

# NETSHAPE

Hatebur magazine for horizontal cold and hot forming – 1/2012



GKN Driveline Trier GmbH: Jürgen Schilz, Matthias Henke, Dr. Roland Seidel, Hermann Land

## CEO'S VOICE



Dear Business Friends,

The 2011 business year has been a good year for Hatebur Metalforming Equipment Ltd. This is particularly good news following a tough previous year.

Many of our customers also posted positive results for the year. However, it goes without saying that the euro crisis will continue to be of concern and restrain us from making extravagant forecasts.

Now to the facts and figures: What has Hatebur been doing meanwhile? I am delighted in this issue to be able to report on a world premier in technology and processes: the warm forming outer races on the Hatebur Hotmatic HM 75 at 60 parts per minute!

A milestone in the efficient production of complex precision forgings on fast running horizontal presses at reduced forging temperatures. The development of this groundbreaking technology has taken years. Much of this work has been done by GKN Driveline in Trier. The first practical trials were also completed there on the existing AMP 70 HFE.

Thanks to mutual trust and a confidentiality agreement, it was possible to conduct this development work under a cloak of secrecy up to the present day. This has been an exemplary collaboration between our two companies. At this point, I would like to express my sincere gratitude to Dr. Seidel and his team for their trust and professionalism in the completion of this complex project. Read the exciting details in our cover story!

The other main themes covered in this magazine include:

Our development and design, mobile re-machining on-site, the successful market launch of the HM 35 and more.

I hope you enjoy reading NETSHAPE.

Sincerely, Urs Tschudin

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### COVER

GKN Driveline Trier GmbH opens its flow line production on 29 June 2012 with a Hatebur HM 75.

### LEGAL INFORMATION

NETSHAPE – Hatebur magazine for horizontal cold and hot forming

#### Published by:

Hatebur Umformmaschinen AG  
Werbung/Kommunikation  
General Guisan-Strasse 21,  
CH-4153 Reinach, Switzerland

#### Editing, layout, production:

Christine Steiner, Thomas Christoffel  
and Köpfler & Partner AG

#### Translations:

Star AG, Ramsen, Switzerland

#### Printing, litho:

Köpfler & Partner AG, Neuenhof, Switzerland

#### Paper/number of copies:

Claro Bulk/3000 copies

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## NEW BROCHURES AVAILABLE – AMP 50 XL/AMP 70 AND MOBILE RE-MACHINING

The new brochures “AMP 50 XL/AMP 70 – Reliable hotformers for a wide range of parts” and “Mobile re-machining – extended on-site range of services” are available right now in German and English. Later in the year, we will make both these brochures available in additional languages.



*The two brochures were produced in time for the WIRE trade fair 2012 in Düsseldorf and handed out to interested visitors.*

## 50 YEARS OF COOPERATION – ANDRITZ HYDRO IN KRIENS: A COMPETENT PARTNER OF HATEBUR

For more than 50 years now, Hatebur has had machines assembled amongst other in the plant assembled in the plant of Andritz Hydro in Kriens, amongst others. Hatebur had been looking for factory workshop that was big enough to house the largest hot and coldformers in its product range and found

what it was looking for in Kriens. And for Andritz Hydro, the cooperation with Hatebur offered a good basic utilization of its workforce. The specialists at Andritz know the HM 75, the AMP 50 as well as the AMP 70 inside and out. We want to thank our loyal partners for the excellent collaboration.



## GALBIATI GROUP – VOTED BEST SUPPLIER AGAIN

Hatebur presented the best supplier award for the fourth time in January. In recent years, the companies Pichler AG, Arcade Engineering AG and the Galbiati Group won the prize for “Best supplier”. After winning in 2010, the Galbiati Group from Italy has once again shown what it is capable of.

# GKN DRIVELINE IN TRIER – DEVELOPS A GROUNDBREAKING PROCESS ON THE HM 75

 Christine Steiner  GKN Driveline, Christine Steiner

**GKN Driveline chooses a revolutionary path: On the Hatebur Hotmatic HM 75 XL, steel bars are sheared at low temperatures and formed into precise components. The aim is to cool down the approximately 10 million components that are required on a yearly basis in a controlled manner directly after forming and then finish the parts cold inline through calibrating.**



*The building at GKN Trier covers 31 000 m<sup>2</sup>.*

Who would have thought that outer races for the automotive industry could be manufactured on a fast-running Hatebur Hotmatic with an output of 60 pieces per minute at max. 950 °C? Over many years of collaborative development work, GKN, with support from Hatebur, has developed the basic processes required and brought the components to series-production readiness on the newly installed HM 75 XL.

