# INSIGHTS



PRODUCTS.

### Preface

Dear business partners and customers, colleagues and employees,

After almost a decade of record results, 2020 proved to be a year that simply could not have shown more curiosity. Although a noticeable decline in business volume in the engineering sector already began in 2019 and continued into the spring of 2020, we were optimistic that Hermle, as a 'breathing company', would be able to react very flexibly to market downturns. However, Corona and the resulting restrictions have had a massively negative impact on our annual planning. What was right one moment could be wrong the next, and we had to adapt constantly to the given circumstances. Our workforce's great willingness to be flexible was the decisive factor here. All trade fairs, workshops and above all our in-house exhibition that had been planned for 2020 were cancelled. Our Annual General Meeting was also held as an online event without attendance.

Under these circumstances it is no easy task to maintain contact with you. Quickly convened webinars and digital events have helped, but are no substitute for a personal meeting.

Nevertheless, we are looking positively to the future and stand with you as a reliable partner. Especially the automation solutions which have been strongly emphasised in recent years represent one of our major plus points. The importance of an integrated automation strategy is particularly evident now. We have gained your confidence with numerous solutions and automation projects that are already up and running. This especially includes software innovations, and in particular our HACS digital module that helps you and your employees to maintain economic production in the future. Challenge us and invest in your networked and automated production through our products. Tell us your requirements and we will work out the appropriate solutions together.

We would like to take this opportunity to thank you for the trust you have placed in us and for a good, cooperative partnership. We wish you and your families a Merry Christmas and a good and healthy transition into 2021.

Kind regards,





### **Pallet changers**

INTUITIVE, FAST, AS COMPLETE TRANSPORT.

We are breaking new ground in setup during production time with our pallet changing systems. Our adaptable storage systems enable a further increase in productivity: The machining centres can be set up for production by means of a pallet storage system or to suit individual customer requirements.

PW 100 | PW 150 | PW 850 | PW 2000 | PW 3000

#### **Robot Systems**

INDIVIDUAL, HIGHLY FLEXIBLE, THE TOP CLASS.

Whether for pallet handling, changing workpieces from dies or directly from the rack storage: The robot systems can be adapted to all Hermle machining centres and they are available in different versions, From the RS 05-2 robot system for small pallets and components via the RS 3 system with a maximum transport weight of 420 kg to a linearly linked, highly productive system.

RS 05-2 | RS 2 | RS 3 | RS L

#### **Handling systems**

SIMPLE, USER-FRIENDLY, UNMANNED RUNNING TIME

For efficient production. Pallets in a wide variety of shapes, sizes and weights can be handled automatically by handling systems to achieve advantages in cost and time.

HS FLEX | HS FLEX HEAVY | IH 30 | IH 60 | IH 100 | IH 300

PRODUCTS.

## AUTOMATION FOR EVERY APPLICATION.

#### FLEXIBLE AUTOMATION MADE EASY.

Whether a handling system, pallet changer or robot system – we have the right automation solution for your application. Hermle experts cooperate with you to find the right setup for your company and your ideas.

#### **PALLET CHANGERS**



PW 100

MPACT WITH LARGE RACK STORAGE



PW 150

COMPACT WITH LARGE RACK STORAGE



PW 850
RELIABLE AND PRACTICAL



PW 2000

FOR LARGE/HEAVY PARTS



PW 3000

VARIABLE FOR LARGEST PARTS

#### **ROBOT SYSTEMS**



RS 05-2

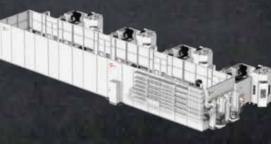
COMPACT AND MODULAR



RS 2
FLEXIBLE AND VERSATILE



RS 3
VERSATILE AND INDIVIDUAL



**RS Linear** 

VARIABLE FOR MAXIMUM PRODUCTIVITY

#### **HANDLING SYSTEMS**



**HS flex** 

FLEXIBLE AND COMPACT



**HS flex heavy**FLEXIBLE AND COMPACT



IH systems
STRAIGHTFORWARD AND PRACTICAL





THE ONLINE TRAINING COURSES OF THE HERMLE USER COLLEGE

#### TRAINING OVERVIEW:

- Basic programming and operation 3 days
- + Upgrade TNC 640 1 day
- + 5 axes start-up support 1 day
- **Tool measurement** 2 hours



Personal meetings are not possible currently. But we still want to pass on our knowledge. After all, you should always be kept up to date to get the most out of your Hermle machining centres. For this reason, the Hermle User College has been offering additional online training courses on various topics since June 2020. We are currently working on further content. So you can look forward to what's coming.

