

today

The ARBURG Magazine

Issue 83

2023



1977
MESSE
ARBURG
Hehl & Sohn
Postfach 1108
7298 LÖSSBURG

Sie uns
onale Bod
shafen, 21
stand 304


Fakuma

21. – 25. Oktober 1981
Friedrichshafen
Halle 3, Stand 304

Wir laden Sie
Fachmesse für
13. – 17. Oktober
Eisenach, Thüringen
Auf Stand Nr. _____
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BRURG-A
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Fakuma

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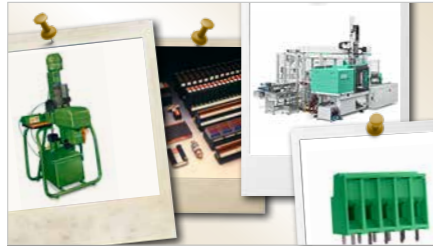
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ARTHUR-HEHL-STR. Postfach 1108
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Dear Readers,

There has barely been time to catch breath over the past few months. One event followed the next, and we celebrated our centenary with thousands of customers, partners and employees worldwide. The keystone, so to speak, is Fakuma, where (alongside many other innovations) we will be presenting the next size of our new hybrid machine generation: the ALLROUNDER 520 H.

So with the trade fair appearance in Friedrichshafen, the centenary year is slowly coming to an end. Find out which were our personal highlights in the centenary special interview. In this section, we also highlight the history of our trade fair appearances as well as the success story of our long-standing customer Phoenix Contact, which is also celebrating its 100th anniversary this year and has grown successfully together with us for over six decades.

However, we not only have exciting things to report about long-standing customers. In this issue, we also introduce you to “young” customers and partners who are “making the impossible possible” with us, developing new materials and bringing them to market, and making intensive use of our digital tools to make themselves fit for the future. Find out how we are strategically developing in terms of sustainability in the interview with our Managing Director Sales, Gerhard Böhm. So, once again, we have a colourful and diverse bouquet of topics in this edition of today. We hope you find them inspiring.

Have fun reading the magazine!

Juliane Hehl Michael Hehl Renate Keinath

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today, The ARBURG Magazine, Issue 83/2023

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Trade fair appearances were a success factor in the history of the family company – and still are today.

ARBURG



and truly succeeded! The only downside is that our fathers Eugen and Karl Hehl were unable to celebrate this milestone with us.

Renate Keinath: Indeed! However, it was nice that we were able to celebrate the centenary with many of their long-time comrades and associates, with many a fine tale told about them both.

today: What feedback did you receive on the occasion of the centenary?

Juliane Hehl: There is an incredibly strong bond between customers, employ-

ees and our company. It was noticeable everywhere that our customers are real fans and our employees are truly passionate about ARBURG!

Renate Keinath: Our customers have always confirmed to us that ARBURG is a genuine partner that you can rely on 100 per cent. Even in the event of problems, which can always occur, help is provided quickly and reliably. Our subsidiaries were also explicitly praised for this. The motto "Wir sind da – We are here for you." applies around the globe!

Michael Hehl: Another thing that makes me very proud is the feedback we get from long-standing suppliers. According to them, ARBURG's approach to dealing and working with them as partners is unique, and you can feel everywhere that ARBURG is and should remain a family company through and through!

Managing Partners Juliane Hehl,
Michael Hehl and Renate Keinath
(from left to right).

Simply unique!

Centenary: Initial verdict by the Managing Partners

The anniversary of "100 years of the Hehl family company" was celebrated during the first half of 2023 with over 30 events around the globe. The Managing Partners were almost always in on the action. In July, today's editorial team asked Juliane Hehl, Renate Keinath and Michael Hehl about the centenary highlights and the future of the family company.

today: Has the centenary year gone as expected so far, and were there any special highlights for you?

Renate Keinath: Each event was a highlight in itself. At this point, I would like to single out our subsidiaries, who put a lot

of effort into creating something very special with the centenary celebrations – and they all succeeded brilliantly!

Juliane Hehl: All I can do is agree with that. I particularly remember the emotional moments, for example when my mother Gisela was on stage with us at the events in Lossburg and received a standing ovation from the guests.

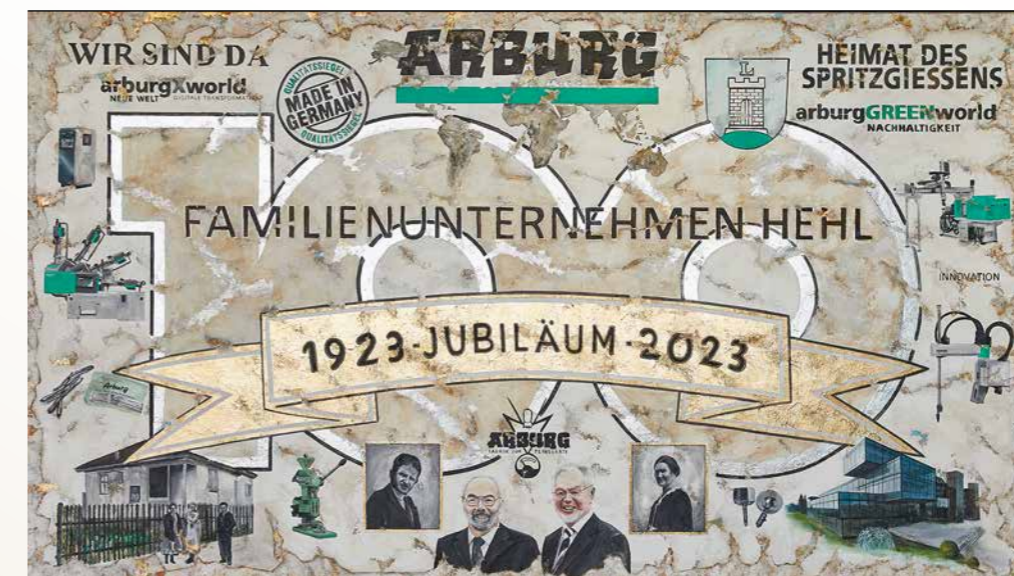
Michael Hehl: These moments were certainly very moving. I was also impressed by our Australian customer Grahame Aston, also known by their nickname "Kangaroo". The Managing Director of PPC Moulding Services actually travelled from Australia to Lossburg for just one day to celebrate "100 years of the Hehl family company"

with us! In addition to the numerous celebrations, the anniversary book is also a highlight for me, and I always enjoy browsing through it.

today: What is your personal verdict on the centenary year 2023?

