

today

The ARBURG Magazine

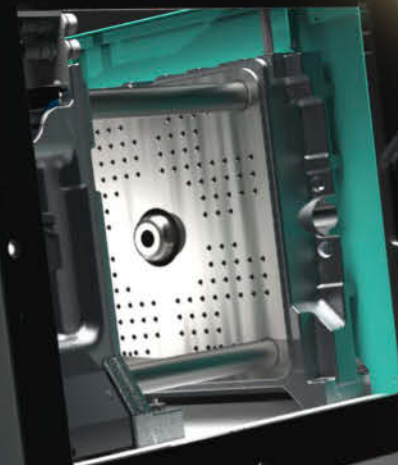
Issue 82

2023

ARBURG

ALLROUNDER 470 H
PREMIUM

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Dear Readers,

It was with great pleasure that we began 2023, our centenary year, and duly celebrated "100 years of the Hehl family company" not only at our headquarters in Lossburg, but also of course at our subsidiaries around the world. You will find some spectacular impressions of the events in this issue of "today", which of course focuses on our special anniversary.

A look back at the 100-year history of our family company shows that, in addition to the many technical milestones, the topics of economic, energy and production efficiency have always shaped our actions. In keeping with good, thrifty Swabian tradition, we have only ever consumed as many resources as are needed at any given time.

In this issue of "today", we present examples of our pioneering sustainability activities from recent decades, as well as all the latest news about "arburgGREENworld". Because one thing is clear: on the occasion of an anniversary like this, we not only look back proudly on our success story, but also, and above all, towards the future. And that's exactly what we are doing with our milestone machine, the new ALLROUNDER 470 H.

For more technical treats, check out the fascinating articles about our customers, partners and sister companies innovatiQ and AMKmotion.

Have fun reading the magazine!

Juliane Hehl Michael Hehl Renate Keinath

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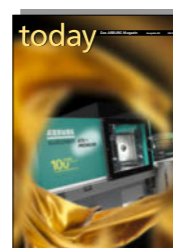
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Our "anniversary gift" for our customers: the new ALLROUNDER 470 H, which is available in COMFORT, PREMIUM and ULTIMATE performance variants.

ARBURG

Our gift for you!

Milestone machine: Interview with the Managing Directors

When celebrating exceptional anniversaries, gifts are a must – not only for those celebrating, but also for the people who have made a significant contribution to the success story of “100 years of the Hehl family company”: the customers! The “gift” in this case is the new ALLROUNDER 470 H. The today editorial team asked Managing Directors Guido Frohnhaus and Gerhard Böhm for more details about this milestone machine.

today: The milestone machine is called ALLROUNDER 470 H. Didn't ARBURG already have a machine like this in its portfolio?

Gerhard Böhm: We are often asked this question and the answer is “yes and no”. There was indeed a machine with that name, but we addressed the requirements of the market and developed this machine from scratch.

today: And what does that mean specifically?

Guido Frohnhaus: It is a completely new machine! The new ALLROUNDER 470 H saves more energy, conserves more resources, is more production-efficient, easier to operate and more reliable.

today: The abbreviation “H” stands for the hybrid HIDRIVE series. Why is the milestone machine a hybrid machine?

Gerhard Böhm: The properties just mentioned are due to the perfect combination of electric clamping unit and hydraulic injection unit. So we are bringing together the best of both worlds. This solution for the future is only available from ARBURG.

today: What does this mean specifically?

Guido Frohnhaus: The electric drives reduce the energy requirement and hence the operating costs and carbon footprint. The high-quality hydraulic injection unit lowers the purchase costs and is also extremely robust.

today: What are the advantages compared to similar hydraulic machines?

Gerhard Böhm: The ALLROUNDER 470 H has a 50 per cent smaller energy footprint, saves up to 12,000 kilograms of CO₂ per year, requires around 35 per cent less oil, which is also preheated via machine waste heat, has between 50 and 70 per cent less cooling water capacity and offers dry cycle times that are reduced by up to 33 per cent, thereby significantly increasing production efficiency.

today: And how does the milestone machine compare to electric machines?

Gerhard Böhm: The hybrid ALLROUNDER 470 H is on a par with electric machines in terms of energy requirements – but is more cost-effective.

today: What technical highlights are tucked away in the new generation of machines?

Guido Frohnhaus: A great many (laughs), for example the new oil management concept, flow splitting for simultaneous movements of hydraulic secondary axes and the extended use of the ARBURG servo hydraulic system. All this is only available from ARBURG.

today: Other keywords were ease of use and reliability.

Guido Frohnhaus: Many design optimisations save time and, of course, money when it comes to service and maintenance. Condition monitoring and predictive maintenance make it possible to plan maintenance, for example.

today: To which companies is this new machine of interest?

Gerhard Böhm: To very many (laughs as well). This was the result of a representative survey conducted during our Anniversary Days in March in Lossburg: for 96 or 95 per cent of the over 300 respondents, the new ALLROUNDER 470 H is a very good alternative to a hydraulic or an electric machine!

today: ARBURG has been synonymous with modularity for decades. Is this also reflected in the new machine?

Gerhard Böhm: Of course. The new ALLROUNDER 470 H is available in the COMFORT, PREMIUM and ULTIMATE performance variants. We already presented the first two variants during the anniversary events, and the third will follow. With this final variant, we achieve dry cycle times of less than one second and injection speeds of up to 550 millimetres per second, with an impressive acceleration of 1 G. Various injection units and options are available for all three variants. This means that, depending on the requirements, the right performance and hence the most economical solution can be configured.

today: So what happens next?

