



— ATHANASSIOS KALIUDIS

Light Designers

Exposure strategies are one of the keys to achieving even higher productivity in the manufacturing of 3D-printed parts. This article explains how they work.

Tucked away behind the glass facade of TRUMPF headquarters is a brainstorming room used by an additive manufacturing team. This is where they craft strategies and opportunities to make this promising technology more productive and to extend its appeal to a broader user base. Although additive manufacturing is a hot topic and a popular choice for small-batch production and prototyping, a lot must happen before additive manufacturing can compete with more established metal-processing technologies in small and medium-sized enterprises. The process must become more robust, reproducible and economical.

TRUMPF experts are pursuing multiple avenues to significantly reduce the cost per part. One example is a multi-machine strategy that takes advantage of external industrial handling of powders and parts to better utilize machine capacity and boost productivity. Semi-automated solutions also reduce per-part costs.

— Structured analysis

But the most striking improvements come from choosing the right exposure strategy. Damien Buchbinder and Florian Krist, both additive manufacturing product managers at TRUMPF, have investigated a wide range of exposure strategies – categorized by industries, applications, part geometry, material and costs. They analyzed every conceivable option to determine the potential, anticipated costs, benefit for individual applications and technical feasibility in each case. “We were fortunate that TRUMPF has such solid expertise in lasers and optics. As well as the simulations we ran ourselves, we were also able to have experts verify our analyses thanks to numerous, ongoing joint-development projects,” says Krist.

— Thick roller – or fine brush?