Michael Hehl: "Ned schlecht!" (note from the editorial team: literally means "not bad" – the highest level of praise in Swabian)

Juliane Hehl: It's unbelievable how quickly the time has flown by. We spent a total of six years putting our heart and soul into the preparations for this anniversary. We wanted to show how special our company is and – now I'm not being modest in the typical Swabian manner – we well



The artwork entitled "100 years of the Hehl family company" by well-known artist Ferencz Olivier is a gift from the owners families to ARBURG and hangs in the entrance area of the ARBURG Customer Center in Lossburg.

See and be seen

Centenary: Hundreds of trade fairs make the ARBURG brand known worldwide

In 1956, ARBURG began series production of injection moulding machines. Since then, the company has been targeting the plastics processing industry with innovative trade fair presentations. Here is a small selection of special highlights from the many trade fairs that the company has attended over the past eight decades.



1959

First ARBURG trade fair stand at K
The plastics industry has been meeting at the K trade fair in Düsseldorf since 1952. At K'59, ARBURG is represented in the Rhine metropolis for the first time. Its stand covers a mere twelve square metres, but an outstanding 120 machines are sold at the trade fair.



1968

ARBURG at Hannover Messe

In 1968, ARBURG celebrates its premiere as an exhibitor at Hannover Messe. 18 machines are presented at the trade fair stand. The modular system presented for the ALLROUNDERS makes it possible to combine injection and clamping units according to requirements. An ALLROUNDER 100/M shows the production of a roller counter from two components.



1977

First in-house trade fair at Lossburg

The first in-house trade fair at Lossburg takes place in November 1977. Almost 1,300 visitors represent 540 companies. A rustic snack bar adds a touch of Black Forest flair, while an espresso bar makes it international. The main competition prize: a TV!



1981

First Fakuma in Friedrichshafen

Years later, trade fair organiser Paul Eberhard Schall has this to say about the Fakuma premiere in 1981: "Without the commitments and innovative ideas of the first exhibitors, led by Eugen and Karl Hehl as Managing Partners of ARBURG at that time, the Fakuma success story would not have come about in this way". ARBURG is represented with a 120 square metre trade fair stand in Friedrichshafen.

Anniversary and premiere at Fakuma
Our presence at this Fakuma focuses on the "50 years of ALLROUNDER" anniversary and the new EDRIIVE series, which extends our electric machine range. In the "Economic Miracle" competition, the oldest original ALLROUNDER still in production is sought. The winner's prize – a machine from the new electric EDRIIVE series – goes to Wissner GmbH & Co. KG in Göppingen, which has been producing strap tabs for suspenders for 45 years on the injection moulding machine it purchased in 1966.



2011



2013

World premiere of the freeformer at K

In the run-up to K 2013, ARBURG makes things particularly exciting with the slogan "Freedom has to be experienced!". On the eve of the first day of the trade fair, the secret is revealed at the international press conference and the freeformer is presented – the world's first machine for additive manufacturing that can produce fully functional components individually or in small batches from standard plastics without moulds.





ALLROUNDER 221 K



ALLROUNDER 1200 T rotary table machine



Historical portfolio of Phoenix

ALLROUNDER 570 A



Turnkey system with ALLROUNDER 470 A



"Combicon" print connection terminal



Disconnect terminal with relay housing



ARBURG injection moulding machine C4/b

Combining technology and philosophy

Joint centenary year: Phoenix Contact and ARBURG both celebrate their 100-year anniversary

The two family companies Phoenix Contact and Hehl are not only connected by their founding year 1923. Phoenix Contact, based in the "Carnation City" of Blomberg, Germany, was one of ARBURG's first customers and has ordered almost 400 injection moulding machines in Lossburg to date.

Energy has been at the heart of Phoenix Contact from the very beginning of the company's history. The electrification of trams was the reason for founding a commercial agency for overhead contact line mountings in Essen in 1923. At the end of the 1920s, the idea of modular terminal blocks, or "terminal strips" was born, laying the



foundation for the success of the group, which offers innovative products, solutions and digitalisation expertise for the electrification, interlinking and automation of all sectors of the economy and infrastructure. The website www.phoenixcontact.com offers exciting insights into this 100-year success story.

Partners for more than six decades

Phoenix Contact has been working with ARBURG in the injection moulding sector for over six decades. The first machine bore the serial number "166" and was delivered in 1957. It was a "classic" hydraulic CENTEX, and was followed by 18 more of the same type right through until 1966. The year 2006 saw the purchase of the first electric ALLROUNDER – machines that excel in terms of precision, energy requirement and, above all, cycle time. This is also where

the cooperation migrated to in subsequent years: Phoenix Contact is now firmly anchored as a customer in the hybrid and electric machine segment.

Entire portfolio in operation

A glance at the machine history shows that there is almost no ALLROUNDER series and no peripheral equipment from ARBURG that Phoenix Contact has not used at various production sites around the world. However, multi-component, vertical and rotary table machines were and are also integrated into the production, as are turnkey systems with comprehensive individual peripheral equipment consisting of machine, robotic system, feed systems for inserts as well as removal and tray stackers for the implementation of special injection moulding tasks. ARBURG Remote Service has been integrated into produc-

tion at Phoenix Contact since 2003, and the company has also been working with the ARBURG host computer system ALS since 2014.

