



Contact Ina Vettkötter

Phone +49 69 66 03-1844

E-mail ina.vettkoetter@vdma.org

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Circular economy produces new materials and products

- **Machinery producers can accelerate the circular economy**
- **Uniform labelling necessary**
- **Circular economy must be tackled quickly**

Düsseldorf, 22 October 2019 – In the future, the plastics industry's commitment to recycling will result in a whole range of new materials, processes and products. “Machinery producers have the technological competence to accelerate this process”, said Thilo Brodtmann, Main Managing Director of the VDMA on Tuesday in the VDMA pavilion at the K. For metals, the circuit has almost been completely closed for metals, with a recycling rate of almost 100 percent. Now it is the turn of plastics. “It is technologically more difficult, but there is potential to achieve something very large”, said Brodtmann. It is important for success that all participants cooperate with each other. An example: A machinery producer has to talk to the material supplier of its customer so that he knows which requirements his machine has to meet. Consumers must also be involved. So that they will be able to make a conscious decision in favour of products made from recycled materials or biobased plastics in the future, it is necessary to have appropriate labelling requirements introduced at the EU level. “With the increased awareness of sustainability, I think this is very feasible”, said Brodtmann.

Bioplastics on the advance

A number of new materials and products have already been presented at K. The company from Kunststofftechnik presented a reusable coffee cup that is completely compostable. It uses a biopolyester enriched with up to 40 percent sunflower shells. These shells are a waste product in the production of sunflower oil. Firstly, they enable the saving of bioplastics and secondly, they

increase the stability of the product. The coffee cups are even dishwasher-safe. The greater advantage, however, is that the coffee cups decompose in the soil and do not have to be brought to a temperature of 60 degrees Celsius, as is the case with PLA. "Our material is fully certified for use in the food sector", said the responsible manager Reinhard Trumme at Golden Compound, which developed this material, at a presentation in the VDMA pavilion.

A lot is also happening on the material side. The company Biofibre has developed a biobased plastic with very good properties for injection moulding, which a customer uses for the production of shoetrees. "The product is very light, very stable and at the same time very flexible, all properties required for a shoe tree. It is also very easy to colour", explained the responsible manager Christoph Glammert in the VDMA pavilion. This has opened up other areas of application for the material, for example in the furniture area. The products still cost today somewhat more than comparable products made of conventional materials. But consumers are now prepared to pay more for an environmentally friendly product. Demand also comes from countries where certain plastic products have been banned. They are looking for alternatives there. "We are currently experiencing a major change in our market", said Glammert.

Chemical recycling of plastics that are difficult to recycle

Not all plastic waste can be economically recycled today and thus returned to the circular economy. The materials processing specialist Vecoplan demonstrated in the VDMA pavilion that chemical recycling can be an option in such a case. The US company Brightmark Energy uses a chemical process developed in-house to turn 100,000 tonnes of plastic waste that is difficult to recycle into new products such as diesel fuel or waxes every year. "In this way, our customer Brightmark prevents this waste from ending up in landfill", said Martina Schmidt, head of Vecoplan's recycling/waste business unit. The requirements for processing this waste stream are different from those for material recycling. "Chemical recycling can be a way of giving plastic waste a second life", Schmidt said.

Courage to transform

"A transformation is underway", said Julia Eckey of the management consultancy Joschka Fischer & Company. Now it is a matter of implementation, and none of the participants in the circuit should be hesitant. "The question is whether we are waiting to be pushed by others or whether we take things into our own hands", she said.

Daily programme, video clips and more: <https://plastics.vdma.org>

In our world, plastics are indispensable. The downside is the littering. Carelessly discarded plastics products condense to form thick carpets, not just on rivers and seas, but also on land. A complete circular economy could prevent this evil and put the focus back on the benefits of plastics. In order for this to be a success, we all need to work together: processors, raw material manufacturers, mechanical engineers and recyclers, but also brand owners, end consumers and politicians.

VDMA will shine the spotlight on circular economy at the leading K 2019 trade fair in Düsseldorf in October and show how closed loops can work effectively. Throughout the process, stakeholders will be having their say in the association's daily programme during this international industry event.

C I R C U L A R E C O N O M Y @ K
P l a s t i c s s h a p e t h e f u t u r e

Contact: Ina Vettkötter, VDMA Plastics and Rubber Machinery
Phone: +49 69 6603 1844, e-mail: ina.vettkoetter@vdma.org

About VDMA Plastics and Rubber Machinery

More than 230 companies are members of the association, covering more than 90 percent of the industry's production activities in Germany. Ten percent of our member companies come from Austria, Switzerland and France. The German member companies represent sales of EUR 7 billion in core machinery and EUR 10 billion including peripheral technology. Every fourth plastics machine produced in the world comes from Germany; the export rate is 70 percent. Ulrich Reifenhäuser, Member of the Management Board of the Reifenhäuser Group, is the chairman of the association.