Guido Frohnhaus: With the milestone machine, we have taken our first step to-

wards the future! This new concept is now being gradually implemented for other sizes in the hybrid HIDRIVE series. We will then present the next ones at Fakuma 2023 in October.

ARBURG Managing Directors Guido Frohnhaus (l.) and Gerhard Böhm gave a relaxed presentation of the new ALLROUNDER 470 H at the ARBURG headquarters in Lossburg during the anniversary events.

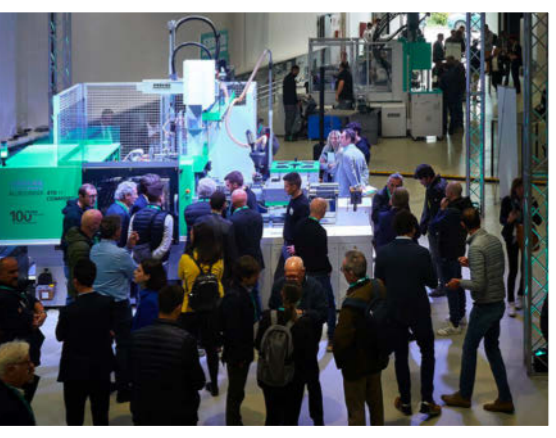


Happy Birthday!

Anniversary: ARBURG celebrates with some 30 events in 24 countries

After the impressive anniversary events in Lossburg in spring, it was time to head out into the world to celebrate "100 years of the Hehl family company" in 24 countries.

A Partner or Managing Director from ARBURG's headquarters was also present at each celebration. At the events, the focus was not only on looking back at a century of success for the company, but also on the future: with the presentation of the ALLROUNDER 470 H milestone machine.



Firmly rooted in the company's DNA

Looking back: Focus was always on sustainability

The Hehl family of entrepreneurs has always understood that ARBURG is about more than just machines. Inspired by its location in Lossburg and close relationship with the natural surroundings of the Black Forest, ARBURG has always placed great importance on protecting the environment and conserving resources, as this brief journey through its "sustainability story" demonstrates.

Throughout the company's history, groundbreaking inventions in the field of plastics processing, such as the ALLROUNDER, have always been accompanied by momentous innovations in environmental protection and sustainability.

It was in 1976 that ARBURG installed the world's first facade heating system. From that point on, waste heat from production is used for climate control in the Lossburg headquarters' administration building. Low-temperature use starts from

the first heat pumps. In 1984, ARBURG installs a system for powder enamel coating the machine components, which replaces 95 per cent of the solvent painting. This protects the environment and is also more economical. The installation of a special refrigerating machine in 1987 makes heating almost cost neutral. The first solar panels provide light for the passageway lighting of the e-training workshop in 1989.

Full speed ahead into the millennium

An energy savings panel has been looking for more savings potential since 1996. For example, insulating the furnaces in the plasma nitriding system achieves electricity savings of up to 50 per cent. Climate protection measures really take off between 1997 and 2001. The job ticket reduces individual transport, a combined heat and power unit generates base-load heat and power and the last transformer containing PCBs is replaced. Having already supplied

the car wash since 1981, rainwater is now also being used to flush toilets and for the company gardens. The installation of an absorption chiller in 2000 ensures that there are no more CFC emissions.

Wind power and photovoltaics

As early as 2001, two wind turbines are installed, which feed their electricity directly into the company's internal grid from the beginning of 2023. In the "glass assembly halls", facades, floors and ventilation systems are heated using waste heat from production.

In 2006, ARBURG builds the first photovoltaic system for its own power supply. To date, there are nine of these with a total output of 2.75 megawatts peak.

The geothermal chapter starts in 2009 with 24 bores down to a depth of 199 metres below the ARBURG Customer Center. In 2021, another 30 bores are added under Assembly Hall 23, where geothermal cool-

ing enables temperatures of 14 to 16 degrees to be achieved. It's worth it, as a new indicator has been calculating the company's annual carbon footprint since 2014. From 2016, externally sourced green, carbon-neutral and non-nuclear electricity also helps steadily improve this footprint.

"arburgGREENworld"

2019 sees the premiere of the "arburgGREENworld" programme, which brings together all the company's sustainability activities and also gets customers on board the climate boat. In the following year, the Corporate Carbon Footprint (CCF) records the carbon footprint of the entire company, including all subsidiaries plus upstream and downstream production processes and production effects. These intensive efforts are recognised: ARBURG is awarded an above-average "B" rating in 2020, the first year of its participation in the Carbon Disclosure Project (CDP), which

evaluates environmental data on climate change, water and forests. It achieves the same rating in 2021. ARBURG will systematically continue along this path in the future.



Conservation of resources as far as the eye can see: wind turbines (large picture left), photovoltaic systems, chiller and combined heat and power unit (small pictures above).

Modern and user-oriented

New ARBURG website: Ultimate user experience

After about ten years, a new online presence replaced the old website in February 2023. Visitors are now guided purposefully through the ARBURG world in a freshly designed environment, focused on delivering the ultimate user experience with quick contact and an optimised customer journey.

Thanks to its many innovative features, the website www.arburg.com sets new standards in the industry for digital B2B communication. Summarizing the website's aspirations, Dr Christoph Schumacher, Head of Global Marketing at ARBURG, says: "Our customers along with partners, job seekers and interested parties worldwide will find many exciting opportunities for

getting in touch, finding information and interacting on this diverting and informative website". The website is available in 15 languages and with specific contact persons for all ARBURG organisations worldwide.