The successful cooperation between these two companies is based primarily on technology, but also on the common philosophy and structure of the family companies, with both production operations featuring a high vertical range of manufacture and covering the entire value chain. At Phoenix Contact, this means that all plastic and metal components, injection moulds and mounting machines for assemblies are manufactured in-house.

People as a success factor

Stefan Schmedding, Director CAPEX in Corporate Purchase at Phoenix Contact, emphasises: "What we appreciate about ARBURG is the trusting, cooperative part-

nership and the in-depth expertise placed at our disposal. Ultimately, however, it is also the people working together on both sides who have played a crucial role in shaping this development. All this and, of course, the great machine technology make a valuable contribution overall to increasing our production efficiency."

Our Plan A

Fakuma 2023: Solutions for energy, resources and efficiency

At Fakuma 2023 in Friedrichshafen, Germany, ARBURG will be showcasing its exceptional ability to deliver solutions with “There is only a Plan A”. At the new interactive “arburgSOLUTIONworld” exhibition area, experts will be providing advice on the meta topics of energy, efficiency, the shortage of skilled workers and future orientation. Another highlight is the premiere of the ALLROUNDER 520 H with new hybrid machine technology.

“With ‘There is only a Plan A’, we will be continuing our extremely successful communication line and combining it with our ‘100 years of the Hehl family company’ celebrations”, explains Juliane Hehl, Managing Partner Marketing & Business Development.

“We will show our customers how they can benefit not only from our products, solutions and services, but also from our decades of experience”. A new addition to the stand is a revolutionary four-metre high LED column. Around this interactive exhibition area, visitors to the fair will find out

how they can use tools such as the Action Plan: Energy, digital services and smart assistance functions to save energy, increase efficiency and compensate for the shortage of skilled workers in their companies.

Extended: HIDRIVE hybrid series

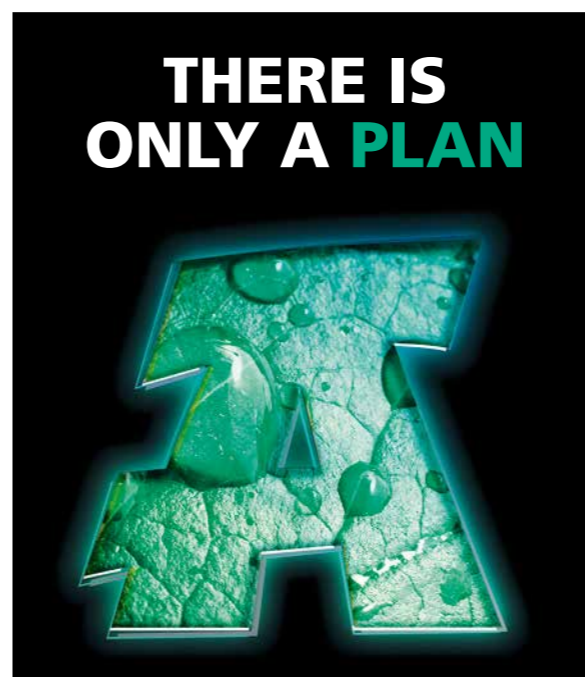
After ARBURG presented the hybrid ALLROUNDER 470 H milestone machine in spring 2023, the 520 and 570 sizes will follow next, also in three performance variants. The ALLROUNDER 520 H PREMIUM will make its debut at Fakuma.

Wide range of exhibits

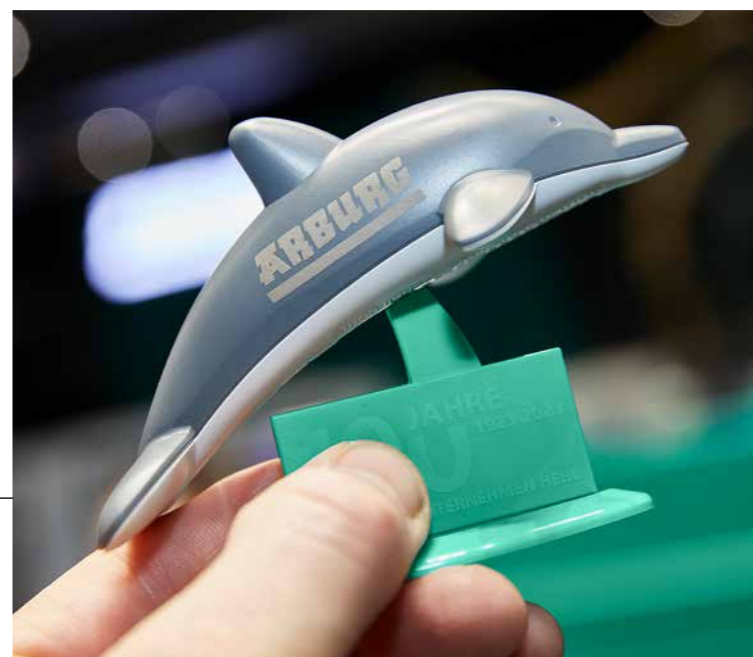
Nine exhibits on the company’s own stand and another ten machines on partner stands will be demonstrating exciting applications, processes and trends in injection moulding and 3D printing. This includes reliable processing of post-consumer recyclate (PCR) with an ALLROUNDER 470 E GOLDEN ELECTRIC. Energy-efficient

two-component injection moulding will be demonstrated by an ALLROUNDER MORE 1600. As an energy-efficient alternative to thermoforming, an all-electric ALLROUNDER 720 A ULTIMATE packaging machine will be producing thin-walled IML cups. At the centre of an innovative joint project is an electric ALLROUNDER 520 A that will be producing IML products specifically for medical technology.

