



THE KEY TO YOUR SUCCESS

Ideas. Courage. Change. Innovation.

EDITORIAL



Dear readers,

What a year 2020 was! The pandemic still had us firmly in its grip at the beginning of 2021 as well. Important trade fairs were postponed, much to our regret, but at least business trips and customer visits are slowly becoming feasible again. The starting conditions were really quite difficult overall, so we are all the more pleased that MAPLAN has weathered the Corona crisis so well! Looking ahead, it is not unreasonable to suggest that the current order intake promises a record year. Our long-term, client-orientated strategies are now bearing fruit and will be pursued further as a result.

MAPLAN's key driver: Make it simple!

An awareness of the (unspoken) demands of our customers is something which we are placing even greater emphasis on this year. The generation of innovative, resource-saving & economically sensible solutions is our top priority as part of every customer project. Besides the introduction of new company values such as "Make people smile", for example, a number of internal programmes are being launched to improve performance levels and, in turn, take customer satisfaction to new heights.

From outsourcing to back sourcing!

The COVID-19 crisis has clearly highlighted the current problems of globalisation to us: goods and vendor parts were unavailable due to supply bottlenecks. The initiative to increase in-house production capacity which was launched two years ago, especially at our plant in Slovakia, has already paid off and a much lower dependence on external suppliers has been achieved. Portfolio expansion! MAPLAN is now also offering cold runners and temperature control units. This was a further building block in establishing MAPLAN as a 360° system provider rather than a pure machine supplier.

You can read more about all of these topics in this newsletter. We hope you'll enjoy browsing through it. Stay healthy!

Wolfgang Meyer *Philippe Soulier*

Wolfgang Meyer & Philippe Soulier

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We would like to thank the companies KKT FRÖLICH, BIERMANN & KRÖGER, GEVU and SICEM for the nice photos!

2021 OFF TO A FLYING START: THE KEY YEAR

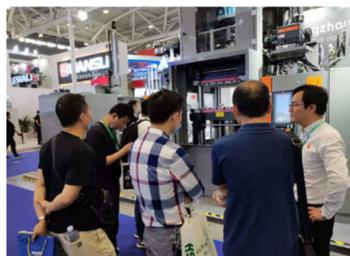
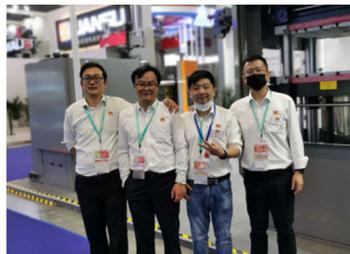
Business trips were deemed passé in 2020 and the business world looked ahead to 2021 with hope. As many trade fairs in Europe have been cancelled or postponed this year, MAPLAN is concentrating on the trade fairs taking place overseas, developing new customer satisfaction concepts and repositioning itself digitally in order to maintain and shape contact with customers in the best possible way.

ON THE ROAD AGAIN

CHINAPLAS April 2021 | Shanghai

China was one step ahead of Europe and was already back in full swing at a time when trade fairs were still cancelled here. In cooperation with our headquarters in Austria, the Chinese MAPLAN team organised a very successful trade fair appearance at CHINAPLAS 2021 for our important Asian clientele. The vertical PLATIN® 6000/460 and the horizontal RAPID® 400/200 were demonstrated live. Both models are produced in China especially for the Asian market and were met with lively interest. In addition to its injection moulding systems, MAPLAN presented the new MAP.crb cold runner systems. This is an important step forwards as demand for resource-saving and economical production is continuously increasing within this market as well. Customer discussions also focused on examples of best-practice that have been realised in Europe.

From left: Fred Yuan, Steve Hu, Kent Huang and Will Guo



UPCOMING

Int. Elastomer Conference | American Chemical Society | October 4-7, Pittsburgh

The MAPLAN USA team is already working on the details for the other important show in the calendar, which hopefully can be held live. It is an event where expert knowledge is exchanged with existing customers and partners, new high-profile insider contacts are made and brand new MAPLAN products and technologies are presented. Our team is planning to wow the American audience with the ERGOMAX® 600 and 360° injection moulding solutions from MAPLAN at booth 1523. The focus will also be on all-round customer support, from individual project planning and

smooth delivery of injection moulding systems to fast and reliable service support. Together with exciting machine exhibits, the new portfolio of MAPLAN cold runner systems and temperature control units will be presented clearly and vividly.

SCIOFLEX

We know materials.

MAPLAN GOES VIRTUAL

MAPLAN and Scioflex will share their rubber injection moulding know-how online in autumn. The first MAPLAN Virtual Days webinar programme in November will offer a varied and interesting mixture of topics. In cooperation with the young company Scioflex, webinars on industry-specific topics and product innovations will be presented every Thursday. Drawing on a wide variety of subject areas, the expert teams will inform and hopefully entertain not only

technicians but all other interested parties ranging from managing directors to machine operators.

