

SEPTEMBER 2016

**HAINBUCH**

REPORT

ISSUE 32 THE MAGAZINE FOR CUSTOMERS, EMPLOYEES AND FRIENDS

INDUSTRY

4.0

Intelligent
Mechatronic
Systems

AEROSPACE

Top industry in its sights

VIVA MEXICO

Subsidiary No.10

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REPORT 32 | SEPTEMBER 2016



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IMPRINT

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Going new ways!

Dear customers, dear employees, dear friends,

Daring to do something new, but keeping the quality and not recklessly throwing meaningful structures overboard – this idea has guided us in planning new projects. Of course it is a challenge to leave the beaten path. But also a tremendous opportunity. So why not conquer the aerospace engineering field as a new industry? After all, our demands on precision and safety are the same. And as a »trendsetter« for lightweight and high metal removal rates we can offer exactly, what the industry needs.

Sincerely,
HAINBUCH Executive Board

Gerhard Rall

Hans-Michael Weller

Sylvia Rall

But that is not the only new challenge: With the establishment of our tenth subsidiary in Mexico we are entering new territory here. The land of the Mayas and Aztecs now is the economic »Shooting Star«. No question, that we must be present here.

Presence also shows Sylvia Rall: Since December 2015 she is on the board of the VDMA and has not only the ability to look at the industry from a new perspective, but also to work actively to create something new.

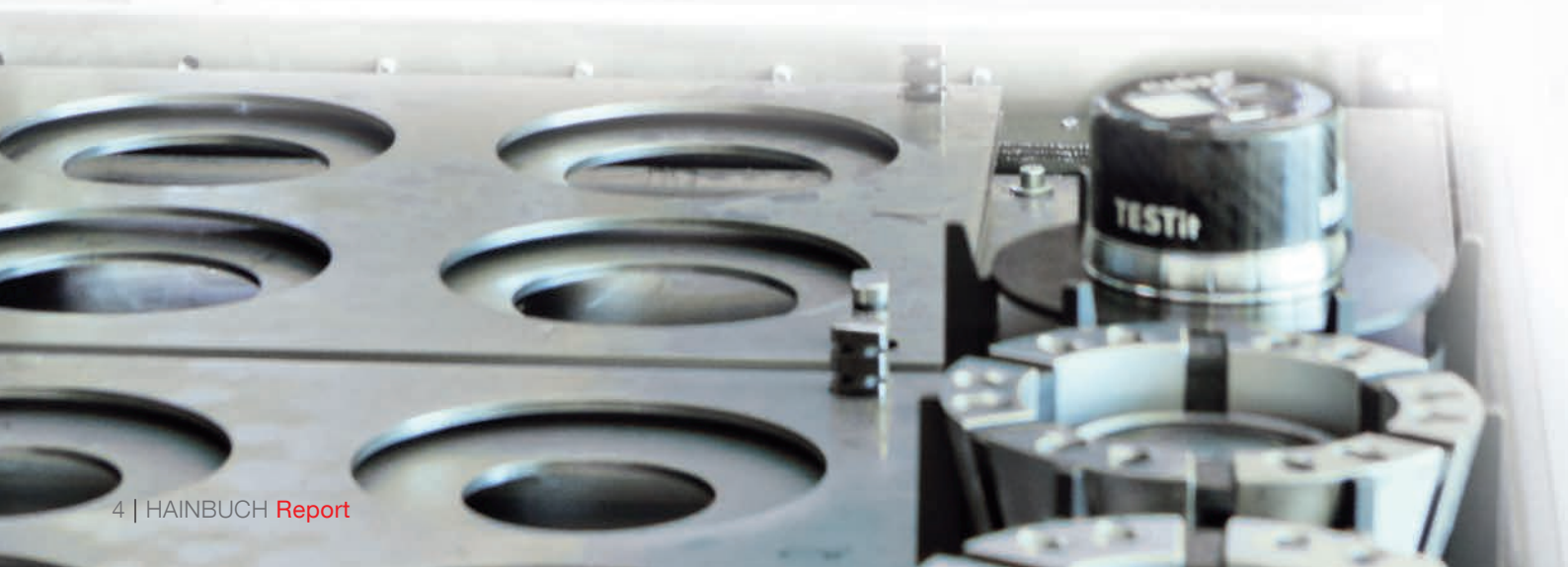
Discover the new sides of HAINBUCH: simply turn the page!