## **BUT LET'S NOT GET AHEAD OF OURSELVES:**

GKN Driveline in Trier, part of the GKN plc Group, employs 500 staff. The overall Driveline division provides work for

no surprise that all the well-known automotive manufacturers from around the world are customers of GKN Driveline. The German production sites of GKN Driveline are located in Kaiserslautern, Kiel, Mosel, Ofenbach and Trier. The development center has been established in Lohmar.

The Trier site was founded back in 1964 as Rheinmetall Schmiede- und Presswerk Trier GmbH, changing its name in 1993 to GKN Walterscheid Presswerk GmbH. In 1990, an AMP 70 HFE was installed, quickly becoming a key piece of machinery in Trier. Since 2003, the company has been known as GKN Driveline Trier GmbH. Its worldwide success is the result of one thing: extraordinary first class performance!

*“We have always dreamt of a new Hatebur in Trier. Now we have succeeded in integrating an HM 75 XL as the centerpiece in an innovative system concept.”*

*Dr. Roland Seidel, Managing Director GKN Driveline Trier GmbH*

22,000 employees at 51 sites in 23 countries and is known for its extremely high-quality drive technology products. It is one of the strongest partners for the automotive industry worldwide. It therefore comes as

Last year, it achieved a turnover of 152 million euros. In Trier, GKN produced 84.4 million components using almost 86,000 tons of steel. GKN operates a Hatebur AMP 70 HFE and the Hotmatic HM 75 XL, which entered operation for the first time in 2011.

## **THE HIGH ART OF PRECISION-FORMED COMPONENTS**

GKN's product range is centered around drivetrain components. Products range from cold-extruded components weighing from less than 0.1 kg up to 30 kg hot-forged axle shafts. The main focus is on precision-formed outer races ranging from 1.5 to 3.5 kilograms.

Following production on the Hatebur machines, the inner contour of the outer race is finished formed ready for installation by a downstream cold forming process, or in some cases with a machining allowance. The outer contour has a near-net-shape geometry ready for the machining of the spline and boot sealing area. On the Hatebur machines, mainly GKN standard material is used (induction hardening steel similar to Cf 53) or material that meets the requirements of automotive manufacturers.

### EXTREMELY SHORT TOOL CHANGE TIMES

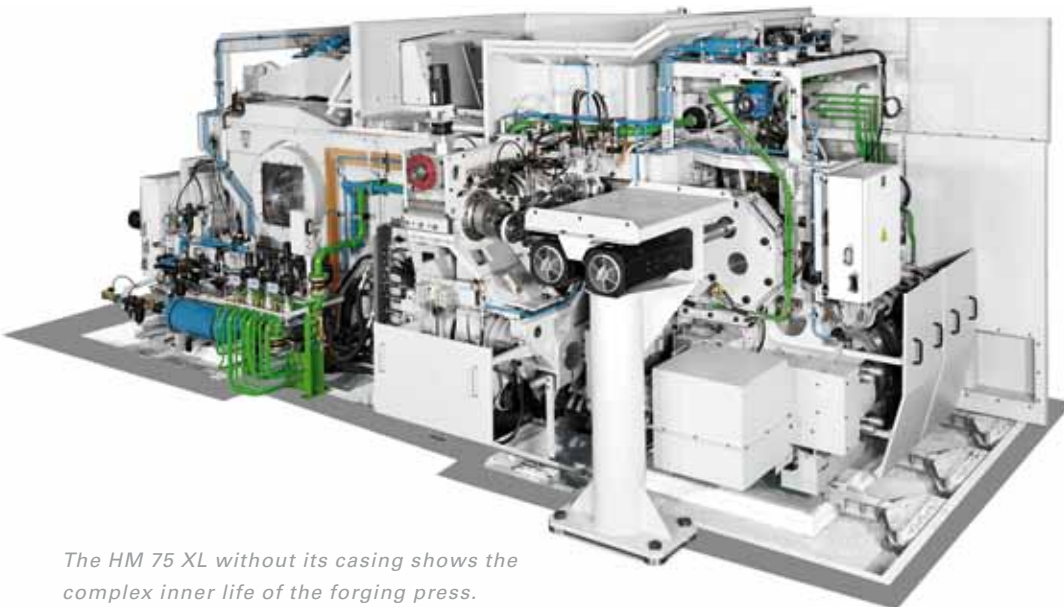
The machines are currently retooled once or twice a day in two-shift operation. The average batch size is approx. 15,000 components with a tool change time of 35 to 75 minutes depending on the component type. The short retooling time ensures a high degree of machine availability. With extremely stable processes and careful quality control, GKN also makes every effort to prevent defects and to deliver only flawless components.

The AMP 70 has impressive statistics, producing an incredible 255,000,000 forgings between 1990 and the end of 2011



*The seventh HM 75 produced by Hatebur was given a special name on its delivery ...*

and processing more than 385,000 tons of steel. The main reason for procuring the HM 75 XL was, on the one hand, to secure and expand production capacity of the then 18-year old AMP 70. On the other hand, the HM 75 XL has laid the foundation for the new process at lower temperatures. To serve new customer product ranges, the new machine will be linked with various cold forming systems.