All of the webinars will be offered in German and English. Two "Italy Days" with market-specific topics will be held in Italian for our Italian customers. The finale will consist of a LIVE attempt to beat the world compound change record, which we will make together with one of our Austrian customers. It will certainly be exciting!

About SCIOFLEX: MAPLAN's partner at the Virtual Days is a full-service provider in the field of plastics technology and elastomers. SCIOFLEX's services range from consulting services for funding applications and patents to analytics, quality testing, sampling and training.



MAKE PEOPLE SMILE



Our corporate values serve as our inner compass. They make clear what is important to us at MAPLAN

and form the basis for our conduct and actions. For this reason, MAPLAN has laid down in clear and simple language what has always been extremely important to us: friendly and successful cooperation with our customers and partners. 'Make people smile' will become a guiding principle for our teams and hopefully guarantees many satisfied MAPLAN customers. Therefore, we will thoroughly review many of our customer touch points and work to ensure a consistent, satisfying MAPLAN experience at all levels in the co-

ming months. At the same time, MAPLAN will strive to make the everyday business life of customers and employees easier and simpler. Suggestions for improvement are being developed and changes that are to be incorporated into product development, customer service and other internal processes are being planned in joint workshops.

The MAPLAN Experience Team will be happy to receive your suggestions on this topic or reports on your experiences - simply send an email to: experience@maplan.at.

#COURAGE TO CHANGE



CEO IPACS, Jan Nauwelaerts (left), CEO MAPLAN Benelux, Edward von Burg (right)



IPACS: EUROPE IS THE MARKET WE ARE PASSIONATE FOR

"A success story that is far from over! After 40 years of company history, we are always ready to meet the ever-growing demands placed on us by European companies. In addition to ever increasing levels of efficiency in the production process, we make conditions as flexible as possible for customers with eight MAPLAN injection moulding machines which always deliver. IPACS customers no longer have to order bulk quantities and the delivery time is never longer than three months for any order. This reduces warehousing, which means resources do not get tied up. In addition, we are available for enquiries from Europe at any time as the time difference is no more than two hours. Our multilingual team acts in a solution-oriented manner to ensure both high quality products and service."

IPACS: FROM PRESSING TO INJECTION MOULDING

These days the internet gives companies the opportunity to contact suppliers all over the world. When doing so it is often the case that buyers only look at the low prices available to them, which is why Asian suppliers often win the race. This is exactly where IPACS comes into the picture in its bid to stand up to low-cost suppliers from overseas. The production process of the small but high-quality family business from the Netherlands has developed across several steps from the simple pressing of rubber articles to much more efficient injection moulding. Today, IPACS is a successful rubber article producer in Europe, for Europe.

ABOUT IPACS

IPACS is a Dutch manufacturer based in Soest and a supplier of technical elastomer products for customers in the automotive industry, machinery, agriculture, shipping, the chemical industry and other technical industries. The product portfolio includes silent blocks, dust seals, seals (extruded or cut), bellows, assembly rubbers, valve rubbers and rubber-metal parts.

Moulded articles and rubber-metal parts of all kinds, including articles in various colours, are produced. The material, which is highly unique in part, is difficult to process. For a long time, compression moulding seemed to be the only possible production method which allowed for these and similar articles to be produced with the necessary level of skill and dexterity. The journey into a new production era began with Jan Nauwelaerts joining IPACS' management. Jan successfully led the company's transformation from pressing to injection moulding and he is now increasingly focused on automation technology.

THE YEAR OF RENEWAL

This changeover was an especially big hurdle for the "main shareholder" at that time, Frans, Jan's father. Frans is a true professional who learned to process rubber in what is now considered an old-fashioned but conventional and solid way. Retirement was already in sight, so why invest in new technology? At the time, the managing director of MAPLAN Benelux, Edward von Burg, met the owner's son, who had just joined the company management. Jan, who is curious by nature, was inspired by Edward's ideas and dared to take his first steps in rubber injection moulding. After having briefly considered it, he ended up buying a MAPLAN 160 tonne injection moulding machine. After discussions with Edward, he too was convinced that significantly lower manufacturing costs for moulded rubber articles could be realised with injection

2013



moulding. The transition into a new era began. With active support from the MAPLAN team, suitable compression moulds were converted to injection moulding after the machine had been purchased. This was initially done quickly, "roughly" and less accurately – the rotors were even shaped with an angle grinder! Initial success was evident despite the informal way of working. It was possible to significantly reduce cycle times as compared with pressing. Owing to the promising way in which things were developing, Jan purchased a small milling machine that same year to ensure a more professional conversion of the pressing tools for injection moulding.

THE OPTIMISATION OF THE MACHINERY

2014-2015
In 2014 the focus was on exploiting the many, yet clearly structured, opportunities offered by MAPLAN's machine and control technology. There were enormous cycle time reductions thanks to the powerful performance of the machines as well as the machine accessories that Jan and Edward had carefully selected.