Through the

No one can avoid this subject. Especially not the manufacturing magazines. In an interview with machine + werkzeug Attilio Mandarello explained how HAINBUCH interprets the subject of digitalization and networking.

to



»THE DIGITALIZATION WITHIN THE PRODUCTION PROCEEDS WITH LARGE STEPS AHEAD!«

Dipl.-Ing. [FH] Attilio Mandarello,
Head of Research & Development at HAINBUCH



What does HAINBUCH contribute to Industry 4.0?

A.M.: Data generation is one thing, to process it so that it makes sense, that's the challenge. That's why we need to consider processes as a whole, in order to increase productivity and to achieve high process stability. Mechatronic systems should be able to identify confounding factors in advance and eliminate them. Only then the process can proceed safely. In our hexagonal power chuck TOPlus IQ we have integrated all the sensors, which we have in our measurement device TESTit. An intelligent chuck that allows for permanent clamping force monitoring.



Chuck with cable: The TOPlus IQ is an intelligent data supplier for Industry 4.0.

Is this data transferred to the machine control?

A.M.: Yes, and here the complete evaluation and visualization takes place. In the first step the system should be available for integration on Siemens Sinumerik 840Dsl and DMG CELOS. The entire process then can be controlled by the operator via App, as he is already used to by his CELOS control.

Are there increasing demands on the readings?

A.M.: Absolutely. The workpieces are ever getting more sensitive and are critical to deformation and consequently must be held gently. If the operator utilizes the maximum clamping force one can assume that the workpiece will be deformed and does not have the required quality after machining. The process device orientates itself on the workpiece and the clamping parameters are thus set accordingly. And the intelligent TOPlus IQ chuck may even initiate a clamping force change if necessary. This guarantees a continuous smooth process. Without scrap or failures.

What else can the intelligent chuck do?

A.M.: We are currently testing a high-resolution, integrated travel sensor, with which the workpiece can also be measured simultaneously. The chuck checks whether the component is still within tolerance after the machining process. Hence, out of tolerance components are sorted out, saving time and money. Furthermore the permanent clamping force measurement is able to recognize, based on changing values, a need for maintenance to avoid longer downtimes.

What happens next?

A.M.: The cyber-physical modules must become plug-and-play ready. This will increase the acceptance and willingness to use such systems with manufacturers and end users. Therefore HAINBUCH collaborates on research projects such as »Bazmod« aimed to standardize interfaces.

WIR FÜR FÜR FÜR

It is not the first award for HAINBUCH, but one of the forward thinking one's. One of which we are particularly proud of, because it underscores our commitment to innovation. Thank you, dear »Alliance Industry 4.0 Baden-Württemberg« jury for the honor of selecting us. As being part of 100 locations within our state, where the virtual and real world efficiently and intelligently are linked together.

Thinking today about tomorrow, that has always been our driving force. The production of the future is supposed to be fast and efficient. But at the same it should also be flexible and individual. Opposites allegedly attract each other, including us.

Therefore, we have not only submitted an innovative production process to the Industry 4.0 Competition, but also a software and networking optimization. The jury was not only convinced by the automatic creation of sketches but also impressed by the direct production of customized parts at the machine.

Right in the middle instead of just being there!

Programmed tools, remote access to manufacturing data, direct output of drawings and thus saving pro-

cessing steps – the production is getting digital ever more. The fourth industrial revolution has begun and we at HAINBUCH are in the middle actively participating.