Visitors can enter the multifaceted world of ARBURG via the "Products" or "Solutions" sections covering the topics of components, industries, technologies and materials.

"Bite-sized" content with added value

Detailed added value is offered on the individual pages, where users can quickly find bite-sized text/image elements, videos, component examples, brochure downloads and contact details for the topic at hand. Spare parts can be directly ordered,

and training courses planned online. Testimonials and fascinating success stories provide food for thought. Another new feature is the "Smart production" section, which brings together the topics of digitalisation, automation and sustainability. Under "News & Press" and in the Media Centre, people can filter the content according to their interests. Many ways of achieving the right result: ARBURG has the appropriate solution!



Website



The new ARBURG website offers user-oriented information, innovative features and contact persons for all locations worldwide. Visitors are expressly invited to browse and get in touch.

Photo: Adobe stock



Photos: STABILA

On the level

STABILA measuring instruments: Acrylic glass vials for spirit levels

Vials from STABILA may share their name with the German word for dragonflies, but that's all the two have in common. The manufacturer of measuring instruments for the construction industry is all about maximum precision. STABILA spirit levels have to prove themselves in tough everyday use. And not just the end product, but also all the associated components such as the vials: the firmly cast, liquid-filled sight glasses with air bubbles that show whether things really are on the level. After all, they have to measure accurately over the long term, even when subjected to heavy use.

To produce its vials, STABILA uses a turnkey system from ARBURG, which can be optionally equipped with multiple moulds of

various sizes and mass produces the main bodies of the sight glasses. The crystal-clear moulded parts are produced on an electric ALLROUNDER 630 A with a clamping force of 2,500 kN and size 800 injection unit, and are removed together with the sprue by a linear MULTILIFT V 20 robotic system. The sprues are then separated and discharged separately via a sprue conveyor belt.

The MULTILIFT with integrated pivoting axis places the individual parts on a milling station with turntable. The sprue protrusion is then reworked. The processed finished part is ejected via a pneumatic slider. A stroke end position monitoring system is used to form a com-

The centrepiece of every spirit level: the vials – firmly cast, liquid-filled sight glasses with air bubbles.



plete row of twelve finished parts, which are placed in transport boxes, completely filled and discharged via a servo-electric transfer handling system for a high degree of autonomy.

Advantages at a glance

The electric ALLROUNDER performs simultaneous and precise movements and ensures reproducible injection and energy-efficient operation.

The MULTILIFT robotic system is integrated into the SELOGICA controller and uses synchronised sequences to ensure optimised cycle times. Depending on the mould, the demoulding module with stroke unit and sprue gripper can remove a different number of parts including sprue. The transfer module works simply and also with stroke unit.

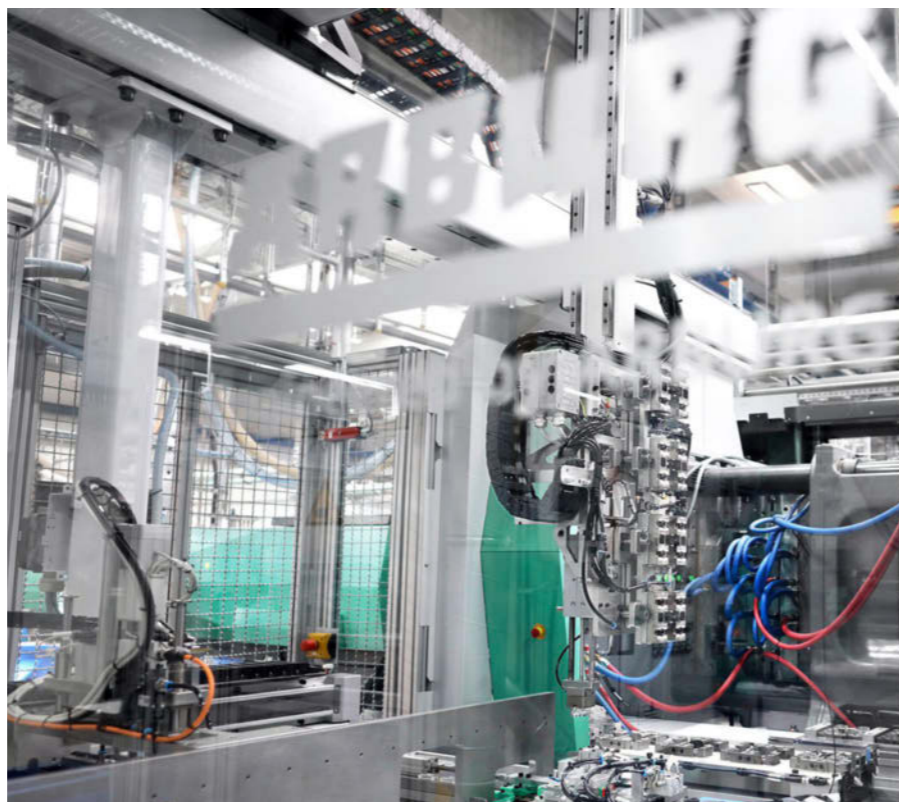
The system's very compact and space-saving automation and additional transfer axis are additional plus points. The MULTILIFT robotic system is used to maximum capacity as it performs most of the handling operations.

Customised project engineering

STABILA manufactures most of the parts for its products itself. In addition to the vial, many other plastic parts are produced at the Annweiler location. ARBURG machines have been a large and important part of its plastics production for several decades now.

