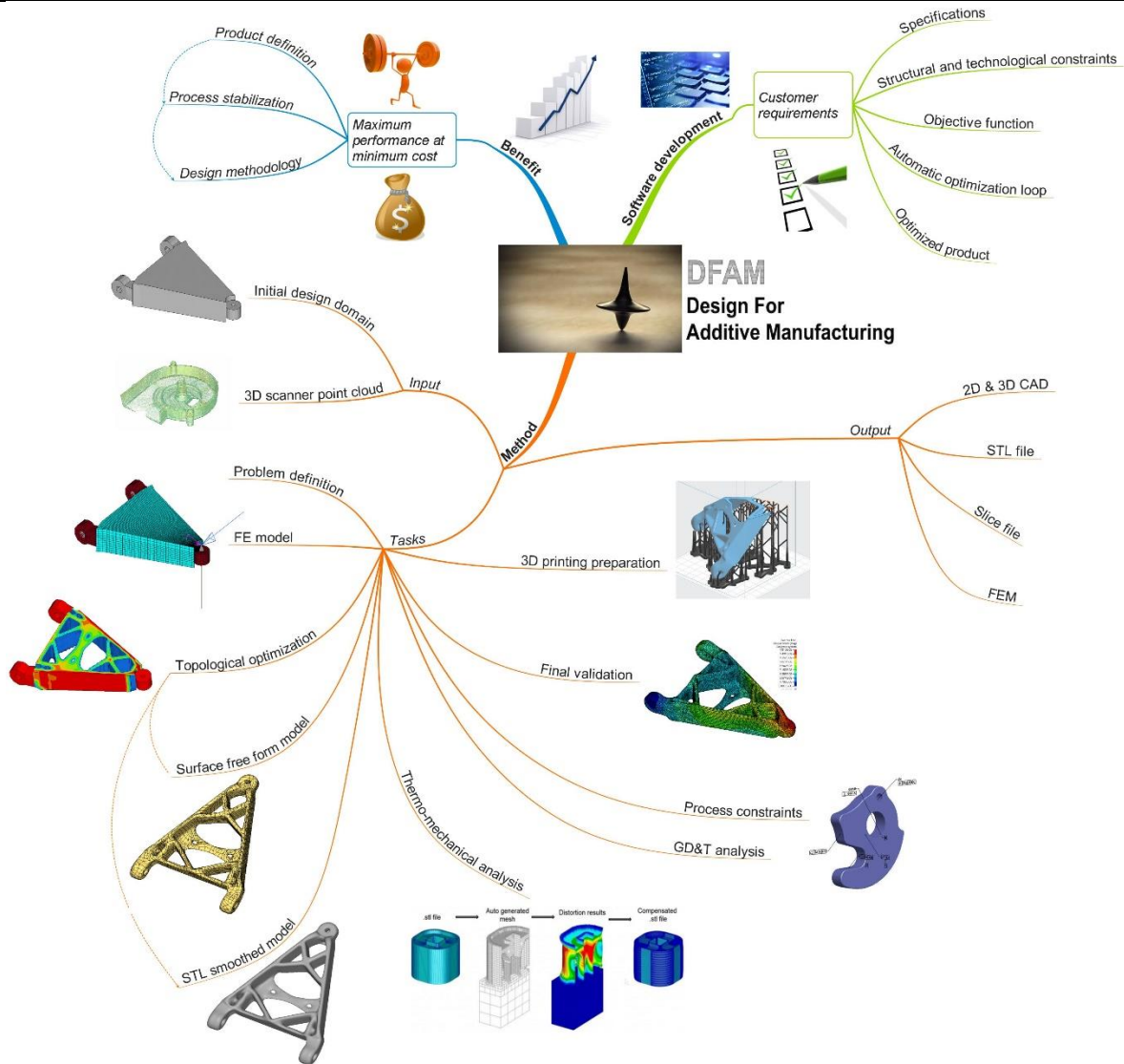
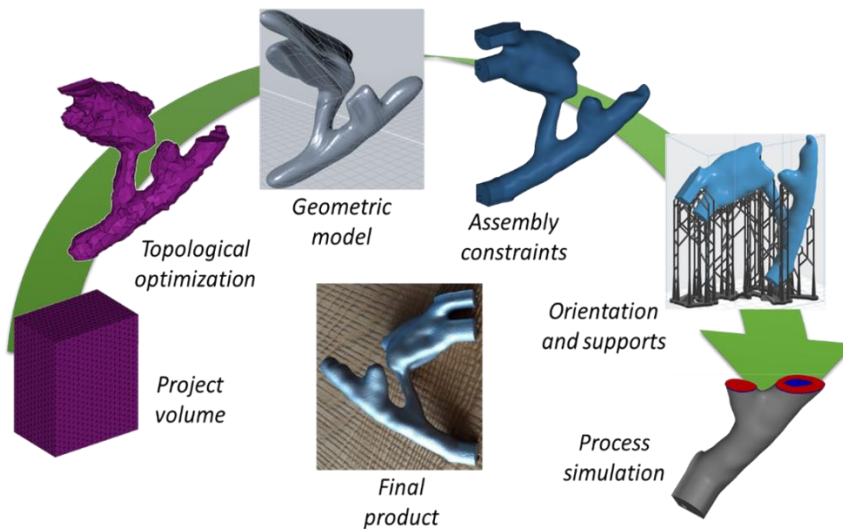


FOTO



AMTOP®

Additive Manufacturing Tool Optimization Platform



TESTO DESCRITTIVO

ITACAe believes strongly in the added value of numerical simulations in order to improve the entire A.M. process.

In particular, topology optimization and thermal-mechanical simulations are milestones in the path towards the “absolutely best” product.

As it can be seen in the example, the geometry resulting from topology optimization possesses the following qualities:

- It guarantees the best possible structural performance of the product (maximum stiffness, load carrying capability), with minimum weight and material usage;
- It can significantly improve the performance of an eventual previous design;
- It is a mathematical process, not an empirical one: for example, if a void, a honeycomb structure or a lattice are introduced, their effects can be assessed before going to production and finding them out the hard way;
- The shapes resulting from topology optimization are very Additive Manufacturable.

The optimization procedure can be effectively applied to the process (orientation, supports ...). Thermal-mechanical simulation of the process can contribute to improve the degree of accuracy expected for a given product (distortions, residual stresses), perform a GD&T analysis and correct process parameters by assessing the impacts on the product before actually manufacturing it.

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