NETSHAPE

Hatebur magazine for horizontal cold and hot forming – **2/09**

SEISSENSCHMIDT AG: Innovation driven by passion

EDITORIAL

JUST TALKING...

Do good and let others know...
Wide-ranging, in-depth communication. This is already the fourth edition of the NETSHAPE magazine and we are entitled to take a look back. A new means of communication from Hatebur that wants to be more than just print on paper. During a time when transitoriness seems to dominate, communication is reduced to sending e-mails and text messages and people are so sensorially overloaded that they lose appreciation for simple things, we at Hatebur would like to provide you with a small highlight. To take the time twice a year to talk about all the things that are happening in and around our business. How our customers feel when every day they again create the most accurate of parts for themselves or their own clientele on Hatebur forming presses. We want NETSHAPE to be a joy to read, create a stimulus for other ideas and provide a short "time-out" period in stressful and hectic times. Above all, to provide something to read which brings us, the manufacturers of modern forming machines, closer to you, the reader.

PLAY A PART

We would be delighted to receive comments and suggestions. Only in this way can we keep improving and feature more articles about what interests you and is of concern in your daily business life.
Your contact: stephan.duerer@hatebur.ch

I would like to take the opportunity here to once again warmly thank those customers and companies who have so far expressed pleasure in making themselves available for a portrait photograph in this edition of NETSHAPE.

I hope you enjoy this edition,

Stephan Dürer, Head of Publicity

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Cover picture:
Dr. Ekkehard Körner (left), Rüdiger Groos (right).

IMPRINT

NETSHAPE – Hatebur magazine for horizontal cold and hot forming

Published by:
Hatebur Umformmaschinen AG I Werbung/ Kommunikation I General Guisan-Strasse 21, CH-4153 Reinach

Editing, layout, production:
Stephan Dürer

Printing, origination:
Köpfli & Partner AG, Neuenhof, Switzerland

Paper/number of copies:
Claro Bulk/3,500

FSC Mix
Cert no. SQS-COC-100316
www.fsc.org

REINHARD BÜHRER
ASIA SALES REGION

In his capacity as Asia Sales Manager, Reinhard Bührer, together with Klaus Helfer and the particular Hatebur subsidiaries in Japan and China as well as other national agencies, has been providing support and coordination for our sales activities in the Asian market.

MODIFICATIONS TO THE HOTMATIC AMP 30 S

The Hotmatic AMP 30 S in the Hatebur Democenter has been recently has been modernized with a new bar heating system (picture below) and a lateral part discharge system (picture right). The lateral part discharge system brings a high level of flexibility to the production process, especially in the production of combination rings and cams. This modification is possible for all existing AMP 30 (S).

JEROME BLUM –
TENSION UNTIL THE LAST MINUTE

Stephan Dürer

Who can really claim to have actively taken part in a world championship? A great, great deal of training, extreme self-motivation and a large helping of ambition helped Jerome Blum achieve a sensational 3rd place in the Worldskills event in Calgary.

Jerome Blum, a young, dynamic person and Swiss title holder in the category of polytechnician (automation), has achieved something which will be long remembered at Hatebur.
When he began training as a polytechnician at Hatebur in 2005, he had no idea that world championships for the professions even existed. But after winning the Swiss championships, his course was clear: "Now I want to go and compete in Calgary." However, without training, nothing can be won at a world championship. Where three weeks training was enough for the Swiss championship, he increased his training regime for the world championship to five months. You may well wonder: how can anyone do this sort of thing and receive job training at the same time? It was all made possible by those responsible in the Hatebur training team who allowed the young man time off work for five months.

"I just couldn't believe it when the result was announced."

A GREAT ATMOSPHERE IN THE TEAM

Apart from the amazing achievement of Jerome Blum himself, the whole Swiss team produced an extraordinary performance. The young team achieved second place overall in the national rankings. "Right through to the very last minute, there was a fantastic atmosphere in the whole team. And then when the result was announced, I could hardly believe it," says Jerome Blum.

Extreme concentration during the contest in Calgary.

An examining eye in the production workshop at Hatebur.

Indescribable joy at the official reception of the Swiss team at Zurich Kloten airport.

