

today

The ARBURG magazine

Issue 32

Summer 2006

ARBURG
ALLROUNDER

420 C
GOLDEN
EDITION



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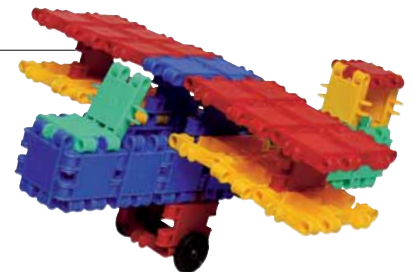
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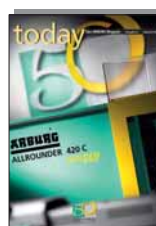
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MASTHEAD**today, the ARBURG magazine, edition 32, summer 2006**

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To mark its golden anniversary "50 years of ARBURG injection moulding machines", the company is launching the GOLDEN EDITION anniversary machine series onto the market.



Dear readers

Half way through our anniversary year "50 years of ARBURG injection moulding machines" our interim assessment is extremely positive.

Today, we can already say that the first months of 2006 represent a great success in our corporate history.

In mid-February, simultaneous opening ceremonies were held in 40 countries, which featured many colourful events reflecting the various national cultures, followed only six weeks later by an in-house trade fair, the "Anniversary Days" with over 3,200 visitors, our "Partner Day", many successful trade fairs and – last but not least – a highly successful anniversary machine range, the ALLROUNDER GOLDEN EDITION. This start to the golden anniversary leaves us more than satisfied.

To give you an impression: with the introduction of the GOLDEN EDITION, we have demonstrated our

golden touch. This is illustrated by our customers' response, who very soon recognised that what was being presented to them as an anniversary gift was state-of-the-art technology combined with an excellent price/performance ratio.

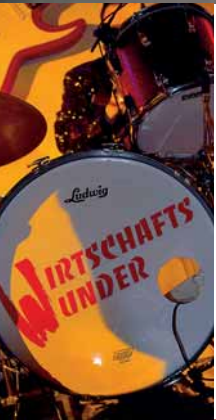
Get a real impression of the start to our anniversary.

In this edition, you will find journalistic accounts of the world-wide opening celebrations as well as a report on our "Anniversary Days". Of course we will again be introducing you to successful ARBURG customers and presenting you with tips and tricks in injection moulding.

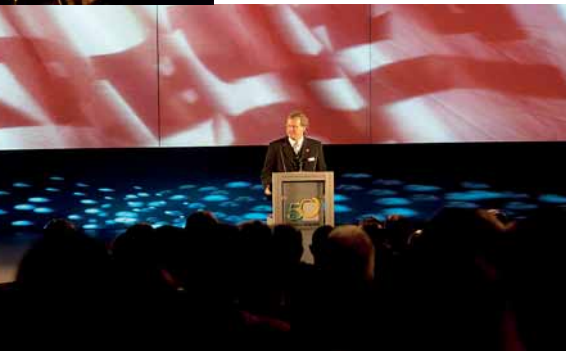
We cordially invite you to continue celebrating a successful anniversary year with us.

We hope you enjoy reading the latest issue.

Michael Hehl



Lion dance and alpine choir



congratulated the subsidiary on its own 10-year anniversary and Herbert Kraibühler combined the Italian anniversary event with a visit to the Plast'06. Renate Keinath travelled to Hungary, while Helmut Heinson was involved in intercontinental travel with visits to China and the United States. At all the locations where the ARBURG management team was unable to be present personally, Michael Hehl thanked the guests for the many years of excellent cooperation by means of a video message.

The start of the anniversary year, however, was marked at the company headquarters in Lossburg: on 14 February, ARBURG held a first-rate event with numerous highlights in an extraordinary setting. In 1956 series production of machines was started at ARBURG – in February 2006, some 300 eminent guests from Germany were received in the atmosphere of the German economic miracle. From rockabilly, pop-music starlets and a 1950s decor, the visitors passed into an event room where the dual nature of ARBURG was visually presented: demonstrating the realities and the clichés of the Black Forest, between the rustic nature and the high-tech, the spectators were

ARBURG celebrated "50 years of ARBURG injection moulding machines" throughout the world with events reflecting the diverse national cultures. Some 40 individual celebrations were held at the premises of subsidiaries and trading partners with a total of over 3,000 guests attending on all continents. Managing Partners and Managing Directors travelled long distances in order to express their thanks to their customers and their pleasure at five decades of mutual success.

At Münsingen in Switzerland, Eugen Hehl was visibly delighted by the traditional events programme held there featuring a yodelling club and an alpine horn duo. In the Czech Republic, Juliane Hehl also



ANNIVERSARY EVENTS



50 years of ARBURG injection moulding machines



taken on a multimedia journey through the past five decades of the world and ARBURG history.

Every anniversary year has to feature an anniversary gift, – at ARBURG in 2006, this is the ALLROUNDER GOLDEN EDITION. The glittering finale of the multimedia show at Lossburg and the climax of all the anniversary events around the globe: the anniversary ALLROUNDER has been met with a great response on the market. Numerous orders, impulse purchases at the anniversary celebrations and very positive feedback at the trade fairs, attest to the range of state-of-the-art ARBURG technology components at an extremely attractive price.

