

NUM

information

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New at EMO:

Flexium CNC System

NUMDrive C Servodrives

BHX Motors

NUM XION Inputs/Outputs

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A firework display of novelties at EMO!

Dear reader,

This autumn is shaping up like spring for the NUM Group! At this year's EMO 2007 we will not only be presenting a new product, but a complete system comprised of new hardware and software products.

Production processes are becoming ever-more complex and the market demands increasing productivity. The necessary optimisations primarily entail powerful technologies accompanied by comprehensive engineering and technical services. The technology must allow systems to be adapted to suit changing requirements.

Due to the fact that a chain is only as strong as its weakest link, NUM committed all its decades of experience and expertise to develop a complete, user-friendly and versatile CNC system, which is probably the most adaptable currently on the market. All the components such as the user interface, PLC, CNC, inputs/outputs, servodrives, motors, programming software and tools were newly developed or developed from existing systems and, in combination with our experience and expertise, allow a better CNC machine to be built.

The highly powerful basic system offers plenty of options for the ex-

flex

pansion of both hardware and software thanks to its intelligent design. Flexibility combined with the latest processors and optimised algorithms ensure the Flexium CNC system's long-term conservation of value. The PLC is programmed according to IEC 61131-3.

A further development of the tried and tested NUMpass HMI is employed as the user interface, which is held in high regard by machine operators. Even complex systems with several CNC kernels can be developed transparently and operated as easily as simple systems.

Excellence to meet customer requirements

The CNC system is available in two different versions. The CNC system can be easily customised to suit the needs of the customer using specific



xion

The **x** Factor

xium

functions and bundled functions. The newly developed XION inputs/outputs offer precision modularity and are available in two different versions. This means that systems can be developed to suit the requirements of the application and customer needs precisely, thus optimising costs.

Tailored to specific applications, the NUM servodrives and motors form an impressive combination. One distinguishing feature of the NUMDrive C is its high power density. The diverse range of power modules and scalable control units, each designed with a single axis or dual axes, has been increased again and allows the realisation of a solution with the best technology at the lowest cost. NUMDrive C was developed for the multi-axis systems and, as such, is predestined for very demanding applications when implemented in the "High Performance Version".

The new axis motors from the BHX series round off the product range of NUM motors and are distinguished both by their favourable price/performance ratio as well as their very compact dimensions. Special attention was paid to the mass moment

of inertia during the development of the motors.

Many of those shown in the NUM product information presented here, will be commercially available by the end of the year and a number of options and functions will be on the market just a few months later.

bhx

This means that our customer will have products that will allow them to create better machines and thus better assert themselves in the market. This is the basis for the continuing positive development of the NUM Group. Our efforts are being

observed by our customers with great pleasure and we take this as encouraging confirmation of our activities. A good example of this is the recently signed cooperation agreement with IMA Klessmann GmbH, a leading machine manufacturer in the wood processing and manufacturing industry. We are already looking to use this to generate new impetus for innovations and technologies.

We look forward to presenting the new products and systems to you. Have fun reading!

Jan Koch
General Manager, NUM GmbH (D)
Marketing Director, NUM Group

Imprint

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Flexium CNC Systems The Technology of Tomorrow

The new Flexium CNC system was developed with modern, tried and tested technologies for accomplishment of the most challenging tasks – flexibly adaptable to almost all requirements.

In the comprehensive optimization of production processes there is a large productivity-raising potential. The Flexium CNC is ideally suited to this, and at the same time the key element of the solutions and systems of NUM. The compact dimensions are the result of a design that was optimized both for low power consumption and heat radiation. Powerful processors with high computing speed and an intelligent layout with potential for expansion ensure a high preservation of value. The PLC is programmed according to IEC 61131-3 and the newly designed development environment provides new tools for development, starting and servicing.

Flexium uses standardized interfaces such as Ethernet – also real-time Ethernet on the infrasystem level – and CANopen, as well as the tried and tested DISC NT for connection of the servodrives. The CNC kernels can be easily interlinked, whereby, for example, large NUM transfer systems with more than 200 interpolated axes can be easily implemented. The user interface corresponds to the NUMpass HMI and the hitherto-existing