THE EXPANSION CONTINUES

2016-2018
Together with MAPLAN, new methods were developed to convert the many conventional moulds for injection moulding machines in a simple and cost-effective way. A system was developed to make the changeover simpler. The core idea was based on a general splash plate and multifunctional adapter plates. This unit system could subsequently be used on any MAPLAN injection moulding machine at IPACS, from 40 to 460 tonnes of clamping force. As things progressed further, Jan looked intensively at further, attractive opportunities provided by MAPLAN's machine control. For example, freely programmable movements (MAP.logicmoves) were used on the machines to ensure that the adapter plates were correctly fitted and tool damage was avoided. In addition to this safety-related monitoring function using sensors, it was also possible to freely programme and control air cylinders with MAP.logicmoves in a manner perfectly suited to the process. Production processes

also began to be operated semi-automatically. Besides shortening the cycle time through the use of injection moulding, it became evident that one operator could perform work on several injection moulding machines at the same time. The tasks became more challenging in an interesting way and staff began to

"With the support of MAPLAN, the production for a customer who produced moulded rubber parts was improved to such an extent, that this company now concentrates exclusively on its core business and IPACS has completely taken over the production of these articles."

Jan Nauwelaerts, CEO IPACS

appreciate the more pleasant working environment. Moreover, the changeover also led to a considerable improvement in article quality and significantly fewer rejects. Overall progress was so enormous that IPACS soon increased turnover and invested in more MAPLAN machines.

THE EFFICIENCY YEARS

2019-2020
The time was used to further optimise the newly introduced processes. Jan and Edward held intensive discussions about the best possible designs for new tools. The optimisation of existing processes, the use of perfect new tools and the creation of efficient working environments led to a further increase in profitability.

Jan realised that optimising the technology was not the only way to achieve his goals: employees needed to be able to work with the machinery smoothly and

"We should have switched to rubber injection moulding much earlier! We're still feeling a little piqued about that to this day."

Frans Nauwelaerts, Owner IPACS

easily and should "enjoy" working with it in order to increase output. MAPLAN's uniform and user-friendly control system as well as target-oriented training on the machines benefited the machine operators here. It became evident from the initial "injection moulding years" that cycle times could be reduced by up to 75% in some cases.

AUTOMATION IS BEING STEPPED UP

2021
These are the questions that shape everyday life at IPACS now: How can IPACS best produce current and new products using automated processes? How can small-scale and large-scale production lines be produced in a simple and cost-effective way? Can the new MAP.crb cold runner systems be helpful? There are already some promising ideas and first drafts are lying on Jan's desk. IPACS will continue to win new projects in the future thanks to smart ideas and secure the company's production location in Europe as a result.



Production, Pfnaisel Josef (left) Manager Project, Application & Automation Engineering, Ing. Matthias Tanzer

SOME LIKE IT COLD

NEW KEY TECHNOLOGY: Cold runner systems from MAPLAN:

MAP.crb is a new product range that was launched on initial markets at the end of last year. It achieved a very good market response after just a few weeks. Whether for retrofitting, extremely high-level spraying pressures or individual fine-tuning, a cold runner system has been designed for each application and specifically tailored to the needs of the customer's particular process. Years of extensive expert knowledge went into its development. This ensures that MAPLAN can now offer the right cold runner for every application from under its own roof.

Rising raw material prices, high disposal costs and constant downward pressure on costs are forcing companies to constantly improve their performance and to produce in an environmentally-friendly way. For this reason, rubber article producers strive to produce efficiently with less material input. Cold runner systems are able to master and solve this task with flying colours. An excellently balanced temperature balance and an opti-

mised material flow "without corners or edges" are the fundamental prerequisites here.

COLD RUNNER SYSTEMS INCREASE PROFITABILITY

When cold runner systems are used correctly, in addition to material savings, there are many advantages for producers as compared to hot runner manifolds.

INCREASED PRODUCTIVITY

A cold runner can facilitate the more uniform filling of a higher number of cavities at the same tool size. Thus, a higher output rate per shot can be achieved.

ECONOMIC PLUS POINTS

The amortisation of a cold runner purchase is rapid, especially when it is used to process high-cost mixes. Cost-savings are achieved through a significant reduction in rubber waste and less vulcanised material in the distribution channels. Furthermore, intelligent tool design means the same cold runner can be used

for a variety of tools and can therefore be utilised flexibly within the machine park.

SIMPLIFIED PRODUCTION PROCESSES

Cold runners are often a prerequisite for implementing automated injection moulding processes. Through the targeted use of suitable handling systems, cold runner sub-distributors can be automatically demoulded and separated from articles. In addition, cold runners simplify the processing of fast-curing compounds as scorching is avoided during mould filling.

IMPROVED QUALITY OF PARTS

A stable process improves the quality of parts! Cold runner nozzles can be changed or adjusted easily and individually, something which enables even, balanced cavity filling. This perfectly aligned process in combination with the MAP.fifo injection unit's very short nozzle puts less stress on the material and improves the physical properties of the article.