Regardless of how the ARBURG subsidiaries and trading partners decided to celebrate, – whether with a lion dance in Shanghai, or at the exclusive location of the Warsaw Royal Castle in Poland, in Samba style in Brazil, or at classy venues in Belgium and Italy, – the celebrations were held worldwide, from Scandinavia to South Africa and from California to Malaysia. The mood of the guests was equally euphoric everywhere; the enthusiasm for the relationship between ARBURG and its customers was unanimous.

The exceptional anniversary “50 years of ARBURG injection moulding machines”, the German economic miracle success story from the Northern Black Forest – with ARBURG as a global player – all this would be inconceivable without the excellent relationship the company enjoys with its customers and partners. The celebrations, made possible thanks to a great deal of individual effort, were aimed at expressing heartfelt thanks to all the ARBURG customers around the globe. With their love for country-specific details, for that special national flavour, all the events held around the world proved extremely successful. Whether Poland, Mexico, England, Spain, India or anywhere else in the world – they all formed one single global ARBURG party in February 2006.



“50 years of ARBURG injection moulding machines” were celebrated in all time zones, all climate zones and all continents. The programmes held by trading partners and subsidiaries ranged from exclusive shows to relaxed beach parties.

The premiere of the ALLROUNDER GOLDEN EDITION anniversary model was the highlight for the entire global ARBURG party community.





She came, saw

The GOLDEN EDITION anniversary range was presented for the first time world-wide on 14 February – in Lossburg during a large-scale event attended by some 300 guests. One of these was Irene Böhm, owner and managing director of böhm Kunststofftechnik GmbH, who was so impressed by the anniversary machine that she ordered an ALLROUNDER 420 C GOLDEN EDITION the very same day. Consequently, böhm Kunststofftechnik GmbH tops the now very long list of GOLDEN EDITION customers.

The ALLROUNDER 420 C GOLDEN EDITION with a clamping force of 1000 kN is used for the production of closures, of which böhm Kunststofftechnik produces around 2 million every day, amounting to some 500 million units per year.

The 25-year success story of this company, which was founded in 1980 by Richard Böhm and which today is managed by Irene and Iris Böhm, is based on this product segment.

Richard Böhm began with the production of closures together with 15 employees at the company's current location in Tettau-Langenau, Germany.

Thanks to ongoing innovations and investment in up-to-date technologies, the



company has grown steadily, a fact reflected in the expansion of the production area from 500 to 8,000 square meters. The number of employees has increased correspondingly to currently 90. A new generation of qualified employees is ensured through training in the commercial professions and for process engineers for plastics and rubber, technical designers, mechatronics and mould technicians.

The company, certified to DIN EN ISO 9001: 2000, today produces closures from 0.5 to 150 grams, in addition to containers and both medical and technical products, which are sold in Germany and other European countries.

In order to supply not only closures but also the appropriate bottles, Polytech Kunststoff GmbH was purchased at the end of 2002.

This company produces bottles using the extrusion blow moulding, injection blow moulding and injection stretch blow moulding processes, and decorates them by means of UV screen-printing.

In addition to customer-specific packaging solutions, which are developed in cooperation with customers from the packaging, medical technology and cosmetic sectors, the company also offers commercially-sold closures and packaging. These can be manufactured quickly from a single source, as all production steps are covered – from design, construction through mould manufacture to production and despatch – are covered. The requirements of the medical technology and pharmaceutical

industries are fulfilled through production under clean-room conditions.





and bought



One speciality of böhm Kunststofftechnik is the processing of the material Surlyn®. Its properties, such as strong chemical resistance, high transparency, glass-like appearance and scratch-proof surface, predestine this material for cosmetic packaging. A speciality in the mould sector is the attachment of hinged closures directly in the mould.

The products are manufactured on a total of 70 injection moulding machines with clamping forces from 200 to 1800 kN, which run in three-shift operation; maintenance is performed at regular intervals.

The cooperation with ARBURG has existed since the establishment of the company in 1980: Since that time, investment in ARBURG technology has been continuous so that today, 46 ALLROUNDERS are in operation, including three multi-component machines.

The reason Irene Böhm states for this are the machine sizes, which are suitable for her production requirements, the modularity of the machines, the price/performance ratio and above all the reliability not only of the technology, but also of the service and the telephone hotline. "What convinced me immediately with the ALLROUNDER GOLDEN EDITION was the modern technology, the unbeatable price/performance ratio and the user-friendly SELOGICA 'direct' control system with touchscreen," is how Irene Böhm explains her spontaneous purchase of the anniversary machine. The fact that she has not regretted her purchase is evidenced by her decision to invest in further ALLROUNDER GOLDEN EDITION machines.

In terms of future plans for expansion, Irene and Iris Böhm agree, "We will continue on this successful path and invest in new technologies in order to expand into new markets."



On the way to böhm Kunststofftechnik: Irene Böhm bought the first GOLDEN EDITION for the production of closures. In addition to the injection moulding plant with 70 machines, the company also has its own mould construction facility.

INFOBOX

Founded: 1980 in Tettau

Products: Closures, containers, medical and technological products

Customers: Packaging, medical technology and cosmetics sectors

Machine fleet: 70 injection moulding machines from 200 to 1800 kN clamping force, including 46 ALLROUNDERS

Contact: böhm Kunststofftechnik GmbH, Frankenwaldstrasse 29, D-96355 Tettau-Langenu, www.boehm-kunststofftechnik.de



A first-rate

The focus of the ARBURG Anniversary Days – as this year's Technology Days was dubbed – was on the ALLROUNDER GOLDEN EDITION anniversary machine series and on the world premiere of a new LSR processing method. The overwhelmingly positive response to the traditional spring event was again a highlight for ARBURG: 3200 visitors from 35 countries in three days.

