

# 3D PRINTING CONFERENCE INNOVATION, MODELLING, APPLICATION & IMPLEMENTATION

October 05-06, 2017 | Las Vegas, USA

## **Product optimization with additive manufacturing - from aerospace to everyday applications**

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**A**dditive Manufacturing (AM) is a promising technology and has advanced over the last years in terms of cost- and product optimization potential. The advantages of AM have been identified already in early stages from the aerospace and space industry. Here a strong interest in lightweight design is explained by financial revenues resulting from low buy-to-fly ratios and decreased part weight. Hence, these branches may allocate large budgets for technology development. Based on this motivation, fundamental work on the design of very complex lightweight load and stress optimized structural elements e.g. for satellites have been

performed. The result is a methodology for an easy to use and cost efficient topology optimization-process, which will be presented in the speech. Based on this methodology not only aero-/space parts are discussed, but also industrial applications (e.g. from machine tools). The speech will show the transfer from results in the aerospace sector into everyday industrial applications. With regards to the cost development, AM will soon be seen not only in space but in earthbound machines at the shop floor.