A vertical ALLROUNDER 375 V will be making ready-to-use tyre levers that can be traced and identified using Invisible Tracing (see page 14). The coveted toolboxes in ARBURG design will be produced on a turnkey system built around a hybrid ALLROUNDER 920 H. ARBURGadditive will be exhibiting a freeformer 750-3X for processing high-temperature plastics and a TiQ2 filament 3D printer.



The ARBURG trade fair stand is always a crowd puller. The highlights in 2023 are the sophisticated and efficient production of toolboxes, toy dolphins, tyre levers (images on the right) and the debut of the hybrid ALLROUNDER 520 H (image left).



Digitalisation as a success factor

Weisser Spulenkörper: Power user of the ARBURG digitalisation tools ALS and arburgXworld



Fotos: Weisser

Weisser Spulenkörper in Neresheim, Germany, has relied on ALLROUNDER machines for over 60 years. Like ARBURG, the family company can look back on a 100-year success story. Weisser is determinedly driving forward the digitalisation and networking of production processes – and makes intensive use of the ARBURG host computer system ALS as well as the premium version of the arburgXworld customer portal for this purpose.

The goal is to increase the efficiency of internal processes so that all value-added sequences can run in a standardised, fast and economical manner. A win-win-win

situation for Weisser, their customers and ARBURG.

ALS in operation since 2012

Weisser has been working with the ARBURG host computer system ALS since March 2012. In addition to the basic system, MDE, BDE, ERP and remote modules are also in operation. This configuration is supplemented by report, quality, and remote system components, among others. Other machine brands with EUROMAP 63 and 77 interfaces can also be integrated. This allows the company to completely integrate its heterogeneous machine fleet into ALS – including data record management and job planning.

Always up to date: Marcel Klenk, responsible for digitalisation in process planning, documents automation in the arburgXworld customer portal directly at the system.

Job planning is carried out with the ERP West system as a fully integrated and industry-neutral complete solution. Weisser often uses ALS data in quality audits for customers.

Process planning with arburgXworld

Weisser has also been using the premium version of the arburgXworld (aXw) customer portal since October 2020. The

portal's extensive range of calculation tools and knowledge databases for planning production processes enable production and working time to be saved. The experts rely heavily on the support of aXw for process planning, using it for mould and process planning, sampling, and series-ready handover for production, among other tasks.

Weisser mainly uses the following aXw services: VirtualControl, MachineCenter, DataDecoder, SelfService, and the ServiceCenter. The decision-makers are primarily concerned with the workload reduction associated with aXw.

They find it easy to introduce their own wishes and improvements after consulting ARBURG's Digital Solutions Sales team. The company sees more effectiveness above all in the areas of traceability, clarity, and transparency from job plan-

ning to process optimisation and system analysis (OEE).

VirtualControl as the main module

Weisser has many product families and is therefore able to produce over 4,000 different item configurations. The company uses VirtualControl as the main module of the aXw Premium Solution. This app can be used to simulate machine control on a PC or tablet in order to create data records, optimise sequences and train employees, for example.

Marcel Klenk, a plastics engineer at Weisser responsible for digitalisation in process planning since 2020, sees the advantages primarily in terms of time savings and offline use. According to Klenk, the SelfService app is also "a great tool for independent troubleshooting when things



Saving valuable time: in process planning, Virtual Control is used offline to set machine parameters.

have to be done quickly, such as when alarms occur during production".

INFOBOX

Name: Weisser Spulenkörper GmbH & Co. KG
Founded: 1922
Location: Neresheim
Employees: 205
Products: Reels and housings for sensors, magnets, transformers, relays and motors
Industries: Automotive, electrical engineering, power engineering, industrial electronics, information technology, lighting technology, mechanical engineering, medical technology
Contact: www.weisser.de



A production cell with vertical ALLROUNDER, six-axis robot and ATCM (image left) produces a bicycle tool fully automatically (image below).

Each product receives a 'digital fingerprint' and is clearly traceable via Invisible Tracing (image left). The ATCM combines process and quality data (image right).



Transparency thanks to the “fingerprint”

Digitalisation: Tyre levers 100 per cent traceable

The application example of the tyre lever will show at Fakuma 2023 how digitalisation and automation go hand in hand to produce plastic parts efficiently and with 100 per cent traceability. A turnkey system produces this ready-to-use bicycle tool. A suspended six-axis robot and the ARBURG Turnkey Control Module (ATCM) are used. Each product can be identified uniquely using “Invisible Tracing”, a technology from partner Detagto.

A vertical ALLROUNDER 375 V with 1+1-cavity injection mould is at the centre of this compact turnkey system. A two-part tyre lever is produced, comprising a remover and an installer. The tool can

be used to detach bicycle tyres from the rim and reinstall them quickly and easily. The inserts and moulded parts are handled by a KUKA six-axis robot integrated in the GESTICA control system (for more information, see page 18).

Space-saving automation

No additional floor space is required for automation as the robot is mounted in a space-saving hanging position. The KUKA first feeds clips to a camera inspection and inserts them into the mould. The vertical machine overmoulds the inserts with 50 per cent glass fibre-reinforced PA 66/6 in a cycle time of 45 seconds. The material is single-grade post-industrial recycle (PIR). After removal from the



Video

mould, the six-axis robot transports the moulded parts to a laser station where a DM code is applied. Then an operating manual is completed and the two-part tool is assembled into the ready-to-use end product.

100 per cent traceability

Before the tyre lever is deposited on a conveyor belt, a camera system registers the surface of the component at a defined area. The image data is converted into a few kilobytes of easily storable character string and compressed before being transferred to a database. At a separate test bay, the components can

be identified again at any time – reliably, tamper-proof and with little effort.