The comprehensive support provided by ARBURG project engineering also tipped the scales in favour of a customised system solution in this case. The consideration and optimisation of the overall process

and economic efficiency with support for mould and moulded part design, sequence simulation with cycle time analysis, a risk assessment and an adapted system layout with a selection of suitable robotic systems, machines and production methods and, last but not least, transparent scheduling – this comprehensive carefree package ultimately led STABILA to award the contract to ARBURG.



The linear MULTILIFT V 20 robotic system has an integrated pivoting axis so that the parts can be set down on the milling station.



Thrilled with the turnkey system (large picture, from left): Jürgen Kaub, project engineer, Michael Breit, operator, and David Altinger, head of plastics production. After the sprue has been separated, the individual parts are picked up (small picture left) and placed on the turntable (small picture right).

INFOBOX 

Name: STABILA Messgeräte Gustav Ullrich GmbH
Founded: 1865
Locations: Annweiler, Germany, other locations in the Czech Republic and China
Business areas: Branded measuring instruments
Employees: approx. 600 worldwide
Industries: Construction and skilled trades
Product range: Spirit levels, line and rotary lasers, electronic measuring tools, scales and tape measures
Contact: www.stabila.com



Pál Király, owner and managing director of Lux Kft., proudly presents the mudguards produced on the ALLROUNDER 1120 H.

The owners of Lux saw the ALLROUNDER 1120 H for the first time at its world premiere at K 2016 and were immediately positive about the largest ARBURG machine and its features. This, together with their good experience of the other ARBURG machines and the support and after-sales services provided by ARBURG in Hungary, led to the purchase of the system and its integration into production at Lux.

Nicknamed "Optimus"

Since 2021, the ALLROUNDER 1120 H with 6,500 kN clamping force and size 4,600 injection unit has been part of the machine fleet. Nicknamed "Optimus" within the company, it produces mudguards for trailers with a 2-cavity mould. The goal of injecting just under two kilograms of PP was achieved with a screw that was extended by 100 millimetres. A linear MULTILIFT V robotic system is used for removal and deposit. After being placed on the conveyor belt, the relatively thin-walled mudguards are separated from the sprues

with high precision using a cutting device and feed system, after which they are removed from the conveyor belt, finished and packaged.

1120 H meets all expectations

Pál Király, owner and managing director of Lux Kft., says of his experience with the large machine: "The impressions we now have of the ALLROUNDER 1120 H in our daily work are extremely positive. The machine is simple to operate, easily accessible, and works efficiently and reliably." These are ideal conditions for further cooperation between Lux and ARBURG – including in new areas such as e-mobility.

tions. A 3D printer is also used in the engineering area to create prototypes and to test whether it is possible to substitute metal components with plastics, among other things. So this is a production process that is being increasingly automated and operated using recyclates. Sunplast Kft., a Lux subsidiary, processes up to 800 tonnes of recycled material per year from PP, PE, PA and also soft PVC for reuse in the injection moulding process.

The company has set itself the goal of digital transformation. Many of the ALLROUNDERS are equipped with an OPC/UA connection. As a part of this, Lux also received the "Qualification in advanced level of prepared business for digitalisation (eDFV)" in 2021.

Thinking big

Lux: ALLROUNDER 1120 H produces mudguards

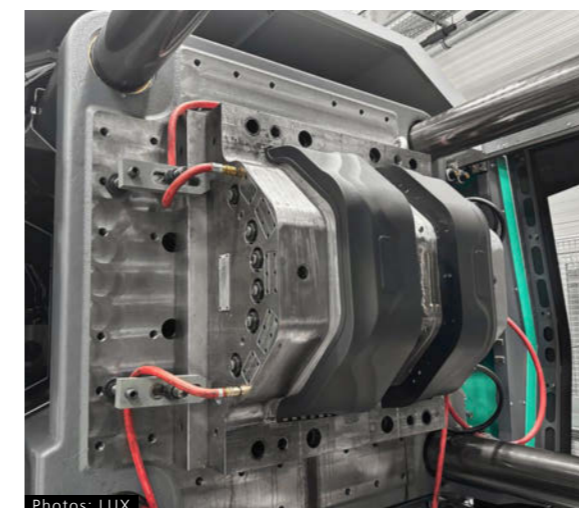
Large machine for large parts – this is a simple way to describe the purchase of its first ALLROUNDER 1120 H by automotive parts manufacturer Lux Kft. in Kecskemét, Hungary. Lux has been an ARBURG customer since 2010 and has been won over by the largest ARBURG machine and its features across various series and sizes.

Over the past three decades, Lux has produced around one million lift-and-slide roofs for motor vehicles, and since 2000 also a wide variety of windows for trailers, caravans, horse transporters and buses. In total, more than 400 plastic parts are produced in Kecskemét, including items made of fibre-reinforced plastics or with metal inserts, such as twist locks for trailer couplings and support wheels for trailers.

The moulded parts are assembled downstream both in automated and manual processes and imprinted using pad printing systems.

Digitalisation on the rise

The parts are also marked with a QR code using laser marking and undergo camera-supported visual quality inspection.



Photos: LUX

The mudguards for trailers are created in a two-cavity mould.

INFOBOX

Name: Lux Kft.
Founded: 1991
Location: Kecskemét, Hungary
Production area: 2,400 square metres
Business areas: Plastics engineering, technical plastic parts for cars, trucks and trailers
Turnover: approx. 5.5 million euros (2021)
Employees: approx. 80
Industries: Automotive, e-mobility
Contact: www.luxauto.hu

Better safe than sorry!