SEISSENSCHMIDT AG –
INNOVATION DRIVEN BY PASSION

Stephan Dürer Stephan Dürer, SEISSENSCHMIDT AG

SEISSENSCHMIDT AG is today an internationally wide-spread group of companies which consists of various production locations and sales agencies in the world's most important markets. It began originally in 1846, producing forgings for fasteners in railway engineering. At that time, work was still conducted on manual forging hammers, whereas today investment goes into the latest hot formers made by Hatebur. Always abreast of cutting-edge technology, SEISSENSCHMIDT has developed into one of the most innovative partners in the automobile industry, with sales figures increasing annually and a workforce of around 650 employees.

It is very impressive, as you walk through the workshops in Plettenberg, Germany, the headquarters of the SEISSENSCHMIDT-Group. Allmost all of the automatic forging machines (see also page 5) from the Hatebur range are to be found in each of the three large production halls, right down to the smallest of the Hatebur hot formers, the AMP 20 S. It's almost like being in a showroom. In fact, some types of machine can even be found twice. This impressive assembly of machinery allows SEISSENSCHMIDT to produce an extremely wide range of parts.

"We cover the whole spectrum of parts for a modern automotive gearbox."

Dr. Ekkehard Körner, executive board member

THE FIRST HATEBUR MACHINE STARTED UP IN 1965

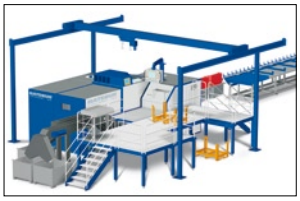
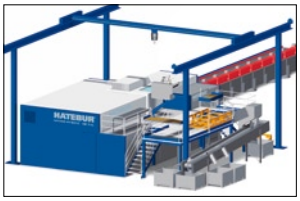
After the introduction to Hatebur technology with an AMP 30 forty four years ago, not only did the demands from customers start to grow but the range of parts moved away from fasteners for railway engineering towards the automotive industry. "On the first Hotmatic AMP 30, we started by forging radiator plugs for heating engineering. When these plugs were converted to sheet metal a few years later, a replacement use was then found for the plugs at Volkswagen: Wheel nuts for the VW beetle, for a good few years," explains Rüdiger Groos, executive board member at SEISSENSCHMIDT.

Mr. Dr. Ekkehard Körner, also on the executive board at SEISSENSCHMIDT, adds: "With the range of machinery we have today, we cover the whole spectrum of parts for a modern automotive gearbox. We have met the challenge presented by our customers and are able to manufacture and provide gear wheels as a complete pack-

HATEBUR MACHINERY AT SEISSENSCHMIDT

The first Hatebur hot former (AMP 30) went into operation at SEISSENSCHMIDT in 1965. Continuous investment has led to an assembly of Hatebur machinery which is today unrivaled anywhere in the world. All machines always represent the cutting edge of technology and are no more than ten years old.

Performance spectrum

		max. **Part diameter**	max. **Input weight**	max. **Stroke rate**
2x *AMP 30 S*		67 mm	0.7 kg	140 rpm
1x *HM 35*		75 mm	0.74 kg	180 rpm
2x *AMP 40 S*		85 mm	1.1 kg	150 rpm
2x *AMP 50 XL+HFE*		104 mm	2.0 kg	100 rpm
1x *AMP 70 XL HFE*		165 mm	5.0 kg	80 rpm
1x *HM 75 XL*		180 mm	7.5 kg	80 rpm

Impressive view of one of the production halls with the Hatebur Hotmatics AMP 40 S (rear right), AMP 70 XL HFE (front left) and HM 75 XL (front right).

"We were able to use the full capacity of just about every new machine extremely quickly, once it started production."

Rüdiger Groos, executive board member

"Feed" for the many different types of Hatebur Hotmatics. The efficiently organized bar stock at SEISSENSCHMIDT holding an extremely wide variety of steels.

age, which, of course, has also involved far-reaching consequences in terms of finishing processes once forging is complete." SEISSENSCHMIDT has also invested large sums of money in this area. Step by step, all the necessary processes were collected together into our own production locations. In the SEISSENSCHMIDT-Group, we can comprehensively cover cold forming for the calibration of forged parts, as well as turning, drilling, milling or broaching – even in "hard" materials - and, since recently, we can also handle the whole range of operations involved in heat treatment.