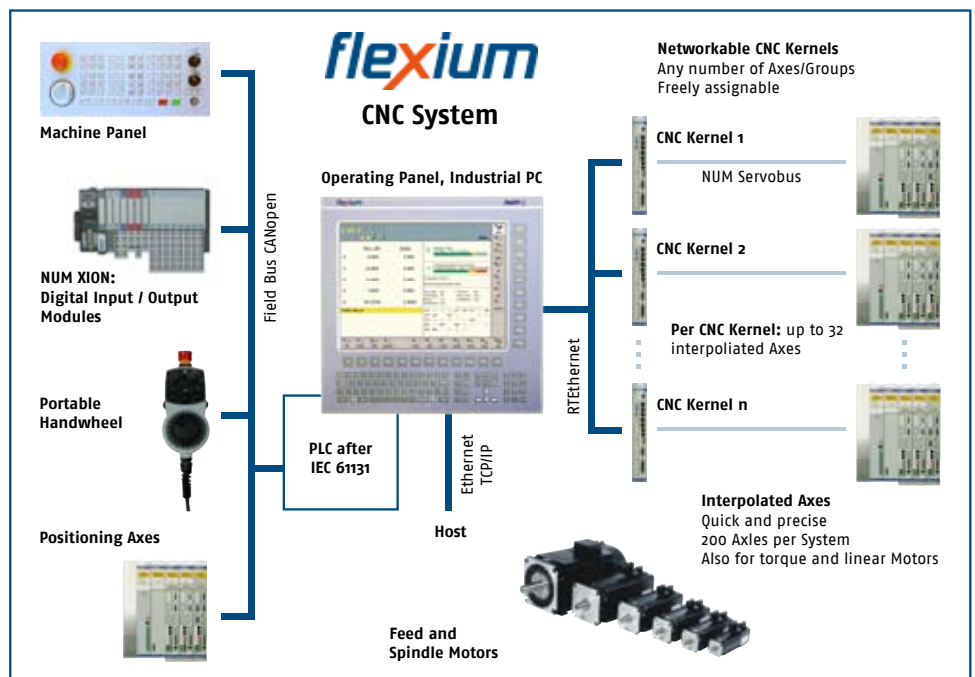
part programs can continue to be used. In this way, compatibility with existing systems is ensured.

Perfection according to customers' wishes

Available in two performance levels as well as equipped with specific functions and function packages, the CNC system can be flexibly adapted to the needs of the customers and the machine. The extensive range of specific software functions is available indi-

vidually, in specific packages e.g. for milling or as a complete solution such as NUMtransfer. Part of these functions are the specially developed, precise and rapid algorithms, which aim at an increase in productivity with improved quality at the same time.

We look forward to showing you possibilities that will surprise you!



Flexium – simple installation, programming, and operation

Logical operation and powerful tools to simplify programming set the Flexium system apart from its rivals. Integration of the system has been simplified by the new fine modular inputs and outputs.

The PLC of the Flexium system is programmed in accordance with IEC 61131-3, the logical and manageable development environment offers new tools for development, commissioning and maintenance. The Num Power and Axiom Power PLC programs can be easily transferred to the new programming language using a tool. In addition, in an implementation tool, there are functions to optimise the control and drive. Also, axis parameters can be analytically determined. A tool allowing the quick and simple development of customer and application-specific user interfaces and training conducted by NUM specialists are a part of the software package.

New NUM XION inputs/outputs

The newly developed Flexium inputs/outputs are compact and finely modular. They are available in two versions and can be combined with one another. The ECO versions come with an impressively high channel density (16 channels per 12.5 mm) and an especially attractive price, while the standard modules come with mechanical

encryption, multicore connection technology and more.

The open NUM XION system can be precisely developed to suit the particular application, cost and customer requirements.