Schmersal: Safety products with and for ARBURG

Schmersal advertises its products with the slogan “The DNA of Safety”. And you can be very sure that the entire production is also really safe. After all, it’s centred around the manufacture of safety switchgear and safety systems for the protection of people and machines at the workplace – on ALLROUNDERS.

Schmersal manufactures around 90 per cent of its products on ARBURG machines at its location in Wuppertal, Germany. The thermoplastic components are used, among other things, in safety switches, especially in the latest generation of switches – including the company’s latest innovation: “AZM40”, the smallest electronic solenoid interlock in the world.

Cooperation for over 40 years



Photos: Schmersal

Proud of the successful cooperation (from left): Thomas Knop, ARBURG Area Sales Manager, with the Schmersal team: Thorsten Smajdek, Production Support, Matthias Banaszek, Innovation Manager, and Abdel El Makrini, Production Foreman Plastic Components.

For its part, ARBURG uses components from Schmersal in its production and assembly – primarily safety switches, solenoid interlocks and external operating units. ARBURG uses the switches in production cells that are operated with protective housings – so a win-win situation for both sides. This fruitful cooperation has been

going on for more than four decades.

Wide range of ALLROUNDERS

The machine fleet includes multi-component, vertical and rotary table machines from ARBURG. The systems are now specially tailored to the company’s requirements on the basis of various criteria and planned projects. Equipment details include OPC-UA interfaces for the ARBURG host computer system ALS and the automation of existing and new ma-

chines with MULTILIFT robotic systems and INTEGRALPICKERS.

Joint developments

Technical Production Support rates the cooperation positively. The telephone hotline can be reached quickly and reliably, and the supply of spare parts is dependable and very swift. Matthias Banaszek, Innovation Manager at the Schmersal Group, says: “We are already working in the form of a partnership. We have come closer and closer together on many problems and with respect to innovation development. For example, we have developed a training concept for our process mechanics on the injection moulding systems.” According to Banaszek the two companies will also be working together in a safety technology working group to develop new safety switches, improve existing ones and, in particular, bring integrated solutions to market maturity. It really does sound like a mutually beneficial relationship.

Signs point to expansion

The cooperation between



Schmersal and ARBURG is expected to extend to other fields. For example, Schmersal already uses additive manufacturing systems in the production of items such as auxiliary devices, auxiliary equipment and prototypes. So it’s clear that the company is planning on using a freeformer.

INFOBOX

Name: K.A. Schmersal GmbH & Co. KG
Founded: 1945
Locations: Headquarters and production in Wuppertal, Germany, additional plants in Germany, Brazil, China and India.
Employees: approx. 2,000 worldwide
Industries: Food, packaging, lifts and escalators, heavy industry, machine tools, wood, intralogistics
Products: Switchgear and systems
Contact: www.schmersal.com



During the Anniversary Days in March, experts such as Jens Kober presented the arburgXworld customer portal and new features including the energy label in the "MachineCenter" app.

Everything in view in terms of energy

New portal features: Energy labels and energy requirement display in arburgXworld

ARBURG is systematically driving forward digitalisation in plastics processing and is continuously developing new features for its arburgXworld customer portal and the ARBURG host computer system ALS. Current digital features on the customer portal aimed at increasing resource conservation include energy labels and individual suggestions for optimising the energy efficiency of ALLROUNDERS. New features in the ARBURG host computer system ALS include mobile functions for paperless production.

ARBURG's digital products and services play a key role in helping customers to strengthen their resilience, work in an energy- and production-efficient manner and maintain their market position in the future.

A key role is played here by the arburgXworld customer portal, which is now used by over 3,500 companies and more than 10,000 users worldwide, with

a clear upward trend. All digital services that incorporate comprehensive ARBURG expertise are now also available in the app for smartphones and tablets.

New: Energy efficiency classes

New to the "MachineCenter" app are energy labels, with each ALLROUNDER assigned to one of three energy efficiency classes. The carbon footprint from the creation phase of each machine is also displayed. Depending on the machine, the customer portal also provides tailored suggestions for energy optimisation, for example through retrofits.

New: "aXw Shopfloor Board"

The new equipment comparison option helps users quickly and efficiently find the best ALLROUNDER for their current injection moulding process during production planning. Also, the customer

portal is focusing more on supporting and optimising internal processes and sequences. In the "ServiceCenter", you can manage your own tickets and messages and have them visually displayed on the "aXw Shopfloor Board" for the stand-up meetings. The "Ready2Go" app, which lists all ALLROUNDERS available at ARBURG at short notice, has also been expanded.



arburgXworld

New: Energy requirement visualised

Mobile ALS functions of the ARBURG host computer system ALS enable resource-saving paperless production. Their energy requirements can be visualised and evaluated via ALS. The total energy requirement of the current job, the energy requirement per 15 minutes, or the average output per 15 minutes can be displayed.

IT-networked injection moulding production requires machines to be interlinked in a manufacturing execution system (MES).

With ALS, users can digitally plan and control the entire plastic parts production process and track all relevant information.

New: Open interfaces

Newly developed open interfaces (REST and MQTT) are ideal additions to the interfaces already available and enable an even greater degree of integration into the existing IT and system landscape. A typical injection moulding plant running 20 machines can quickly save approximately 1,500 hours of working time and 500 machine hours per year using ALS.

The mobile ALS functions enable users to keep an eye on production at all times. Their energy requirements can also be visualised and evaluated.



