

Europe-wide alliance for sustainable PMMA recycling established

- Sustainable, economically efficient circular system
- Network offers take-back and value-added recycling of all PMMA waste
- Open to all PMMA processing companies in Europe
- High-quality, certified products made from recycled raw materials without compromising on quality

Advancing the circular economy is one of the most important goals of Röhm's and POLYVANTIS' sustainability strategy. To achieve this, the companies also rely on strong partnerships and collaborations. 'Together, we are taking responsibility in the face of limited resources and processing a considerable amount of valuable raw materials for reuse in production,' says Hans-Peter Hauck, Chief Operating Officer at Röhm.

Röhm has reached a significant milestone with the establishment of a Europe-wide alliance for the recycling of polymethyl methacrylate (PMMA). The participating companies Pekutherm, NEXTCHEM, the sustainable technology division of MAIRE Group through its subsidiary MyRemono, Röhm and POLYVANTIS are thus sending an important signal to the plastics industry. They are pooling their expertise and strengths to establish a sustainable circular economy for PMMA in Europe. The network is interested in cooperating with all PMMA processing companies in Europe.

Röhm already offers customers an extensive range of products with a reduced carbon footprint, which are marketed under the *proTerra* brand. These are manufactured either by adding recycled PMMA, methyl methacrylate (MMA) or by using ISCC-PLUS certified sustainable raw materials.

Thanks to the partnership between the four companies, considerably more PMMA materials can now be processed through both mechanical and chemical recycling and returned to the market as MMA and PMMA in virgin-like quality. This is made possible by combining NEXTCHEM's proprietary NXRe™ chemical recycling technology with an innovative purification method developed and piloted by Röhm researchers at the company's largest production and innovation site in Worms. The advantages for customers are obvious: switching from conventional products to *proTerra* products is often possible without additional requalification steps. Furthermore, the greater availability of recycled raw materials means that projects can be realized on a larger scale in the future.

The greatest challenges of the circular economy to date have been the lack of infrastructure, logistics and the availability of economically viable and sufficient quantities of recyclable PMMA. As a logistics partner in the newly founded alliance, Pekutherm addresses precisely these issues and offers PMMA processing companies across Europe with customized concepts for plastic waste disposal. Pekutherm ensures that the collected scrap and waste is separated by type, passes through a multi-step sorting process and is granulated in a defined geometry. This is done both for post-industrial recyclable materials and – and this is crucial for a significant increase in recycling rates – post-consumer plastic waste. As the largest company in Europe specialized in PMMA recycling, Pekutherm has a sorting capacity of 10,000 tons per year.

The recyclable materials collected by Pekutherm and processed for mechanical recycling are then delivered to its partners Röhm and POLYVANTIS, where they are reused as a raw material in production after just one additional processing step.

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MyRemono, NEXTCHEM's subsidiary specializing in plastics recycling, will receive the remaining PMMA. This is unsuitable for mechanical recycling, but can be chemically converted back into pure MMA using NXRe™ technology, an advanced and efficient molten metal depolymerization process. This continuous process for recycling plastic waste is now being brought to industrial scale for the first time in Italy with the support of the EU Innovation Fund. The plant is expected to be completed in 2026 and will have an initial processing capacity of 5,000 tons of PMMA per year – the equivalent of around 10 million car taillights. Compared to the current state of the art, the recycled MMA is expected to feature a carbon footprint reduction of more than 90 percent, which means an annual avoidance of around 13,000 tons of greenhouse gases at full capacity.

The strategic partnership offers benefits for all partners. For Röhm and POLYVANTIS, it increases the availability of recycled PMMA, which can be used to manufacture products with a significantly reduced carbon footprint. 'From the monomer MMA to the polymer PMMA and the semi-finished product PLEXIGLAS®, customers will in future have the choice between conventional products and a wide range of sustainable variants based on recycled material,' says Hans-Peter Hauck.

MyRemono can demonstrate its unique innovative depolymerization technology by processing a wide range of PMMA grades. 'Our NXRe™ PMMA technology plays a key role in advancing circularity and the creation of this industrial consortium is a clear example of the relevance and validity of how disruptive technologies respond to current challenges says Alessandro Bernini, CEO of MAIRE.

With its flexible collection system, Pekutherm is creating the basis for an industry-wide recycling system for PMMA in Europe and is the central point of contact for this. 'We invite all processors, customers and consumers of PMMA in Europe to become part of our network,' says Heiko Pfister, Managing Director of Pekutherm.



From left: Hans-Peter Hauck (COO Röhm), Lukas Dössel (Director Circular Economy Röhm), Daniela Pfister (Commercial Director Pekutherm), Heiko Pfister (Managing Director Pekutherm) and Giovanni Sale (Corporate & Business Strategy Senior Vice President MAIRE), Massimo Di Amato (Circular Solutions SVP NEXTCHEM, Managing Director MyRemono)

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Röhm GmbH, Darmstadt

Röhm is one of the world's leading manufacturers of methacrylate chemistry and supplies customers in high-growth markets such as the automotive industry, the construction industry and medical technology. With our MERACRYL® methacrylates and PMMA molding compounds of the PLEXIGLAS® brand, which we manufacture in our worldwide production network, we serve a global market. Our high-quality products enable a wide range of applications – from paints, coatings, car taillights, medical devices, aircraft windows and displays in household appliances to road markings.

Pekutherm Kunststoffe GmbH, Geisenheim:

Pekutherm is a certified waste management company (EfbV) that specializes in the recycling of PMMA. The company provides collection boxes and organizes the entire logistics related to PMMA recycling.

POLYVANTIS GmbH, Weiterstadt:

POLYVANTIS is a leading global multi-material player for semi-finished plastic products. Customers from a wide range of industries can obtain a broad range of high-quality products from a single source, including the leading brand PLEXIGLAS® for PMMA semi-finished products and LEXAN™ for polycarbonate films and sheets.

MAIRE S.p.A., Milan

MAIRE S.p.A. is a leading technology and engineering group focused on advancing the Energy Transition in 45 countries with more than 9,300 people. Through its Sustainable Technology Solutions division NEXTCHEM, the group provides innovative solutions in Sustainable Fertilizers, Low-carbon energy vectors, and Circular Solutions. NEXTCHEM's subsidiary MyRemono is dedicated to advanced PMMA Recycling solutions.