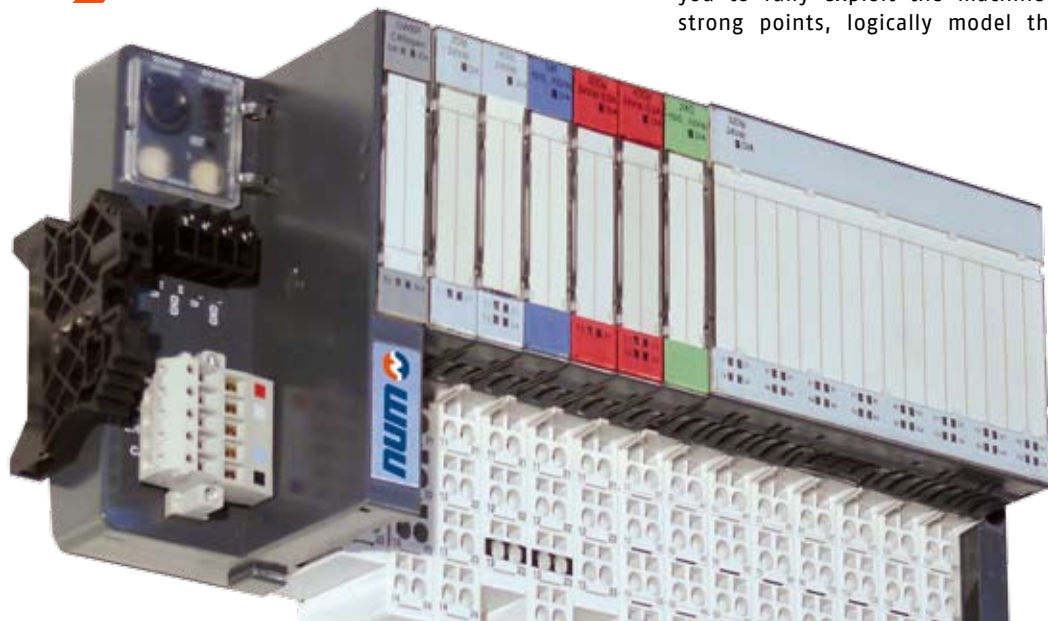
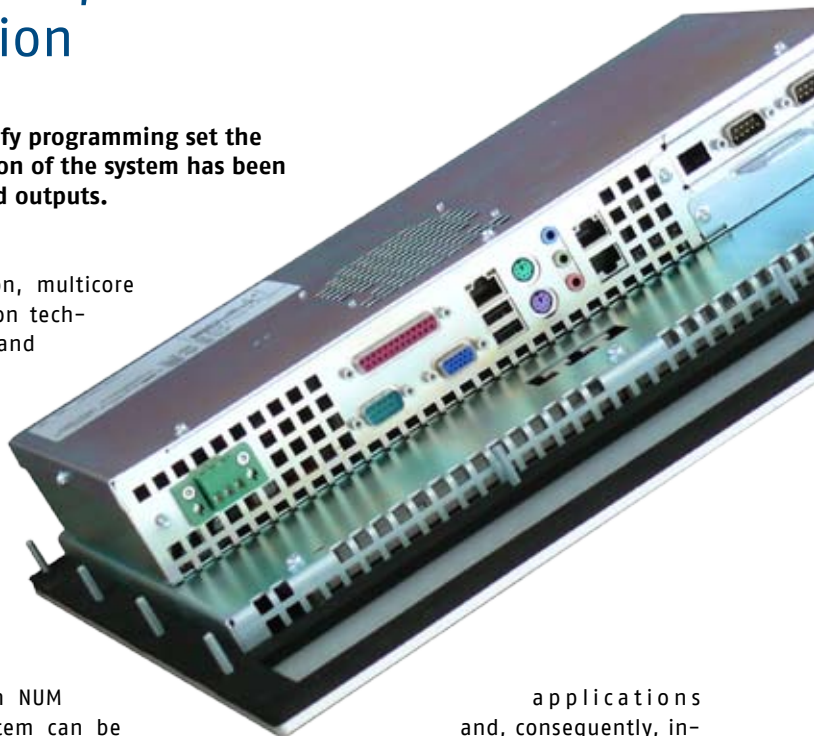
Configurable user interface

The Flexium human-machine interface is the key to customer-specific and application-specific machine control. In addition to the standard configuration, the user interface can be freely customised to the requirements of the user. The modular structure of the software and the special tools make it possible to easily implement and modify special functions in a real-time application. This allows you to fully exploit the machine's strong points, logically model the

applications and, consequently, increase the efficiency of the machining processes. You can program the user interface easily using standard programming tools such as HTML and Java Script.

Flexium panel

NUM has developed control panels with an integrated industrial PC for Flexium. They function as a powerful platform for the HMI and enable you to operate it simply and logically. Depending on the application, you can choose one of two technically distinct power levels: One version comes without moving parts such as a hard disk or fan, the second version is for high power and storage requirements. The 22 large function keys are grouped on the 15" flat screen monitor. A version with an expanded QWERTY keyboard is also available. These help to promote the realisation and operation of demanding modern system and work together in an ideal partnership with Flexium NCK.





Flexium CNC-System: New servodrives and motors

The compact and modular NUMDrive C servodrives is the ideal counterpart to Flexium CNC. Supplemented by the newly developed BHX motor series, we have created an extraordinarily powerful, precise and economical system.

Tailored to the specific application and in combination with the correct servodrives and motors from NUM, the Flexium CNC-System creates excellent machines with extraordinary power. The NUMDrive C servodrives can be exactly adjusted to the particular machine and application to produce the highest precision contouring, speeds and economy.

One distinguishing feature of the NUMDrive C is its high power density. The

servodrives offer a huge amount of computing and drive power within tiny dimensions and therefore have one of the highest power/volume ratios available. Furthermore, the system requires minimal power input and therefore generates low levels of heat. The diverse range of power modules and scalable control units, each designed with a single axis or dual axes, allows the realisation of a solution with the best technology at the lowest cost.

regard for technical and financial considerations.