*The HM 75 XL without its casing shows the complex inner life of the forging press.*

The staff at GKN have gained invaluable experience on the AMP 70 in relation to process development and operation of the system. Development of the new process was especially dependent on this expertise. The advantage of the Hotmatic HM 75 XL for GKN is its high output (productivity) and the associated large production capacity. GKN also benefits from the completely new design of the shearing device, in comparison to the AMP 70, which is an outstanding feature of the HM 75 and is central to the successful implementation of the new process. The target for the new machine is

a production volume of 10 million components per year.

#### **A DREAM BECAME REALITY**

Forging at reduced temperatures has been used industrially on vertical presses since the eighties. The advantage of this process is the production of more or less installation-ready components, for example with high precision measurements and surface quality. By using controlled cooling immediately after forming, the required material properties are systematically achieved.



## ADVANTAGES FOR PRODUCTION

The linking of the Hatebur Hotmatic machine with controlled cooling and subsequent cold forming (flowline) means that time-consuming heat treatment can be avoided and makes this machine unique worldwide. The advantages of shearing and forming at reduced temperatures with linkage to downstream processes are obvious: high operational safety levels, a clean environment, better quality, time saving and lower stockholding.

Within the company itself, the project team faced tough competition with other divisions within the group and simply adding an additional AMP 70 was never going to be good enough for GKN Trier. The team was therefore only able to succeed with the HM 75 XL and its new process approach. This innovative step and a determination prevail against all resistance and obstacles was a question of willpower and played a significant part in the motivation of the Trier site.

## SUCCESSFUL IMPLEMENTATION OF AN INNOVATIVE SYSTEM CONCEPT

With the new process and the largest ever single investment in the history of the company, a revolution was taking place. This was real innovation. Nonetheless, the challenges of implementing the project were quite evident. The celebratory and on-schedule opening of the new production line in Trier on schedule bears witness to the incredible dedication and outstanding collaboration of the GKN and Hatebur project teams.

## NEW PROCESS CHALLENGES OVERCOME WITH INGENUITY

The greatest technical challenges posed by the project was compliance with the required shearing quality at 950°C as well as tool life, particularly for extrusion operations with large variations in cross section and long flow paths (1st and 3rd operation). In comparison to the hotforming outer races, the sequence of operation had to be revised for forging at reduced temperatures.

The new process also affects the tools: Due to the lower temperatures, there is an increase in the required press load and abrasive wear of the tools. And even the operating personnel can feel the differences: The innovative process also brings with it new components to be manufactured which place even higher demands on the personnel. The operator has to have a completely different approach. That's why all operating personnel received intensive in-house training in advance on the new quality and precision level requirements. Some employees were moved from other vertical press lines, on which these products run warm, to the HM 75.

## GOOD THINGS COME TO THOSE WHO WAIT ...

The development phase for the new process on the HM 75 lasted more than five years and is still not finished. Preliminary trials were carried out by GKN as early as 2007 on the AMP 70 using small batches and the first components produced using the new process were presented within the GKN group. Numerous comparison tests with the previous warm processes were carried out, for example looking at service life and component strength. These showed properties that were at least as good or better. There is therefore now nothing standing in the way of a general release for all automotive customers and has already partially taken place.

There were various technological questions and risks during planning that could only be answered during implementation. The staff at GKN and Hatebur are very proud that a very ambitious plan has now become a reality thanks to careful implementation and that the objectives that were set have even been exceeded with the new technology!

## THE FUTURE OF THE PROCESS

The HM 75 XL for forming at max. 950°C is a significant milestone in forming technology for GKN and Hatebur. Trier will continue to develop further the process for outer races. In the first half of 2012, more



*The induction heater used on the HM 75 has a throughput of 15 tons/hour.*



*The still formed part is subjected to a first visual inspection.*



*Cold components produced in flowline with the HM 75.*



*Basic principle of a constant velocity drive shaft in a passenger vehicle.*

than 20 different components have already entered production. The second half of the year will see more parts transferred from older machines to the HM 75 and the creation of double shift system utilization in Flowline, i.e. with the downstream systems working in line production.

GKN in Trier sees the greatest potential for future applications in forming on the HM 75 with downstream coldforming systems for (near) net-shape geometries that are optimized for further processing and specific applications. It is conceivable that the same technology will be used worldwide at other GKN forming sites.