"We hadn't anticipated these numbers," agreed the organisers, "as we had welcomed a total of around 3,000 visitors during the world-wide anniversary celebrations in forty countries only six weeks previously."

Nevertheless, the comprehensive programme featuring over 40 machine exhibits, applications and expert presentations, once again attracted the international world of plastics to Lossburg this year.



In the GOLDEN EDITION showroom, visitors were presented the complete range of the anniversary machine series offering high-quality standard equipment at an attractive price/performance ratio. Their broad range of operation was demonstrated by the five anniversary machines with clamping forces from 400 to 2000 kN running different applications.

The so-called optifoam process, which was presented for the first time at the Anniversary Days jointly in collaboration with the systems supplier Sulzer Chemtech AG, the raw material supplier Dow Corning and the mould-maker Formenbauer Edgcs, generated a great deal of interest. This new process enables the production and processing of physically foamed LSR. Decisive advantages here are weight and therefore material reductions of between 30 and 40 per cent.

With applications from the fields of micro injection moulding, micro assembly injection moulding, the processing of moist polyester and wood polymers, two-component injection moulding of thermoplastics and LSR, technical injection moulding and powder injection moulding as well as the manufacture of products for the medical technology, optics and packaging sectors, ARBURG demonstrated the versatility and high performance of the ALLROUNDERS.



For instance, an electric ALLROUNDER 420 A proved its high-speed qualities during the production of beakers in a cycle time of only 2.2 seconds. In the clean-room laboratory, a production cell for the fully-automatic manufacture of optical lenses made from PMMA was introduced. Further examples from the Project Department included two-component injection moulding of the ARBURG briefcase with automated assembly of the individual parts, the production of the ARBURG table-tennis bat as a hard-soft combination, including ultrasonic welding, and the manufacture of a shower head handle with integrated quality control. The topic was completed by the presentation of various automation solutions during the expert presentation "Robotic systems for the economical production of multi-component parts".

Altogether, some 1000 guests visited the specialist presentations, which



50 years of ARBURG
injection moulding machines

event



focused on the "50 years of ARBURG injection moulding machines" anniversary. A highlight was the presentation of Technical Director Herbert Kraibühler on the subject of "Major developments in injection moulding machine construction".

Further items of historical interest awaited the guests in the event room in the form of an elaborate multi-vision show, which linked the five decades of ARBURG's history with milestones in contemporary world history. Visitors could experience for themselves how manual injection moulding worked 50 years ago on the first series production ARBURG machine, the C1. Immediately next to it, the new vertical ALLROUNDER 175 V machine showed how it is done today.

The service and training offerings were presented in detail in a special exhibition area. Machine calibration as a component of the ARBURG inspection contract, product training, the presentation of a fully-



equipped service vehicle and the complete spare parts area.

The plant tours, a permanent and successful feature of the three-day event, were again very popular this year. Around 1,150 visitors took part in the German-language tours and the participation rate among foreign visitors amounted to 100 per cent.

Presentation of the anniversary machine series GOLDEN EDITION, world premiere of the optifoam process, applications technology consulting, expert discussions (photos from left to right) and much more were on offer in the versatile Anniversary Days programme.



Competence and expertise: Department Manager Jürgen Schray (2nd from right above) and his team solve tasks with a great deal of love for detail (below).

Applied technology



No word-play applies better to the activities of a department at ARBURG than this: The applications technology department (AT for short) provides both customers and employees with "applied technology". This results in a decisive added value for the customers – and therefore also represents an important competitive argument for ARBURG.

AT – that means customer orientation par excellence, at ARBURG. This is illustrated by a few impressive examples: If, at 6 o'clock in the morning, a truck with a customer's mould arrives and injection tests are to be performed or if a machine acceptance procedure takes longer than expected and the lights are burning late into the evening in the production department, then you can almost be certain that the AT team is involved in the activities. The application technology department is actually one of ARBURG's most important pools of expertise and is very closely involved with market activity.

According to Department Manager Jürgen Schray, in addition to machine acceptance tests and commissioning, the most important tasks include consulting on moulds and on part design and production, the analysis of a wide variety of

production processes as well as holding presentations and seminars. This is complemented by applications in the context of national and international trade fairs. Consequently, the AT department represents the most important link between Sales and the customer. Internally, the employees provide for the practice-oriented further development of the range of technologies by carrying out machine tests. Jürgen Schray says, "Only through unambiguous prior proof of performance, can the customers be convinced of the flexibility of our technology. Thus, we can distinguish ourselves from our competitors and optimally market our products."

Of course, close collaboration with other departments is of crucial importance. Here, cooperation with the applications technology development department, assembly, the project group and the service department is especially worthy of mention but also the back-office, field sales and quality assurance departments.

In all applications technology activities, problem-solving is always the main priority. "We see the various customer problems as a challenge", says Jürgen Schray. "We have only done our job well if the customer is fully satisfied."

Utilising quality and time advantages.



Herbert Kraibühler,
Technical Director

"In future, the applications technicians will act increasingly as moderators between external customer requirements and their internal technical implementation. For this purpose, they will pass on the customer requirements they experience on-site internally in the form of optimisation potential for our products. This will assist us in continuously optimising both the individual machine technology and our series machines in a market-oriented manner."