For the launch of the Flexium CNC-System, the NUMDrive C line will be supplemented by important variations. This option can, of course, also be delivered for all other CNCs from NUM. The new power supply units not only have boosted power, but also allow brake energy to be discharged by energy back-feed into the mains. In addition, Flexium NCK uses the same form factor as NUMDrive C and can therefore be easily be added to the drives.



NUMDrive C and Flexium NCK (right)

NUMDrive C was developed for the multi-axis systems and, as such, is predestined for very demanding applications when implemented in the 'High Performance Version'. The position control loop is closed with 5 kHz, achieving exceptional precision and speed at the mechanical interface of the machine (motor axis, linear motor). NUMDrive C accepts almost all measuring systems and can control a broad range of motors (servo, torque, linear, asynchronous motor) from NUM or other manufacturers. This ensures that an optimal solution can be selected, both with



BHX motors: Power and economy

The BHX motor series has been newly developed from the ground up. Among other things, the motors are distinguished by their compact measurements, optimum mass moment of inertia, and their advantageous price/power ratio. Visually, the new BHX axis motors clearly distinguish themselves from other motor series as they come without an additional cost-intensive casing, and instead of the customary black varnish,

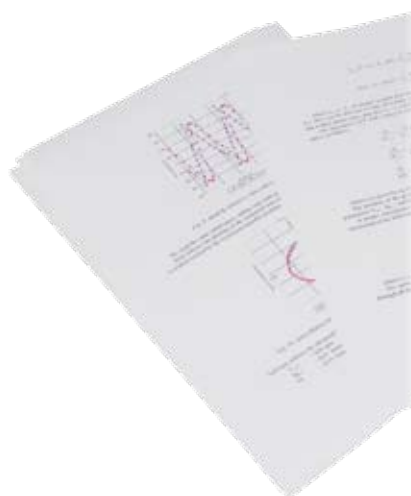
they sport a lighter coating. The now even more compact measurements can be seen in the length, which has been reduced to an absolute minimum. The flange dimensions are comparable with the standard market dimensions, thereby providing opportunities for flexible application.

But most of all, it is the inner values that make new motors so interesting. Special attention was paid to the mass moment of inertia during the development of the motors. The mass moment of inertia has been specifically adapted to meet machine industry needs in or-

der to achieve the highest level of curve precision. Together with the NUMDrive C servodrives and intelligent adjustment to the machines, even very demanding applications can be economically executed.



science



NUM:

Award for best scientific article

Motion Control is a national conference in Italy which concentrates exclusively on the themes surrounding automation. Motion Control 2007 was held by the ANIPLA national committee and took place on the 10th and 11th of May in Milan.

Around 30 scientific works (papers) written by over 100 professors, doctors, engineers and specialists were presented to a critical audience of specialists. A scientific panel composed of experts from various universities technical schools, institutes and firms judged each individual work. Ferdinando Stehle, of NUM Research and Development SpA in Cuggiono near Milan distinguished himself in this challenging environment and at the end of the event, his work was awarded „Best and most valuable work of Motion Control 2007.“

Ferdinando Stehle is an absolute specialist in the area of drives. He summarised the results of his research in a scientific article entitled „Reliable simultaneous assessment of mass moment of inertia and friction.“ The exact assessment of the mass moment of inertia enables precise and optimum configuration of the servodrives, resulting in reduced job times, improved economy, reduced power input and more. Assessing and observing friction correctly in servodrives shortens reaction time, prevents pitch problems, prevents chatter and for an ageing diagnosis of the machine to be carried out.

Current methods assess the mass moment of inertia and friction separately, which is not ideal, considering the fact that these values are dependent upon one another. Moreover, these methods are, to a certain degree, inadequate. The method is based on a mathematical model that has, through a series of tests, proven itself to be very exact and reliable. The method can be directly applied to axes with direct and linear motors of all types without requiring additional measurements to be made, making it very practical.



Flexibility for high-quality watches and implants

Bumotec manufactures high-quality transfer machines for demanding applications which are typically designed for small batches. With NUMtransfer, this company in the western part of Switzerland is able to provide its customers with a high degree of flexibility and short retooling times which are essential for profitable production.

