

Maplan News



The Elastomer Injection Technology Report

October 2015



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Editorial



Dear Reader,

The end of 2015 is nearly upon us. We can already say that this year has been a complete success for MAPLAN. Numerous orders from both our long-standing as well as new customers means we are heading for a record year.

To be prepared for the future and be able to continue this positive trend long-term, we have decided to invest in a new tailor-made location for MAPLAN in Austria.

A modern factory is being created in Kottlingbrunn, south of Vienna, where we will be able to manufacture products using state of the art technology. This way we shall further improve our quality and manufacturing capacity.

After a very intensive planning phase we have now started building the facility.

Work already began at the beginning of October.

We plan to move into the new factory in the third quarter of 2016.

The Soulier family and the board of directors would like to take this opportunity to wholeheartedly thank all staff and partners for their extraordinary dedication and commitment.

Ingrid and Philippe Soulier
Wolfgang Meyer
Leopold Heidegger

New MAPLAN location in Kottlingbrunn

Construction work begins

New headquarters

After many months of intensive planning, we have already started construction work for the new production facility in Kottlingbrunn, Austria. The new factory will enable more efficient logistics and production processes. This project, now taking shape at the Kottlingbrunn industrial park in Baden near Vienna, some 40 km from the current factory in Ternitz, is planned to be completed by the third quarter of 2016. Actual construction work started beginning of this month. The new facility will comprise an office wing as well as logistics and production buildings. We've also reserved the neighbouring plot for possible further extension of the facilities.

"We expect significant improvements in leaner, more efficient processes due to building layouts tailored to our needs" explains Production Manager Josef Markons, "I'm confident that we can double our production capacity with our new facility."

Keeping jobs in Austria

"We are delighted that this investment in a new facility with more

efficient production methods means jobs can be kept in Austria" stresses company owner Ingrid Soulier. "It was very important that nearly all our staff could be convinced to relocate to the new factory. This means that we'll be able to ensure the success of MAPLAN and continue to build on this success with the new factory", adds Wolfgang Meyer, CEO.

A friendly atmosphere

MAPLAN staff as well as our many international visitors will be able to enjoy the use of a canteen located in the office building flooded with natural light and with direct access to the green areas outside.

Environment protection

"In order to best meet future environment standards and to make our contribution to protecting the environment, we shall be investing in an alternative heating and cooling system and are planning to fit a photovoltaic system to the roof to generate our own electricity", explains CFO Leopold Heidegger.

Highlights

- Ensuring long-term competitiveness
- State-of-the-art production facilities
- Simplified production chain
- Double manufacturing capacity
- Close to Vienna & the airport
- Efficient energy and operating cost concept
- Ideal options for site expansion

Kottlingbrunn in numbers

- Building plot size: 30,000 m² (existing plots for expansion)
- Production hall area: 6,300 m²
- Office area: 2,700 m²
- Built area: 7,500 m²
- Traffic area: 13,000 m²
- Green areas: 9,500 m²



MAPLAN Kottlingbrunn – new factory with office building

MAPLAN Shows

Review of DKT 2015

At the 2015 DKT/IRC from 28 June to 2 July, MAPLAN presented the latest innovations and many interesting application examples together with its partners

Well-known as the rubber industry's international summit, DKT/IRC 2015 took place in Nuremberg, Germany from the end of June to the beginning of July. MAPLAN exhibited 3 highly interesting machines on an attractive 140m² stand.

The compact 200kN C-frame Top-Top MTTF100/20C was on display, featuring a top-closing, fully hydraulic clamping unit and a top-down injection unit.

You can read more about the advantages of this new type of

machine in the article below. A visual highlight was the updated horizontal MHF700/200editionS machine with a 2,000kN clamping force that boasts a footprint some 50 % smaller than comparable competitors' machines. Together with partners Robotix and Elasm, MAPLAN demonstrated the impressive fully-automatic production of HTV silicon rubber pen holders which require zero rework.

A further highlight for the many visitors to the stand was the

manufacture of vehicle body plugs in 2 pads utilising an injection compression moulding process on a vertical MTF1500/320editionS machine.

The convincing benefits of this machine include its generously sized hot plates, a significantly lower operating height compared to its predecessor and special technical details such as sequential valve gate control.

Feedback from all visitors was extremely positive, encouraging the

whole MAPLAN team to continue to develop further innovations and technical highlights.