Helmut Heinson,
Managing Director, Sales

"During all stages, the AT department contributes to successful customer-oriented technical implementation. The spectrum ranges from consulting in the run-up and various testing stages though to final project acceptance. As these services will continue to become increasingly important in terms of overall sales activities in the future, the role of applications technology will become even more vital and more international than ever before. This means that competence and expertise will be deployed more globally, while their availability internally will also be increased."



Herbert Herrmann, Technical Manager SBU Head uvex, Rainer Winter, Managing Partner and Chairman of the Management Board of uvex and Herbert Kraibühler, Technical Director at ARBURG (from left).

Photo: UVEX

Excellent cooperation

In March this year, ARBURG was presented with the "Supplier of the year 2005" award by uvex. The decisive factor in winning the award was the conception and supply of a complex production cell for the manufacture of plastic toe caps for safety shoes, which went into operation in 2005 (see today 31).

The "Supplier of the year" award was instituted by the uvex Group member companies UVEX Arbeitsschutz GmbH and UVEX Sports GmbH & Co.KG in order to expand and develop their partnerships with their most important suppliers.

"During the implementation of our strategic goals as well as other elements of our innovation policy, the active support provided by our partners and suppliers plays a decisive role", explains Frank Seuling, Chairman of the Management Board at UVEX Arbeitsschutz GmbH.

Prizes were awarded for the fourth

time in a number of categories. In the capital goods section, ARBURG received the "Supplier of the year 2005" award for a production facility for plastic toe caps for safety shoes, which are produced as a hard/soft combination from a high-tech plastic and a soft TPU. The production cell comprises two ALLROUNDERS, each equipped with a MULTILIFT robotic system and connected via a central workpiece carrier circulation system.

"The deciding factor in presenting the award was the good technical solution, adherence to the delivery deadline and the joint design collaboration", said Frank Seuling during the presentation speech. The prize was accepted by Herbert Kraibühler, ARBURG Technical Director, from the hands of Rainer Winter, Managing Partner and Chairman of the Management Board of uvex.

In addition to Herbert Kraibühler, Managing Director for Sales Helmut Heinson, Regional Sales Manager Andreas Koch,

and Sales Advisor Bernd Nassutt also travelled as ARBURG representatives to the award ceremony at the uvex academy in Fürth.

The projects of the award-winning companies could later be viewed during the course of a plant tour.

During the festive evening event, the Olympic Games were the main focus. The surprise guest was the bobsleigh pilot and twice gold medallist André Lange, who answered all the questions on the Olympics in a relaxed atmosphere.



Magical in

To this day, magnet technology still maintains an aura of the magical, where objects are made to hover due to invisible forces. But it is not magic, it is “only” magnetism, which is an important element in many components of today’s modern machine and drive technologies in the automotive and electronics industries. Because plastics with a metal powder content can be injected on ALLROUNDERS, this process has become interesting for the manufacturers of permanent magnets. The small parts so produced and their properties have one thing in common. The most important thing is what you do not see.

An ARBURG customer who places his confidence in the injection moulding technology from Lossburg for this highly specialised sector is Magnetfabrik Bonn GmbH, a company involved, in its own words, in the “development, production and sale of permanent magnets as well as calculation, design and testing”. The company, which is certified according to ISO 9001 : 2000/ISO 14001 and ISO/TS 16949 : 2002, takes advantage of the fact that “all the material groups with polymers, i.e. plastics, can be processed into

compounds which enable the production of magnets in a wide variety of geometric shapes using the injection moulding process. They can be mechanically worked and are corrosion resistant to a large extent. For magnetisation, a defined quantity of metal powder is added to the injection moulding compound.

In Bonn, such an ARBURG facility is in operation, on which injection moulded metal powder parts are magnetised during production, leaving the machine as finished parts. Capacity is set to be expanded with a second facility.

So-called “round magnetic parts with gear on one side” or more simply, rotor magnets. These are a component for a servo motor, which in turn is a component installed in a car air conditioning system. For the production of the rotor magnets, which have a diameter of 8 millimetres and a part weight of 0.4 grams, an ALLROUNDER 320 C 600-100 with servo-regulated two-pump technology is used. The cylinder fittings are a modified development by Magnetfabrik Bonn, and are adapted to the specific production requirements, which require the magnetisation of the material employed. The eight cavities of the three-platen mould are made from non-magnetic material in order not to impede demoulding of



the magnetised parts. Part removal is performed via an overhead-design MULTILIFT V, which is constructed transversely to the machine axis and has a load capacity of 15 kilogrammes. The small part dimensions as well as their magnetic properties place particular demands on the removal technology. The problems begin with the mould itself, as little space is available for handling the parts. A check for complete removal is also important as the mould could otherwise become damaged. The moulded parts are handled in a force-guided manner and set down according to cavity for the purpose of production traceability. Finally, the sensitive surfaces must on no account be damaged.