If you are interested in participating or would like further information, please contact us by email at anwenderschule@hermle.de, by telephone on +49 (0)7426 / 956179 or via our website: www.hermle.de.

PRODUCTS.

# THE AUTOMATION UNIVERSE.

REDUCE NON-PRODUCTIVE TIMES. INCREASE OVERALL PRODUCTION TIMES.

Our HS flex and HS flex heavy handling systems are compatible with almost every Hermle machine and are easy to operate – thanks to the intuitive touch panel. So they increase the efficiency and performance of any production operation. And that in no time at all. Because installation without floor anchoring makes for quick and easy commissioning. Compact, flexible, efficient – this is how automation works today. And by the way, automation can be presented digitally as well as in print. You can discover the whole universe of automation on our website, including an HS flex product film.

#### Your advantages with our handling systems:

- Ergonomic operation: Control the handling system and machining centre simultaneously thanks to the touch panel and intuitive HACS software
- Go full speed ahead with the barcode scanner for fast order entry
- Optionally even more flexibility for you: the rotating set-up station with crane loading for safety in all clamping positions
- The generously designed intermediate space allows the operator direct access to the working area
- One or two storage modules for high-volume pallet storage and therefore long autonomous machine running times

HERMLE WE hermle.de/hsflex\_er

### **AUTOMATION SOLUTIONS**

#### HS FLEX -

THE UNIVERSAL HANDLING SYSTEM

As large as necessary and as efficient as possible.

The HS flex handling system is characterised by its particularly compact size.

- Compatible machining centres: C 12, C 22, C 32, C 42, C 250, C 400
- → Pallets with single and double cone: 240 x 320 mm up to 500 x 400 mm
- Workpieces up to 450 kg
- Up to 25 storage locations per storage module

#### HS FLEX HEAVY -

THE POWERFUL HANDLING SYSTEM

With the HS flex heavy handling system you can deploy the full performance capacity of your employees and effortlessly move pallets weighing up to 1,200 kg.

- Compatible machining centres: C 32, C 42, C 400, C 650
- Pallets with single and double cone: 500 x 500 mm up to 800 x 630 mm
- Workpieces up to 1,200 kg also in oversize
- Individually configurable storage modules with up to 9 storage locations per module
- Also available for MT machines







No corners or hidden edges - components used in food processing machines must comply with hygienic design principles. Der Span manufactures such components and relies on Hermle machining centres, which create perfect surfaces (including overnight if required) thanks to the HS flex handling system.

founder of a successful company. The 32-year-old decided to become self-employed in 2013 and bought a small machine park for metal cutting. In the beginning he only made simple parts. "We had In April 2017, Matthias Reh expanded his machine park to include machining." That changed in 2015 when he replaced his ageing C 1200 U with a C 42 U from Maschinenfabrik Berthold Hermle AG.

"The obvious plus points were my previous experience with the company and the service," says the trained industrial mechanic. He had already worked on Hermle machining centres during his apprenticeship, and he found he had to call the service technician more and more often for the C 1200 U he had taken over. "Both the commitment and the availability of spare parts were always top notch, even though our machine was almost 20 years old." With the new 5-axis machining centre, both the range of parts and the customer base changed: "The machine arrived in November

Hipster glasses, cap and faded jeans - seeing Matthias Reh for the 2015, and over Christmas we already manufactured the first com-

only older machines that left us far removed from high-precision a C 400 U with the HS flex handling system in order to produce

"THE FACT THAT WE ARE MANUFACTURING ON HERMLE MACHINES OFTEN MAKES THE QUESTION AS TO WHETHER WE ARE UP TO ACCEPTING AN ORDER FROM A QUALITY POINT OF VIEW SUPERFLUOUS." Matthias Reh



left "Correct clamping of components is very important, otherwise dangerous imbalances develop during the machining process," explains Matthias Reh. right Ergonomic working on the C 400 U: The height of the control panel and tilt of the screen can be optimally adjusted to the operator. The panel is also easy to swing from the magazine loading station to the working area.