Breast prostheses made easy

Hashtagtwo: freeformer gives women the courage to face life again

Breast cancer is a difficult subject, not a nice one, but thankfully no longer taboo. When you get the shock diagnosis, you know what's coming: surgery, amputation and a new life with lots of questions – possibly including questions about a suitable breast prosthesis. Dutch start-up Hashtagtwo has an excellent answer with the help of the freeformer 200-3X.

“This product adapts to the life and lifestyle of female customers,” says Alexander Reutelingsperger, CTO at Hashtagtwo. “There are virtually no restrictions of the kind found in ‘off-the-shelf’ silicone prostheses.” Customers confirm this on the company’s website, speaking of “breast prostheses as natural, light and weightless as a shoulder pad in a blazer.” This is due

to the material used, which is light, yet strong and flexible, heat- and UV-resistant and easy to work with. And something the industry has never seen before: all the materials used are recyclable. Conventional silicone inserts, on the other hand, usually end up in the rubbish.

freeformer is best suited

The story began in April 2015, when Chilllabs (Chemelot Innovation & Learning Labs) in the Netherlands was performing initial tests for Monica Schlösser, who had had the idea of printing customised breast prostheses. Chris Reutelingsperger, Alexander’s father and head of bondtextile – a company involved in research and development for the textile industry – contacted her and undertook to solve the problem. He decided to invest in a freeformer 200-3X and founded Hashtagtwo. He was enthusiastic about the freeformer right from

Alexander Reutelingsperger, CTO at Hashtagtwo, is enthusiastic about the freeformer, which can be used to perfectly produce customised breast prostheses.

the start, because it was the only system capable of processing soft materials below 50 Shore A. The choice fell on Cawiton SEBS with a hardness of 40 Shore A from Wittenburg, a specialist in compounding TPE. This material is soft but also strong enough for the thickness to be reduced so that the breast prosthesis doesn’t become too heavy. Each one is unique, so an individual adjustment of the thickness is crucial.

High level of comfort thanks to honeycomb structure

Advantages here include the light honeycomb structure that the freeformer can build up, with a more comfortable fit preventing neck, shoulder and back pain. The open structure also allows the prosthesis to breathe. No problems with sweat because it can evaporate, which is gentle on the scarred skin. Didier von Zeppelin, Manager Additive Manufacturing at ARBURG explains: “The open system of the freeformer was the key to rapid success in identifying the settings for the different materials. And also in optimising the process in a completely new direction.”

Unique prostheses

The basis for the prosthesis is a 3D scan of the area between the navel and the chin. After the individual design (colour, shape) has been defined, the print file with all the information is entered into the freeformer

Soft, light and individual: the breast prostheses made of SEBS with a 40 Shore A hardness. The little hearts demonstrate what delicate parts the freeformer can make from it.



and the prosthesis is printed. Customers can test the result at home and then have it adjusted free of charge if necessary. Hashtagtwo offers three affordable annual subscription packages. Incidentally, the prostheses are washable, so customers can play sport with them without hesitation and even go swimming. Real progress!

INFOBOX

Name: Hashtagtwo
Founded: 22 February 2022
Location: Grubbenvorst, Netherlands
Machine fleet: freeformer 200-3X
Products: Customised breast prostheses
Production area: 500 square metres
Contact: www.hashtagtwo.nl



Photo: Hashtagtwo

Huge cost benefits

Adoma: TiQ printer from innovatiQ for tools and operating equipment

The sign of a successful cooperation between two companies is when both sides reap the benefits. This is also true of the cooperation between Adoma GmbH from Wangen, Germany, and innovatiQ GmbH + Co KG, Feldkirchen, Germany, a member of the ARBURG family of companies. In this instance, the additive production of tools and operating equipment for in-house production on the TiQ filament printer from innovatiQ has brought sustainable cost benefits in various sectors.

Originally, Technical Managing Director Thomas Steinhauser and his team thought about purchasing a 3D filament printer to produce special components for end-of-arm tools (EoAT). This gripper equipment was to give the full-service plastic parts manufacturer an edge in production changeover and "more individual access" in the automated production of series products.

However, the range of applications for 3D printing extends beyond the area of technical plastic parts, one of Adoma's three core businesses. New thoughts soon followed about also manufacturing what are known as "print receptacles" or "print mandrels" for Adoma's dry offset printing presses.

Plastic replaces metal

These print receptacles are needed in the plastic promotional products area for printing all around returnable cups, for example. According to Kai Steinhauser, the managing director, the calculation is quite simple: "The conventional print receptacles made of milled metal cost around 12,000 euros per set externally. If we additionally construct the pure mandrel sets from fibre-reinforced material on the TiQ printer, a total set costs us just under a fifth of the

original price. This gives us competitive advantages, and the return on investment in the machine is also achieved very quickly."

It is obvious that this reduction in operating costs results in significant monetary benefits: the finishing of advertising spaces on the Adoma cups and the "2go" promotional items is even faster and more individual thanks to the mandrels produced with the TiQ printer.

Initial contact at K 2022

As Adoma had been producing its plastic products on ALLROUNDERS for over four decades, its decision-makers visited ARBURG at K 2022, where they were introduced to the innovatiQ machines for the first time. Kai Steinhauser comments: "The innovatiQ device won us over right away. When this is the case with us, the purchase transaction also happens very quickly. We were already in agreement at the trade fair." The innovatiQ application engineers were able to remove the last hurdles for its use very quickly through on-site tests. These showed that the accuracy of the 3D-printed print receptacles also fully met Adoma's specifications. So it was a win-win situation for Adoma, which has been

a pioneer in returnable cups since the end of the 1980s in cooperation with a large American brewery, and for innovatiQ with its TiQ 3D printers for processing fibre-reinforced materials for functional parts in mass customisation.

