ADDITIVE MONITORING STUDY

BENCHMARK OF IN-PROCESS MONITORING SYSTEMS FOR L-PBF MACHINES
ADDITIVE MONITORING STUDY

PROBLEM STATEMENT

Current Situation
- What added value is offered by a process monitoring system?
- Which systems are available on the market?
- Which TRL level applies to them?
- How does the data output look like?

Solution
- A study of market-relevant in-process monitoring systems
  - Description and objective analysis of various systems
  - Experimental system test
  - Quick decision aid for understanding which system is suitable for my needs

CONTENT AND STRUCTURE OF THE STUDY

Technical Analysis
- System architecture
- Technical features and working principles
- User interface
- Technical comparison

Practical Investigation Using Test Samples
- Objective data evaluation of system output
- Analysis of samples using µCT and metallographic analysis
- Correlation between build irregularities and data output from different systems

In-Process Monitoring Systems Investigated

Machine manufacturer systems:
- GE Additive
- EOS
- Renishaw
- SLM Solutions
- Trumpf
- Velo 3D
- 3D Systems

Independent systems:
- Sigma Labs
- Additive Assurance
- Open Additive

Material: AlSi10Mg

SECURE THE STUDY RESULTS NOW!
Contact us: process.monitoring@iapf.fraunhofer.de