The complex handling sequence with

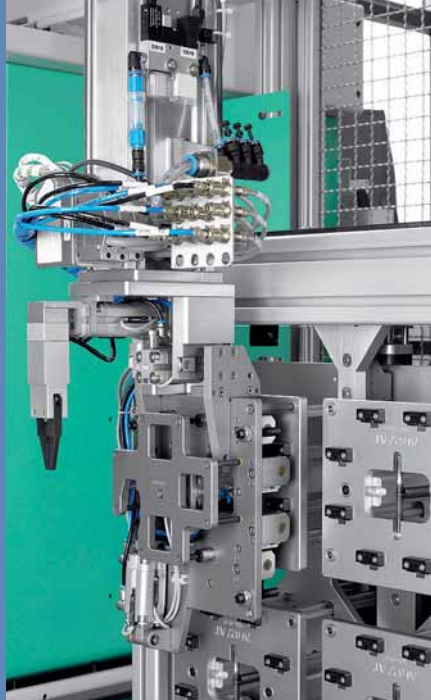


Photo bottom centre: the production facility consists of an ALLROUNDER 320 C, a MULTILIFT V and the attached set-down system.

Photo top centre: the gripper of the removal robot moves in front of the camera system to check for complete part removal and that the gripper receptacles are empty.

Photo, top right: the gripper of the MULTILIFT robotic system during transfer of the finished parts to the set-down system.

every way

the removal and set-down procedure, including checking is highly sophisticated. The gripper is centred via pins when it enters the mould. The ejector then pushes the finished parts into the receptacles of the gripper, which is moved simultaneously with the part movement so that no pressure is applied to the finished parts by the ejector pins. In the gripper, the parts are held in the receptacles via their own magnetic force. During removal, the picker, which is also mounted on the robotic arm, detaches the sprue and deposits it onto a conveyor belt in the machine base. The gripper then moves with the parts in front of the camera system. A check is made here as to whether all the rotor magnets are present in the gripper. Only after this procedure is the mould closed again. The gripper then moves to the set-down station. The receptacles in the gripper are centred again. The ejector pins are extended, pushing the finished parts horizontally into the packaging tubes. Four carrier plates each with eight packaging tubes form a magazine. The complete set-down system consists of two magazines which are filled alternately so that the packaging tubes can be exchanged without interrupting production.

Once the picker has set down the finished parts, it returns to the camera sys-

tem. Here, a check is made as to whether it has been completely emptied. Only then does it return into the open mould.

The complete production cell sequence is controlled centrally via the SELOGICA machine control system. The decision-makers at Magnetfabrik Bonn are thoroughly satisfied with the implementation of both production facilities, which were built according to their specifications. Regarding the cooperation, Frank Burilov, Sales Manager at Magnetfabrik Bonn GmbH, says, "A reliable partner, who implemented the customer-oriented solution within an extremely short time."



INFOBOX

Founded: 1932

Locations: Bonn, 7,500 square metres of production area

Employees: 150

Products: Plastic-bound permanent magnets made from hard ferrites and rare-earth alloys, magnet systems and services

Machine fleet: 20 injection moulding machines, incl. 18 ALLROUNDERS, 3 die presses

Contact: Magnetfabrik Bonn GmbH
Dorotheenstraße 215, D-53119 Bonn
www.magnetfabrik.de

Double celebrations are the best

Juliane Hehl congratulated Jaroslav Novak on the ten-year anniversary of the Czech ARBURG subsidiary and presented him with a wall sculpture as anniversary gift.



ARBURG subsidiary manager Jaroslav Novak and his team celebrated not one, but two anniversaries in mid-February at the subsidiary in Brunn. On 14 February, the world-wide anniversary year “50 years of ARBURG injection moulding machines” was kicked off with an open house event. For two days, employees and VIP guests celebrated the golden ARBURG anniversary and the ten-year anniversary of the Czech ARBURG subsidiary.

On the occasion of their double anniversary, Jaroslav Novak welcomed high-ranking guests from Lossburg. Juliane Hehl, the Managing Partner with responsibility for the Marketing department and Dr. Christoph Schumacher, Head of Marketing and Corporate Communications,

extended official congratulations in the name of the owners, the management team and the entire staff at the German parent company.

In the festively decorated, architecturally impressive offices of the Czech subsidiary – which entered into operation in 2004 – Mr Novak welcomed some 80 invited guests as an introduction to the ceremonies, before Juliane Hehl honoured the double anniversary of the important subsidiary with an official speech.

“Our Czech subsidiary is looked upon as a pearl in our organisation, and justifiably so. This central European market, which is so important for us, is being supported in outstanding fashion.”, is how Juliane Hehl described the value and the excellent work of the subsidiary in Brunn, which supports the Czech and Slovak markets. She singled out Jaroslav Novak, who has developed this interesting market over the past decade, for special thanks.

On this occasion, Juliane Hehl presented him with a splendid stainless steel wall sculpture bearing the official ARBURG sig-

net for a 10-year subsidiary anniversary in etched glass. Visibly moved, Jaroslav Novak expressed his thanks for the gift and promised to find a prominent place for the sculpture in the subsidiary’s modern environment.

The individual tour of the premises, the presentation of the new ARBURG image film and above all the introduction of the GOLDEN EDITION anniversary machine series completed the official programme at the subsidiary.

Through the unaccustomed wintry white streets of Brunn, the party proceeded for dinner at a famous lookout point to the restaurant “Velká Klajdovka”, where the guests concluded the celebrations with typically Czech dishes.

Smooth running

Today, increased productivity plays a significant role when it comes to competitiveness and cost savings. For this reason, many injection moulding companies are investing in increasingly complex production facilities. However, costly investments only pay when these facilities have a high rate of availability. A prerequisite for the permanent availability and reliability of an injection moulding machine is careful and efficient maintenance.