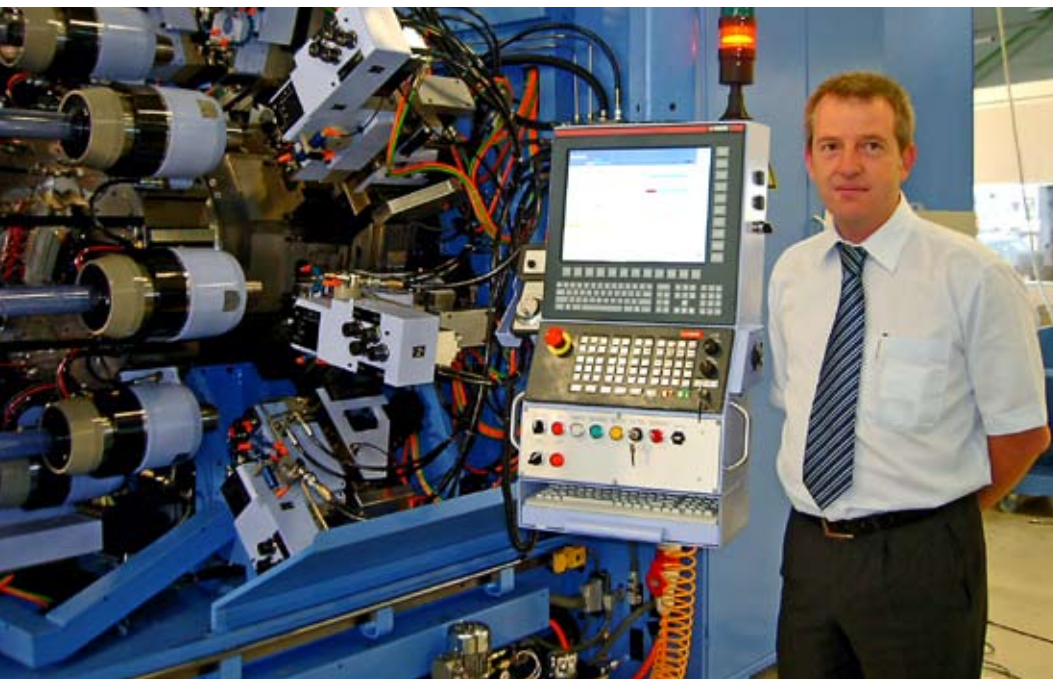
The short drive from the motorway to Bumotec could come straight from a film made for tourists. The journey takes you through a hilly landscape with a wonderful view of the mountains in the distance with black and white cows grazing in the verdant pastures, all the way to the tiny village of Sâles. The flat buildings of Bumotec nestle into the surrounding scenery on the outskirts of the village.

The older buildings stand alongside the newer ones and are evidence that the company is successful and has been around for a long time. Bumotec was founded at the end of the sixties and now employs over 120 employees, doing business all over the world. Bumotec develops and manufactures a wide range of machine tools, from small 4-axis milling machines, to multi-spindle

milling machines to machining centres, transfer machines and special machines.

The S-1000 C is the top model which is a horizontal rotary transfer machine with up to 12 stations and 48 axes, controlled by a complete solution by NUMtransfer. This high-tech product is valued particularly in areas where high precision and flexibility are required. As well as the clock and watch industry which has already relied on Bumotec's quality for many years, the medical industry and the connectors industry also use the S-1000 C. In many industries it is the much the same, whether it is the parts for watches or implants, the materials used, such as titan and stainless steel, the narrow tolerances required or the demanding requirements of the customer. The customers are based in Europe, China, Thailand and the USA.

Machines are usually tooled up for a new workpiece every two or three days due to the small batches of 10,000 to 20,000 pieces. Therefore, flexibility is a key factor in the whole system and NUMtransfer has a crucial role to play. Tooling up is done using NUMtransfer and the machines can be converted in a very short time. Tool sets can be calibrated very quickly



numtransfer®

and offsets can be made easily and are just two of many elements that contribute to reaching the target.

Bumotec values the many years of cooperation with NUM: "We have a high regard for NUM's philosophy, which like ours has a strong focus on continuity and flexibility" says Guy Buchmann, head of development and customer service. Bumotec has been able to develop and integrate its own user interface much faster than anticipated, thanks to the flexibility of NUM. The product continuity of

NUM controls facilitates production, installation, training and service.

"Nowadays most customers do not just want the machines, they want a turnkey system." states Guy Ballif, son of the company founder and the future managing director (see picture on left). "That is why our aim is to work even closer with the customer to enable us to get a better understanding of their needs, improve implementation and provide a better product and service." Nowadays some customers often come to Sâles

for a while, so they can see their machine in the making. Bumotec offers a service concept as an important supplement to the machines, which ensures high reliability for years after installation. Therefore the customer service at NUM is the ideal partner and can also monitor the controls on site for years to come.

www.bumotec.ch

Worldwide

Welcome to EMO 2007

We would like to invite you to visit the **EMO in Hannover from 17th – 22nd September 2007**. You can find us at our **stand, 025 B33**. Here, we are proud to present the premier of the Flexium system, as described in this NUM Information.