ADVANCE PRODUCTION FOR CUSTOMERS

"Whole production lines for finishing forged parts have been planned and put into operation in the past and will continue to be managed in this way in the future explicitly for a particular customer project," explains Stefanus Levermann, Head of Communications, during a tour of the works site.

Large-scale investment to maintain position in the market is also a part of day to day business. And it is a market which has undergone huge changes. "Hand-in-hand partnership" with the customer on large-

One of several lines for mechanically finishing forged parts. Employees carry out the quality checks immediately after machining under their own initiative.

One of the many automotive parts at SEISSENSCHMIDT: a bell housing for a universal joint after forging (left) and mechanically machined in subsequent steps (right).

scale projects is today no longer on the agenda. "High-quality, ready-made components at best possible prices are what is now expected from a supplier. We, the company, carry the investment risk," explains Rüdiger Groos.
In the light of such a situation, it is all the more surprising that the entrepreneurial spirit and push towards innovation are so much in evidence at Hatebur. Even in a time of economic uncertainty, coupled with the financial crisis and falling sales figures in the automotive industry, the SEISSENSCHMIDT-Group appears to be ideally positioned. This is also reflected in the modern assembly of Hatebur machinery which was expanded only six months ago with the addition of Hatebur's latest development, a Hotmatic HM 35. Just one of many investments which helps SEISSENSCHMIDT to maintain its innovative drive in the market. "We are today in the comfortable position of having recourse to an assembly of machinery which is in excellent condition," says Dr. Ekkehard Körner during the interview.

PROCEDURES AND PROCESSES

Even the most modern of machinery is only worth half as much of its true value without a permanent endeavor to improve processes and procedures in all in-house machining methods. In particular, the processes involved before actual forging are extremely important. All tool and procedure development is wholly conducted in-house at SEISSENSCHMIDT and, it must be said, at an extremely high technical level.
Highly qualified employees develop the parts which are to be manufactured, often even together with customers themselves.

"We are pursuing a very energetic goal in increasing the proportion of non-automotive parts to 15% in the next five years."

Dr. Ekkehard Körner, executive board member

FEM technology and rapid prototyping technology is very helpful during this process. Almost overnight, SEISSENSCHMIDT can, with the aid of these procedures, provide the customer with a true-to-scale plastic model of the forged part which will later be manufactured. This stage is naturally preceded by performing cutting-edge, computer-assisted simulations and calling on the wealth of knowledge which SEISSENSCHMIDT employees have acquired in more than 40 years in relation to Hatebur's horizontal forging technology.

ENERGETIC GOALS

Innovational drive and automotive parts are what is required at the moment. But what does the future look like for SEISSENSCHMIDT? Mr. Dr. Körner answers this question with what, in his eyes, is truly an adventurous goal: "In the next five years, we would like to increase our production of non-automotive parts to 15%, while simultaneously improving our core competence and very closely keeping track of trends in the market for automotive forged parts."

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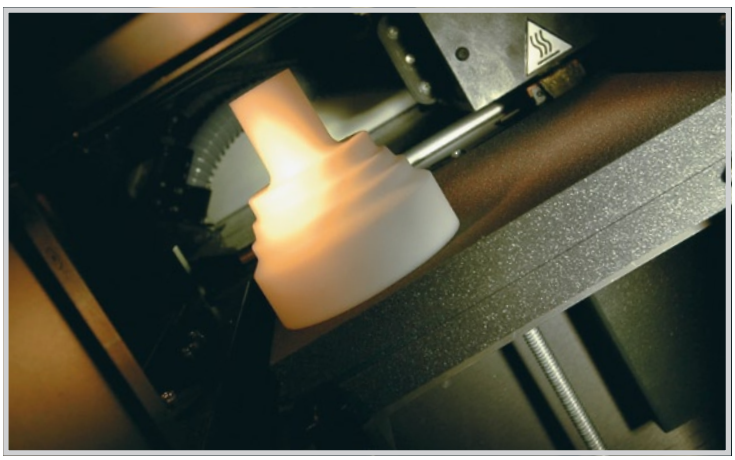
A bevel gear calibrated by cold forming after forging.