Unscheduled stoppages and the resulting machine downtimes not only result in considerable costs, they also upset the entire production planning. Delivery delays, penalties for non-fulfilment of contracts and dissatisfied customers are the possible consequences. Occupational safety aspects are a further reason for regular maintenance. When resolving liability issues in the event of accidents, it can be crucial that safety-relevant maintenance work has been properly carried out.

Wear is a natural, unavoidable process in the case of injection moulding machines. For instance, rubber materials such as hoses and seals age, even without direct use.

The longest possible uptime is essential in ensuring economical production. The main purpose of preventive maintenance is to maximise the uptime by minimising wear. Through regular maintenance, wear can be controlled, necessary repairs can be detected in a timely manner and can consequently be planned. Possible faults, downtime and consequential damage can thus be prevented. The availability, reliability and therefore the efficiency of the injection moulding machine increases. Simultaneously, an excessive diminution

in value of plant equipment is prevented. A further objective of preventive maintenance is ensuring safe working at the injection moulding machine.

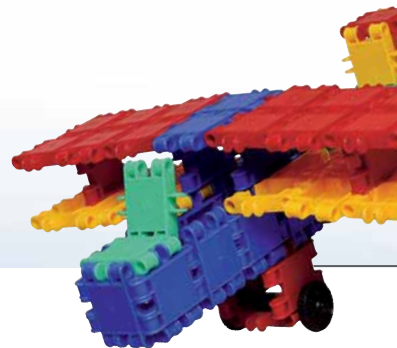
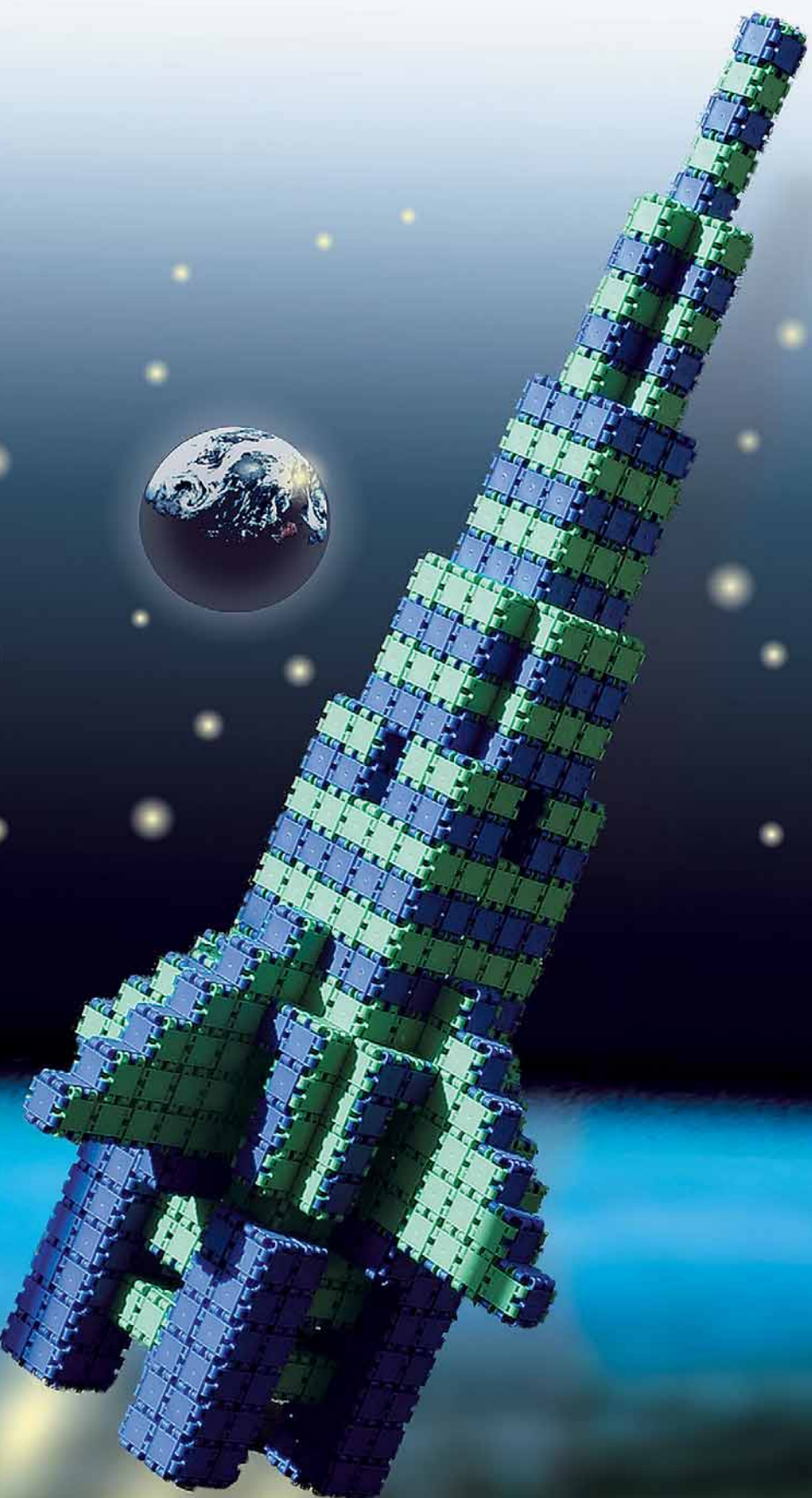
A significant benefit of prevention is the reliable planning of the maintenance and repair measures. Repairs can be carried out at the "most favourable" time.