INFOBOX

Name: Adoma GmbH
Founded: 1978 by founding partner Alfons Steinhauser
Location: Wangen/Allgäu, Germany
Employees: approx. 95
Industries: Electrical/electronics, household, automotive, packaging, laboratory and medical technology, promotional items
Products: Returnable cups & bowls, bottle coolers, drinking bottles, technical plastic parts, engineering and finishing, mould construction and manufacturing
Contact: www.adoma.de

For printing the cups, metal print receptacles are currently used (small pictures left).

With the print receptacles made of fibre-reinforced plastic additively manufactured with the TiQ (large picture on the left), costs can be reduced by around 80 per cent.



arburgGREENworld

were met by combined heat and power plants. Because heat and electricity were produced simultaneously, this saved over 1.7 million kilograms of CO₂. By using only external green electricity, as well as generating a total of 2.75 MWp – enough for 700 four-person households – through its own photovoltaic systems and other measures, ARBURG has saved around 100 million kilograms of CO₂ emissions from 2010 to 2021. Meaning that ARBURG’s electricity mix generates a carbon footprint that is around 86 per cent smaller than the German electricity mix. And finally: the recycling rate of all waste generated was 87 per cent in 2021. Waste is a recyclable material,

not rubbish. And this is only just starting with plastic.

In addition to wind and sun, nature also provides water. In cisterns with a permanent storage capacity of 1,522 cubic metres, so much rainwater was collected that in 2021 almost 23 per cent of the total water consumption could be covered, clearly exceeding the company’s self-imposed target (20 per cent).

People at the heart of everything

But sustainability also means dealing responsibly with people. Health care for employees, the establishment of a wom-

en’s network, social and economic involvement in the region – ARBURG is aware of its responsibility!

Remarkable

Sustainability Report: Fascinating facts and figures

Smart ideas and innovations to increase sustainability and combat climate change. This has been an established tradition at ARBURG for decades and is how the company points the way – with efficiency, conservation of resources and sustainability. A lot has already been achieved and there is more to come.

A wealth of fascinating facts and figures can be found in what is now the third ARBURG Sustainability Report. And logically, it can only be found in electronic form on the company’s website www.arburg.com. Readers will also learn, for example, that ARBURG has no problem with offering others a neutral and critical view from the outside. “We voluntarily subjected ourselves to several

independent assessments,” explains Samira Uharek, ARBURG Sustainability Manager.

Excellent ratings

One example is the Carbon Disclosure Project (CDP), a non-governmental organisation (NGO) and the world’s largest environmental database, which audited and rated nearly 15,000 companies in 2022. ARBURG’s B rating is higher than the comparable European average. With ecoVadis, the world’s largest provider of sustainability ratings for companies, ARBURG immediately achieved a “Silver Score”, making it one of the top 25 per cent. Since 2022, the company has also been a member of

the Science Based Targets Initiative (SBTi), where more than 3,000 companies work together to reduce their emissions.

At the international press conference at K 2022, Michael Hehl, Managing Partner of ARBURG, summed up the situation as follows: “There is only a Plan A. We only have one world, and we all have to take responsibility for it! There’s no alternative.”

Conserving resources, saving CO₂

One of the most important tasks is saving CO₂! So as of this year, ARBURG is using the electricity generated by two of its own wind turbines for its own needs. According to the Sustainability Report, 32 per cent of the company’s total electricity requirements in 2021



Sustainability Report

The Sustainability Report offers fascinating insights into ARBURG’s multi-layered activities.