THE MAP.crb slim | Small dimensions - huge effect

The closed MAP.crb slim cold runner system is characterised by a simple, ultra-slim and user-friendly design. The system has no heating of its own, using the machine's heating plate instead. For this reason, the MAP.crb slim is particularly easy to maintain as there are no electrical components, heating rods or insulating plates that need replacing. Due to the omission of a heating and insulating plate, the overall height of the cold runner is significantly lower than with conventional cold runners and saves considerable installa-

tion space in the machine as a result. This is why the MAP.crb slim can be used on almost any machine even without increasing the clearance and is also ideal for the uncomplicated retrofitting of all machines in the existing machine park.

MAP.crb slim can be supplied with different nozzle arrangements and numbers and has been designed using the latest simulation software. This ensures maximum performance levels and homogeneous temperature distribution.

THE MAP.crb solid & solid* | Perfect thermal design

The MAP.crb solid is a closed cold runner and a particularly low-maintenance, solid solution for almost any application. The MAP.crb solid has its own heating plate. As a result, it is suitable for any use including high-speed processes and thermally particularly demanding applications. With a maximum pressure stability of up to 3500 bar, it can also be used for injection moulding processes that require the highest levels of injection pressure. Two separate cooling circuits for the block and the nozzles ensure optimum temperature control.

Cooling takes place on two levels. Specially rounded deflectors and channels guarantee

the optimal flow behaviour of the mixture. MAP.crb solid* also offers manual nozzle control, which enables easy balancing of the material flow in the individual flow channels. This mechanical adjustment option offers additional convenience that allows mould cavities to be filled quickly and evenly.

All MAP.crb solid & solid* cold runner systems are characterised by short heat-up times at the start of production or after mould changes. The MAP.easylock system means the heating plate of all MAP.crb solid & solid* cold runner systems can be very easily decoupled at the end of production.

FUTURE PORTFOLIO EXPANSION

MAPLAN cold runners will also be available with valve gate technology in future. As with all MAPLAN products, simple construction, efficiency and flexibility are also the focus of

this innovation. You can look forward to more information on this exciting topic in the next newsletter.

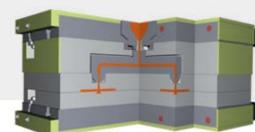
A MAP.crb system for every requirement

MAPLAN offers various cold runner systems for a variety of applications. Each system and its individual characteristics can be optimally adapted to the particular production process. The MAPLAN project team will be happy to advise you.

MAP.crb slim

Perfect for retrofitting the existing machine park

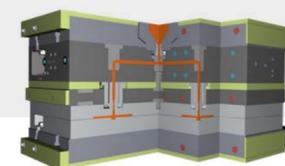
- ⊖ Flat design
- ⊖ Quick installation
- ⊖ No cold runner heating plate required
- ⊖ No extension of the clearance width necessary



MAP.crb solid

Solid design for the highest injection pressures

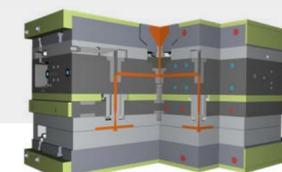
- ⊖ Optimum heating performance, even for temperature-sensitive processes
- ⊖ Heating plate can be detached for short interruptions



MAP.crb solid*

Rapid balancing of the material flow

- ⊖ With convenient, manual adjustment of the material flow rate in the nozzle channel





FOURFOLD POWER FOR E-MOBILITY



MAPLAN SPECIAL+ QUATTRO-RAM

E-cars are demanding new solutions, in rubber processing as well. The new MAPLAN SPECIAL+ QUATTRO-RAM 700-700/850 injection moulding machine was specially designed for the production of battery seals in the electric car industry. It is the largest machine to have left the MAPLAN production hall in Austria to date.

With a unit weight of approximately 100 tonnes and dimensions of around 8 x 9 x 6 m, this injection moulding monster broke all of MAPLAN's previous records and demanded maximum performance from both the MAPLAN construction team and the transporters.

BIG & FAST: CLOSING UNIT AND HEATING PLATES IN IMPRESSIVE DIMENSIONS

Eight tie bars each with a diameter of 170 mm ensure the mechanical stability of the locking unit. The four impressive main locking cylinders guarantee perfect locking force distribution across the 1500 x 2500 mm size of the heating plates. Just two 50 kW pumps with a hydraulic pressure of 260 bar are required to ensure that movements are fast and smooth despite its size and enormous weight.

