

The stuff that art is made of: thinking outside the box with biopolymers

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Can big stories of innovation and inspiration be found in a little cup? The Merseburg “Exipnos GmbH” gives the answer with its revival of the “aeroplane cup”. For the conference “Biopolymer – Processing & Moulding” in June in Halle (Saale), this Merseburg company, which specialises in plastic compounds, and its cooperation partners are breathing life back into this design piece from the 30s. This cup is brimming with ideas and at the same time dishwasher safe and biodegradable.

Marguerite Friedlaender-Wildenhain would surely have approved of what is now happening with her little cup. This artist from Lyon loved being innovative in her work. Daring to do something new and thinking way outside the box. Possibilities for this opened up for the Weimar Bauhaus student in the 30s at the Burg Giebichenstein University of Art and Design Halle (Saale), where she ran the ceramics and porcelain workshop. She designed the “aeroplane cup” in 1931 / 32, while outfitting the new Halle-Leipzig Airport. Simple, small, white. The cup, which is shaped in a modern design style, has no handle but instead a deep foot rim which grips into the holed centre of the saucer. Nothing can upset it. It stands firmly and cannot be budged.

The cup received a small revival in the form of a limited small batch on the occasion of the inauguration of the international airport in Leipzig at the start of the new millennia. It is now experiencing a rebirth and is at the same time a symbol of the spirit of research and invention to be found in Saxony-Anhalt and of the economic currents successfully blending there. Three quarters of a century after it was designed, the “Ringmocatasse”, as the artist called it, has lost none of its originality and functionality. It has been left unscathed by the passing of times and fashions.

“Rethinking the world” in the Bauhaus Anniversary Year 2019

It is in good company. In Saxony-Anhalt, the ideas of modernism were already developed and tried out in the 20s and 30s – in Magdeburg, Halle (Saale), Leuna, Stendal and Zeitz, among other places. The Bauhaus thrived in Dessau. Here, in 1925/26, Walter Gropius erected the building that has become an icon of modernity and is part of the UNESCO World Heritage. In the coming year, Saxony-Anhalt will be celebrating the 100th anniversary of its founding as one of the most important achievements of the 20th century. “Rethinking the world” – the motto of the anniversary, which is also being celebrated on the international stage, is a good opportunity for once again thinking much further “outside the box”.

100 years of tradition in the chemicals and plastics industry

Because it is no coincidence, of course, that “Exipnos GmbH” and its cooperation partners are reviving the “aeroplane cup”. It is intended to be a gift at the international conference “BIOPOLYMER – Processing & Moulding”, which receives interested visitors travelling from many different parts of the world. The Fraunhofer Pilot Plant Centre for Polymer Synthesis and Polymer Processing in Schkopau provides the test capacities and know-how for the “cup gift”; the chemical company BASF, based in Saxony-Anhalt with a plant in Leuna, supplies the versatile bioplastic “ecovio[®]”, which is biodegradable and bio-based. As well as the cup, a lot of questions about bio-based and biodegradable plastics are going to be tabled at the conference on 19 and 20 June – in cooperation with Burg Giebichenstein in Halle (Saale), where creative students and fresh start-ups still develop their ideas and put them on the market. Peter Putsch, who is the boss of “Exipnos” and also the Chairman of the “POLYKUM Association for the Promotion of Polymer Development and Plastics Technology in Central Germany”, is looking forward to the conference and says: “World market leaders and hidden champions meet during the conference, but also small to medium-sized companies. We talk to injection moulders, processors and users.” The attendees get an update on bio-plastics and what is going on in the chemical triangle. Because Halle (Saale) is not just a popular place to study and work for creative people whose industry has established itself as the “key economic sector” in Saxony-Anhalt thanks to interdisciplinary teams. The city on the Saale and its Central German urban neighbours can at the same time look back on more than 100 years of tradition in the chemicals and plastics industry. After 1990 one of the world’s most efficient chemical sites was created in the metropolitan region of Central Germany. This branch of industry is currently once again among the most important growth sectors in the region.

Focus on bioeconomy and bio-based industry

The bioeconomy and the bio-based economy have developed into an important mainstay. It is not for nothing that Saxony-Anhalt is part of the focal region of the Central German top cluster “BioEconomy”. It receives important academic input from, among other places, the Science Campus Halle (Saale), where four of the region’s Leibnitz Institutes cooperate with institutes of the Martin Luther University of Halle-Wittenberg and devote themselves to the subject of “plant-based bioeconomy”. Countless interdisciplinary teams here are also thinking way outside the box thanks to the “Saxony-Anhalt Regional Innovation Strategy 2014-2020”.

What is normal anyway?

Peter Putsch is also aware of its importance. It also spurs him on that the field of “Chemistry and Bioeconomy” is one of the five leading markets identified by the state government. Not only as an honorary chairman of the “POLYKUM” promotional association, but also as an entrepreneur, he, like many representatives of the industry, drives forward innovation. “The requirements for plastics in high-tech industries are very high”, he says. At his Merseburg company “Exipnos”, materials are produced which are flowing during processing and impact-resistant in the end product – characteristics that are normally mutually exclusive. “But what is normal, anyway?”, asks Putsch. “Many of the compounds that we produce today were considered by experts to be wishful thinking just a few years ago.” He is convinced “that biopolymers will soon no longer be a niche subject but be part of the standard and could turn the whole plastics industry upside down”. For more than 90 years the company has stood for innovations in the field of plastic development and processing, and cultivated contacts for gaining for further findings. And this is not just with partners from the same industry. “The borders of the industry are fluid, we cooperate with everyone who helps the products”, says Peter Putsch. “We are open to new ideas and approaches, however crazy they might sound at first.”

A small cup with great symbolic power

And this is where the “aeroplane cup” with the hole in the matching saucer comes in. Design and plastic go together – almost like mocha and a cup. The idea of the biodegradable cup was not so airy-fairy at all, says Putsch, and he met with a lot of agreement when he brought it to the conference. The “fresh aeroplane cup” of Marguerite Friedlaender is now brimming with biopolymer know-how and has always been a strong design. It is thus a symbol for ideas that might at first seem like “pie in the sky”.

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