Invisible Tracing

This mark-free Invisible Tracing technology of partner Detagto is based on the fact that the surface of each individual plastic part has tiny differences – similar to a human fingerprint.

The ARBURG Turnkey Control Module (ATCM) SCADA system ensures 100 per cent traceability. For this purpose, the ATCM records the data from the injection moulding process for each component ID and links it with the results of the optical inspection of the insert and the digital fingerprint. The part-specific data can be retrieved by scanning the DM code, e.g. with a mobile device.



We do more

Sustainability: Interview with CEO Gerhard Böhm



Foto: Adobe Stock

The topic of sustainability has been firmly rooted in ARBURG's DNA for decades. Gerhard Böhm, ARBURG CEO as well as Sales & Service Director, explains in an interview with today's editorial team how broadly the company is positioned here and describes the strategy it is pursuing.

today: When we talk about sustainability, we're mainly thinking about protecting the environment and conserving resources, aren't we?

Gerhard Böhm: Yes, these are both very important aspects, but far from the only ones! When it comes to how sustainable a company is, social parameters and the way the company is managed are also important issues today.

today: What is the situation at ARBURG in this respect?

Gerhard Böhm: Very good, because these aren't new fields for us either. They have always played a role, although more in

the background. In 2022, we went one step further and have been working on an integrated sustainability, or rather ESG strategy ever since. ESG stands for Environmental, Social and Governance, so it incorporates those additional areas.

today: How did you and your team go about this?

Gerhard Böhm: We were guided by the United Nations (UN) Sustainability Development Goals, which were adopted by the UN General Assembly in 2015 and are the core element for the 2030 Agenda for Sustainable Development.

today: What do those Development Goals cover?

Gerhard Böhm: In addition to climate protection, energy and innovations, they also deal with responsible consumption, education, equality and human dignity, for example, as well as partnerships to achieve the Goals.

today: What exactly does that mean?

Gerhard Böhm: We focus on the areas that are important to us and develop specific measures and targets for them. To do this, we assess the status quo and analyse how we as a company can act in ways that are even more climate friendly, social, and responsible, and develop our ESG strategy from this. We invest a lot of time, money and power in this!

today: Can you name a specific project for us?

Gerhard Böhm: A good example is the Science-Based Targets initiative, which according to its own definition "drives ambitious climate action in the private sector by enabling organisations to set science-based emissions reduction targets". We have submitted our targets for validation.

today: What does that mean?

Gerhard Böhm: In the 'target validation phase', we had the strategy we had developed for achieving emissions reduction

The sustainability strategy, also known as the "ESG strategy", covers environmental, social and governance issues.

targets reviewed in terms of its effectiveness: with success. This way, we can ensure that our reduction targets are actually sustainable – and make a strong statement against 'greenwashing'.

today: What figures are we talking about specifically?

Gerhard Böhm: We plan to be compliant with the 1.5 degree Celsius target in Scopes 1 and 2. To achieve this, we will reduce our CO₂ emissions in those areas by 42.2 per cent by 2030 compared to 2021. For Scope 3, we are aiming for what is known as a 'sub-2 degree Celsius target', where the reduction in the same period is 25 per cent. Scope 1 includes all direct greenhouse gas emissions, such as primary energy sources consumed in corporate real estate. Scope 2 includes indirect emissions resulting from the generation of the procured energy. Scope 3 includes other indirect emissions that are primarily associated with the company's activities, e.g. due to purchased materials. However, the operation of our injection moulding machines at our customers' sites is also accounted for in Scope 3. The operating phase of the injection moulding machines causes 95 per cent of the CO₂ emissions in Scope 3 and thus represents the greatest lever for reducing these along the value chain. In our Action Plan Energy, we are therefore working specifically with our customers on efficient, sustainable and energy-optimised production processes in order to save even more CO₂ together.

today: What is the significance of the ESG strategy with regard to the future?

Gerhard Böhm: Our ESG strategy is an important basis for the strategic orientation of our company. This means that we will also be optimally prepared for the CSRD report, for example, which companies such as ARBURG will be required by the Corporate Sustainability Reporting Directive to prepare from 2026 onwards as part of their annual financial statements for the 2025 reporting year.

today: Are there any advantages in a disclosure obligation of this kind?

Gerhard Böhm: For us, definitely! Because it means that, in the future, companies will not only be comparable on the basis of their business figures, but also in terms of their sustainability credentials. And this is where ARBURG can impress!

Gerhard Böhm is proud of ARBURG's sustainability activities and strategy.



Everything in hand

ARBURG robots: A suitable solution for everyone

The global demand for automation solutions is increasing all the time. On the one hand, plastic parts are becoming more and more complex; on the other hand, flexibility is also required for small quantities. ARBURG offers a suitable solution for a wide range of requirements: from the INTEGRALPICKER and linear MULTILIFT robotic systems to multi-axis robots and complete turnkey systems.

“Whether simple sprue removal, complex component handling or coordinated automation for complex production cells including upstream or downstream process steps – we can meet almost any customer requirement and supply the machine, including automation and peripheral equipment, in compliance with CE standards from a single source”, explains Matthias Lang, ARBURG Product Manager for robotic systems.

Currently, around one in three ALLROUNDERS worldwide is delivered with a robotic system. But briefly back to the beginnings: In 1996, the first INTEGRALPICKER

for sprue removal got the ball rolling. Since then, ARBURG has also been offering complete turnkey systems from a single source as a primary contractor.