After computer simulation (picture right), true-to-scale plastic models can be produced overnight with the aid of rapid prototype technology (picture left).



Pictures above and below: Views of the various spare parts stores at Hatebur.

SPARE PARTS SERVICE –
WELL ORGANIZED, RAPIDLY AVAILABLE

Stephan Dürer

Rapid and reliable availability of spare parts is an important factor in our ability to guarantee the fault-free operation of all our massive forming systems. As a machine manufacturer, being able to supply our customers with all necessary spare parts in as short a time as possible is something which is very close to our heart. In order to accomplish this, all spare parts orders are periodically analyzed and integrated into an optimized stockholding plan. In addition to this analysis, Hatebur also optimizes spare parts stockkeeping in consultation with the customer.

Whether for cold or hot forming machines, the supply of spare parts is an important strategic instrument in the operation and maintenance of highly productive forming machines and systems.

SIMPLY REACTING TO CIRCUMSTANCES

The last few years have shown how important it is to ensure the

production capability of machinery. Machines were scheduled to be used at close to full capacity, which left no room for production failures.
Under these circumstances, a lot of operators, however, were exposed to unavoidable incident, as well as Hatebur in their capacity as a partner.
At this time, it was mainly only possible to react to situations. In order to provide better support for our customers during possible interruptions in machine productivity caused by wear or defects, a diverse package of measures has since been introduced on the part of Hatebur. An essential component is the rapid availability of the machine parts concerned.

In parallel to the introduction of a new ERP (Enterprise Resource Planning) system, a group of service technicians was formed which concentrated on tackling the problem of requirements planning and designing an optimum stockholding policy. A demanding task, which was a decisive factor in improving availability and positively influencing manufacturing costs.

30% MORE STORAGE CAPACITY

In addition, the storage capacity for large-scale parts was increased by approx. 30%. An additional area of 300 m^2 was created to provide a storage area mainly for parts with a long lead time, if not available in worst case may lead to long production down-times. The storage of such parts like these which demand a commitment of capital is for Hatebur a decisive step towards creating sound service partnerships.

INDIVIDUAL SOLUTIONS

In addition to standardized stockholding, Hatebur is, however, also more than ready to work out individual solutions with customers in order to improve production reliability.
From these measures, it can be seen that Hatebur has taken yet another step towards accommodating customers and their requirements.

Hansjörg Gebhard, responsible for Service & Support at Hatebur.

BOLTMATIC BKA 1 –
BACK IN REINACH AFTER 50 YEARS

Stephan Dürer

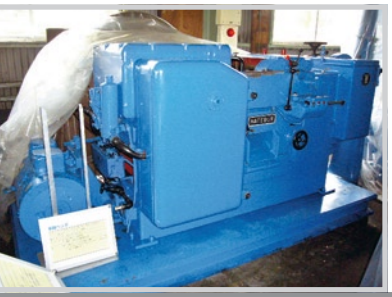
When the rebuilding of the main entrance at the headquarters of Hatebur Umformmaschinen AG was completed in 2008, the desire was conceived, even during the construction phase, to also put on display here an example of an "old" Hatebur forming press. After an intensive search, one was found at the MEIRA Corporation in Japan.

A Boltmatic BKA 1, machine no. 9 in this series, left Switzerland in 1959, bound for Japan. Today, after just about 50 years to the day, this BKA 1 is back again in Reinach.

FOR THE MAIN ENTRANCE AREA

The reason for returning an "old" Hatebur forming machine to Reinach can be easily explained. In the course of modernizing the main entrance and the whole ground floor at the Hatebur headquarters, people hit on the idea of installing an "old" Hatebur forming press here after the rebuilding was complete. It could not be too big and should have as many years of productive life behind it as possible. A couple of Hatebur employees immediately set about the task, put out their feelers and asked around among customers throughout the world. They found one in the autumn of 2008. In Japan. Amongst their machinery, the MEIRA Corporation company (formerly K.K. Nagoya Rashi Seisakusho) had in their possession a BKA 1. A cold former built in 1959. It was also being used in Japan as an exhibition piece and, as a result, had been well looked after. The Japanese owners had only changed the color, from the original paintwork to blue. After brief negotiations, an agreement was soon struck. The machine was repurchased by Hatebur and restored as true to the original as possible, even down to the color scheme.