The basis for the inspection, lubrication and replacement intervals is the maintenance schedule contained in the operating instructions. Through careful documentation, the costs to be incurred can also be reliably allowed for.

Important aid: Computer-assisted planning and documentation of maintenance and repair activities for machines and moulds can be performed using the ARBURG ALS host computer system.

Moreover, ARBURG offers its customers the option of having all important machine elements inspected for wear, operability and safety on a regular basis by a service technician within the scope of an inspection contract. Our Service personnel will be pleased to answer any further queries: service_germany@arburg.com





"Clicki imagin



Photos: B.B.M. Nv.

In a world where electronics and high-tech are increasingly making their way into our children's rooms, it is difficult to imagine that a company founded as recently as the year 2000 in Belgium has brought a construction toy onto the market which has since become widely established and well-sold. The company in question is B.B.M. Nv and its "Clicstoys", which are produced on ARBURG ALLROUNDERS.

The idea behind "Clicstoys" is as simple as it is ingenious: The pieces are flat and can be joined to one another on all sides. In this manner, all possible and impossible geometric shapes can be achieved, whereby the pieces can be re-combined again and again by clicking them together. Creative children can build rockets and other vehicles, towers, houses, animals or complete play worlds. Both two and three-dimensional forms can





ing" with ation and fun

be constructed and the different colours of the Clicstoys allow for additional creative possibilities.

The innovative toy is produced in Belgium at B.B.M. Nv, which in addition to Clicstoys also manufactures other products for children under the brand name "Toykimo". Clicstoys was originally the only product the four-person company manufactured and marketed. Today, it is not only the range of pieces which has grown, B.B.M. is also expanding into other business segments by integrating new product lines such as soft toys and children's clothes. Currently, B.B.M. is also working on industrial applications. It produces a special nozzle for silicone sprays on injection moulding machines.

The components made from PP and nylon are quality-controlled directly during production. In addition to private households in Europe and North America, the company's target groups also include department stores, school equipment suppliers and (for industrial production) premium industrial customers.

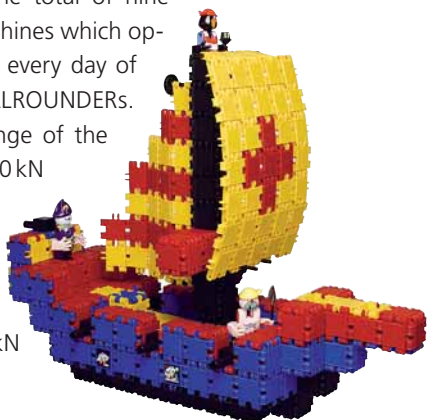
Co-operation with ARBURG extends back to 2003. From the total of nine injection moulding machines which operate around the clock every day of the week, seven are ALLROUNDERS. The clamping force range of the machines is between 600 kN and 1,500 kN, whereby most of them are ALLROUNDER Cs. The 470 C with a clamping force of 1500 kN

is equipped as a multi-component machine with two injection units.

Although the cooperation between both companies is still very young, Hedwig van Roy, co-owner and managing director of B.B.M. Nv has only praise for the ALLROUNDER injection moulding technology used at his company. "Both the general collaboration, as well as our impression of the ARBURG machine technology are very good. The technical quality of the ALLROUNDERS and therefore of our production is correspondingly high. And if ever we do need the ARBURG Service, assistance is always quickly at hand with a great deal of competence and expertise." All in all, excellent conditions for things to "click" in future. Both in many playrooms and in the cooperation between B.B.M and ARBURG.

The whole world at a "click": Clicstoys from B.B.M.

Nv are injection moulded on ALLROUNDERS, work in two and three dimensions and stimulate the imagination during play.



INFOBOX

Founded: 2000

Locations: Brasschaat, Belgium

Employees: 26

Products: Clicstoys construction toys, nozzle for silicone spray, children's products

Machine fleet: 9 injection moulding machines, incl. 7 ALLROUNDERS

Contact: B.B.M. Nv, Bredabaan 912 c, B-2930 Brasschaat
www.toykimo.com

MILESTONES



Milestones in technological history do not always have to date from bygone days. Recent developments can also justifiably be regarded as such. If after a relatively short time, it becomes clear that a development will gain lasting success on the market, it deserves the title. This is precisely the case with the MULTILIFT robotic systems.

While for many years, ARBURG cooperated with external suppliers for its removal peripherals, the increasing demand for complete production cells in the late nineties made it clear that truly customised solutions could only be achieved through in-house developments in the field of handling. The first removal devices did not really have a particular name, they were known as the "3-axis NC handling devices", were completely adapted to the relevant removal task and were real one-offs.

The development of the ALLROUNDER S, however, soon required more standardised components on the removal side, which ultimately led to the introduction of the ARBURG INTEGRALPICKER in 1996. This force-guided device operates completely under the machine guard, gripping via a 90°-rotating platen in the clamping unit of the machine and removes small parts or sprues. This was basically the starting point for the implementation of a complete removal range which is now known under the name of MULTILIFT.