*The HM 75 project team: Top row left to right: Michael Streit, Tobias Kollmann, middle row left to right: Sabine Kuhnen, Ansgar Knippertz, bottom row left to right: Michael Fritzenwanker, Marco Welter, Stephan Müsch, Rainer Kirsch*



# INDIA IN THE WORLD MARKET – SUCCESSFUL APPEARANCE BY HATEBUR AT THE IFC

📄 Norbert Joehl + Christine Steiner 📷 Norbert Joehl

**From 13 to 17 November 2011, the International Forging Congress, IFC, took place in Hyderabad, India, with three parallel events. Hatebur area sales manager, Norbert Joehl, gave a presentation on hot forging which attracted a lot of attention for our company at the IFC. In addition, our partner Chrystec Machine Tools Pvt. Ltd. was represented with a booth at the accompanying exhibition.**

The event began with a greeting from IFC officials. The political speeches of the Finance Minister of the State of Andhra Pradesh and India's Minister of Heavy Industries & Public Enterprises, Shri Praful Patel, were followed by tributes to deserving members of the associations. After this, scenarios and reports were presented by the regional representatives of the forging associations of China, Japan, Europe, North and South America and Taiwan.

The event centered around more than 60 different presentations on a wide range of technical subjects within the forging industry. Hatebur took advantage of the opportunity presented by appearing before an interested specialist audience: Norbert Joehl gave a keynote speech entitled "High volume multi-stage horizontal metal forming equipment (Hot Forging)". In his speech, he talked about the technology of our products in the product ranges for the automotive, ball bearing and fastener markets.

At the same time, there was also an exhibition at which sponsors of the congress were able to present their products to industry experts. Well-known customers from the forging industry and almost 1000 delegates visited the suppliers' exhibition during the two days.

On the last two days, visits to businesses in various regions of India were organized. One of the sites visited was in Rajkot where the participants saw the HM 75 from Hatebur in operation at Rolex. With this machine and other investments, the company has managed to place its products with OEMs.

The chance to have so many specialists in one location in India and to exchange business ideas and to network in this way does not come around that often. It will certainly take another three years – when the next IFC is held.

We would like to highlight at this point the outstanding work done by the organizers of the IFC 2012. The event was extremely well put together and the varied program presented Hatebur with an excellent platform to make itself known and to make new contacts in the increasingly important Indian market.



*The keynote speech opened up new contacts which can now be purposefully followed up.*



*Mr. M.I.R. Shaikh from our representative Chrystec Machine Tools with Norbert Joehl.*



*A highlight of the exhibition was, without doubt, the conversation with Mr. B. N. Kalyani, owner of the Kalyani group and Chairman of the IFC, along with several of his staff.*

## FOCUS ON DESIGN – INNOVATIVE SOLUTIONS IN DEMAND

📄 Christoph Pergher and Christine Steiner 📷 Design Department and Christine Steiner

**An open exchange of ideas and know-how, a great deal of experience and close cooperation with various departments and partners enable the design team to meet the exacting demands placed on them with regard to technology, resources and levels of complexity. And mechanics continues to play an important role, notwithstanding the rapid developments in the field of electronics.**

*Netshape: How is the Development and Design department structured and how many people work in the various groups?*

**Christoph Pergher (PE):** The department comprises three central specialist areas that are closely interlinked, a bit like a wheel mechanism. In the mechanical design section, there are three teams, each with four to five engineers and technicians, which work intensively on the mechanical further development of our products. They are supported by state-of-the-art software tools for 3D-CAD as well as FEM and kinemat-

ics calculations. The ten employees in the electrical engineering team project-manage everything to do with drive and control technology, ensure quality and put the complete machines into operation. This team is also responsible for retrofitting work and complete re-electrification of existing production plants.

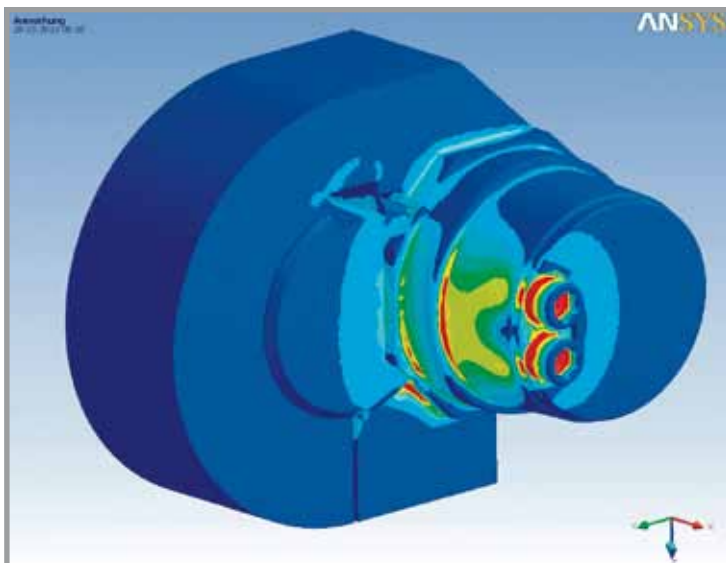
“Last but not least” the three-strong team in the plant layout planning section supports our customers in designing and setting up entire customized production lines. They are also responsible for the project management of fully integrated peripheral solutions, from noise protection to personnel safety and materials handling technology.

