Fraunhofer GENERATIV

FRAUNHOFER ADDITIVE MANUFACTURING ALLIANCE

PRESS RELEASE

Fraunhofer Additive Manufacturing Alliance at the Formnext Fair 2019:

Lightweight construction and functional integration through additive manufacturing in gear production

This year the Fraunhofer Additive Manufacturing Alliance presents a gear made by Fraunhofer IGCV as the leading exhibit. It combines various multi-material solutions and additive manufacturing processes. Direct component integration of the gearing into the drive shaft makes it possible to achieve weight savings of up to 70%. Moreover, several sensors are integrated into the gear, allowing for condition monitoring via the cloud platform Virtual Fort Knox (VFK).

Multi-material gear; individual parts produced by additive manufacturing | ©Fraunhofer IGCV; Bernd Müller |

Editorial notes
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Numerous other exhibits demonstrate the competences of the member institutes, arranged according to the focal points of lattice structures, macro lightweight construction, functional integration, software and simulation, materials and technologies, surfaces and ceramics. The topics range from topology optimization (e.g. resource-optimized design of a vehicle shock absorber fork by Fraunhofer EMI) via customized particle coating (Fraunhofer IST) up to additive manufacturing of sintered glass and ceramics (Fraunhofer IKTS) and 3D printing of textile composite materials (Fraunhofer UMSICHT).

Formnext is the leading exhibition and conference on additive manufacturing and all its upstream and downstream processes. It offers global enterprises a platform featuring all matters of design and product development, industrial tool and mold making, manufacturing solutions, quality management, and measurement technology. Furthermore, the fair includes an exhibition by leading suppliers from the fields of materials and component construction.

The **Fraunhofer Additive Manufacturing Alliance** represents the entire process chain of additive manufacturing. It encompasses five areas of research: engineering (application development), materials (plastics, metals, ceramics), technology (powder bed based, extrusion based, print based), quality (reproducibility, reliability, quality management), and software and simulation (intelligent algorithmics, efficient simulation). The alliance with its currently 20 member institutes has the goal of driving application oriented developments forward, of setting trends in additive manufacturing and of being available to the industry as a comprehensively competent partner for research and development in the field of additive manufacturing and 3D printing.

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