The servo-electrically driven MAPLAN Fast Double Shuttle moves two alternating centre plates and gu-

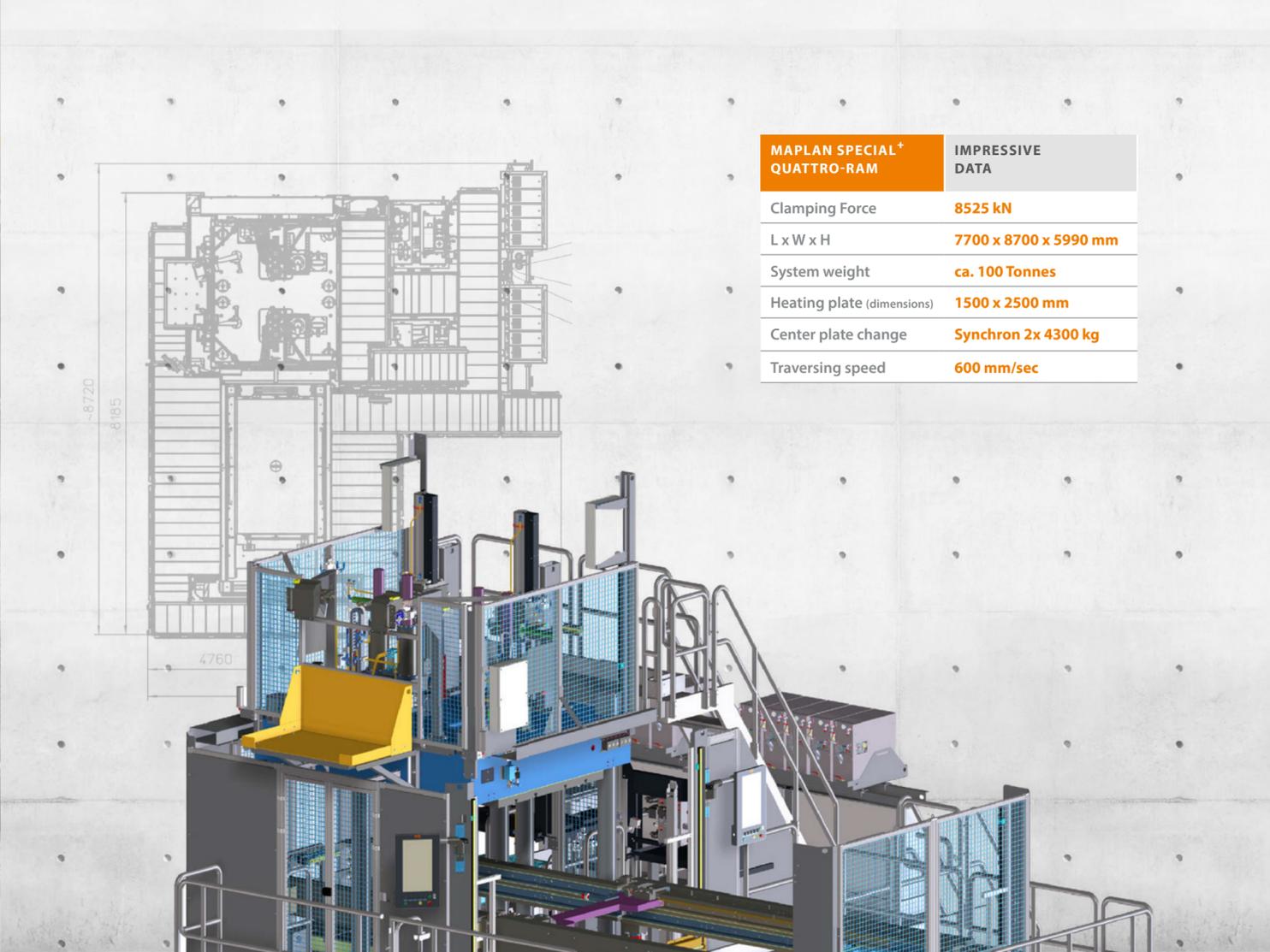
arantees that continuous unloading or loading is possible during the heating time. The travel speed in this process is a remarkable 600 mm per second. The long travel distance of 3200 mm is covered in just seven seconds.

The generously dimensioned and movable heating plates use automatic contacting for the heating current in the particular end position of the shuttle and in the machine. This keeps the temperature of the almost permanently heated lower part of the mould stable. The software-controlled, hydraulic auto-levelling system for the ejectors compensates for the dynamic load during shuttle movement.

2K WITH RUBBER AND SILICONE

The injection system with two 700 cm³ MAP.fifo injection units and independent hydraulics also had to be adapted to the new size. Special injection chambers designed for the powerful injection plates of the 850-tonne machine are used. Both rubber and silicone (multi-compound) can be processed with the two injection units (multi-component).

During silicone processing, the material is fed into each injection unit via a vertically arranged 15 litre stuffing unit. For rubber processing, all that needs to be removed is a sealing plug on the injection units. Despite the exceptional machine height, it is kept ergonomic by way of integrated climbing aids for the operator.



MAPLAN SPECIAL+ QUATTRO-RAM	IMPRESSIVE DATA
Clamping Force	8525 kN
L x W x H	7700 x 8700 x 5990 mm
System weight	ca. 100 Tonnes
Heating plate (dimensions)	1500 x 2500 mm
Center plate change	Synchron 2x 4300 kg
Traversing speed	600 mm/sec

KEY FACT: 20 TONNES

The base plate alone weighs 20 tonnes.