*What are the main tasks of the design team?*

**PE:** For one, they are responsible for the further development of assembly group technology, for example: Servo-driven infeed systems, the hydraulic clutch and brake for the AMP 70 or continuous improvement of process control systems such as the ESA 600 or the total press load monitor. On the other hand, they are also involved with the implementation of entirely new designs such as the HM 75, AKP 4-6S, HM 35 and HM 45.



*Markus Moser (left) and Christoph Pergher (right) verify the design on the workpiece and on the screen.*



*The FEM method is used to calculate the components.*

***What are some of the general trends in the way that design departments are working and achieving their objectives?***

**PE:** Without a doubt, one of the decisive factors in future will be the ability to align product development ever more closely to the needs of the customer. There will be increasing demands on functionality, cost-efficient production, occupational safety, ease of assembly and maintenance, environmental protection and so on, and the design departments will need continually to grow and modify their knowledge base.

***The design of complex machines requires a very broad level of specialist expertise. How can you maintain the correct level of expertise and how do the various employees from the different sections communicate with each other?***

**PE:** We believe in a healthy mix of young and old employees and an absolutely open exchange of knowledge and ideas between the teams. Our aim is always to combine as effectively as possible our specialist knowledge in the sector and extensive experience in the design process with the very latest findings and cutting edge technologies. We also work hard to integrate important, on-the-ground experience as our design team

members become more involved in the production process at the customer site and by means of closer collaboration with our service engineers.

***Is there a clear delineation of everyday tasks and responsibilities in the various working groups?***

**PE:** Yes and no. Tasks and responsibilities are basically project-based and are clearly structured in work schedules. There still needs to be a degree of flexibility in how priorities are handled on a daily basis, however. The job of the team leader is to field initial inquiries and enable his team to focus on solving problems as efficiently as possible. However, whenever a machine is down anywhere in the world, outside of a scheduled shutdown, this always takes first priority.

***To what degree do you need to take into account the cost factor when developing new components?***

**PE:** The pressure on costs is enormous and plays a role in component design in the form of intensive discussions with the procurement and production departments. This is an important aspect in the design process and has to be thought through



Wolfgang Müller checking parts of the AKP 4-6S.

carefully. More decisive when it comes to the cost structure of a product, however, is the ability to see the big picture. The intensive search for an optimum solution brings the greatest benefit to the entire value-added chain. The most cost-efficient components are the ones that are never needed.

***How important is information technology in the development process?***

PE: Current software tools and powerful hardware are absolutely indispensable for modern development processes. "Simultaneous engineering", i.e. shared simultaneous development, is the key to cross-team creation of integrated solutions. Only those who are in a position to support these increasingly complex interfaces with IT solutions will be able to meet the growing demands and requirements of product development in future.

***How do you ensure that the team members stay up to date with state-of-the-art technology, not least the continually developing software environment?***

PE: We are currently investing large sums in the modernization of the entire IT infrastructure for our development departments. Intensive training, user groups, power users

and regular exchange of knowledge and expertise help the staff most of all.

***Does mechanical design still play any role at all these days for new machines or is electronics becoming increasingly important?***

PE: I think the answer to both questions is a resounding yes. Mechatronics remains very much the buzzword of the moment and reflects very well an existing and established process in machine construction. Although rapid developments in electric drive technology have replaced mechanical systems in many areas, in my opinion the greatest opportunities in the future do not involve "either...or" but much more a clever combination of the mechanics and electronics.

***What are the decisive criteria for success when designing new machine components or new machines?***

PE: Comprehensive and clearly formulated requirements for a technical solution, as well as well-grounded specialist knowledge and experience on the part of the teams involved are absolutely essential. In order to find the optimum compromise between functionality, type of technology, use of resources and manufacturing costs, good networking between the different departments and early involvement of customers are, without, key factors.

***Are there machine areas where no further design improvements are possible or are all components tested to see if they can be improved?***

PE: In my opinion, there are no designs that don't have some potential for improvement. Advances in the technology used, changes in procurement options etc. will always lead to potential improvements. The key factor, however, is to invest limited resources where the greatest possible cost/benefit ratio can be achieved.

*As we have heard in the interview, design is broken down into various groups or sections. We therefore want to ask the individual team leaders what characteristics best describe their team:*

**Electrics team (TKE), Stefan Götz:** The close cooperation of the engineers in the TKE means that there is a lively exchange of knowledge and experience where team members are facing similar situations or challenges on the various machine types. This and, above all, our involvement on the ground, through the commissioning of new machines and modifications to existing production machines, contributes to the continual further development of our control systems.

