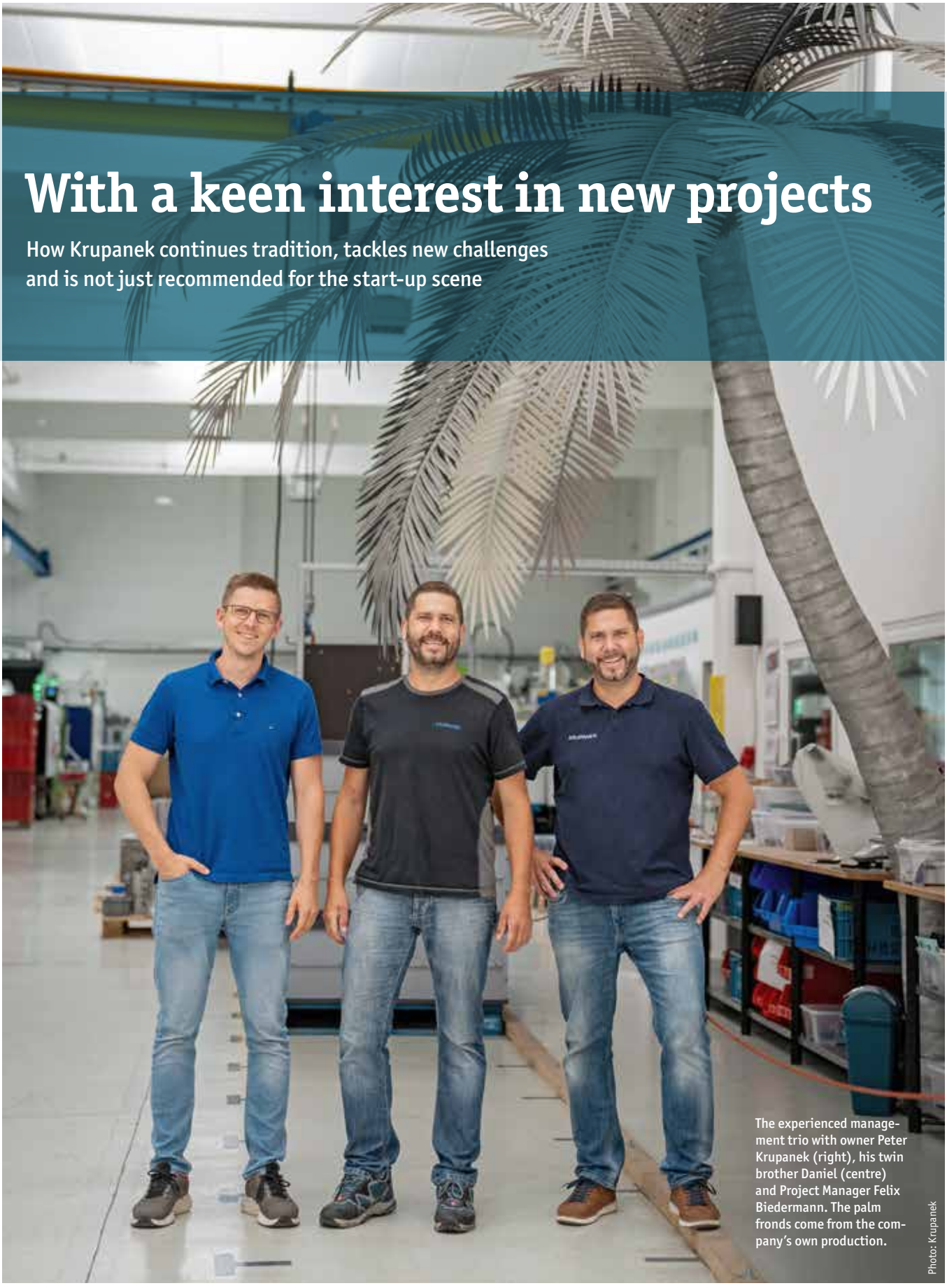
With a keen interest in new projects

How Krupanek continues tradition, tackles new challenges and is not just recommended for the start-up scene



The experienced management trio with owner Peter Krupanek (right), his twin brother Daniel (centre) and Project Manager Felix Biedermann. The palm fronds come from the company's own production.

