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### Starting market and technology study on the **Potential for bio-based composite materials**

Aachen/Germany, September 24th, 2020

**Sustainability and environmental responsibility are important developments for the current design of productions and products. In order to obtain a comprehensive evaluation of the potential of bio-based composites, the AZL, together with an industry consortium, is investigating the market potential, future applications and relevant technologies for bio-based composite materials. The 5-month market and technology study will start on October 22<sup>nd</sup>, 2020 and is open to interested companies. Companies such as REHAU, an Automotive Tier 1, Asahi Kasei, Johns Manville, Mahr Metering Systems and several material manufacturers are participating in the study.**

Bio-plastics are well established in industry, especially in packaging applications. The market for biopolymers is expected to grow from USD 10.5 billion in 2020 to USD 27.9 billion in 2025. At the same time, bio-based raw materials, such as natural fibers, are available on the market in a cost-effective manner. Composites with wood or natural fiber content are also increasingly used in products.



Dr. Michael Emonts, Managing Partner of AZL: "Together with our partner companies we want to identify hidden business potential for composites with bio-based materials. To do so, we will reapply our established approach for market and technology studies: Based on a detailed market analysis, we will dive deep into the technological evaluation of technologies, applications and business cases."

Based on a detailed market segmentation, AZL's technology experts analyze the various market segments in terms of their size, growth potential, relevant players and existing and future applications. For the identified applications, the participants in the study will receive detailed insight into the respective technical and legal requirements as well as an overview of value chains, processes and materials. In the following, the strengths and challenges of bio-composites compared to conventional materials are elaborated. The consortium will select the components with the highest potential, for which suitable production scenarios will be developed and analyzed in terms of costs in a business case analysis.



"We are participating in the AZL study to identify and evaluate new product areas with bio-materials. The technological analyses of the AZL studies have already helped us in the past to initiate new developments," says Dr. Steven Schmidt, Director Technology Platforms Materials at REHAU, explaining the motivation for working with the AZL and the industry consortium. "As one of the 50 Sustainability & Climate Leaders, we at REHAU are incorporating environmentally friendly materials into more and more products. Wherever

the company is active - from the furniture and construction industries to the automotive industry - REHAU is already developing and manufacturing high-quality products from recycled raw materials. By 2025, REHAU plans to increase its recycling rate across the Group to significantly more than 15 percent and at the same time reduce CO<sub>2</sub> emissions by at least 30 percent," adds Dr. Steven Schmidt.

Bio-composites will also be the topic of the upcoming Lightweight TechTalk by AZL on September 29, 2020. Experts from industry and academia will give technology and market insights on sustainability and recycling of composites in 6 presentations. Registration is free of charge at: <https://azl-aachen-gmbh.de/termine/recycling-of-composites/>.

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The kick-off of the project will take place on October 22<sup>nd</sup>, 2020 in the form of a video conference. Further background information on the project can be found under the following link: [https://azl-aachen-gmbh.de/wp-content/uploads/2020/09/2020-251\\_OP\\_Bio-Bases\\_Composites.pdf](https://azl-aachen-gmbh.de/wp-content/uploads/2020/09/2020-251_OP_Bio-Bases_Composites.pdf)

Interested companies can contact Philipp Fröhlig:

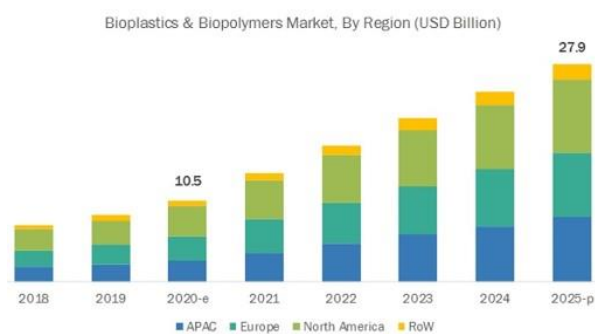
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## Pictures

Download of pictures and additional material: <https://my.hidrive.com/share/cx-pc4kee6>

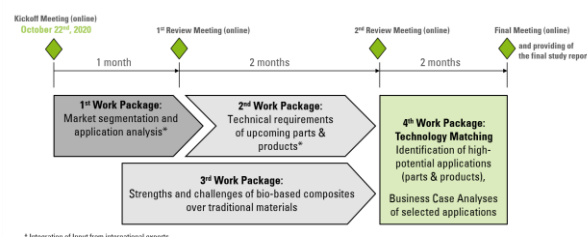


Picture 1: On September 29<sup>th</sup>, 2020 the AZL will also host a Lightweight TechTalk on "SUSTAINABILITY AND RECYCLING OF COMPOSITES" with presentations from industry and academia.



Picture 2: The biopolymer market is expected to grow from USD 10.5 billion in 2020 to USD 27.9 billion in 2025, with a CAGR of 21.7% over the forecast period. Source: <https://www.marketsandmarkets.com/Market-Reports/biopolymers-bioplastics-market-88795240.html>

## Joint Market- and Technology Study: Bio-based Composites Project Procedure



Picture 3: The 5-month study pursues the established approach of the AZL market and technology studies, starting from a market analysis, to analyze and evaluate applications and production processes technologically in depth and to assess them in business cases regarding their production costs. Copyright: AZL Aachen GmbH.

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## Joint Market- and Technology Study: Bio-based Composites Questions to be Answered and Results

### Markets and Future Market Potentials

- What are the current **markets, applications, customers, suppliers**?
- What are the most interesting market segments in **growth and size**?
- What are **promising future applications** for bio-based composites?

### Materials, Material Combinations and Production Technologies

- What are **technical requirements and limitations** of bio-based composites? (Mechanical, optical, haptical, chemical, electrical?)
- How should **production technologies and value chains** for bio-based composites look like?

### Business Case Analyses

- What are the **resulting costs** in comparison to conventional composite part production?

### Results

- **Current markets and future market potentials: Identification of hidden business potentials**
- **Technical challenges and requirements**
- **Selection and analysis of most promising applications**
- **Business case analyses**

*Picture 4: The participants of the study will receive an overview of the market, numerous applications and market potential, technical challenges and requirements of bio-composites and a detailed analysis of selected applications. Copyright: AZL Aachen GmbH.*

## About AZL

AZL Aachen GmbH specializes in composite-based lightweight production and offers cross-industry services for business development and technology development. The engineering and service portfolio includes the identification of business opportunities and market potential for lightweight construction technologies, the development of components, production processes and production systems including cost assessments and support for commercialization by identifying partners, suppliers and customers.

Based in the heart of one of the world's leading high-tech ecosystems, RWTH Aachen University, the AZL works closely with technology experts and ultra-modern infrastructure for the entire value chain of thermoplastic, thermoset and hybrid material systems.

With the AZL Partnership, the AZL offers a framework contract to connect decision-makers from academia and industry and to offer a platform for initiating sustainable partnerships in projects to exchange knowledge and efficiently drive innovation through shared effort.

[www.azl-lightweight-production.com](http://www.azl-lightweight-production.com) | [www.azl.rwth-aachen.de](http://www.azl.rwth-aachen.de)

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