**Order management team (TKA), Wolfgang Müller:** With the experience of our engineers, plant layout planning is customized to individual needs and requirements in consultation with the customer. Our expertise in plant layout planning is constantly growing thanks to technical project management and the resultant practical experience.

**Design team (TK1), Markus Moser:** The creativity to work out and find solutions that are very beneficial to the customer as well as the determination and tenacity to turn a good idea into a workable design.

***“Competition in the global markets is getting increasingly tougher for us and our customers. You have to be able to develop solutions at marketable prices in order to stay ahead of the game.”***

*Christoph Pergher*



*Oliver Maritz programs the SPS interface of a servocontroller on a test setup.*



*On all Hatebur machines, the mechanics as well as the electronics play an important role.*

# FAST AND EFFICIENT SUPPORT ON-SITE – WITH THE HELP OF MOBILE RE-MACHINING

📄 Hansjörg Gebhard and Christine Steiner   📷 Hatebur employees

**When on-site with customers, the service engineers from Hatebur Umformmaschinen AG continually received customer feedback requesting that larger and more extensive work, such as re-machining, be carried out locally. Without the necessary large equipment this was previously not possible. For this reason, the management at Hatebur AG decided to open up a new line of business offering customers a fully integrated service from a single source.**

## A NEW SERVICE RANGE

In order to extend the existing services offered by Hatebur AG, the new company Hatebur Lumag Services AG, based in Roggliswil, was founded in 2007, together

*Boring a crankshaft bore on an AMP 20.*



with the companies Lumag AG (40 percent share) and Hatebur Umformmaschinen AG (60 percent share). Roland Luternauer became the Managing Director.

With the support of a small but very flexible Swiss engineering firm – which has extensive experience in designing machining systems – an analysis was carried out on the requirements for mobile re-machining. From the very start, particular value was placed on the need for very high precision

machining. In addition, it was important that the machining system could be quickly and efficiently erected and dismantled. The third requirement was that work on the Hatebur machine should require as little dismantling as possible.

These requirements couldn't be met with a single machine. So the development team focused on two different main units. The first was a smaller machine with the designation MBE 30 for the machine types Hotmatic AMP 20 and AMP 30 and the second was a somewhat larger machine, the MBE 70, for all other machine types. Almost only hotformers are now post-worked with these two machines.

## APPLICATION AREAS AND ACCURACY

With the two machines, the employees of Hatebur Lumag Services AG are now able to achieve the precision tolerance of a new machine. In addition, practically all necessary work in the tool area can be carried out in one clamping operation. The work that is regularly carried out includes:

- Re-machining the contact surface of the pressure plate that are subjected to considerable wear (the transfer unit can remain installed for this)
- Milling of the support surface on the side of the last operation
- Re-machining of keyways and fixing threaded holes

- Line boring the ejector bores
- Milling of the bearing surface for the tool block.

### **SPECIAL FEATURES OF THE MBE 70**

The larger machine was extended in 2011 to include a special, removable support and a drive spindle. This means that adjusting wedge pockets in the pressrams of the AMP 70 and AMP 50 can also be remade. The system has built-in flexibility enabling work to be carried out on the equipment while still installed in the machine or, if required, outside the machine. At regular intervals it is necessary to re-machine the radii in the corners of the adjusting wedge pockets. This is possible with a special fitting.

The greatest advantage of the machine is in the area of application: The MBE 70 can be used on all areas of the Hatebur machine for all milling, spindle and boring tasks which may be required.

### **THE ACE UP THE SLEEVE: A SPECIAL BORING UNIT**

For the line boring of bearing points such as the driveshaft bearings, shearing slide bearing and crankshaft bearing and for special cases such as the ejector bores, Hatebur Lumag Services AG has provided and extended a special boring unit to meet these specific requirements. This unit works with an electric motor with an infinitely variable speed control. It can therefore be used for all voltage and frequency ranges and is flexible and easy to use. The working range covers 50 to 600 millimeters diameter and a length of more than 3.5 meters.

### **ADDITIONAL SUPPORT WITH CUSTOMIZED PRODUCTS**

In order to carry out all the usual types of work, several different supports have been designed and manufactured, enabling fast and accurate attachment and machining on the Hatebur machine. Many of the tasks are only possible and efficient using a special tool. For this reason, a large amount of the



*Pressram machining outside the machine.*

investment went into the necessary machining tool with the special milling and spindle heads.