workpieces with long running times more efficiently. The handling first time, you may be forgiven if you fail to guess that he is the plex tool carriers for the food industry," remembers Reh. "So I was system from Hermle is characterized by its intuitive application, logic and reliability: Rough machining takes place during the manned shift, while finishing is carried out overnight and at weekends. "This step alone takes ten to 14 hours per workpiece," adds

#### CONCEPT OF ROTATIONAL MACHINING ALONE HAS HAD ITS DAY

When the founder of the company wanted to replace an old lathe from the early days of the company, he turned directly to Hermle. "Our turned parts often had to be transferred to the milling machines for a bore or groove. It was clear to us that we needed a system that could do both," he says. He opted for a high-performance machining centre with mill-turn (MT) functionality. As was already the case with the C 42 U, the new production facility has also attracted new customers - this time from the medical technolngy and energy sectors. The challenge here is the variety of materials which Der Span machines on the new C 42 U MT. While the shapes are often similar or even identical, the material varies from cast steel to titanium. The geometries are less problematic: "There is actually nothing complex on the Hermle machine if you have the right machining strategy in mind," notes the industrial mechanic.

Although the milling/turning centre has only been in use at Der Span since September 2019, the investment has paid off for the young company. "The fact that we are manufacturing on Hermle machines often makes the question as to whether we are up to accepting an order from a quality point of view superfluous," reports





Humbel Zahnräder AG is an expert when it comes to gearwheels and transmissions. For five years now, the Swiss family-owned company has been relying on the 5-axis concept and the automation solution from Gosheim and has therefore been able to significantly expand its capacities and secure new orders.

Humbel gear wheels can be found wherever forces have to be transmitted precisely: in motor sports and electric cars, in rail vehicles and machines in the plastics and tool industry. "We support our customers from development, design and construction to production and assembly and therefore supply everything from one source", explains Urs Humbel, CEO of Humbel Zahnräder AG. The company also uses this engineering competence internally for the optimisation of tools and machines: "If manufacturers do not offer good solutions, we automate for ourselves."

#### **NEW STRATEGY FOR MORE CAPACITY**

That this is not always necessary is shown by the machinery in Kradolf in the canton of Thurgau, which includes three 5-axis milling centres from Maschinenfabrik Berthold Hermle AG, including pallet changer. The first machine, a C 22 U, moved in five years ago. "Back then, we wanted to move away from vertical and horizontal machines to produce more efficiently." recalls Urs Humbe "The great advantage of the Hermle concept compared to the 3and 4-axis systems is clearly the simultaneous multi-side machining, which ensures shorter running times and higher throughput rates," explains Midhat Dedovic, foreman at Humbel and responsible for process optimization. The overall package of operation, availability and service amounted to a persuasive argument, so another C 22 U with pallet changer followed a year later.

Last year, the Swiss company was awarded the contract to machine not only individual components but also cast housings for the gearboxes of rail vehicles. "This did not pose a problem in terms of competence. But the existing machines were too small for the The plant was delivered at the end of March 2020, and production large housings," says Humbel. He calculated that market demand justified investment in new plant, and decided to purchase a C 62 U, automated with the PW 3000 pallet changer with eight storage



#### "IN OUR EXPERIENCE, HERMLE IS ONE OF THE FEW MACHINE SUPPLIERS WHO REALLY DELIVER WHAT THEY PROMISE." Urs Humbel

started two weeks later. "It helped us enormously that we already knew the job management and operation of the changer via the chinery and a service provider that can react quickly and compe-Hermle Automation Control System from the other Hermle installatently in case of breakdowns. "In our experience, Hermle is one of tions. The concept is identical for the C 62 U, despite the difference the few machine suppliers who really deliver what they promise." in size," explains Dedovic. He can also rely on the quality and repe-

tition accuracy of the system: "Due to the positive experience with the smaller Hermle machines, we know that the results are always accurate, even in non-stop operation."

#### FROM A SINGLE SOURCE

For Urs Humbel, reliability is a central aspect: "Speed and agility is our daily business." It could be that an order has to be finished in five weeks, including turning, milling, heat treatment and subsequent hard machining. This is only possible with appropriate ma-

SEPO



Cross-system automation that meets the high demands on precision and quality can be found at Heron CNC Technik GmbH in Dornbirn. The core plant consists of two automated milling centres from Hermle, which are connected to the material store via the Servus robot transport system and therefore achieve autonomous running times of around 40 hours.

