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Press Release

August 6, 2019

Henkel partners in governmental sponsored research and development project SYMPA

Technology collaboration to unlock 3D printing potentials for final automotive parts

Düsseldorf, Germany – Henkel is partnering in a research and development project called SYMPA, that is sponsored by the German Federal Ministry of Education and Research (BMBF[1]) and the Federal Ministry Republic of Austria Transport, Innovation and Technology (BMVIT[2]). The German and Austrian project consortium aims to develop new materials, printing methodologies and post-processing technologies for durable Stereolithography (SLA) products using Digital Light Processing (DLP) with a focus on automotive applications. SYMPA started end of 2018 and involves five partners bringing different expertise along the entire value chain of the SLA technology.

The project partners believe that the SLA technology has a huge potential to enable the production of customized parts and products specifically designed for customer needs especially in automotive. Thus, SYMPA aims to overcome some of the weaknesses of current SLA materials such as low mechanical properties, low durability and low UV stability. The innovation objectives include the development of a new photosensitive polymer with increased long-term thermal and mechanical properties, the fibre reinforcement of the polymer and surface modification technologies to further enhance the environmental resistance of products. All developed technologies will be demonstrated based on real automotive parts considering the requirements on industrial production processes.

SYMPA is coordinated by the Institute of Aircraft Design (IFB) of the University of Stuttgart and involves partners across the entire value chain of the SLA technology including material specialists, machine producers and research institutes:

Henkel AG & Co. KGaA has developed novel high-performance photopolymers with improved mechanical and thermal durability for the SLA technology.

The Institute of Aircraft Design (IFB) brings a strong background in lightweight construction and composite applications, including fibre reinforced SLA materials for strongly increased mechanical properties and fatigue limit.

Rapid Shape GmbH offers high speed open 3D printing systems that can be adopted with different process extensions to meet various material or customer requirements and environmental conditions.

Joanneum Research and **INOCON Technologie GmbH** are specialists for development and application of plasma technology for coating and activation, i.e. deposition, post-processing and surface modification for better mechanical and environmental resistance, controlled wettability and electric conductivity of polymers.

cirp GmbH as experienced 3D-printing service provider enables technology demonstrations on real automotive structures and improved design processes of SLA components.

SYMPA has been set up for three years until end of 2021 resulting in an SLA toolbox as preliminary stage for tailored 3D printing solutions in the automotive industry.

1) Sponsored by the German Federal Ministry of Education and Research under project number 03XP0164A
2) Sponsored by the Federal Ministry Republic of Austria Transport, Innovation and Technology under FFG project number 865878

About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2018, Henkel reported sales of around 20 billion euros and adjusted operating profit of around 3.5 billion euros. Henkel employs more than 53,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel's preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

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