### **OPERATION OF THE MOBILE RE-MACHINING SYSTEMS**

The mobile re-machining systems are used almost exclusively by the employees of Lumag AG. The company Lumag AG is known for its very precise scraping and grinding work. The employees can also use their know-how in this area with the mobile units on Hatebur machines. Many of the Lumag AG employees are also very familiar with the Hotmatic line and can carry out additional assembly work. The various different types of work carried out by the teams at Hatebur customer sites also regularly increases their expertise. This is an advantage and an important prerequisite to enable the service personnel to find the correct solution, especially in unpredictable situations or when working to tight deadlines.

### **HIGHLY FLEXIBLE IN EMERGENCY SITUATIONS**

Hatebur AG customers normally have a very high utilization of production capacity

*Re-machining of keyways on a pressure plate contact surface.*



*Crankshaft bore on an AMP 20 frame.*



*Machining adjusting wedge pockets on an AMP 70.*



*AMP 30 tool area*



*Line boring on an AMP 30.*



and use shift work. There is therefore often very little time available to carry out the required servicing. Hatebur Lumag Services AG therefore offers a great deal of flexibility. When necessary, service personnel work in shifts around the clock and also at weekends.

#### **THE FUTURE OF HATEBUR LUMAG SERVICES AG**

Thanks to the high level of utilization of the existing mobile re-machining systems, Hatebur Lumag Services AG can invest in additional machines of the type MBE 30 and MBE 70 to continue to meet increased demand and maintain the necessary level of flexibility. In Summer 2012, a small MBE 30 machine will therefore also be stationed in Japan to enable local servicing of the large number of Hatebur AMP 20 and AMP 30 machines.

The outstanding cooperation between the staff of Hatebur Lumag Services AG and Hatebur in Reinach also allows that all resources required can be called upon to solve any unforeseen problems. The specialist departments in the back office at Hatebur AG provide assistance to Lumag Services AG personnel and offer additional in-depth know-how which directly benefits the customer.



## A NEW LOOK – HATEBUR SERVICE ENGINEERS PUT ON A FASHION SHOW

📄 + 📷 Christine Steiner

**Out and about for our customers:** In 2011, the ten service engineers at Hatebur spent 98 percent of their time on duty working for the customers. At the end of 2011 they were able to pick up their new overalls in Reinach. In the pre-Christmas period the annual internal training also gave them the opportunity to catch up with colleagues and find out about the latest developments with the various machines.



*From left to right: Martin Fassbender, Jean-Luc Bass, Bernhard Mutter, Karsten Wick, Loris Bernardini, Carsten Sieber, Alex Bacchini. Missing on the photo, due to urgent call-outs at customers: Peter Aigner, Rolf Nyfeler, Uwe Thoma.*

# REVIEW OF THE SUCCESSFUL MARKET LAUNCH OF THE HM 35 – LESSONS LEARNED

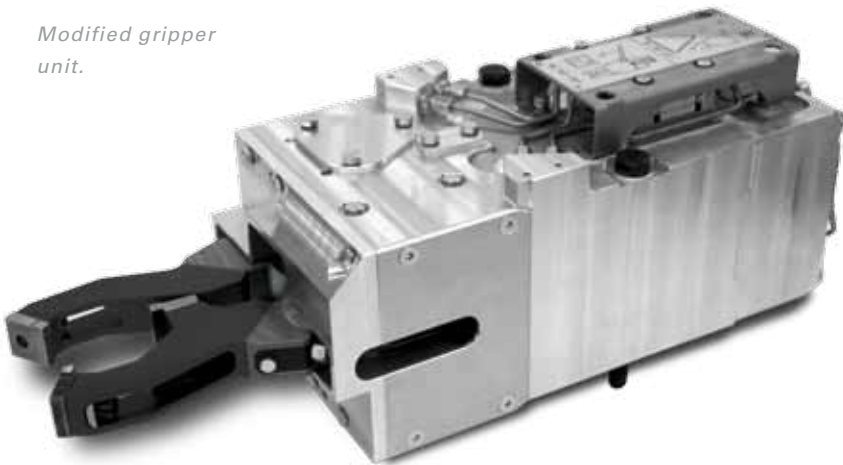
📄 Christian Bürgin 📷 Christine Steiner

**A high level of innovation, the direct launch of four machines and large distances to the operator's site placed exacting demands on the introduction of the HM 35 machine. The excellent collaboration between the customer and manufacturer overcame all of these hurdles and led to an excellent and proficient technical outcome without any teething problems.**

## PROJECT OUTLINE

In the spring of 2008, Hatebur ushered in a new era for small to medium-range hotformers with its presentation of the first HM 35. From the very start this was an ambitious project covering uncharted territory in a

*Modified gripper unit.*



number of areas. In advance of the product launch an in-depth analysis of the sector requirements was carried out. The research clearly showed that it would require a highly innovative machine optimized for productivity to make inroads into this highly competitive market. Based on many years of experience in the construction and operation of the AMP 30 and the current market requirements, a product specification was drawn up with the following key points: Reduced operating costs as a result of high machine availability at maximum possible output

and minimum possible retooling times.