ONE component of the SPECIAL+ QUATTRO-RAM 700-700/850 is heavier than the total weight of most other injection moulding machines. Its surface area is about three times larger than the single largest machine built to date. The mould weight is about four times heavier than a standard mould on a 460-tonne machine. In the picture on the right, you can see the machine's moving plate.

To sum up in other words:
The SPECIAL+ QUATTRO-RAM
is a machine of superlatives!

In the picture on the right you can see the moving plate of the machine.





THE COURAGE TO RENEW

CEO BIELEI, Lutz Leisebein

BIELEI QUESTIONS THE STATUS QUO: A COMPARISON BETWEEN OLD AND NEW MACHINES MAKES ENERGY SAVING POTENTIAL VISIBLE AND ENABLES "UNMANNED" PRODUCTION

The rubber industry often produces using machines that are getting on in years. From a short-sighted commercial point of view, the "if it ain't broke, don't fix it principle" applies here. This means that machines are used and included in the calculations for new production starts in accordance with their current equipment level and performance capability as long as they are capable of production. Unfortunately, this is takes place despite the fact that there are innovative, more efficient and more sustainably producing machines in existence today. These new state-of-the-art injection moulding systems can ensure that a business runs more economically despite - or precisely because of - new investment in machinery.

BIELEI Gummitech from Bad Münden proved another way is possible by making a courageous investment last year. BIELEI produces rubber moulded parts and rubber-metal parts of all kinds and supplies customers who do not have their own rubber production. In the meantime, however, the company has also made a name for itself as a reliable sub-supplier to large manufacturers of rubber parts who no longer want or are no longer able to produce certain products themselves. BIELEI is able to produce both small batches and large quantities.

The machine park includes ten vertical rubber injection moulding machines with clamping forces ranging from 160 to 460 tonnes.

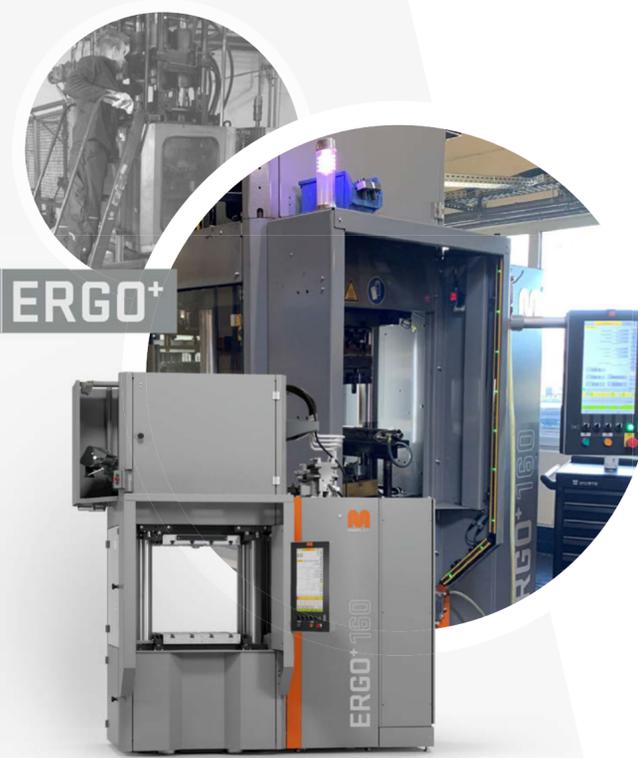
INNOVATION VS STATUS QUO?

Last year, Lutz Leisebein, managing partner of BIELEI, asked his colleagues at MAPLAN to carry out a theoretical examination for the production of an article he had selected. Is a new investment in a 160-tonne machine with central plate movement worthwhile as compared with a com-

parably equipped 150-tonne machine from PENTAJECT that is over 30 years old? (Note: MAPLAN injection moulding machines were sold under the brand name PENTAJECT at that time). Initially, this calculation was to be carried out independently of the investment sum.

A BRUTAL ENERGY SAVINGS CALCULATION

The ageing PENTAJECT was compared with a new MAPLAN ERGO⁺ 700/160 with servo-hydraulic MAP.cooldrive power train and C600 control system using the theoretical operating figures. You can see the telling and detailed data from both machines in comparison in the box on the left/right/bottom. The analysis showed that better performance potentials (higher injection speed, lower injection time) led to a heating time reduction of around 10%. The MAP.cooldrive's IZP18 pump achieves increased efficiency due to its fast response time and is only active when the machine is in motion. Water consumption for cooling the machine is also reduced due to the fact that the MAP.cooldrive servo drive does not require separate oil cooling.