Die BKA 1 in Japan at the MEIRA Corporation before being shipped.



Pictures right: BKA 1 from the transport stage through to the restored machine.

Boltmatic BKA 1 technical data

Shaft diameter for standard bolts (commodity items)		4 – 8	mm
Diameter for formed parts	max.	17	mm
Width across flats for hexagon bolts	max.	11	mm
Width across flats for square bolts	max.	9	mm
Raw material diameter	max.	10	mm
Cutoff length		10 – 80	mm
Strokes per minute (infinitely adjustable)		80 – 130	
Total press capacity		600	kN
Die diameter		80	mm
Die-side ejector stroke		68	mm
Punch-side ejector stroke		15	mm
Drive motor		7.5	kW
Weight of machine	approx.	7.3	t


HATEBUR

TOOL TRIALS –
SETTING UP, RUNNING IN, OPTIMIZING

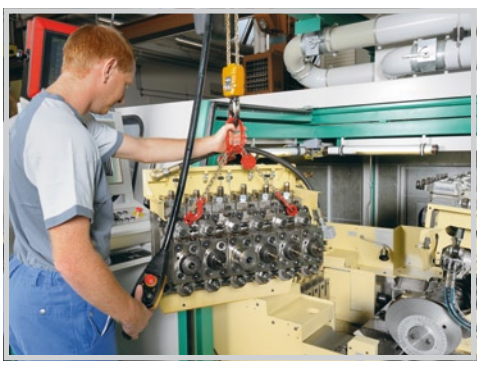
Stephan Dürer

This last part in the "Tools & Processes" series discusses the testing of forming tools once they have been designed and manufactured, and thus completes the cycle. The part itself comes first – a drawing with precise technical specifications, which is to be converted into a high-quality tool. Now comes the trial phase, which can be carried out for all Hatebur machines, either in-house or at the customer's premises. Either in direct connection with a new machine project or as a separate project.

Part 3
"TOOL TRIALS"

Part 2
NETSHAPE 1/2009
"TOOL MANUFACTURE"

Part 1
NETSHAPE 2/2008
"TOOL DEVELOPMENT"



The machine operator prepares the AKP 4-6 S for the trials.

It is 7.15 in the morning. Preparations are in progress in the Hatebur Democenter in Reinach for trialing a tricky part. The first trial will take place today on an AKP 4-6 S six-stage cold former. The machine operator gradually mounts the tool packages on the tool block, then first lifts the die module, then the punch module into the machine. At the same, the appropriate raw material is prepared by his colleague and a section of it is drawn into the machine. The tension builds. The first critical moment has arrived, the cold former turns at low speed with the new tool. Both men look anxiously into the tool area. Everything seems to be perfect. No tool collision.

THE FIRST PART LEAVES THE MACHINE

They must now find their way, step by step, through the adjustment process. From the first sheared blank, through to the completed sequence of operations. Divergences from the specifications in the design are accurately recorded. For a brief moment, there is an air of nervousness. In the sixth forming station, an undesired burr has appeared. The tool designer and a colleague from tool production hurry to the scene. A slightly overlarge venting groove on the punch tool, as it turns out. Within the hour, a punch blank was modified accordingly, and the problem is solved. The two machine operators proudly show the final forming stage to the head of the Tools & Procedures department, Patrick Stemmelin. Together, they measure and compare the final part with the specifications. "Great, we're now very close to the specification," says the head of department, delighted.

OPTIMIZATION

A few smaller adjustments are still required in order to reach the high-level target which has been set. The team who were entrusted with this project get together for a meeting in the optimization phase. The machine operators pass on their information. They will then discuss and implement the actual steps required to improve the tool set. A few days later (the customer was meanwhile invited to attend the acceptance test),

Patrick Stemmelin (left) in conversation with a customer.

the trial procedure is carried out once again from the start. Now everything has to be right. And that's just what happens and the customer is delighted. The part is exactly how he had imagined it.