Linear robotic systems

Gripping, sorting, inserting, removing, depositing – the success story of ARBURG’s linear robotic systems began in 2000 with a MULTILIFT H. In the ensuing years, the automation range was continuously expanded. Today, ARBURG offers three series of linear robotic systems:

The horizontally-engaging MULTILIFT H is ideally suited for vertical injection into the mould parting line or for peripheral devices mounted vertically on the clamping unit. For entry-level automated moulded part production, ARBURG offers the vertical MULTILIFT SELECT, which features a compact design, standardised components and a favourable price/performance ratio. For the Anniversary Days 2023, the series was expanded to include a MULTILIFT SELECT 8 with a load of 8 kilograms.

If special options are required, the vertical MULTILIFT V offers customised solutions. This series is available with loads from 10 to 40 kilograms. The latest model, MULTILIFT V 10, has a load of 10 kilograms.

With the FLEXLIFT, ARBURG has been offering a further linear robotic system



Gripping, sorting, inserting, removing, depositing: The horizontally or vertically engaging linear MULTILIFT robotic systems can be used flexibly.



Making the complex controllable: This is precisely what the multi-axis robots ‘powered by ARBURG’, such as the new Yaskawa, are designed for.

for entry into automated moulded part production since 2023 – specifically and exclusively for the Asian market.

Multi-axis robots

For demanding parts handling and high functionality in a small space, six-axis robots from KUKA ‘powered by ARBURG’ are a good option. They offer maximum flexibility, are also suitable for demanding loads and can be integrated into the machine controller. A suspended design is particularly space-saving, as demonstrated at Anniversary Days 2023 in the fully automated production of tyre levers (for more information, see page 14).

“Our primary goal is to make complex things manageable – so that in today’s times of skills shortages, even fewer qualified personnel can set up and operate our handling devices and systems safely and reliably”, emphasises Matthias Lang. Not least for this reason, multi-axis robots ‘powered by ARBURG’ have the same

operational systems as the ALLROUNDER control system.

Yaskawa “powered by ARBURG”

Since spring 2023, the range has been expanded to include Yaskawa multi-axis robots ‘powered by ARBURG’. ARBURG is going one step further here and assuming the role of system integrator. The Yaskawa can be programmed as easily and quickly as a linear MULTILIFT robotic system directly via the machine controller or via the associated ARBURG manual control panel.



Website

Unconventional is par for the course

Elzinga & van der Krieke: Complete solutions for difficult cases



Foto: Elzinga & van der Krieke

Wietse Elzinga and Arjen van der Krieke both come from Philips Consumer Lifestyle. They have brought their knowledge from there and also their work with ARBURG ALLROUNDERS into their company Elzinga & Van der Krieke in Drachten, Netherlands. As a system service provider, they are also dedicated to customer ideas that can definitely be described as 'beyond the conventional'. Their motto is: Have a look and have a go!

Reinforcing the team of owners are Ruurd Harthoorn, who looks after mould construction and finances, and Dennis Mous, responsible for new business & relations and for grants.

A growing portfolio of machines

The company currently produces with 20 ALLROUNDERS, all of which are linked to the ARBURG host computer system (ALS). Five machines are equipped with MULTILIFT robotic systems. This is also the case with the ALLROUNDER 920 S, which was commissioned in spring 2023. Three more machines are already on order, with an additional eight planned for 2024.

Short communication channels, knowledge and few limits

"The keywords 'short communication channels', 'in-depth knowledge', and 'few limits' describe our work pretty well", notes Wietse Elzinga. "We like to cooperate with smaller companies where there are many interesting projects". This not only involves innovative plastics such as fibre-filled materials, PEEK or ABS and processes such as LSR and 2-component processing, but is also

about using recycled materials – for 100 per cent of the process, if possible, i.e. closed material cycles.

"We are problem solvers from start to finish". is how Wietse Elzinga characterises his company's unique selling point. "Customers get everything from a single source with us: from joint development and elaboration of their ideas to plastic-compatible design, mould construction and high-quality moulded part production".

Unusual products

As prime examples, Arjen van der Krieke names Airtender, for whom they produce, among other things, a wine vacuum pump made of 100 per cent regrated ABS, or Heusinkveld, manufacturer of driving simulators and market leader in SIM racing pedals used by Formula 1 professionals. Parts of them are produced by Elzinga & van der Krieke on ALLROUNDERS.

Elzinga & van der Krieke is manufacturing components for Inreda Diabetic's 'artificial pancreas', which will be launched on the market in 2024. And for FieConn/Bypoint, they co-developed an innovative bicycle fall detection system. Here too, only regrated ABS is used – an important contribution to sustainability.

"All this is no problem with a machine partner who can supply reliable, individual machine technology, fair conditions and comprehensive support", says Wietse Elzinga about the cooperation with ARBURG.



