

Press release

Plastics and Rubber Machinery

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"Sustainability and circular economy are absolutely essential"

Interview on the road to K 2025 with Marcel Moeller, Global Branch Manager Plastics Industry at Baumüller Nürnberg GmbH

Mr. Moeller, how does the electrification trend within the plastics industry contribute towards sustainability?

The excellent efficiency of electric drive systems reduces energy consumption and, as a result, CO2 emissions. This correlates with optimised material usage, and also helps customers to manufacture their products globally, and with high process reliability. Servo hydraulics is a good example. Here, we combine the very high power density of hydraulic power transmission with the control quality and dynamics of energy-efficient electric drive systems, which, when combined with intelligent software, results in energy savings. Another example is the plasticising or screw drive, which is often one of the main energy consumers. Replacing the hydraulic drive with an electric drive saves a vast amount of energy. Productivity can also be increased, depending on the machine cycle or end product. We are also witnessing the electrification of the so-called clamping drive in injection moulding machines, but also in blow moulding machines, where energy can be recovered during the braking phase.

The need for energy efficiency is not as pressing in other parts of the world as it is in Europe. Is the trend towards electrification equally strong in other regions?

High energy costs are not the driving factor everywhere, but they are of course an issue. The stability of the energy supply and possible subsidy programmes are strong regional factors of influence. In Europe, the demand for energy-efficient drives is a consequence of high industrial



electricity prices. In the US, developments are fuelled by CO2 emission savings to a greater degree. And in Asia, it is not necessarily energy costs, but rather the stability and availability of energy that are the catalyst in terms of the demand for energy-efficient drives.

Can systems generally be retrofitted with electric drives at all stages, or is this only possible in new systems?

Machines in the field can be retrofitted; this is a very good way to improve the efficiency of existing plants, especially where there is a lack of investment security. I would like to cite servo hydraulics again as an example, where we offer such retrofit solutions to end users in coordination with our machine manufacturing customers.

Things have quietened down around the topic of circular economy. How do you rate its significance at present?

You can already tell from the announcements about K that things have calmed down somewhat. Other topics are coming back into focus alongside sustainability: technological innovations, digitalisation and increasing productivity. Behind this is the need to arm ourselves against increasingly tough competition from Asia, but the issue of sustainability or the circular economy is absolutely essential. Global demand for plastics rose to 400 million tonnes in 2023, and is set to more than double by 2050. This shows how important and valuable plastics are as a raw material: for e-mobility, and for medical technology as a result of the sharp rise in online care and mobile health solutions. To achieve the ambitious climate targets, we have no other solution than the circular economy. Currently, only around ten percent of demand is met by recycled plastics, perhaps 15 percent in Germany. There is still enormous room for improvement, but in our opinion, this is a great opportunity to take on a pioneering role through technological innovation, and to expand or secure competitiveness.

What will playing this pioneering role actually involve?

The basic prerequisite is, of course, a recyclable product design, and the efficient collection and sorting of plastic waste. Recyclates must have at least the same conditions as virgin materials in terms of price and availability. I think that since K22, a lot of innovations have emerged in the field of machinery that can ensure or achieve recyclability. However, the necessary framework conditions are not yet in place. There is still significant potential for optimisation. And, last but not least, there is the issue of regulation, which should ensure fair competition, and not slow down progress or tie up time and resources.

How far has mechanical engineering advanced in terms of AI, especially in drive systems?

Digitalisation is an important tool for our customers to optimise productivity. One example is simulation software, which can be used to design drive components in a digital twin before they are implemented in a real machine. At Baumüller, we are pushing the topic of Al and therefore



also our intelligent drive-based solutions, such as an injection regulator for injection moulding machines, energy monitoring, and a shock detection function for plasticising and shredding drives. Another example is communication interfaces in production networks with peripheral devices, or with upstream and downstream value-added stages.

How do you assess the importance of K as a venue in view of the continuing difficult environment?

K is an absolutely international trade fair, which sets it apart from all others. It is an important source of inspiration for innovation and sustainable solutions, and ultimately also a driver for new business development. This trade fair is extremely important as an international platform – especially in view of the current economic situation in Europe and other regions, which is not exactly ideal. Everyone is represented there, including the growth markets in Asia, which is why we're looking forward to stimulating discussions with customers and interested parties.

Video statement by Marcel Moeller:

https://www.youtube.com/watch?v=OnoSxlJzK7Q&list=PLN1k-IPccLmHTYB1hQyiJlldtUDF5JrxA&index=2

Photo Marcel Möller, image source: Baumüller Nürnberg GmbH

Do you have any questions? Ina Hoch, VDMA Plastics and Rubber Machinery, will be happy to answer them: Phone +49 69 6603 1844, ina.hoch@vdma.eu

Industry interviews on the road to K

Plastics have become an integral part of our world and are indispensable when tackling the challenges of the future. The plastics industry develops solutions that enable a growing global population to live in safety and prosperity. This important role as an enabler is expressed in the motto of K 2025: The Power of Plastics! Green – Smart – Responsible. Green, because plastics help combat climate change and conserve resources. Smart, because digitalisation helps increase efficiency. Responsible because people are at the centre of everything we do.

To get in the mood for the industry gathering in October 2025, the VDMA is giving representatives of the plastics machinery industry and all other stakeholders in the sector a chance to have their say through a series of interviews.

VDMA Plastics and Rubber Machinery

More than 200 companies are members of the trade association, covering over 90 percent of the industry's production in Germany. Ten percent of our member companies come from Austria, Switzerland and France. The German member companies account for a turnover of 7 billion euros in core machine manufacturing, and 10 billion euros including peripheral technology. One in four plastic machines manufactured worldwide comes from Germany in terms of value; the export rate is 70 percent. The chairman of the trade association is Ulrich Reifenhäuser, Managing Partner of Reifenhäuser GmbH & Co KG.

The VDMA represents 3,600 German and European companies in the mechanical and plant engineering sector. The industry stands for innovation, export orientation and medium-sized businesses. The companies employ a total of around 3 million people in the EU-27, more than 1.2 million of them in Germany alone. This makes mechanical and plant engineering the largest employer among the capital goods industries, both in the EU-27 and in Germany. It accounts for an estimated turnover of around 870 billion euros in the European Union. Around 80 percent of the machinery sold in the EU originates from a manufacturing plant in the internal market.