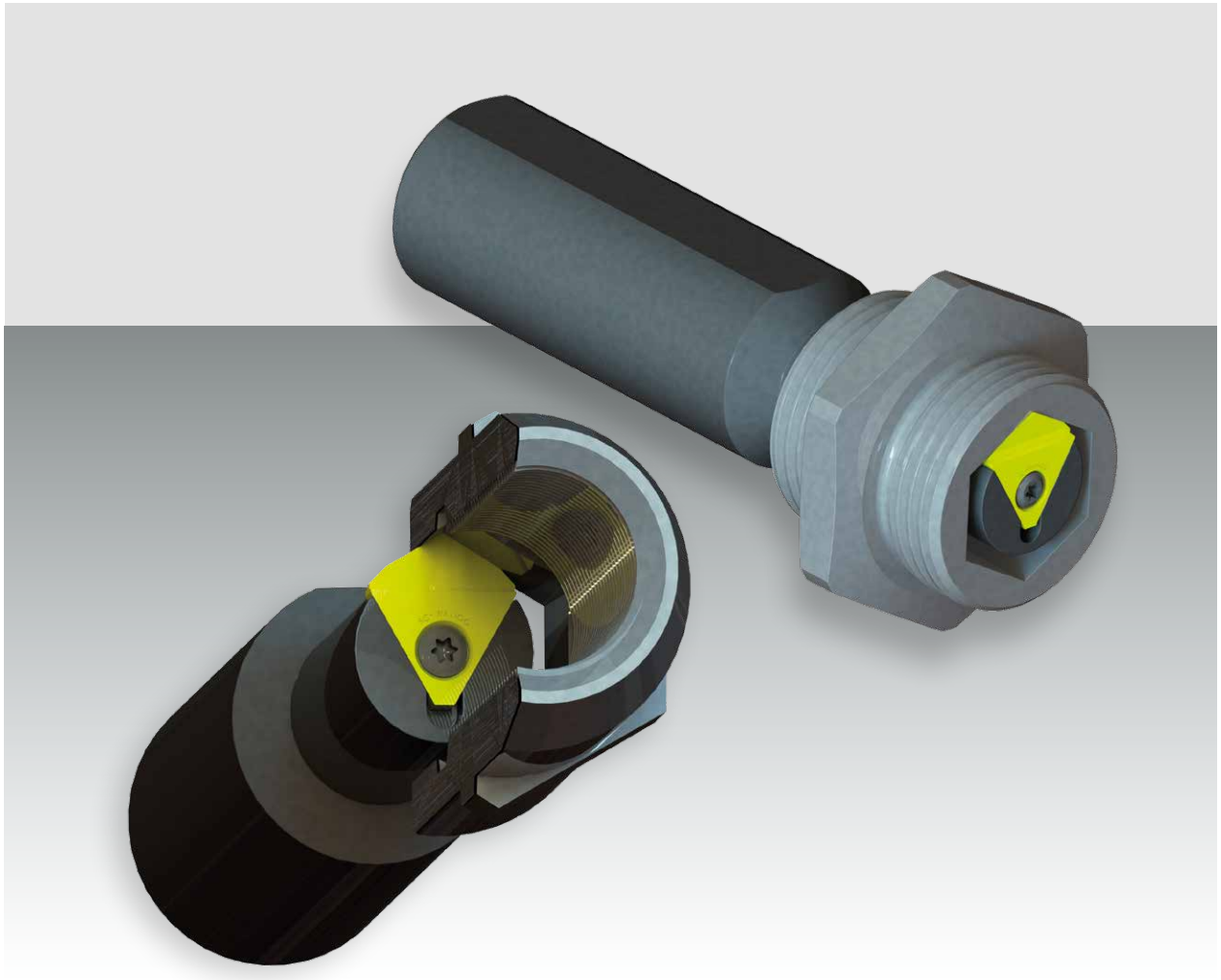
Our photo shows him together with Franz Hummel and Managing Director Clemens Güntert at the ceremony honoring his anniversary.

From left to right: Franz Hummel, Wolfgang Dold, Clemens Güntert

When the highest performance is required:

INTERNAL BROACHING WITH THE SCHWANOG HSS PWP SYSTEM!

With the Schwanog PWP system made from HSS, we enable the broaching of wrench flats and serrations in a single process on the machine. Compared to conventional wobble tools, the Schwanog solution offers convincing advantages in quality and economy. Keyways, wrench flats, serrations, as well as special shapes can be produced highly efficiently.



The advantages:

- Machining in a single process on the machine
- Broaching tools for special shapes
- Manufacturing of wrench flats and serrations, which must be exactly positioned relative to the adjacent component
- Reduced cutting pressure compared to wobble tools, thus increasing quality, and longevity of the machine
- Lower tool costs compared to wobble tools, ensuring optimized cost-effectiveness

Contact our technical sales specialists about your manufacturing projects of keyways, wrench flats, serrations, and special shapes - we will increase your productivity!

Graduating as a metal cutting machinist:

THE PERFORMANCE OF LUKAS AND MANUEL IS OUTSTANDING AND VERY IMPRESSIVE!

Qualified specialists are still best trained within the company itself. With the philosophy of managing director Clemens Güntert, several apprentices in technical and trade professions are trained every year at Schwanog to become specialists in their professions. The apprentices receive active support from apprentice manager Patrick Faller, who became responsible for the technical area last year.

Two trainees, namely Manuel Hezel and Lukas Hergenröder, successfully graduated in February 2021 as metal cutting machinist. They are now working as qualified employees in production. We would like to introduce you to both employees:

Manuel Hezel

Manuel is 20 years old and has been working as a wire cutting specialist at Schwanog's EDM center since his successful graduation. Manuel hobbies are motorcycling and cycling.

Lukas Hergenröder

Lukas is 21 years old and has been working in the milling department since February 2021 as a milling specialist for Schwanog toolholders and special solutions. His favorite hobbies are fitness and boxing.

From left to right: Patrick Faller, Manuel Hezel, Lukas Hergenröder, Clemens Güntert

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