Left: Hildegard Rall, Gerhard Rall and Sylvia Rall at the award ceremony by State Secretary Peter Hofelich



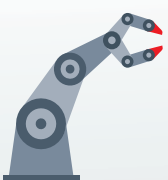


Alliance Industry 4.0 Baden-Württemberg



Initiated by the finance and economics Minister Nils Schmid, the Alliance is going to assist to make our state the pioneering region in regards to Industry 4.0 on the road to digitization. In particular, the networking expertise from manufacturing, information and communication technology will be at the focus. That is where the traditional strengths of Baden-Württemberg companies lie. The Alliance is a platform for cross-sector dialogue and exchange of experiences. And coordinated by the VDMA Landesverband Baden-Württemberg.

Project details and the latest news can be found here: www.i40-bw.de



READY FOR TAKE-OFF



AN ENTIRE INDUSTRY IN STEEP FLIGHT

There is hardly an industry that currently is booming as the aerospace industry. It is an important technological and economic engine in Germany.

The number of passengers increases, the volume of air cargo also. No wonder, the fares are usually cheaper than road or rail. Around 60 % of turnover comes from civilian air traffic. Estimated average growth for the next 20 years: 5 %. And for that it needs more than 20,000 new aircraft, if you set growth and fleet average age in relation. But every take-off is for the components a stress test and any component for the manufacturer a technical challenge.

And not only because the workpieces are complex to be machined, also are the materials challenging and specific to be machined. Nickel-based alloys, titanium and carbon fiber reinforced plastics [CRP]. Nothing counts more in the air, such as the optimization of the weight.

So perfect for us, because we can bring all of our expertise and our experience to the table. Finally, we were the first with a CRP-clamping system. And also in terms of rigidity, dampening, and feed forces, high accuracy and reliability, we have tons of innovation to offer. Good reasons to check us out.



INTERVIEW

Peter Müller, Director of Strategic Sales at HAINBUCH

HAINBUCH is currently very active in the aerospace industry and participates as an exhibitor worldwide. Why?

P.M.: For us, this was a strategic decision. We want to develop as a company and expand worldwide even more. So you have to look at what you have to offer, where the expertise lies and where such highly sophisticated systems like ours are needed. In the aerospace industry, we are able to incorporate all of our machining and materials know-how. In addition, we have the same high standards of safety and precision. These are the best starting conditions for cooperation.

You talk about CRP-Systems and large components?

P.M.: Yes, we even developed the Carbon Fiber Chuck on our own and experimented a long time with it. As for the light-weight construction, we are like the saying goes, »Trendsetter«. And even large components with high material removal rates do not frighten us. Regarding clamping technology, we are experts. And if two experts get together in their field, always something unique, something big arises. We are therefore at the moment going »new« ways.



Come fly with us



Seat slide bracket

Interior equipment



Hydraulic valve housing

Landing flap control



Bracket

Frame structure and airfoil

WELCOME ON BOARD

For the high demands in the aviation industry, we are as clamping technology provider the ideal expert for your manufacturing processes.

Why is that? Firstly, we already have more than a dozen clamping solutions for the manufacture of workpieces for the aerospace industry in the portfolio.

Secondly, our innovative strength is at least as legendary as the durability, flexibility and accuracy of our high-precision clamping technology. And thirdly, in terms of safety we guarantee no compromises.

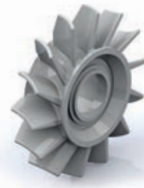
Let's start together – to new heights.



Turbine shaft



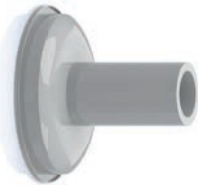
Turbine housing part



Compressor wheel



Turbine blade



Shaft fan



Turbine wheel

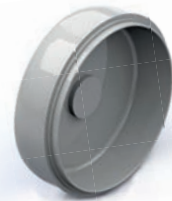


Turbine gear wheel

Power plant / turbine



Landing gear cylinder



Break system housing



Bearing journal

Undercarriage



HAINBUCH CHECK-IN

You have questions or need a specific offer?
Just call +49 7144.907-333 or by e-mail to
sales@hainbuch.de



Download
brochure

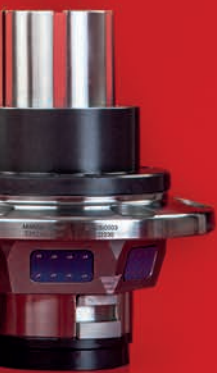


in flexibility, minimal interference

The new chucks **TOPlus mini** and **SPANNTOP mini** – now compatible with the HAINBUCH **modular system!**

Now you no longer need to choose whether to purchase: a chuck with adaptation options, a chuck with low interference contour or maybe a chuck with high precision. The new »minis« combine these three characteristics perfectly. »BIG in all« so to speak.

