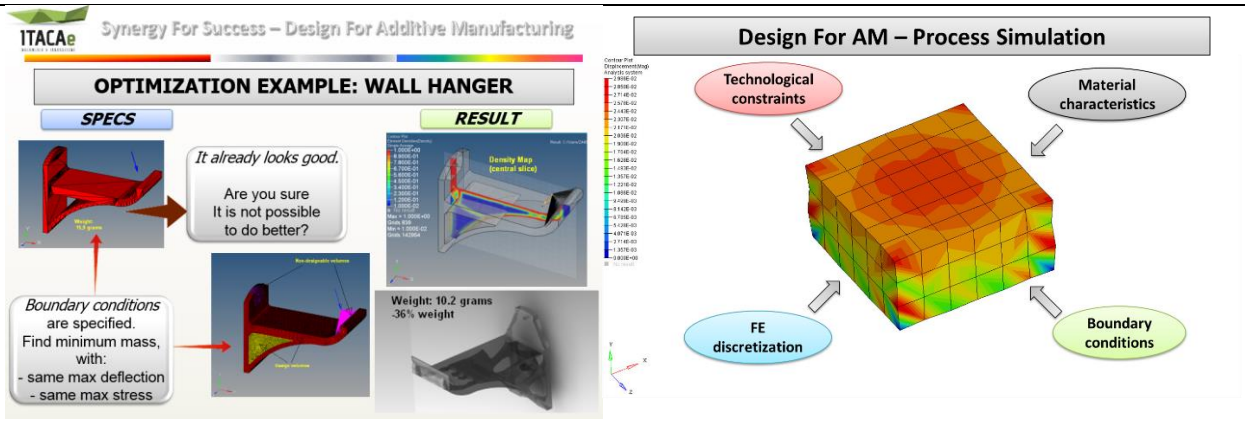
SCHEDA

FOTO



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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