

Hybrid machining of Ti- and Ni-based alloys for the manufacture of complex surfaces with optimised properties - HybMan (Extension)

Initiative: Herstellung funktionaler Oberflächen (beendet)

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The simultaneous or subsequent adjustment of the manufacturing steps "laser-assisted milling" and "laser polishing" enables the combination of efficient machining (roughing) of advanced materials with outstanding surface integrity for the first time. Laser-assisted milling (advantageous chip formation and reduced surface impairment) and laser polishing (smoothing and enhancements in rim zone characteristics) complement one another. For this reason this project aims for a new hybrid machining process, which provides new opportunities for economic efficient and reliable production of highly stressable components. By adequate adjustment of the manufacturing steps the concluding laser polishing offers - depending on the results of pre-machining - further potential to functionalise the component's surface for specific technical applications (e.g. tribology, aerodynamics, fluidics etc.).

Projektbeteiligte

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