Alongside the overarching requirements for an attractive market price, the developers, procurement and project management teams responsible for implementation at the customer site were presented with an extremely demanding task.

## SUCCESS TAKES ROOT ...

As market research revealed an obvious need for these types of machines, the decision was made – after weighing up the pros and cons – to start directly with production of four machines without actually building any prototypes. It quickly became clear that the new press fully met the needs of the market: Even before the official presentation of the first machine to a customer in Germany, two further machines were sold to German forging companies. Shortly thereafter came successful sales in Asia, with the HM 35 being sold in both Korea and Japan.

## ... BUT BRINGS BIG CHALLENGES WITH IT

Due to the very high level of innovation and the direct launch of four machines, there was always going to be the need for a certain level of optimization of the newly commissioned machines at the customer's site. The rapid market success combined with considerable distances to some customers raised the bar considerably and presented the entire operation with some considerable challenges. In spite of these difficulties, however, all the teething

problems were overcome during the launch period and a number of optimizations and improvements developed and implemented in cooperation with the operators. The various machine states were analyzed and a large amount of operating data collated and evaluated. This resulted in a number of improvements, particularly in the area of the gripper, the machine timing and the drive-shafts, all of which were carried out on the machines in production. Today the HM 35 series has been thoroughly road-tested and all the “teething problems” successfully ironed out.

### **MORE THAN JUST BUILDING A MACHINE**

The market launch of such a complex product involved a lot more than just the actual construction of the machine on site. An awful lot of work also went into plant layout planning, training of the operators and the development of new tools and processes. As new product launches have no substantial customer or supplier experience to fall back on, there was always going to be a considerable amount of work to be done in these areas.

In order to be fully prepared for the challenge ahead, the decision was made to create a comprehensive 3D plan of the plant with precise descriptions of all peripheral interfaces. These documents enabled the customer to design their own customized layout without any difficulty.

As the HM 35 is significantly different in terms of operation from the existing small Hatebur presses, considerable value was placed on an intuitive control system and intensive training was given to the customer for the individual operating and retooling processes. A lot of attention was also given to the development of the tools and processes: Alongside various tool design workshops, Hatebur developed more than ten customer tools – all of which were manufactured in Reinach and placed in operation on site in cooperation with the Hatebur service engineers.

### **LESSONS LEARNED**

The market launch of the HM 35 has shown that even very ambitious projects can be successfully completed for both parties when the customer and the manufacturer work closely together. And while a considerable geographical distance between the two parties certainly doesn’t make things any easier, this hurdle can easily be overcome with the right level of engagement and determination.

#### **FACTS AND FIGURES**

First machine in production	Spring 2008
Machine population worldwide, As of spring 2012	4 machines in Germany 2 machines in Korea 1 machine in Japan 1 machine in India
Tool development	Up to date a total of 10 tools developed and tested by Hatebur
Number of parts forged on the HM 35 to date	> 140 million forgings



## TRADE FAIRS / EVENTS

### AT THE WIRE IN MARCH

From 26 – 30 March, the bi-annual wire/Tube 2012 event took place in Düsseldorf. Hatebur once again took part in this important European trade fair with its own exhibition stand.

Approximately 70 to 80 percent of the visitors this year came from German companies; the international component of 20 to 30 percent was mainly made up of European and Turkish visitors. Representing Hatebur were sales representatives as well as customer service and engineering staff, who spent time talking to customers and interested parties as well as gathering additional ideas and information on market developments.

Over 1300 companies from 50 countries use the trade fair to exhibit their products and services over an area of more than 57,000 square meters. The trend this year was very much towards a more impactful appearance, with larger and more attractive exhibition stands.



### VISIT HATEBUR

#### ■ IN CHINA

The China Forge Fair (CFF) is being held in Beijing from 10 – 12 September. The China International Bearing Industry Exhibition is being held this year from 20 – 23 September in Shanghai.

#### ■ IN TURKEY

The 14th International Metalworking Technologies Exhibition (TATEF) is being held in Istanbul from 2 – 7 October.

Hatebur will be represented with a booth at all three Trade Fairs through the presence of our subsidiary in China and our agency in Turkey.

### REVIEW OF TRADE FAIRS IN 2011

#### ■ IN THE UKRAINE:

For the first time Hatebur took part in the International Industrial Forum in the Ukraine from 22 – 25 November 2011. The shared exhibition stand with our representative Ferrostaal was a great success.

#### ■ IN SOUTH KOREA:

Our representative SQ Tech Corp. took part in the annual SIMTOS event in Seoul from 17 – 22 April and made a number of useful contacts with potential customers.