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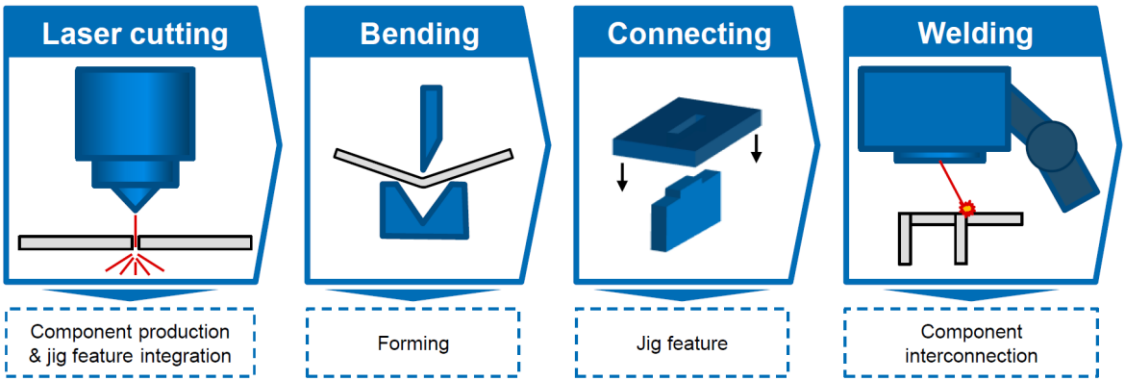
Master-/ Bachelor-Thesis

Conception of a flexible process chain for jigless joining of body structures



Example of a flexible process chain for the manufacture of body structures

Initial Situation:

The innovation of modern vehicles cannot and should not end with the conversion from conventional to electric driven vehicles. Rather, the still small quantities require advanced product and process concepts as well as innovations in order to be established in the highly competitive automotive market. The trend to increase the variety of derivatives will continue in the field of electro mobility, making low-cost production and an efficient industrialization process indispensable even in small production series. Within the scope of the research project "Production Efficiency in Small Series Production" (ProeK), a consortium of innovative and renowned research and industrial partners are investigating a flexible process chain for the production of car bodies in order to save high investment costs and increase flexibility. At PEM, there is the opportunity to work on solutions for this field and to apply them in a real product environment.

Your Task:

The objective of your work is to develop and validate a concept for jigless joining of body structures by using plug connections. In close cooperation with an electric vehicle OEM, the jigless process chain of the plug connections is to be examined step by step and evaluated by a series of tests. The following aspects should be considered in detail:

- Work in the field of body construction with focus on jig construction
- Literature and patent research on the state of the art
- processing of concepts for jigless joining
- Cross-industry analysis in the field of sheet metal construction
- Conceptualization of jigless joined car body components by using plug connections
- Creation and development of a design catalog

Finally, the theoretically elevated potential of your developed concept should be determined.

Your Profile:

- Study of engineering or similar field
- Self-Motivation and commitment
- Independent work attitude
- Interest in innovation and willingness to approach new topics

Our Profile:

- Intensive support and fast processing possible
- Cooperation in industrial and research projects
- Clearly defined and delimited tasks of your Thesis
- Expert insight into electro mobile production

Are You Interested?

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

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