FORMING OF 10,000 PARTS

As contractually agreed, Hatebur now forms 10 ,000 sample-compliant parts. The AKP 4-6 S purrs at 150 strokes per minute and one part after the other falls into the container. After a little more than an hour, the whole show is already over.
All those involved are extremely pleased and, in addition to his set of tools, the customer orders two more sets of forming parts as a starter package for future production.

SERIES PRODUCTION FOR CUSTOMERS

"If the customer cannot keep up with demand or the machine which he has ordered is still not ready for operation, Hatebur will be more than pleased to undertake larger-scale production," says Patrick Stemmelin. "Several projects like these have already been handled in the past to the complete satisfaction of the customer."

SIMPLIFIED TRIALS

"Coming back to the actual trials," he adds, "in addition to comprehensive tool development including manufacture and testing, we have recently also been offering an alternative option which is more attractive from a cost point of view. In this case, the trialing phase is limited to one week, excluding acceptance pressing. How things are then to proceed is a subject for discussion. Either the customer undertakes the optimization process himself or he leaves this phase to the technicians at Hatebur."

Patrick Stemmelin, responsible for Tools & Processes at Hatebur.

Possible sequence of forming stages of a cold formed part.

NEW STRUCTURES –
SEAMLESS PROCESS TRANSITIONS

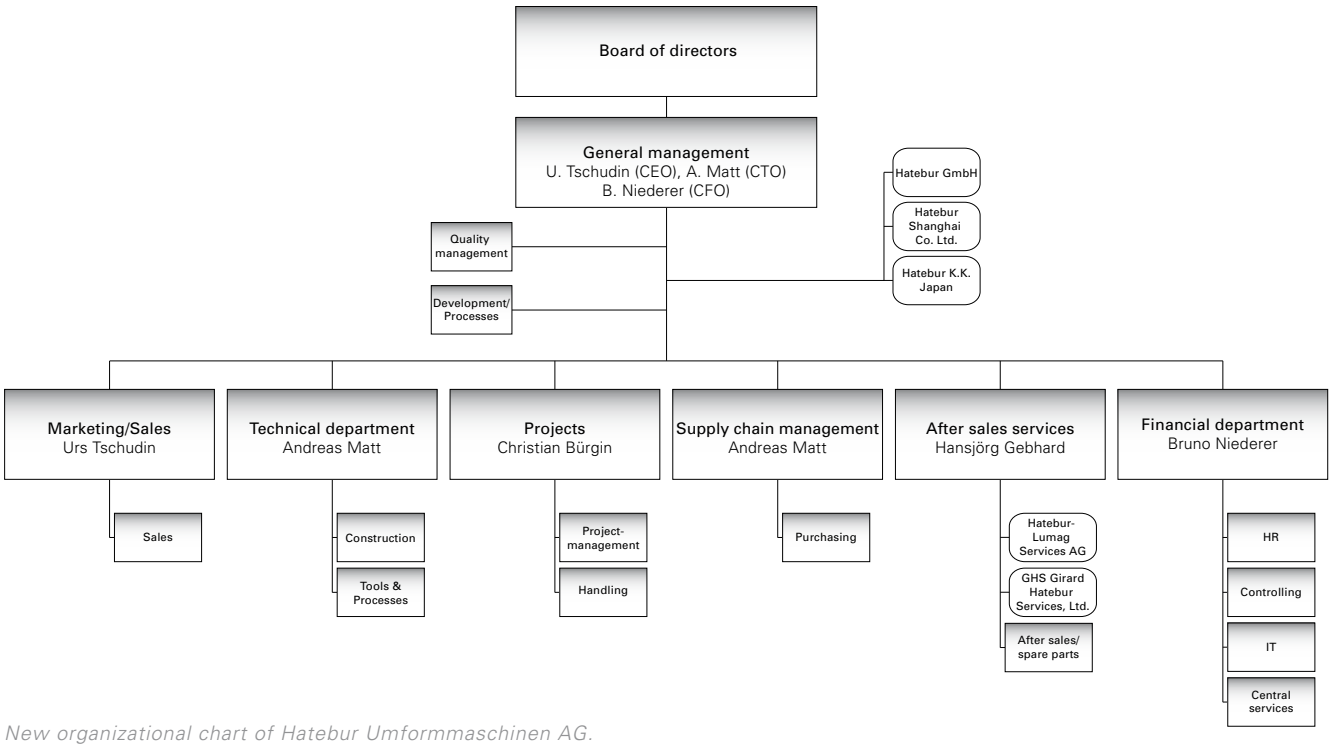
Stephan Dürer

From 1st September 2009, a new organizational structure will come into effect at Hatebur. The editorial department of NETSHAPE would like to know: "What sort of changes will there be and what effect will they finally have?" We interviewed Bruno Niederer, member of the management board and head of Finance and Administration (CFO) in a question and answer session.

What were the reasons for the creation of a new corporate structure?
The main reason for the change was the realization that the existing formal and informal processes were not sufficient either for the requirements of our own goods and services or for those of our present day customers.
Based on the shortcomings which were acknowledged and the resulting scrutiny of the existing organization, we got together with our employees, especially at management level, to formulate common goals, under the guidance of a coach.

These are focussed on:
- Achieving and/or improving customer satisfaction.
- Improving our processes based on the recognition that our core business is project driven.
- Optimizing processing procedures and/or workflow and associated interface management.
- Changing customary behavioral practices in terms of an awareness of active schedule, cost and quality management.

It is clear that a redefinition of tasks, duties and responsibilities is involved in the goals mentioned above.
A process structure has now created the foundation for, and requirement of, an ERP (Enterprise Resource Planning) system worthy of the name. What we had to do, therefore, was reproduce the defined processes in the ERP and recreate the organizational structure.