Furthermore even no sacrifice with the minis in terms of technical values like concentricity and radial clamping force. The word mini could suggest that. But far from the truth. TOPlus mini and SPANNTOP mini – the chucks of the future!



ce contour and precision!

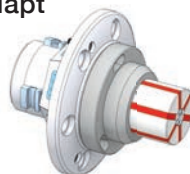
Adaptation possibilities for both chuck series – SPANNTOP  [RD] and TOPlus  [SE].

Clamping heads



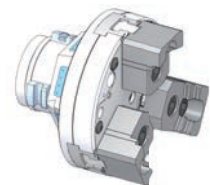
- For raw material, precision machining, and for in-house machining
- An abundance of profile clamping possibilities
- Coolant-resistant, rubber-metal connection, prevents chips in the chuck
- Clamping range SE 4 – 100 mm, Clamping range RD 4 – 160 mm

MANDO Adapt mandrel



- Quick change-over from O.D. to I.D. clamping without adjusting, due to CENTREX interface
- Concentricity < 0.005 mm can be achieved between chuck taper and mandrel taper
- Clamping range \varnothing 8 – 190 mm

Jaw module



- Deadlength 3-jaw clamping
- Can be used rotating [under RPM] and for stationary applications
- Change-over from clamping head or mandrel clamping to jaw clamping in less than 2 minutes

Caution! Sharp solutions!

Round and sharp are not only gears. Our newest products around workholding technology have it all and are still completely safe.

MANDO G211

A real all-rounder



With the MANDO G211 you are relying on a standard segmented mandrel. So you profit from in-stock segmented clamping bushings. The rigid and narrow mandrel with optimized tool runout contour is ideal for use in gear cutting applications. Moreover, it can also be used for gear shaping or grinding. Three different end-stop levels that are placed closely to the workpiece make it possible to use individual workpiece end-stops.

Also a coolant connection ensures process reliability. Whether you design the machine connection on your own, or whether you want a complete solution from us extending to the quick change-over system, in every case you profit from radial clamping with pull-back effect – and this incredibly increases the rigid clamping. Therefore you have complete control of accuracy and vibration.

That's what our customers say:

»The new MANDO G211 allows us to respond quickly to customer requests. Its accuracy and rigidity as well as the pull-back effect during clamping have convinced us.«

Andreas Hoffmann,
WIAG-Antriebstechnik GmbH



»Through the use of MANDO G211 allowed us to optimize our production steps. Gear hobbing without further manufacturing steps, reliably and within the highest quality.«

Jürgen Renner,
Zahnradfabrik Hänel GmbH & Co. KG



Magnetic module

Attractive force

Some components are repeatedly hard to clamp, due to their contour or could be deformed by the means of the radial clamping. Therefore the need arises to find an axial clamping device that can be set-up in a flash.

Our answer: The new HAINBUCH magnetic module. It allows you to clamp parts axially on a neodym-magnet. The HAINBUCH magnetic module is set-up in just 30 seconds. Your basic clamping device is already mounted. Just insert the included clamping head, which is part of the package. During clamping the magnetic clamping module is pulled



on the contact surface of your base clamping device. If the magnetic module is machined flat after the initial assembly and the installed position marked, an axial change-over precision of 2 microns can be achieved. The workpiece itself is clamped manually on the magnetic module.