Photo: Krupanek

The appeal of the challenge drives those responsible at the family-owned company Krupanek in Untermeitingen, which has 45 employees. When the Berlin-based start-up Lab2 developed a product idea exclusively for Degussa Goldhandel, Krupanek accompanied the project through to series production and then took over the series manufacturing of the packaging for 1 g gold bars. The manufacturer, which specialises in niche products, produces the transparent precision items in credit card format on Boy injection moulding machines. Boy is firmly established as a supplier in the clamping force range up to 1,250 kN. K-PROFI spoke with the two partner companies about their long-standing cooperation and the core competencies of a "plastics manufacturer with touchpoints in all industries".

Text: Dipl.-Ing. (FH) Sabine Rahner, Editor K-PROFI

Photo: K-PROFI

Peter Krupanek introduced the winding of coils for a medical sound wave therapy device because the client could not find a reliable supplier.

"90 per cent of our business involves smaller orders in the range of 5,000 to 20,000 pieces, even though we produce both single pieces and large quantities. We are the plastics manufacturer. Small series are our core business and our speciality, and we have mastered this," explains owner Peter Krupanek. In addition to injection moulding, stamping and bending are also a focus. The majority of the injection-moulded parts are finished into complete assemblies in the company's own assembly hall. This includes a medical sound wave therapy device. Krupanek accompanied the development, injection moulds different coloured housing parts with LED illumination, refines them using pad printing, assembles circuit boards, winds coils, assembles them into a functional device, carries out functional tests and lasers the serial number for the traceability of the medical device.

Peter Krupanek explains why Krupanek winds the coils itself: "Originally, finished coils were to be supplied, but the client was unable to find a reliable supplier. So, I visited a supplier of enamelled copper wire, did my homework, got hold of a used machine and simply started winding. After a week, we were the supplier of the coils ourselves." Doing things yourself is in the family's genes. The late Peter Krupanek Snr. started plastic processing when he founded KE Plastik GmbH in 1971.

Most of the injection-moulded parts are refined into complete assemblies or devices. Krupanek sets up its assembly lines or establishes alternating workstations for this purpose in this hall.

Photo: K-PROFI

The assembly of fully functional devices in small batches is a key focus at Krupanek. This also includes the assembly of circuit boards.

Photo: K-PROFI

Photo: K-PROFI

In 2006, the two brothers took over the customer base of KE-Plastik GmbH, which was founded by their father in 1971. Daniel Krupanek (right) is responsible for injection moulding production, while owner Peter Krupanek manages the company.

Daniel Krupanek is responsible for the regular field tests of Boy equipment. The LR 5 linear handling system also underwent critical testing here before its market launch.

Photo: K-PROFI

In 2002, his son Peter Krupanek took over a stamping and forming technology business, supplied the catering market and, a year later, expanded into the manufacture of plastic products. In 2006, the two companies merged. "My twin brother Daniel and I took over our father's customer base. Whether it was stamping, injection moulding, mould making, electronics or machine repairs, we always enjoyed getting stuck in and trying out new things."

The compact design was decisive in the purchase

The fun and enthusiasm continue to this day, confirms Daniel Krupanek. He heads up injection moulding production and has gained in-depth knowledge of machine technology. A total of 18 injection moulding machines cover the clamping force range from 250 to 4,500 kN. Eleven machines are from Boy, including two Boy 2CS additional injection units for the manufacturer-independent upgrading of the injection moulding machines for two-component injection moulding. The first Boy machines were installed at Krupanek back in 2013. At that time, the brothers had a small hall at their disposal in Untermeitingen.

The compact design of the Boy machines with their two-plate clamping unit was impressive. "We replaced three machines at the time, starting with a Boy 55, then adding a Boy 100 and a Boy 35. Every square metre of space saved was valuable," recalls Peter Krupanek.