We have largely succeeded in doing this, apart from the fact that we are behind in the implementation of the ERP and there are still various problems awaiting a solution.
The "change of mindset" which is being targeted is supported and carried by, in part, young management staff who are keen to take on responsibility and incorporate the processes in their actual behavior.



New organizational chart of Hatebur Umformmaschinen AG.

What are the greatest differences compared with the previous structure?
The new organization and business-related facts have been reflected in the processes (and vice versa).
The following areas are new:

- "After sales services/Customer service and Spare parts"
- "Projects"
- "Supply chain management"
- Account has been taken of the core function and core task "Development and procedure" through their direct connection to management

What differences will the customer see in the new process handling?
Projects are accompanied almost without interfaces being involved, from the purchase of a machine to its commissioning, and this brings both the customer and us benefits arising from short communication paths and central responsibility. Throughout the whole course of a project, the customer has the same contact person, who also monitors the internal processes. This accompaniment also ensures a customer project is processed efficiently in terms of time, quality and financial considerations.
This philosophy is also actively incorporated in the attitude of the customer service and spare parts departments. The first positive feedback from customers has already been received regardless of the economic slowdown.

Are there further expansion plans as far as the organization in connection with new ERP system is concerned?
The structures and processes which have now been introduced, supported by the new ERP system, are largely scalable. In the near future, they will be extended through the inclusion of the technology department and the integration of the "Tools & Procedures" department, which will receive a particular emphasis.
In addition, we are introducing a new digital time recording system towards the start of 2010. Finally, and not until the "labor pains" of the ERP have worn off, the system is to be fully completed with the addition of a "management reporting tool".

Interviewee: Bruno Niederer, management board member, head of Finance and Administration (CFO).

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FASTENERS TRADE SHOW – GUANGZHOU/CHINA

The Fasteners Trade Show opened its doors in Guangzhou (China) for three days, from 23.09.09 to 25.09.09. This was Hatebur's first appearance at the exhibition which mainly covers the fasteners industry. In contrast to the third day, the first two days went particularly well, despite the evident economic slowdown. According to expert opinion, Hatebur stood out from the other exhibitors in a positive light because of its ability to provide specialized parts. The still young team from Hatebur Shanghai Co. Ltd. put in a lot of hard work and was very pleased with the result.

Impressions of the exhibition stand at the Fasteners Trade Show in Guangzhou.

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