The MULTILIFT H was first presented at the Fakuma 2000. This move ensured that

quite incidentally, ARBURG took the final step from being a pure machine manufacturer to being a systems supplier. The machines and robotic systems are now available from a single source and are optimally adapted to one another. The defined requirements range from simple part removal through to operation within a complex production cell. Programming and sequences are fully integrated in the SELOGICA machine control system. The MULTILIFT H, as a horizontal version, with mould entry effected horizontally from the rear of the machine, is the first of four robotic system versions. The others are the MULTILIFT V, launched at the K 2001, which reaches vertically into the clamping unit from above and the MULTILIFT HV, which followed shortly after and combines both movements in a confined space. At the Fakuma 2005 ARBURG then presented the MULTILIFT V in cantilever design as a space-saving alternative to the overhead design. All the robotic systems share the typical ARBURG modular design with the possibility of optional equipment which permits an unlimited number of specific removal solutions. Short access strokes, stability, speed, removal precision and a large set-down area also characterise all the MULTILIFT robotic systems up to the present day. Gripping, sorting, inserting, removing, setting down – with the MULTILIFT, ARBURG has successfully expanded its field of business.



The newest member of the MULTILIFT family is the MULTILIFT V in cantilever design (bottom), which was first presented in 2005.



TECH TALK

Dipl. Ing. (BA) Oliver Schäfer, Technical Information

Unlimited world of colour

Increasingly shorter product life-cycles and trends force processors to change colours with greater and greater frequency. On the other hand, the tendency of material manufacturers towards more restricted product ranges continues unabated. In order to maintain an unlimited colour palette, in-house colouring with master batches, pigment powders or liquid dyes in place of mass coloured compounds is on the increase.

Reduced unit costs, simplified storage and greater speed and flexibility when changing colours are all factors which favour in-house colouring.

Appropriate peripherals are necessary for optimum material mixing and dosage.

For the simplest applications, a volumetric dosage system is sufficient. In combination with an adapted plasticising system - generally screws with rhombus-shaped mixing elements are used - excellent, reproducible colouring results can be achieved.

Rhombus-shaped mixing elements ensure homogenous mixture of the melt, preventing the formation of colour streaks. Moreover, through optimum homogenisation it possible to reduce the proportion of additives, lowering material costs. Rhombus-shaped mixing elements are available for screws with diameters starting at 30 millimetres and a L/D ratio greater than 20. A further option for improving the mixing effect in the melt is the use of nozzles with a static mixing section.

For greater dosing accuracy and proc-

ess reliability, gravimetric dosage systems are available as well as volumetric ones. Through the precise weighing of the compound components, high demands with regard to colouring results, colour fidelity and the relevant tolerances can be met.

Precise colouring of plastics requires comprehensive process and applications engineering consulting from the material and machine manufacturers. Our AT department (see page 10) is also a competent contact in this respect.

Pole position in China

No, we are not talking about motor sport. With the electric ALLROUNDER 420 A, ARBURG introduced the machine with the shortest cycle time of the entire trade fair at the 20th Chinaplas in Shanghai.

Beakers were produced in a two-cavity mould in the excellent time of 2.18 seconds. On 26 April, the opening day of the fair, the eminent participants in the VIP fair tour were highly impressed by the fast cycling operation of the ARBURG machine. In Hall W2, the ARBURG stand was the only one to feature in the tightly-packed VIP programme of the trade fair organisers, Adsale. In addition to the ALLDRIVE, an ALLROUNDER 420 C GOLDEN EDITION



and a highly interesting two-component application on an ALLROUNDER 420 C exhibited. The conclusion after the 20th Chinaplas was very positive: the stand was very well visited throughout and the numerous and intensive sales talks

Chinaplas® 2006
国际橡塑展

Helmut Heinson (2nd from left), ARBURG's Managing Director for Sales, and Zhao Tong (2nd from right), ARBURG Branch Manager in Shanghai, were pleased to welcome Pan Belie (centre), Member of the Standing Committee of Chinese People's Political Consultative Conference, Liao Zhengpin (left), President of China Plastics Processing Industry Association, and Stanley Chu (right), Chairman of Adsale.

confirmed ARBURG's strategic focus on the Chinese market.



50 years of ARBURG injection moulding machines

SELOGICA "direct" featuring touchscreen display

GOLDEN EDITION

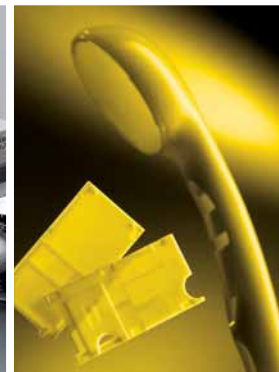


Five special GOLDEN EDITIONs

Highly wear-resistant cylinder modules

Allround

The first hand-operated series produced machine



50 years – more product!

50 years of ARBURG injection moulding machines: in 2006, we celebrate our golden technology anniversary. Over the past 50 years, ARBURG's practise-oriented injection moulding technology has always been centred on the benefit to the customer. The first injection moulding problem is one which we solved for ourselves and the result of this has been fifty years of ARBURG injection moulding technology. That's reason enough for us to celebrate with the people who made it all possible - with you, the customers. That's why the ALLROUNDER C GOLDEN EDITION has been created, with clamping dimensions between 270 and 570 millimetres, new injection unit sizes and a standard SELOGICA "direct" control system featuring touch-screen operation at a very attractive price. Join in the celebrations! 50 years of ARBURG injection moulding machines equals 50 years of injection moulding experience and trouble-free production, day in, day out!



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