

# Research Campus Digital Photonic Production DPP

Enabling Industries Through Application-Specific And Algorithm-Based Part Design



## Motivation and Relevance

- Insufficient design guidelines for additively manufactured filigree structures and critical component areas lead to “first-time-right” approaches with high material usage
- Comprehensive engineering → How to minimally design structures to withstand process-related loads?

## Approach

- Simulation and experimental validation of the behavior of thin structures under thermal and mechanical loads
- Data-based identification and evaluation of critical component areas using KPIs as well as algorithm-based generation of application-specific structures

## Results

- Process modeling: thermal modeling / distortion determination
- Digital material description of filigree structures
- DfAM: generation of load adapted designs
- Qualifying data-driven methods within digital process chain

## Research Area

- Algorithmic Design
- Digital Material
- Digital Twin
- Process Simulation

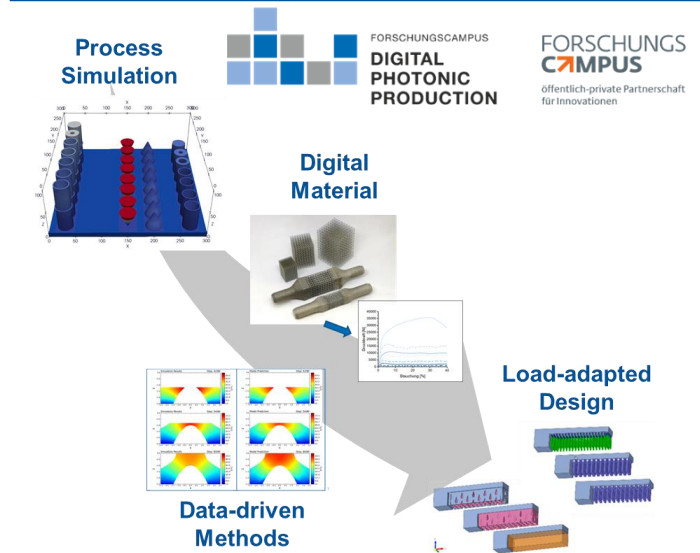
## Partners



## Supported by



## Picture



## Contact



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