



- 1 *Building platform extraction*
- 2 *Processing tungsten*
- 3 *Automated sensor integration while laser beam melting*

ADDITIVE MANUFACTURING PROCESS DEVELOPMENT AND MATERIALS QUALIFICATION

Fraunhofer Institute for Casting, Composite and Processing Technology IGCV

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The processing of metallic alloys requires knowledge, which can be built up in part only through experience.

To ensure that you can process the material of your choice reliably we support you with our knowhow in process development. With the machinery at the Fraunhofer IGCV we provide build spaces up to \varnothing 400 mm in laser beam melting and process all common materials.

In addition to the development of process-safe manufacturing parameters and distortion-minimized exposure strategies, we also design post heat treatments for your component. Also, we enable the use of special applications such as high-temperature laser beam melting with substrate plate heating up to 1,000 °C.

At the [MULTI-MATERIAL CENTER](#) Augsburg we are developing the simultaneous pro-

cessing of up to three materials in one process using laser beam melting.

In addition to laser-based additive manufacturing, we are also available for development projects in cold gas spraying with comparatively high process rates. Benefit from our expertise in the qualification of machines, materials and processes for ceramics, aluminium, copper and titanium alloys and tool and case hardening steels such as 16MnCr5, 20MnCr5 or 18CrMo4.

At a glance:

Process development, materials qualification and heat treatment for cold gas spraying and laser beam melting

Available systems (powder bed): Acornity One, Concept Laser M1 Cusing, EOS M270, EOS M290, EOS M400, SLM 125HL, SLM 250HL, SFS SM 100