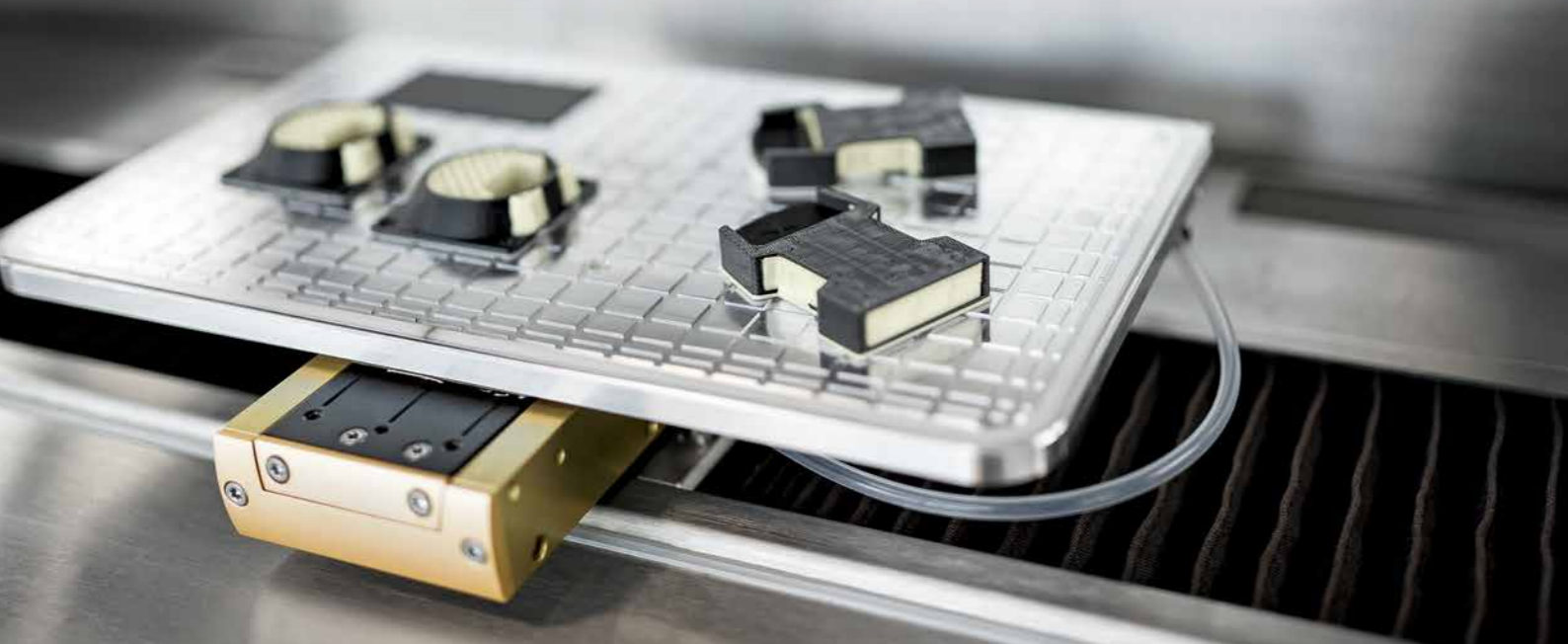
Elzinga & Van der Krieke produces niche products such as the vacuum pumps from Airtender made of 100 per cent regrated ABS (image left) and the handbrake from Heusinkveld (image above).

INFOBOX

Name: Elzinga & Van der Krieke B.V.
Founded: 2017
Location: Drachten, Netherlands
Employees: 23
Products: Sophisticated technical injection moulding for various industries
Industries: Automotive, medical, industry, mechanical engineering
Contact: www.elzingavanderkrieke.nl

The problem solver

Mechnano: Only the freeformer can process ESD PC to a high standard of quality



To demonstrate the capabilities of the APF process, Sean Dsilva, Head of Additive Manufacturing at ARBURG USA, used the freeformer to produce a wide variety of components from Mechnano's ESD PC.



Electrostatic charge is a major risk factor in the manufacture and use of electronic devices. Mechnano LLC from Mesa, Arizona, US, is a specialist in producing what are called ESD (electrostatic discharge) materials that can be used to dissipate electrostatic charges. ARBURG and its freeformer were brought on board to market an innovative ESD polycarbonate (PC).

ARBURG Plastic Freeforming (APF) greatly helped speed up production of components for testing against critical ANSI and IEC standards for electrostatic discharge. With the freeformer, prototypes and small series can be manufactured additively in high quality from the plastic granules developed by Mechnano. Tests have proved that the APF components have significantly better ESD performance and are thus superior to filament-based additive manufacturing methods.

Patented CNT technology

Mechnano's new material uses a patented carbon nanotube (CNT) technology called D'Func (discrete, dispersed and functionalised). This enables a better distribution of the nanotubes in the plastic to ensure homogeneous electrical properties.

Compared to FF technology, the APF process does not simply layer molten filament row by row; instead, the components are built up very homogeneously from spherical droplets with a diameter of around 200 micrometres. According to Bryce Keel-

er, President of Mechnano, this creates very dense thermoplastic components with no electrical interruptions as is often the case with filament layers.

Wide application range

ESD PC from Mechnano can be used in the manufacture of computer chips and

integrated circuits for fixtures and tools, for example. Sean Dsilva, Head of Additive Manufacturing at ARBURG USA, explains: "All these components go through a development process that requires multiple rounds of prototyping. As the freeformer can process the same ESD materials used for injection moulded parts, our customers can save on mould costs and significantly cut development time".

Bryce Keeler adds, "Additive manufacturing of ESD functional parts gives freeformer users an important competitive advantage in prototyping and production speed".

Commenting on the cooperation, he says: "ARBURG is an innovative company that has developed a great machine in the form of the freeformer, which is constantly being improved". The APF team qualified the ESD PC very quickly and was always very responsive, he says. ARBURG also brings Mechnano together with companies that are interested in the ESD PC granu-

lates. "Thanks to its global reach, ESD PC is therefore available to a much wider range of users".

Bryce Keeler, President at Mechnano, is pleased about the cooperation with ARBURG.



INFOBOX

Name: Mechnano
Founded: 2017
Location: Mesa, Arizona, US
Business areas: Nano engineering of materials for additive manufacturing
Employees: 12
Products: Masterbatches for additive manufacturing and materials containing carbon nanotubes
Contact: www.mechnano.com



Plenty of dynamics!

Falcon Pack: More productivity in food packaging

Falcon Pack is a leading manufacturer of disposable food packaging and it fields an extensive range of premium quality products. The company has become a market leader in each of its segments. However, disposable products will also be subject to more stringent regulations in the United Arab Emirates (UAE) from 2024. What is the company doing to make sure it complies with these new regulations? It is working together with ARBURG.

Falcon Pack is of course affected by these regulations. This is because the company's customers are also adapting their packaging purchases to the new specifications. They mostly come from Asia, Africa, Europe and North America. For this reason, Falcon Pack has been looking for alternative materials for some time and has brought ARBURG on board. This also includes thinking about alternative supply chains, new production processes and thus also processing machines

that deliver the premium quality required in an energy-efficient and reproducible manner as part of a continuous process.