"For us, quality, precision and service have top priority, which puts DIRECT CONNECTION TO THE MATERIAL STORE us on the same wavelength as Hermle," explains Manuel Gmeiner, Managing Director of Heron CNC Technik GmbH. The Austrian company has been producing prototypes and serial parts mainly from and SAFEDI Distance Control GmbH

Maschinenfabrik Berthold Hermle AG was involved from the very beginning: Ever since the first machining centre was purchased around 25 years ago, Heron has been loyal to the Gosheim-based machine manufacturer and has continuously expanded its machine park to ten 5-axis milling centres in recent years. "We mill exclusively on Hermle machines. Here we are convinced by the service as well as the concept. Thanks to the same control system, every employee can operate every machine - from the C 32 U to the C 400 V," explains Gmeiner.



from left Manuel Gmeiner, managing director of Heron CNC Technik GmbH with Sunay Kartal, CNC milling cutter

The latest investment - two C 32 Us linked to the RS2 robot system – is nevertheless special. "When we invested in the robot plant aluminium since 1999. It is part of the Heron Group, which also includes the affiliated companies Robotunits, Servus Intralogistics Servus robot transport system," explains the managing director. "This way we achieve fully automated production, and in the ideal case we only take notice of an order when it is ready for dispatch."

> "IN THIS WAY WE ACHIEVE FULLY AUTOMATED PRODUCTION, AND IN THE IDEAL CASE WE ONLY TAKE NOTICE OF AN ORDER WHEN IT IS READY FOR DISPATCH." Manuel Gmeiner

Many interfaces had to be synchronized for this. Heron worked hand in hand with Hermle and the Soflex specialists to ensure that the ERP, the warehouse management software and the Soflex control system could interact optimally. The first expansion stage has been completed successfully: If a customer orders an already known component, the ERP system takes care of the planning and material procurement. Once the material is booked in at goods receipt, Soflex is triggered. The software schedules the order according to capacity on the basis of running time, quantity and delivery date and orders the material just-in-time.

#### A WELL-COORDINATED TEAM

The Servus transport robots deliver the raw material to a die which the robot places in the store. The selection of the correct gripper and the clamping of the raw parts are also fully automated. When all parts are finished, a Servus picks up the die. The ERP system documents the current status in real time and releases the parts for shipment when they have passed the quality check. The precision, repeatability and dimensional accuracy of Hermle machining centres play an important role.

"We immediately noticed that the RS2 system with the two C 32 Us in combination with the warehouse connection is an enormous capacity gain for us - more than we expected," stresses Manuel Gmeiner. "And the fact that the system has been running stably and precisely over 24 hours from the first week without any errors is proof of the perfect cooperation between Hermle and Heron!"





with Christian Simon, Area Sales Manager of Hermle (Schweiz) AG

Motivation and technology – a recipe for success for SEPO AG, in which Hermle's 5-axis machining centres play an important role. Managing Director Oliver Oberdanner invested in four milling centres, two of them with automation. He uses them to manufacture precision parts in series - even unmanned overnight and at weekends.

The Swiss family business has its origins in a small workshop which Oberdanner's father founded in 1988 in Bad Ragaz. Over the past 32 years, the one-man business has grown into a manufacturer of mechanical precision parts used in medical and laser technology, textile machinery, audio and acoustic components, electronics production and sports equipment. "Entry into new industries was only possible with the right machines," says Oberdanner. In 2012 he decided to purchase a 5-axis milling machine from another manufacturer. "We were convinced by the 5-axis concept, but not by the machine we bought back then," recalls the company boss. "So we searched the market, and came across Hermle. Above all, the consistently positive feedback on reliability and service made us curious." A C 30 U from Maschinenfabrik Berthold Hermle AG, which has been in operation since 2014, was followed in 2015 by a C 32 U. "We were not only able to manufacture faster, but also more precisely. This brought us new and more demanding orders," explains the managing director. So two years later he again invested in a machining centre from Gosheim, to which he added automation within a year: the C 400 U with HS flex.