New:

Feed force setting gauge

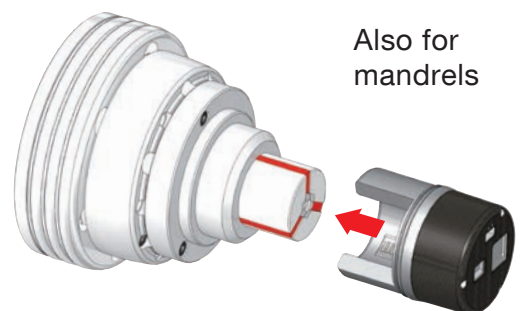
When it comes to flexibility and easy set-up of multi-spindle machines, our RS feed finger system is the ideal solution. Even easier, by using our feed force setting gauge. The once determined ideal state of the feed force can be measured and recorded. Thus, the RS feed fingers can all be equally precisely preset ahead for the next job. Fast, safe and clever.

TESTit

Clamping force measurement



The clamping force measurement with TESTit not only works perfectly with outer diameters and under rotation but also accurately measures the clamping force of internal diameters on mandrels. Via bluetooth, the received clamping force values are transmitted to a tablet with the appropriate software and the data can be used for further documentation. It can't get any easier than that.





Quickly to the customer

And not just within Germany! Poland, Sweden, France and Mexico – these are just some of the destinations to which the HAINBUCH service technician Benjamin Woelfel is traveling.

Although he is at home in Marbach and for 8 years with HAINBUCH the toolmaker is off to 50 – 60 service calls a year and rarely found here. No matter if it's the assembly of complex components, troubleshooting, calibration or process optimization – as an experienced »allrounder« he makes sure with our customers that HAINBUCH clamping devices always keep their promises – quality and precision. During the integration process our service ensures a smooth installation and run-off. Whether this is a one-man shop or a global player makes no difference.

»As our clamping devices are used in many industries, each service call brings new challenges. And that's what makes my job so versatile,« explains Benjamin Woelfel and is already off to the next call.





On the road

With HAINBUCH service technician Benjamin Woelfel

ON THE ROAD WITH OUR SERVICE

We accompany our professional service technician on one of his missions. Moving on to Wertach in the Allgäu region seeing customer Berger. The manufacturer of pre-finished precision turned and milled parts, ball screws, motor spindles and assemblies has bought a centroteX quick change-over system and ordered the integration of the system as well.

i Berger Holding GmbH & Co. KG | www.aberger.de



08:30

Arrival at Berger. From Marbach to Wertach it took over two hours. Despite snow in the Allgäu region Benjamin Woelfel is right on time.



09:00

Briefing. Together with Michael Baur, machine operator, and Florian Fink, Product Line Master Flange Manufacturing the assembly is discussed.



09:30

Preliminary work. Baur has already prepared the machine. So our service specialist can immediately begin working.



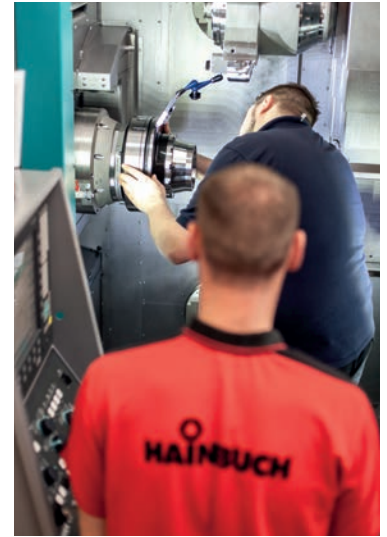
10:00

Fine adjustment. The machine adapter centroteX is with the help of a crane assembled and aligned correctly. Now, the adaptations can be mounted.



10:30

Practice creates masters. Under the watchful eye of Benjamin Woelfel the adaptations are changed several times to confirm accuracy.



»INSIDER TOOLING TIPS ARE PERSONALLY GIVEN THAT ARE NOT LISTED IN ANY OPERATORS MANUAL«



11:00

Practical test. Finally, a mandrel is inserted and a workpiece is clamped and machined.



12:00

Exchange of experiences. Training regarding care and maintenance.



12:30

Final report. End of the service call at Berger.

INSTALLATION & COMMISSIONING

Our specialists take care of everything and a successful startup is guaranteed:

- Installation of the new clamping device
- Align and adjust the clamping device
- Test of function
- Briefing of users

Having your machine readily available saves time and money!

Just call your local HAINBUCH agent.



