

Morphological study for the design of components for Additive Manufacturing

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Keywords. Design for additive manufacturing, generative design, morphological study.

Abstract.

Currently, there is a growing interest of industries in applying Additive Manufacturing (AM) technology for generating objects with high geometrical complexity and low weight, ensuring good performance, comparable to those ones of products realised by means of traditional techniques.

Anyway, it is still usual to realise AM products without focusing on the morphology of the object, hence without exploiting all the advantages of the technique. Indeed, since the several suitable AM technologies, it should be useful to know the functional characteristics of the component for the best choice of the appropriate one. In this regard, the 3D modelling strategy is extremely crucial for a proper realization of AM products.

The paper deals with a morphological study of dashboard components of a car, implemented in advanced CAD modelling environment and based on generative design approach.

According to *design for AM* approach, the aim of the study is to analyse the geometry, in all alternative solutions, and the overall performance, depending on the geometry itself, of the components in order to verify the potential and the benefits of additive technology compared to traditional moulding.