#### "INTUITIVE OPERATION MEANS LESS ORGANIZATIONAL DOWN-TIME FOR US AND THEREFORE INCREASED PRODUCTIVITY."

Oliver Oberdanner

"Intuitive operation means less organizational downtime for us and therefore increased productivity," says Oberdanner in praise of the Hermle software HACS (Hermle Automation Control System) for the HS flex handling system. It calculates running times and tool requirements in advance and clearly displays relevant data such as work and sequence plans, operator tasks and tool tables.



**NEXT STEP: ROBOT AUTOMATION** 

ware and were therefore able to familiarize themselves with the that we can guarantee to meet our customers' requirements." robot system more quickly.

With HS flex automation, SEPO can prepare up to 40 pallets of "In recent years we have developed incredibly fast. The Hermle 240 x 320 millimetres each for unmanned production. "However, plant also plays a significant part in this," summarises the company in 70% of cases we process significantly smaller blanks", Oberdanowner. Thanks to the high precision and dimensional accuracy, ner notes. In view of this, he decided to invest in a smaller machine SEPO was able to gain new customers, accept larger order volumes and ordered a C 12 U with the RS 05 robot system in 2018. The through automation and therefore quickly recoup the costs. "The advantage of Hermle's uniform operating concept became appar- quality of the 5-axis machining centres, coupled with service and ent here: The operators were already familiar with the HACS soft- automation solutions from a single source, gives us the assurance





The frame of the first ridable prototype shines in bare aluminium

Bernd Iwanow follows his gut feeling. When he is sure of his idea, he programs it into NC code which his two Hermle machining centres precisely mill into the clamped aluminium blocks. The result: A bicycle called Fracebike, the sight of which is as unusual as the fact that Iwanow does not ride a bicycle himself.

Semi-finished workpieces wait in a former bus garage for the next machining step: Orders for jig and fixture makers from the automotive industry. In the background, the working areas of two 5-axis machining centres of Maschinenfabrik Berthold Hermle AG are lit up. Cooling lubricant sprays, chips fly. Bernd Iwanow is proud of what he has built up in 14 years. His recipe sounds simple: "I am reliable." For him this means realistically calculating delivery dates and meeting them. Not the price, but precision and punctuality are the decisive factors for his customers.

It was here that he first came across Hermle and revised the plan to start his company with a milling machine from another manufacturer. Iwanow can only put it this way: "The concept convinced me immediately." He entered into contract manufacturing with a C 40 U. In 2016 and 2017, he renewed his machinery and invested in two C 400 Us. Today, he and his seven employees machine individual parts and small series of up to 20 pieces for jig and fixture makers and suppliers to the automotive industry - and a bicycle frame guaranteed to catch the eye, if the order situation permits.

#### NO NEED TO THINK ABOUT THE MACHINE

The frame consists of eight milled parts, fixed by 15 titanium screws. The challenges lay in the programming of the machine, the planning of the tool use and the milling strategy. What he did not have to worry about, however, was his machinery. "The Hermle machines work extremely reliably and precisely," he praises. To be able to meet his delivery commitments, he must be able to rely on his plant. If a malfunction occurs nevertheless, Hermle's service technician will be on site within 24 hours. "You soon notice that the technicians have a grasp of the entire machine. Including hydraulics, electrics and mechanics. So errors are eliminated in the shortest possible time and I can meet my delivery deadlines," adds Iwanow.

THE HERMLE MACHINES WORK

Bernd Iwanow

## and a from left to right Bernd Iwanow and Glenn Dieling from HPV Hermle Vertriebs GmbH.

A LOOK BACK

In 1995, Bernd Iwanow stood in front of a CNC machine for the first time. Seven years later he started CAM programming and learned to develop strategies and procedures for various machining centres and to convert them into machine commands. In 2006 he became self-employed and founded CNC Future Technics GmbH in Lossa, a town about an hour's drive from Erfurt. He has acquired his own experience and know-how. He found reliable machinery at the Metav trade fair.

In the meantime, CNC Future Technics GmbH has a well-established team in which Bernd Iwanow has blind faith: "My company is now structured in such a way that I don't always have to be present. I have people who tick much as I do, who are just as ambitious and have the same understanding of quality." This gives him space to take his Fracebike into the woods and to be admired by design freaks, without compromising his daily business.

EXTREMELY RELIABLY AND PRECISELY."



G	E	R	М	Α	N

BELGIUM

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Maschinenfabrik Berthold Hermle AG Industriestrasse 8-12 · D-78559 Goshein Phone +49 (0)7426 95-0

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