KEY FIGURES AT A GLANCE

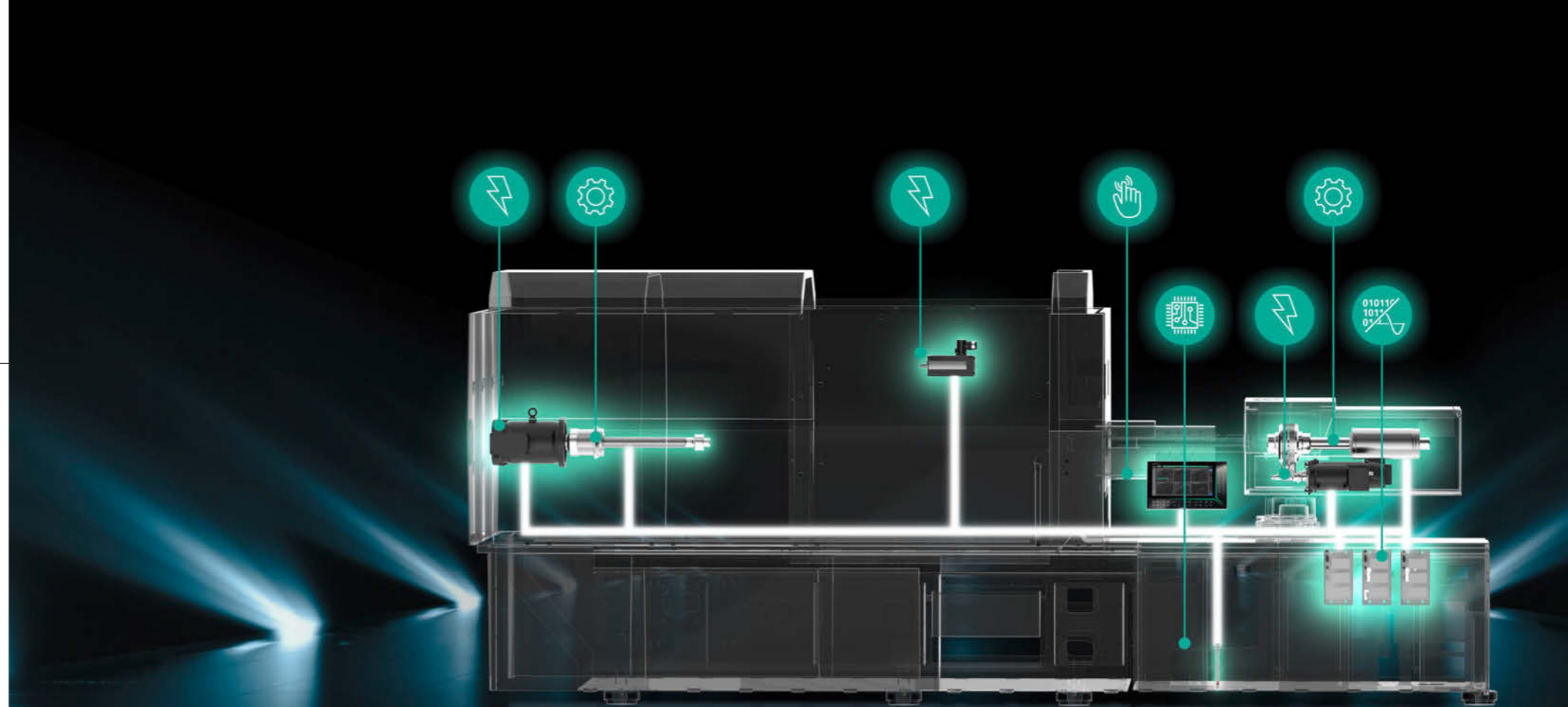
- FOUNDED IN 1923
- 34 LOCATIONS
- 3,551 EMPLOYEES GENERATED
- EUR 735,000,000
- 2,080 TRAINEES AND STUDENTS
- TRIPLE CERTIFICATION
- CDP SCORE B
- COMPANY HQ COVERING 210,000 m²
- 100,000,000 kg of CO₂ EMISSIONS SAVED BETWEEN 2010 AND 2021
- 1,700,000 kWh OF SOLAR POWER
- 75% ENERGY EFFICIENT

11 // WE CREATE MORE VALUE FOR OUR HOME REGION

Corporate responsibility includes social responsibility support for regional projects.



Christoph Blöchle, Technical Sales



What drives us

Electric drives: Complete package from ARBURG and sister company AMKmotion

As early as the mid-1960s, ARBURG was considering the practical use of electric axes in machines. A lot has happened since those first thoughts!

Current global developments and the resulting increase in the cost of energy mean that the electrification of all machine

technology is becoming more and more important. The reasons are obvious: increased precision and a reduced energy requirement.

At ARBURG, there have been specific options for the electrification of mould and moving axes for over 20 years. Until now, electric mould axes have been rather rare. However, customers are increasingly recognising the value of electrically driven

axes and their advantages in day-to-day operation – and can benefit from the close cooperation between ARBURG and drive specialist AMKmotion, another member of the ARBURG family.

Complete package as a possible solution

The task: to achieve an integrated view of the respective production situation, together with customers, machine and mould makers.

The solution: the development of a complete package consisting of machine, mould, automation and support structure that can be used for largely electrified and hence resource-saving series production.

More productivity, less energy

The example of an ALLROUNDER 470 A, which was designed jointly by ARBURG and AMKmotion, demonstrates the advantages. Instead of regulated hydraulic core pulls and a small hydraulic accumulator system, the machine was equipped with electric core pulls and a servo motor from AMKmotion. This leads to an increase in productivity due to better reproducibility and fewer rejects as a result. In addition, the cycle time is reduced by four per cent thanks to faster and simultaneous machine movements in the process. In conjunction with the energy-saving ARBURG servo hydraulic system, additional energy savings

of around 40 per cent can be achieved. These combined added values result in a significantly faster return on investment.

Best practice: Keeping it all in the family

Offering a complete package of this kind gives ARBURG a unique selling point on the market: together with AMKmotion, customers are offered new technological possibilities and new markets are opened up.

During the Anniversary Days, for example, ARBURG showcased the full integration of four mould-mounted servo motors in the GESTICA control system. A stand-alone solution of servo motor and external controller was also presented. This is ideal for sampling purposes, for example at the mould construction facility. As system suppliers, ARBURG and AMKmotion can thus provide customers with a technological edge. From the very beginning, both

The powertrain is the backbone of every injection moulding machine: here, all the hardware and software is in the hands of the ARBURG family.

companies provide support based on their experience, which is directly incorporated into the respective machine technology. It doesn't get any better than this.



The topic of drive systems featured prominently at the Anniversary Days.

100 YEARS
1923-2023
OF THE HEHL COMPANY

100

100 years of the Hehl family company. Out of which came around 70 years of ARBURG. This is the perfect mix for a plastics technology manufacturer that is now a global leader and has been successful on the market for many years. What does it take? Tradition, motivation, innovation and the right employees. That was true then. And remains true today. Here's to the next 100 years!

www.arburg.co.uk

ARBURG

WIR SIND DA.