Among other things, research and development are going in the direction of multiple use of the products due to higher quality. Here too, ARBURG is one of the favourites in terms of machine equipment thanks to its highly automated turnkey systems.

Cooperation growing

The first contact between Falcon Pack and ARBURG dates back to 2010. The cooperation intensified from 2014. Initially, the company purchased hydraulic ALLROUNDERS, and then moved gradually into the more efficient segment of hybrid and electric machines. "Even with the hydraulic ALLROUNDERS", says Waddah Jaarah, who represents ARBURG in the UAE, "we were able to reduce the complete cycle by around eight per cent with the mould also running on other machines". The purchase

of a hybrid machine was then completed as part of an expansion plan between Falcon Pack and ARBURG. When the company moved to a new, state-of-the-art production facility in Umm Al Quwain, UAE, additional ALLROUNDERS were integrated there because Falcon Pack wanted to expand its injection moulding operations and also use correspondingly high-quality machine technology. "The big leap", says Joachim Branz, Sales Manager Packaging at ARBURG in Lossburg, "came in 2021 with the order for several large hybrid ALLROUNDERS". After

all of the machines had been commissioned by ARBURG's application engineers, it was clear that further reductions in cycle times would also be possible here without compromising product quality.

Cycle time reduced by 13 per cent

Current example: The production of thin-walled microwave containers on an ALLROUNDER 920 H with a 4-cavity mould. Here, the cycle time could be reduced by 13 per cent with stable production. Jamal Abu Ramadan, CEO of Falcon Pack says, "Our decision was positively influenced not only by the superior technology for manufacturing Quality 1 products, but also by ARBURG's support and service".

On the way to the smart factory

Today, ARBURG has a close relationship with Falcon Pack. The company relies on the

comprehensive and reliable advice provided by the ARBURG Packaging team at the Lossburg headquarters – especially when it comes to sustainable production and products. Currently, both companies are working together on the important future project of making manufacturing digital at Falcon Pack.

Packaging, preserving, heating: the thin-walled microwave containers meet a wide range of requirements.



Convinced by ARBURG, the ALLROUNDERS and turnkey systems as well as the support: Hayyan Aljuneidi (centre), Senior Factories Manager, with the production managers Mohammed Ali (left) and Rodegy Festin.

INFOBOX

- Name:** Falcon Pack
- Founded:** 1992
- Location:** Sharjah, UAE and other locations in Saudi Arabia, Oman, Kuwait and Bahrain
- Employees:** approx. 1,800
- Product range:** Foils, cups, containers, straws, bags, cutlery, labels, hygiene products
- Area of application:** Restaurants, bakeries, supermarkets, hotels, airlines, hospitals
- Contact:** www.falconpack.com



TECH TALK

Walter Fest, Product Development, Drive Systems



Doing the splits!

Flow rate splitting: Simultaneous movement of hydraulic secondary axes

It's basically pretty simple: On the new, hybrid ALLROUNDER H machines, hydraulic secondary axes can be operated simultaneously without technology stages or multi-pump technology – thanks to flow rate splitting. In addition to more freedom of movement, this also brings faster and therefore more economical production cycles. This is an advantage that should not be underestimated in injection moulding, where every tenth of a second counts.

Flow rate splitting is based on the ARBURG servo hydraulic system (ASH) familiar from the hydraulic and electric ALLROUNDERS. ASH uses a speed-controlled, water-cooled servo motor to enable infinitely variable adjustment of the drive system to the actual power requirements of

the machine. This means, for example, that when the machine stops moving, the pump drive also stops and there are therefore no more idling losses. This saves energy, especially in processes with long cooling times. At the same time, this also reduces the machine's cooling requirements and noise level by a significant margin.

Simultaneous movements

Furthermore, the additional flow rate splitting on the new hybrid ALLROUNDER H machines of the PREMIUM performance variant allows programmable hydraulic secondary axes to be operated simultaneously. For this purpose, these secondary axes are equipped with the latest Varan valve technology which simply splits the available flow volume of the main pump when required. Typical examples would be the

simultaneous movements of ejector and core pull, of two core pulls or of 'ejector movement' and 'nozzle retraction'.

High savings potential

To improve reliability, the paths of the mould, ejector and nozzle are monitored to prevent damage to the moulds. Elaborate constructions are avoided, the technology remains simple and low-maintenance. This has a positive effect on production and energy efficiency as well as on emissions while simultaneously reducing cycle times.

The ARBURG servo hydraulic system with flow rate splitting is just as effective as the 'normal' ASH, but also offers simultaneous machine movements. This is a real advantage that the hybrid series can offer over purely hydraulic machines. Flow rate splitting specifically eliminates the need for

multi-pump technology with a second servo motor and additional frequency converter. This saves weight, costs and space on the machine. With the standard high-pressure circuit on the hybrid ALLROUNDERS of the PREMIUM performance variant, there is the additional advantage of a programmable active holding pressure, which has a positive influence on the quality of moulded part production.

Further advantages of the new concept

The first machine of the new series was the ALLROUNDER 470 H milestone machine. Compared to a hydraulic machine, this machine also boasts an improvement of up to 50 per cent in the energy footprint. Thanks to the new oil management concept, around 35 per cent less oil is required. The dry cycle time is also reduced by about one third.

Splitting opens up new paths: With the new hybrid ALLROUNDERS, flow rate splitting enables simultaneous movements of hydraulic secondary axes, thus saving cycle time.

THERE IS ONLY A PLAN



17 – 21/10/2023

Hall A3, stand 3101
Friedrichshafen
Germany

100 YEARS
1923-2023
OF THE HEHL COMPANY

ARBURG