New trade fair „Grind Tec USA“ – with NUM

Not to be confused with the international trade fair of the same name (GrindTec) in Germany, Grind Tec USA, caters exclusively to American specialists. Created after the extraordinary success of the "Grind Tec Seminars 2006," for the first time on the **4th and 5th of October 2007, Grind Tec USA** is offering a combination of numerous trade-specific presentations and seminars as well as an overall trade fair. NUM is stepping in to support the new Grind Tec USA, which will be held in **Asheville, North Carolina**, where the public will be greeted and informed by NUMROTO specialists.

FIMMA-MADERALIA is even bigger

This year, the bi-annual **FIMMA-MADERALIA in Valencia, Spain** is bigger and more comprehensive than ever before. From the **7th to the 10th of November 2007**, NUM proudly awaits the around 50,000 expected visitors from the furniture industry.



IMA intensifies collaboration with NUM

The contractual agreement of the cooperation between IMA and NUM continues the success story for customers in the wood processing and manufacturing industry.

For over 50 years, IMA Klessmann GmbH has stood out with its consistent innovations and trendsetting mechanical engineering and as an important partner in the wood processing and manufacturing industry. Company headquarters are located in Lübbecke which is about one hour from Hanover and it employs approx. 850 staff in more than 60 countries. Strong cu-

stomer-orientation, flexible machining concepts and its own patents are the foundation of this very successful company with which NUM has been a firm partner for many years.

This long-standing cooperation between IMA and NUM, and the mutual trust between both companies was confirmed decisively with the signing

of a two-year cooperation contract at Ligna 2007, in Hanover. "When we found out that NUM and Schneider had separated, we were not at all sure whether this was the right company for us and our customers. We considered some other options but at the same time we were watching NUM's development very closely" the sales team manager, Dieter Dresler, declares quite openly. "NUM has developed extremely positively and is for us today an important, professional partner more than ever before."

Both companies expect a lot from this strategic bond. Economic efficiency is an important part of this. To follow up signing the contract, IMA visited the NUM production site in Cuggiono, near Milan. The reactions from IMA were extremely positive – it is clearly and excellently organised as well as flexible. "A surprising number of our requests and ideas were already there to see or in the process of being implemented." confirms Jörg Böhnke, head of material management. There are also very low CNC failure and fault rates and for the whole drive, as well as the reduced times for procurement, which was contractually agreed.

Increasing the existing technical cooperation between the two companies is also a priority. Problem-solving and specific, project-related work is already undertaken together or contracted



Dieter Dresler (IMA), Günter Redeker (IMA) and Alexander Helmes (NUM) in front of an IMA machine equipped with NUM (from right to left).



by NUM. For instance, the lead axis interpolation of a contour machine or integrating a measuring/button cycle for automatically adjusting milled surfaces for specific workpieces. "We expect new impulses and results in innovation and technology and a closer collaboration in developing other ideas

and themes. The new, powerful CNC by NUM is a central element in this." elaborates Günter Redeker, head of E-development. The cooperation agreement with IMA continues the long, successful NUM tradition in the wood processing industry. www.ima.de

Worldwide

NUMROTO seminar in Taiwan

With its first seminar on the Asian continent, NUM supports the positive development of these markets. The NUMROTO seminar is to take place on the **21st of November, 2007 in Taipei Taiwan**. NUMROTO specialists and many international manufacturers of tool machines offer participants an intensive and informative program in Chinese and English. For further information, please contact us at info@numroto.com.

NUM to participate in Educatec tradition

For many years now, NUM has taken part in **Educatec**, the trade fair for equipment, systems, products and training and education services in **Paris, France**. Educatec 2007 is to take place from the **21st to the 23rd of November, 2007** in Paris.

NUM at SPS/IPC/Drives

The SPS/IPC/Drives of November 2006 was a qualified success and we are proud to be able to appear again at **SPS/IPC/Drives 2007**, which is to take place from the **27th to the 29th of November, 2007 in Nürnberg**. In bringing the Flexium system, the drive and BHX motors to the table at this showcase, we can present the target audience with incredibly interesting new innovations.

NUM at Euromold

Euromold ist the world's largest trade fair for the tools, mould construction, design and product development. A significant part of this sector is high-speed processing, an area in which, thanks to its power and high precision, NUM has set its priorities for many years. We will be presenting our NUMhsc total solution as well as further systems and products at this trade fair, which is to take place from the **5th to the 8th of December 2007 at the Frankfurt/Main** fairgrounds.