BASIC DATA

COMPARISON	PENTAJECT	ERGO ⁺
Injection pressure	1893	2223
Injection performance	83,5	128 ccm/sec
Drive system	RPP with DAM	servo-hydraulic
Pump	RPP 32	IZP 18
Pump litre capacity	46,4 l/min	71,4 l/min
Oil cooling required	yes	no
Heating plate side insulation	no	yes
Machine control	Gen.4	Gen.6
Optimised oil pipes	no	yes
Machine availability	< 80 %	> 95 %
Centre plate shifting	hydraulic	servo-electric
Clamping force	1500 kN	1600 kN

THE RESULTS IN COMPARISON

COMPARISON	PENTAJECT	ERGO ⁺
Machine availability	80 %	95 %
Number of parts produced	77,8 parts (per/h)	109,0 parts (per/h)
Electr. energy consumption	0,46 kWh (per cycle)	0,25 kWh (per cycle)
Reduced energy consumption	114,0 Wh (per part)	61,3 Wh (per part)
Staff required	1 person	fully automatic

41,2 %
Increase in productivity

47,0 %
Reduced energy consumption per part

Furthermore, the oil lines of the ERGO⁺ model have been optimised compared with previous models. Flow losses are significantly reduced meaning hydraulic losses are reduced by 3-5%. This leads to lower pressure losses in the load consuming unit. The MAP.commander C6, the most advanced machine control system available today, is used on an ERGO⁺. Better algorithms compared to the fourth control generation lead to a performance increase of approximately 2%. Experience shows that current MAPLAN models have an uptime of >95% across a period of up to ten years. An uptime of maximum 80% is usually achieved across an operating period of more than 20 years. This results in a 15% (!) difference.

“ In practice, the following production advantages have resulted: We do 160 cycles per shift on the same article with the Pentaject and 220 cycles per shift with the new MAPLAN 220.