Vehicle body plug



MHF700/200editionS – fully automatic production



In-depth discussions with customers



Many visitors discovering what's new at MAPLAN

MAPLAN Innovation

The new Top-Top C-frame range of machines

The newly developed C-frame machine range featuring the "Top-Top" design continues to grow.



MAPLAN Top Top C-frame machine

Clever idea: Top-Top range – a C-frame machine that closes and injects top-down.

At the DKT2015 MAPLAN unveiled a new generation of C-frame machines which close and inject from the top with the MTTF100/20C. The 200kN machine is the first type of a new range, launched in 2014 which has recently been extended to now include a 300kN variant. A 500kN machine shall soon be launched to round off the existing portfolio.

The TT range is very compact with an attractive footprint. Wolfgang Meyer, CEO, comments: "A particular highlight of the new range is the combination of an ergonomic and highly

space-saving design which carefully considers value analysis aspects. An operator-friendly design in terms of ergonomics and a highly attractive value for money price tag."

The fully hydraulic clamping unit which closes from the top, facilitates inserting and removing profiles with moulded edges. This way, undesired "shifting" of the profiles out of the mould can be effectively prevented. The ergonomic operating height of this range of machines in combination with the C-frame design also enables very good accessibility of the mould area from all three sides. Ideal applications for the new Top-Top range include corner moulding as well as the manufacture of small

moulded parts and/or small batch sizes. MAPLAN also offers a TPE version with injection units to process TPE, rounding off the range of modular options for this machine type.

All the machines in the new TT range are available with the option of the proven and efficient axial piston pump drive or the extremely economical servo hydraulic CoolDrive drive concept.

Wolfgang Meyer, CEO: "We are delighted that we have achieved such success with this machine type. Since its launch in 2014 we have already sold over 70 machines to international customers."

MAPLAN Customer Report

EMV – from pressing to injection moulding

Manufacture of rubber-metal components for modern office chairs

Increased health awareness has also had an impact on modern office swivel chairs. Seats and backs that “move” in various ways contribute to enhanced comfort and through adaptive materials that move with the user, can have a positive effect on healthy loads to the spine, muscles and other parts of the body.

An important contributor to the manufacture of these healthier office swivel chairs is EMV. EMV develops and produces complex rubber-metal parts that connect the main structure with the seat and back of the chair.

A few years ago, these special products and further rubber-metal parts were all made by EMV using compression presses. In 2009 the company bought its first injection moulding machines from MAPLAN. Initially these machines and all subsequent MAPLAN injection moulding machines were used as compression presses with the existing moulds. New moulds were suc-

cessively made and adapted to the optimal manufacturing characteristics offered by MAPLAN injection moulding machines.

Hillert Straakholder, Managing Director of EMV: “Shortly after the crisis in 2008, business rapidly picked up, just like in many other companies. We simply couldn’t cover the orders we had coming in with our pressing capacity, so we had to do something. Even before the crisis we had the wish to implement injection moulding technology for increasing production volumes – we were just lacking the initial spark. We already knew of MAPLAN from our holding company GMT as a reliable and highly competent supplier of injection moulding machines. GMT now has over 100 injection moulding machines from MAPLAN in its factories around the world. Through GMT we also got in contact with Horst Schmidtke, Managing Director of MAPLAN Germany, who was able to provide

us with a machine which totally surpassed our expectations.

The machine from the MAPLAN edition range was and is ideally suited to utilising our existing compression pressing moulds. We simply disconnected the injection unit, reconstructed our existing compression press process with the machine’s step sequence programming and were ready to go.

In 2009 we really didn’t think it was going to be so easy. Naturally, we then successively built injection moulds and it’s here that the MAPLAN injection moulding machines can really show their strengths; but...even today we are now using 5 MAPLAN injection moulding machines for the manufacture of smaller batches, where building an injection mould is not economically viable as a simple compression press.”



EMV rubber-metal parts



Existing compression presses



New MAPLAN rubber injection moulding machines
Hillert Straakholder, EMV and Horst Schmidtke, MAPLAN Germany



EMV rubber parts, made on a MAPLAN injection moulding machine with a pressing process

More about synthetic elastomers

Late 19th Century

First attempts to produce synthetic rubber from isoprene

First World War

German scientists successfully make synthetic “methyl rubber” economically viable through the polymerisation of butadiene.

(During WWI, Germany had practically no access to natural sources of rubber)

Second World War

Synthetic rubber from the butadiene polymer “styrene butadiene rubber” could be produced in large quantities.

