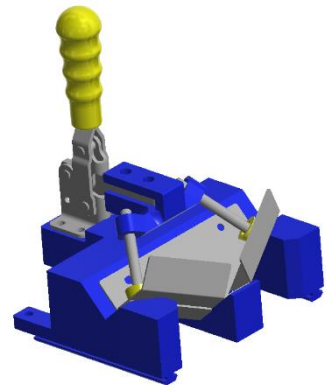
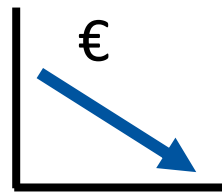
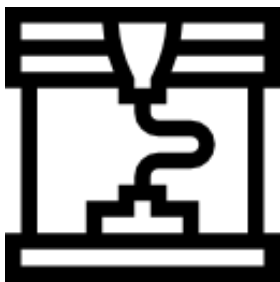


Bachelor or Master Thesis

Potential analysis of hybrid welding jigs with 3D-printed functional elements



Initial situation:

The automotive production, especially the body shop, is characterized by a high degree of automation. In order to be able to guarantee the required product and process quality in the large-scale production of vehicles, high variant specific investments are necessary. Changing market conditions lead to volatile demand that cannot be handled by the production facilities. In addition, an increasing number of variants of a vehicle type, global diversification and the ramp-up of electric mobility are increasing the need for a better flexibility in body production. Increased flexibility usually leads to exponentially rising investment costs due to the rigid, highly efficient line production. The use of 3D printing (selective laser melting or fused filament fabrication) for the manufacturing of flexible jigs and fixtures is a promising solution to gain flexibility without rising costs.

Your task:

- Analysis of the potentials of hybrid welding jigs with 3D-printed functional elements for the use in car body shops
- Determination of possible cost and time savings in the additive manufacturing of part-specific jig and fixture components
- Evaluation of 3D printers and suitable materials for the manufacturing of jig elements with additive manufacturing processes

Requirements:

- Motivation & Commitment
- Ability to communicate and work in a team
- Self-initiative
- Interest in the topics of electric vehicle production
- Experience with additive manufacturing (optional)

What you get:

- Intensive support and interdisciplinary exchange
- Immediate start possible
- Fast processing

Have we piqued your interest?

Please send a current transcript of records as well as curriculum vitae and certificates to the e-mail address below.

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