It is not much longer until GrindTec 08!

GrindTec 08 is to take place from the **12th to the 15th of March 2008 in Augsburg** – and NUMROTO is naturally going to make an appearance!



SMP celebrates its 60th anniversary and twenty years of collaboration with NUM

This year sees the SMP company, which is based in Bron near Lyon (France), celebrating the 60th anniversary of its foundation. This dynamic company owes its success its continued research into ever more innovative solutions.

SMP is renowned worldwide for the quality of its precision revolving tables designed for mounting on a wide range of machines and is also very active in the high-end mechanical engineering sector where it is known for:

- Production of high-precision workpieces subcontracted by major contractors.
- Engineering ranging from design to production of subassemblies for the armaments and nuclear industries.

Twenty years ago, SMP used its know how to develop a numerically-controlled tool cutter grinder. Collaboration with NUM began with the NUM 760 and continues today with the NUM AxiomPower range. SMP has at its disposal a wide range of machines, all controlled using AxiomPower: the CA3+, CA6 and the CA8.

NUM provides SMP with both a team of specialists in their field and products able to support original specialist solutions that can be adapted to the demands of its customers. Their capabilities for adjustment and development have allowed SMP to expand the scope of its solutions and to establish a reputation as a major player in field of tool cutter grinders.

SMP has exploited NUM CNC Axiom Power control particularly well in its products and without a doubt one of its

most attractive features is its wide range of functions including:

- PC communication,
- Torque motor and linear motor control ,
- A systems which can be extended regarding number of controllable axes,
- Integrated high-speed functionality,
- Input/output extension using a numeric bus
- Plus many more

Integration of heterogeneous systems is also possible using NUM numerical control.

For example, a manufacturing cell comprising an SMP machine of type

CA3+ and a Scara robot. A master program controlled by an AxiomPower CNC transmits commands to the robot and the machine respectively.

NUM's strategy combines the quality of its products with the added value of machine integration – a strategy which complements the SMP approach perfectly. Determined not to rest on its success, SMP is currently working on its development abroad.

NUM will continue to accompany SMP in this new venture.

www.smp.fr



High-quality and flexibility: the key to success in tool grinding

The Swiss company, TBS, shows how tool grinding can look at its best: strong customer orientation, quality and flexibility are just some of the most important factors that have been made possible by NUMROTOplus.

numroto®

Marcel Beier is the son of the company founder and the future managing director. He speaks proudly of this company which will soon be his own. TBS Werkzeugschärferei AG (tool sharpening company) located in Flawil (Switzerland) was founded by Ruedi Beier over 35 years ago and together with its longtime employees has since become a recognised specialist for the re-sharpening and manufacturing of tools for the metalworking, plastics and paper industries.

Its positive development, particularly over the past three years, has confirmed the company philosophy of making the customer and the employees a priority. Marcel Beier explains the five columns on which their success is based: "We want to deliver to our customers just-in-time. We can only do that if we are flexible and have a well-trained workforce. Training our staff supports two other important points for our customers: precision and quality."

Regular training sessions are carried out on one Saturday of every month: Here colleagues can exchange know-how, skills and tips which also motivates at the same time. Training on NUMROTOplus is a focal point. New employees can work at a higher level far quicker and know-how is widely distributed. Despite all the new technology available, manual tool sharpening is still holds great importance. TBS places great value on the qualifications of his staff which



can be also seen in his commitment to the professional training of apprentices in tool grinding.

In the production hall at TBS there are a variety of machines ranging from Saacke, Strausak, UWS Reinecker and others. They are evaluated and adjusted exactly according to requirements but all have one thing in common: they are all controlled by NUMROTOplus. Thanks to the basic principle of the company, every employee is able to operate all the machines, as the work environment is basically the same. In addition, the work and staff can be moved from one machine to another depending on capacity and how specialised the work is – whether it is resharpener a standard tool or manufacturing a customised tool. This will become

easier in the future as an investment is already in the pipeline for a multi-user-server which can then open the parts program via a central network.

TBS values NUMROTOplus as a reliable high-quality product with particular praise for the button cycles. "Our customers have extremely high requirements of us and the tools and NUMROTO ensures we are able to meet these demands in an economical way. We provide a comprehensive service for the customer as a general contractor and we also work very closely with selected sub-suppliers" says Marcel Beier. Flexibility has successfully become an integral part of TBS.

www.tbs-tools.ch





NUMgear success in the UK: Retrofit as key to profit

Several customers in the UK decided for an old but mechanically excellent machine equipped with the state of the art NUMgear solution: small investment, top quality and quick turnaround.