Even when the hall and production area almost tripled in size in 2015 due to the move within Untermeitingen, Krupanek remained loyal to Boy. The machines had proven to be efficient and reliable. A close, friendly working relationship developed. Krupanek became a preferred partner for Boy for field tests and put the Procan Alpha 4 machine control system, the Boy LR 5 linear handling system and the Boy 125 E injection moulding machine model through their paces before their market launch. "As machine manufacturers, we cannot replicate the experience gained here under production conditions," says Daniel Sattes, Technical Consulting and Sales at Boy, with conviction. Boy benefits above all from the varied and rare applications in terms of tools and materials, which are hardly to be found in this form at any other processing company. Krupanek was therefore able to contribute to improvements and further developments

Krupanek has been working with Boy machines since 2013 and, in addition to their compact design, particularly appreciates their repeat accuracy and precision.

Photo: K-PROFI

The 350 kN machine was one of the first of the eleven Boy injection moulding machines now available, covering a clamping force range from 250 to 1,250 kN.

Photo: K-PROFI

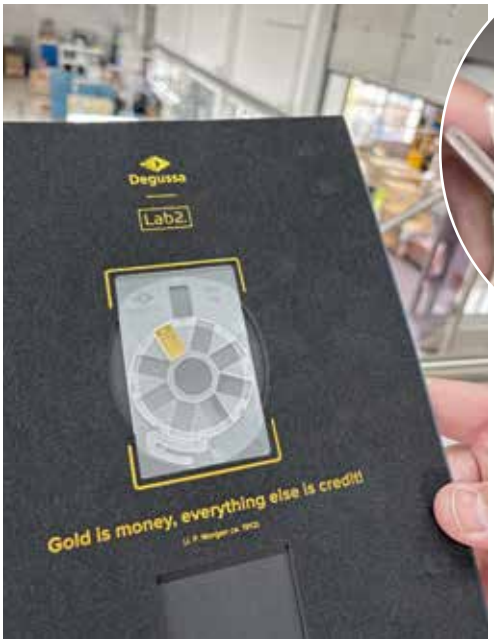


Photo: K-PROFI

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For the transparent and thin PC half-shells, the Boy 60 E works with high injection pressures and highly polished mould inserts.

Krupanek accompanied the development of the Degussa Gold Card with Lab2. GmbH until it was ready for series production. An elegant credit card-sized package with eight slots for 1 g gold bars.

of the machines in many ways with its ideas. "Daniel Krupanek soon knew more than our technicians at Boy," jokes Daniel Sattes. The technical consultant and sales representative responsible for the Bavaria region also appreciates the open doors at Krupanek. "I am welcome to come here at any time with interested parties for machine demonstrations. With the exception of our smallest Boy XS E with 100 kN, Krupanek now has our complete clamping force portfolio."

Repeatable and precise in production

The exchange takes place in both directions. The mutual support is based on a friendly relationship and is a matter of course, emphasises Peter Krupanek. The direct line to Boy, from the development department to the technical department to the management, allows them to react quickly and flexibly to different production requirements. As an example, the owner cites an injection moulding solution for marbled components required for a customer application: "Boy already had experience with marbling and immediately provided us with the technical templates for replicating the mixing head and the software adjustments for linking the Boy 2CS unit to our Yizumi injection moulding machine."

Daniel Krupanek particularly appreciates the repeatability and precision of Boy's servo-hydraulic injection moulding machines. They are the first choice when it comes to high-precision components, such as the thin, transparent half-shells for the Degussa Gold Card. High injection pressures and highly polished mould inserts ensure that the cavities are filled precisely with polycarbonate. The individual parts are then ultrasonically welded via minimal contact surfaces. An integrated turntable opens and closes the eight slots for 1 g gold bars from Degussa. The idea for this elegant packaging for gold for the purse came from the Berlin-based product development start-up Lab2. Its Managing Director, Aaron Holzhäuer, became known in 2022 as a 16-year-old participant in the TV show "Die Höhle der Löwen" (The Lion's Den) with his product idea of a lockable bicycle box he had developed himself. Krupanek already accompanied the development of this innovation, marketed under the BeeMyBox brand, and now manufactures all the plastic components and assembles the box into a packaged product ready for shipment.

