

## 13th International Symposium on NDT in Aerospace

### Additive Manufacturing: Opportunities and challenges for NDT

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#### Abstract

Additive manufacturing processes are increasingly being used in industrial applications. Especially powder bed fusion processes are of high interest due to their capability to economically produce individual, highly complex and functionally integrated components in small batch sizes.

However, the quality assurance of these components remains a challenge. Internal defects and undesirable microstructures and surface conditions can deteriorate the mechanical properties. Especially for use in safety-relevant applications, new design and inspection concepts are needed that take these factors into account.

This talk presents typical defects and microstructure phenomena resulting from the laser powder bed fusion process and identifies challenges and opportunities for non-destructive testing from a manufacturing engineering perspective. In particular, the possibility of a process-integrated quality control is shown based on current research results.