Today new machines are not built like they used to be, the old machines have good stable fabricated beds that can provide the basis for a superb solid remanufactured machine offering rigidity. NUM (UK)'s preferred partner strip the machine right down to basics, clean, re-work, replace all worn out parts and paint it customer's RAL specification. Working closely with NUM (UK)

Ltd, they retrofit these gear machines with the NUM Axiom CNC, digital motors and drives complete with a new control panel. One of the many benefits of working with the NUM system is the superb and innovative software package called NUMgear offering conversational control to create hobbing and grinding cycles without the requirement for CNC programming skills.

they provided me with a machine complete with state of the art technology, reducing set up times with the accuracy and quality needed. They did this at a third of the cost of a new machine but with all the benefits such as full warranty support".

Another recent project has been the remanufacture of a Pfauter 150 for Renown Gears in Blackburn, Barry Simmons, the Sales and Technical Director says "Our gear machine is used as a general purpose machine with the need for setting up for small batches. They have provided us with a Pfauter 150 that looks like a new machine with the latest NUMgear technology and offering us the flexibility we required for set up and changovers plus the quality required of DIN 6/7. All this at a fraction of the cost of a new machine and a turnaround time of 10 weeks".



Tim Clarke, Director of Stanley Howard Euro says "This software package is generating some fantastic reviews from our customers, as their operators need very little training and instantly feel comfortable with the state of the art technology".

The philosophy and mission of the partnership is to be customer driven, it is important to re-manufacture and develop a machine that fulfils the customers criteria, whether its flexibility and set ups, quality or cycle times and then offer them total confidence by offering NUM warranty and Stanley Howard service care.

Reece Garrod, Managing Director of Gibbs Gears who has recently purchased a newly remanufactured gear hobber and says "I have worked with Stanley Howard Euro for many years, they have always provided me with good service support and when I needed a new gear hobber for producing pump gears and Aircraft gears with crowning,

With close partnership and increased retrofit success, our partner has expanded and moved to larger premises complete with their own tool room, and spray paint booth and large sto-

The logo for NUM, consisting of the letters "NUM" in a bold, blue, italicized sans-serif font.

NUM service: Remote diagnosis and maintenance

Machine downtime requires a quick reaction. With remote diagnosis and maintenance, NUM offers the ideal solution.

You can use diverse measures to lower the probability of machine downtime. If down time should occur, however, quick reaction and uncomplicated support is of the greatest importance, as machine downtime has definite economic consequences.

Thanks to remote diagnosis and maintenance, NUM Customer Service can react extraordinarily quickly. Using internet access, NUM can establish a direct connection between the system PC and the customer service PC. After a short time, the fault analysis delivers information and more simple causes can be rectified directly or corrected by a provisional solution. Using this method, time is saved as the technician does not have to travel to the location to make a diagnosis and the machine downtime can be immediately confronted. Even in the event of a more serious accident, time can be saved as the maintenance personnel can begin to take the necessary measures even before the NUM technician is on location. In addition, any necessary replacement parts can be immediately sent or ordered.

In order to enable remote diagnosis, you must provide internet access to the machine PC and install a very small communication program. If NUMpass HMI or NUMROTO are installed, NUM Customer Service can access these programs directly. The following programs are required for fault rectification at the CNC level: Standard-/Panel-MMI, PLCTool, SET-Tool and NUMBackUp or alternatively NUMpass HMI, PLCTool, SETTool and NUMBackUp. The remote maintenance service can be negotiated for a year for each.

Naturally, a higher standard of security must be implemented. This is guaranteed through the provider of the „Teamviewer“ remote control system. In the NUM customer service PC an identification number must be entered. This is newly generated for each session on the machine PC and can be sent via phone or email. Because of this, only the customer can establish the connection between the machine PC and the NUM customer service PC. Firewalls, blocked ports and NAT routers (for local IP addresses) do not pose a problem for




Teamviewer. Encryption takes place using the most modern methods like those used in secure internet connection applications such as https/SSL. Other functions also contribute to its security.

rage facilities which enables them to store good quality machines ready for retrofit. It is rapidly developing market place that customer's are recognising the flexibility in building a machine

that meets their needs at a fraction of the cost along with fast lead times, compared with investing in new machine tools that sometimes cannot be justified.

CNC Complete Solutions Worldwide



NUM systems and solutions are used worldwide. Our global network of sales and service locations guarantees professional service from the beginning of a project to its execution and for the complete life cycle of the machine.

NUM has service centers around the world.
Visit our Website for the current list of locations.

www.num.com

NUM 
CNC HighEnd Applications