60% synthetic rubber

Share of today’s world demand for rubber

From -50°C to well over 200°C

– consistent performance delivered by moulded parts made out of synthetic rubber

Styrene butadiene rubber (SBR) & butadiene rubber (BR)

are today the most important synthetic rubber materials with a 25% share of global demand. Deployed in large quantities as a synthetic rubber component in the manufacture of tyres.

Acrylonitrile-butadiene rubber (NBR)

is very resistant against oils, greases and fuels and

among other applications is used for the production of hoses, gear wheels, belts, seals and moulded parts.

Ethylene propylene diene monomer rubber (EPDM)

is today a very versatile and cost-effective synthetic rubber used in large quantities e.g. for profiles, seals, hoses and cables in vehicles.

MAPLAN International

MAPLAN UK

Introducing MAPLAN's first international representation

MAPLAN UK is located in south-west England, just outside the city of Gloucester, right next to Junction 12 on the M5, in the picturesque Cotswolds region.

MAPLAN UK is the longest existing representation of MAPLAN and was set up over 23 years ago. Today it's still the only MAPLAN representation that is authorised to do business under the MAPLAN name.

John Gray, Managing Director of MAPLAN UK, has been working for MAPLAN since 1987 and started his career at the company as a sales and service engineer. MAPLAN UK was established by John Gray in 1992 and has operated ever since as an independent representation whose main products are MAPLAN injection moulding machines and systems. The first MAPLAN machine was sold in Great Britain in 1986.

Since then, more than 500 MAPLAN machines have been delivered to

satisfied British and Irish customers. In the last few decades, MAPLAN together with MAPLAN UK have built an unparalleled reputation as a supplier of rubber injection moulding machines in Britain. Innovation, reliability, cost-effec-



Keith Williams, John Gray, Sandra Harmer, Marcus Stickland

tiveness and excellent after-sales service are highlights that our customers associate with the names MAPLAN and MAPLAN UK.

In Gloucester MAPLAN UK has a comprehensive spare parts centre as well as demo machines which customers and prospects can use to test their moulds. Currently a 160t machine is available to customers which will soon be joined by a 250t machine.

The MAPLAN UK Sales and Service team is made up of very experienced professionals from the rubber industry. MAPLAN UK is also very well prepared for the future. In the small family-run company, John, together with his sister Sandra, nephew Keith and service engineer Marcus ensure that the products and excellent customer service continue to be delivered at the highest level.

MAPLAN UK "Reliable in Rubber"

MAPLAN UK Team

- **John Gray** - Managing Director
42 years' experience in the rubber and plastic industry.
John deals with running the company, customer care and sales.
- **Keith Williams** - Sales and Service Manager
7 years at MAPLAN
Keith is responsible for sales and service.
- **Marcus Stickland** - Service Engineer
22 years in the rubber and plastic industry.
13 years at MAPLAN UK. Marcus has extensive experience in after sales service as a field service engineer.
- **Sandra Harmer** - Office Manager
18 years at MAPLAN UK.

Review

Plast Milano



This year MAPLAN was at the most important Italian trade fair for the plastic and rubber industry from 5th to 9th May in Milan with a very successful stand. Together with our Italian representatives, STATE Technologies, MAPLAN presented two horizontal machines.

For the first time, mould partner ORP Stampi demonstrated a cold runner with variable nozzle spacing on a MHF400/200EditionS machine.

Visitors to our stand showed great interest in our very successful MHF700D/300EditionS machine featuring dockable nozzle technology.

Many international customers and those involved in the industry took advantage of the opportunity to find out more about the latest machine innovations. At the same time, the EXPO World Exhibition was being held in Milan, which also drew a great deal of interested international guests to our stand.

MAPLAN Team

New service representation in Mexico

Co-operation between MAPLAN and Plastibros Nacional S.A. de C.V. commenced on October 1st 2015 in Mexico. Plastibros is based in Santiago de Querétaro and employs 4 staff, of which 3 are service engineers.

Between them, Cesar Romero and his team have many years' experience servicing injection moulding machines. With this new local service partner, MAPLAN's customers

will be able to enjoy even more rapid response times in Mexico for all their requirements.



Upcoming events

Rubber Expo	Cleveland, USA	13 - 15 October 2015	636
Tires & Rubber	Moscow, Russia	26 - 29 April 2016	
Plastpol	Kielce, Poland	17 - 20 May 2016	
Expobor	Sao Paulo, Brasil	28 - 30 June 2016	

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