Salud numero 10!

Celaya, the third largest city in the state of Guanajuato and right in the heart of the country, HAINBUCH has now established its now tenth subsidiary. Especially within the belt Celaya – Leon – Queretaro things are going very well for some time now. Industrial areas, residential areas, hotels, restaurants are popping up everywhere. One assumes that the area will have a greater potential than the area around Detroit. Many large well-known companies from the mechanical engineering and the automotive industry are planning and already building new plants in Celaya. In Leon it looks similar. Literally an »Eldorado« for HAINBUCH.

Ivan Ley, our long-time employee and HAINBUCH México expert, will lead our new subsidiary in Celaya. We believe in him and the distinctive nature of the Mexicans to encounter problems with the right mix of courage and confidence. So: Viva HAINBUCH México!



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THE CURTAIN OPENS

for our new corporate video

No advertisement for products, no entrepreneurial self-presentation. In the nearly four minute movie only our employees speak up. They talk about their lives, what shaped them and what really matters. Only those who know where they are coming from know where they want to go. Ideally for HAINBUCH because family cohesion plays a very big role for us. The great pictures, beautiful stories and appropriate music accurately convey the right emotion, which scores high with employees, applicants, but also with potential customers. Sylvia Rall was in any way full of praise: »This movie

reflects the diversity and attractiveness of our company. I am sure that hence we will reach many people and make them want to get to know our company and our products.« As the film celebrated its premiere in-house, there were astonished glances and great applause from the staff.

See for yourself!



BIG CHANGE

A legend leaves HAINBUCH

September 1, 1972 it all started. That Friday Marjan Kurcz started his career with HAINBUCH. As accountant. Two decades later, he was head of Human Resources and Finance; from 2011 he became an executive. Feels like he's always been there and now, now after more than 40 years he's just gone. Goodbye, and off into his well-deserved retirement. But now and then he stops by paying us a visit. And simply doing nothing is not him. He has his horses, and they make a lot of work. With him a long HAINBUCH employee retires, but it is also the beginning of a new generation.

September 2015 Thomas Brendel succeeded Kurcz. A real challenge. Kurcz was over 40 years at HAINBUCH and has decisively shaped Human Resources, Controlling and the Finance and Accounting department. In the meantime, Brendel

has settled in well. Probably also because he was able to start out in the new building called FAKTUM. This new building is centrally located between the main building and the NEULAND – in other words a short distance to all departments – how practical.



▲ T. Brendel and M. Kurcz at the official farewell ceremony.

Our pride and joy: The HAINBUCH building FAKTUM in Marbach is the new headquarters of the Human Resources, Controlling, Finance and Accounting, IT and Technical Management. ▼



DRIVER OF CHANGE

In an interview with Report, Thomas Brendel tells us what he has planned for the future, where his priorities are, and why he decided to work for HAINBUCH.

You were at Kärcher, for five years you lived in the U.S. and now HAINBUCH. Why?

T.B.: Because I have the chance to build something up. In relation to Kärcher HAINBUCH is small. But that certainly has its advantages. The distances are short, the company is owner-operated and thus I have more opportunities to make choices and other possibilities. To establish effective processes, to assist the international development and to introduce a new ERP system is what attracted me. And the good chemistry at the interview has convinced me that this is the right place for me.

So, you have big plans for the coming years.

T.B.: Yes, it is always a challenge to attend a company in its growth and its internationalization. But that is where I can introduce all my experience that I could gather during my time in the U.S., where I formed one company out of four at four various locations while being responsible for all commercial activities.

It is said that you only know »right« or »wrong«?

T.B.: It depends on the situation, there is always something in-between. But as a businessman you tend naturally to quantify everything, to calculate and to point out everything in numbers. That's why some quickly get the impression there would be only 0 and 1. It's important for me, that I'm »transparent« and to be »readable« for others – also when it comes to personal things. Structures and a fixed frame however are also essential for me.

And privately?

T.B.: I am most comfortable with my family in the great outdoors; I sing in a choir and like to read – especially historical novels and thrillers.

Thanks for the interview and all the best for the future!



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