The current Lab2 managing director developed the bicycle box when he was 16 years old. Krupanek is now implementing the idea, manufacturing the injection-moulded parts and assembling the complete boxes.

Photo: K-PROFI

Peter Krupanek invested in the development and injection moulding tools for the MoveMaster hybrid joystick, which is highly sought-after in the gaming scene, and is now a co-partner.

Photo: K-PROFI

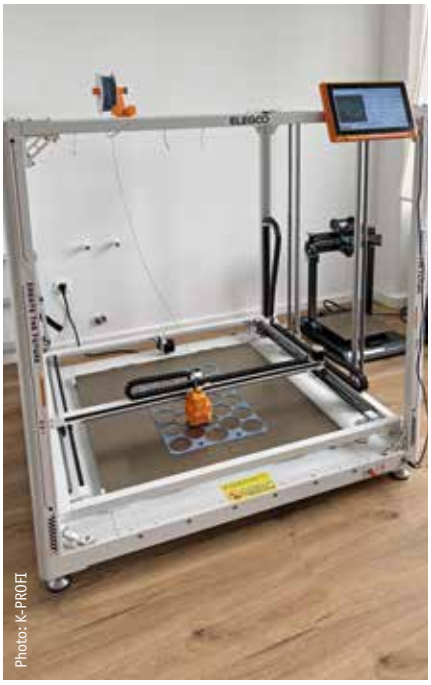
Krupanek manufactures the housing for the MoveMaster joystick on a Boy 125 E. The hybrid mouse and keyboard is assembled, function-tested and shipped at Krupanek.

Photo: K-PROFI

Felix Biedermann, a trained toolmaker, studied mechanical engineering while working and is a certified technical business economist. Today, he is the project and development manager at Krupanek.

Krupanek took over the equipment and expertise for the brush plug from its former supplier. The autoclavable hand washing brushes are the company's own product and are sold wholesale to clinics and other customers.

FDM printer with a build size of up to 800 × 800 × 1,000 mm, used here to construct product-specific transport protection.



Housing for tracking sea containers: Krupanek converted a 3D printer to apply the silicone seal.

These polygon reflectors for solariums are produced using high-precision injection moulding on a Boy 100 E and are then coated with aluminium vapour.

Partner for start-ups and traditional products

"We are currently receiving a lot of enquiries from the start-up scene in Berlin," reports Peter Krupanek. Word has spread that Krupanek successfully accompanies product ideas through to series production and has the necessary network at its disposal. Together with designer Jakob Diezinger, for example, a manual espresso machine was developed that is ready for injection moulding – without the use of electricity, but with a spring-loaded torque wrench to adjust the brewing pressure. The first Emanuale manual machines, manufactured by Krupanek and assembled with 65 individual components purchased from external suppliers, were delivered in July 2025. The MoveMaster hybrid joystick, a hybrid of keyboard and mouse, has been on the market for several years. Initially hidden away in the gaming scene, an influencer video triggered a boom. "We are constantly sold out," says Peter Krupanek, who became a co-partner of MoveMaster GmbH in Deggendorf through his investments in development and injection moulding tools. Krupanek manufactures the housing components on a Boy 125 E, assembles the complete hybrid device with circuit boards, cable harnesses, buttons, etc., performs functional testing, packages and ships to end customers.

In addition to constantly changing new projects, Krupanek also continues to produce traditional items, some of which originate from the activities of Peter Krupanek Snr. These include industrial cleaning brushes for optical applications. The brushes are a Krupanek product, as are autoclavable hand washing brushes, which are sold to clinics and medical practices through wholesalers. Five years ago, Peter Krupanek even learned how to stuff brushes for the hand washing brushes because the previous service provider had to close his business due to old age. "I learned how to stuff brushes there and then passed it on to my employees after we took over the brush stuffing equipment and transferred it here."

Photo: K-PROFI

Small production runs regularly require a decision to be made as to whether 3D printing is an economical alternative to injection moulding. In addition to initial samples, Krupanek also offers additively manufactured small series.