Lutz Leisebein

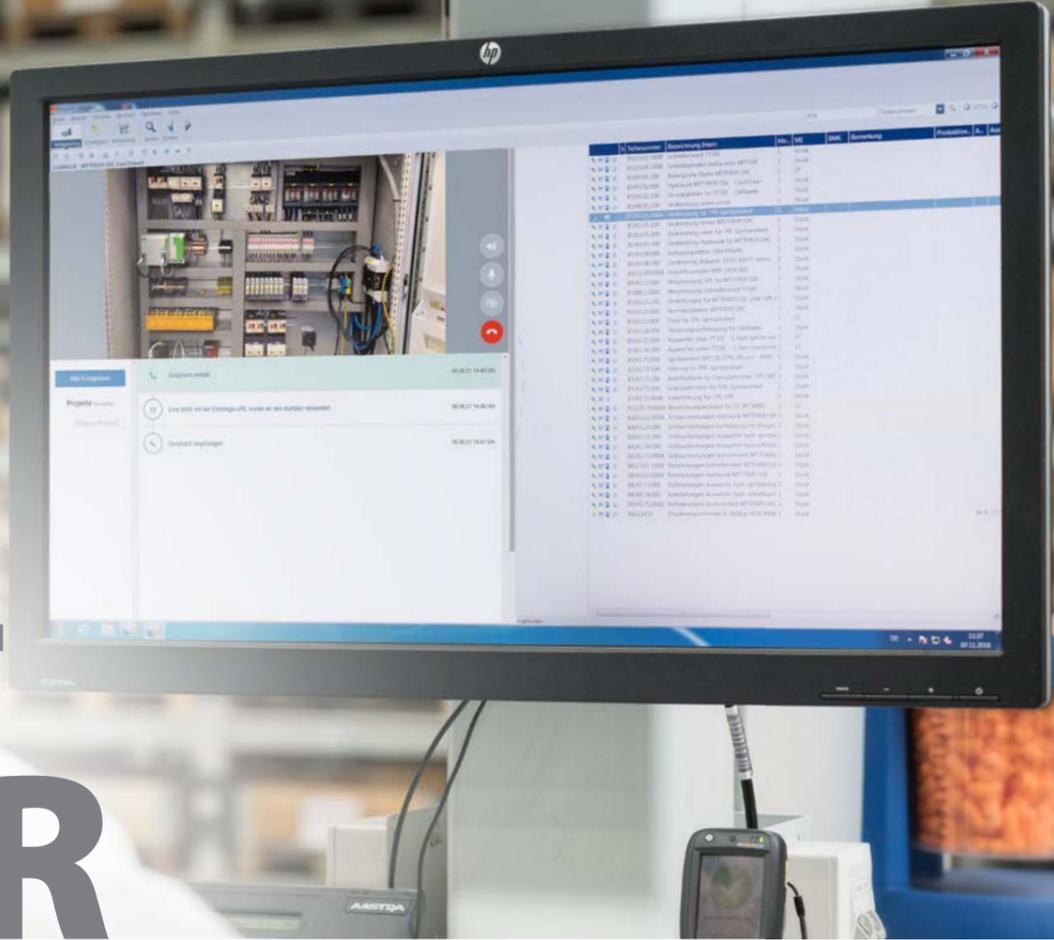
THE RESULTS SPEAK FOR THEMSELVES

Such a positive result after 6000 operating hours is really quite impressive and makes the decision in favour of a new machine an easy one. If all measures and optimisations are considered cumulatively, the productivity of the machine can be increased by over 40%. Energy consumption has also been reduced by almost half overall with a 47% reduction in consumption per article produced. A new acquisition will quickly pay for itself with this increase in profitability. Lutz Leisebein says today: "The theoretical comparison carried out by MAPLAN persuaded me to buy a new and much more sustainable MAPLAN ERGO⁺ 700/160. The machine has now been running in series production for about five months. Today I can say that the investment has paid off. The calculations, which I was sceptical about before making the purchase, have been fully realised. The cycle time savings that were predicted are a reality today. I will introduce "ghost shifts" in the near future due to the increased uptimes combined with a low susceptibility to service interruptions. The resulting personnel cost savings will provide further potential subsequently."



Sales Manager MAPLAN North Germany, Gerald Kemper, CEO BIELEI, Lutz Leisebein

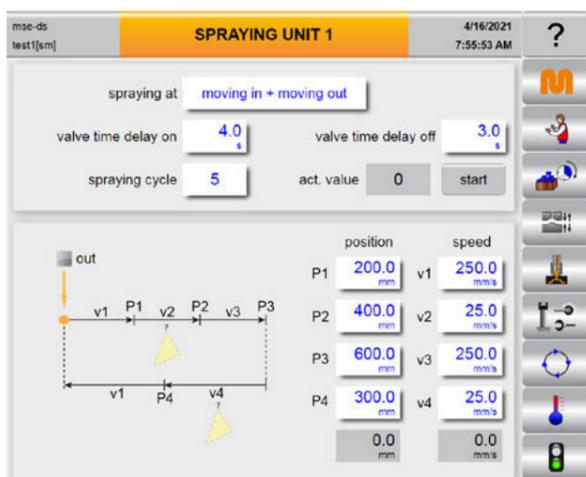
OUR KEY IDEOLOGY MAKE IT EASIER



In the last newsletter we informed you about the MAP.com commander C6 control system's new functions – MAP.compensate, targeted dynamic pressure assignment and a particularly clear display of the process data. On this occasion, part two of the new MAPLAN MAKES IT EASIER series, about the brand-new INJECTION INTELLIGENCE developments that make our customers' everyday injection moulding work simpler, presents new, flexible spray designs and a new digital tool for remote audio-visual diagnosis. This allows operators to obtain customer service assistance immediately.

FULLY AUTOMATIC APPLICATION OF RELEASE AGENTS: ENVIRONMENTALLY FRIENDLY AND PRECISE

The new MAP.spraybar enables the automatic application of mould release agents at regular intervals or after a defined number of machine cycles. Compared to



manual application, the system enables the reproducible and highly uniform application of release agents. The system is very environmentally friendly as the required amount of release agent can be precisely adjusted to the process, meaning overdosing is avoided. The MAP.spraybar ensures a stable process through more uniform demoulding forces and protects parts during demoulding. The spraying unit has a modular design. It can be easily placed on the ejector bars on the injection side and can be used on horizontal and vertical injection moulding machines.

The electric drive and its high traversing speeds of up to 400 mm/sec enable very short spraying sequences, saving time as compared with manual application. With the new "Conditional cycle steps" function in the MAP.com commander C6, the use of the new spray device can be conveniently programmed in the desired cycle.

Every machine with the C6 control generation can easily be retrofitted. The number of nozzles may vary depending on the distance and spray area. When using six nozzles, these can be activated in two groups: one when retracting and one when extending. They have different spray angles in order to reach protruding tool cores or undercuts on both sides and to fully wet them with release agent. The use of only one nozzle group is also possible as a simple and inexpensive version. Flexible spraying is possible upwards, downwards or both "up & down".

The use of the MAP.spraybar also offers a significant advantage for the machine operator: the inhalation of

fumes, something hardly avoidable with manual application, is prevented.

IMMEDIATE REMOTE DIAGNOSIS, WITH AUDIO-VISUAL "DIGITAL TOOLS"

With the help of an interactive video dialogue in real time, MAP.guide powered by tele-LOOK® simplifies and accelerates communication between spatially distant people such as the customer's technician and the MAPLAN support team. The new remote maintenance system transmits everything that the service technician's smartphone camera sees to the tablet, smartphone or PC which the MAPLAN support staff member is using. The MAPLAN team can get a detailed impression remotely via real-time video as soon as contact is made. As a result, MAPLAN is able to react quickly without the loss of time that results from frequently long journeys.

With just a tap of the finger, photos can be taken and stored fully automatically with a time stamp and additional notes in a digital folder for further use. In this way, entire teams that are to be included as part of the communication can be brought up to speed. Our customers only need a smartphone and an internet connection to use MAP.guide. This is the digital customer service of today.



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