Management trio of experienced tool specialists

Keyword: do it yourself. Those responsible are convinced that approaching tasks with an open mind and unconventionally, as well as finding practical solutions, are part of Krupanek's recipe for success. There was only one project that the management trio had to abandon: setting up their own large tool shop. "That was very painful for us, but here in Germany you can't find enough people for it." Krupanek outsources around 100 injection moulding tools per year. The two-man in-house tool shop can produce two to three tools in addition to classic maintenance and repair work. It offers the necessary flexibility when things have to be done very quickly. The experience flows into all projects. Krupanek was recently involved in the development of plastic disc springs for a large bed manufacturer. "We carried out the load calculations, selected the material, designed the components, 3D-printed the initial samples and designed the tools," emphasises Felix Biedermann, who is responsible for project and development management at Krupanek.

Krupanek introduced 3D printing back in 2012 and is constantly expanding the technology. The company now uses the latest generation of FDM printers – from powerful desktop systems to large-scale industrial systems with a build volume of 800 × 800 × 1,000 mm – supplemented by high-resolution stereolithography technology. The 15 3D printing systems are used for prototypes, initial samples and small series, as well as increasingly for system structures, assembly aids and removal grippers in the company's own production. The inventors have also converted a 3D printer so that it can apply a silicone sealing bead. This is used in a data logger that is used to track sea containers. Krupanek manufactures the robust housing shells with silicone seals for this purpose.

With the exception of purchased parts such as decorative stones and circuit boards, Krupanek manufactures, prints and assembles the components for electric nail files for manicures and pedicures.

As part of the development of this sustainable toilet block holder, Krupanek printed the first prototypes and designed the tool and packaging, among other things.

"People have lots of ideas"

Laser deflection mirrors, coffee grinders, polygonal reflectors for solariums, supply air silencers for boiler manufacturers, fronds for artificial palm trees, stepper motor end caps for the aerospace industry, fins for German Life Saving Association (DLRG) stand-up paddle boards, hand sanders for manicures and pedicures with sapphire and diamond -coated grinding attachments, belt buckles for prisons in Germany, holders for toilet cleaning tablets from a sustainable brand, trackers for sea containers or high-quality perfume bottles for Jette Joop – the list of small-batch products "made in Germany" is endless. Krupanek is also open when it comes to materials. Within the plastics sector, the spectrum ranges from polyolefins, ABS and PPA to high-performance materials such as LCP, PEI and PEEK, and from glass beads to glass, carbon, Teflon and aramid fibres for reinforcement. In addition to plastic, wood, glass, metal and stone are also processed as required. The manufacturing network also offers painting, chrome plating and even 24-carat gold plating. "We really enjoy this diversity with touchpoints in all industries," confirms Peter Krupanek.

The friendly cooperation between Boy and Krupanek is also underlined by Carolin Metzker and Julia Kröll (from left) from Boy Marketing and Daniel Sattes (2nd from right), who represents Boy in the Bavaria region in technical consulting and sales.

And Felix Biedermann adds: "If you're looking for a common thread in our activities, it's the thrill of the challenge. Many customers are amazed at what we can do."

Peter Krupanek takes a positive view of the economic situation: "Business was a little quieter for a few months, and project awards were more hesitant. Nevertheless, our figures are better than last year, and there are many projects in the pipeline that will start soon. People have lots of ideas." But Krupanek himself is not short of ideas either. The space is being expanded to accommodate the numerous sample models and approved parts. Digitalisation is being driven forward. Employees are gradually being equipped with their own tablets, and work instructions are now communicated via video clips and voice messages. After three years of establishing the Sage ERP system and linking it to the Asana project management tool, Krupanek wants to take the next step and is now starting its own AI development for production planning, including data exchange with Boy injection moulding machines. The changing projects and the many supplier parts for assembly increase the complexity of production and personnel planning. Further injection moulding machines are to be replaced and exchanged for Boy machines in the clamping force range up to 1,250 kN. "The cooperation with Boy will continue," Peter Krupanek is convinced.

www.krupanek.de
www.dr-boy.de