

# Four ZEISS Future-Shaping Segments



**SMT**  
Semiconductor Manufacturing  
Technology

EUR **1.531** billion revenue



**IQR**  
Industrial Quality & Research

EUR **1.549** billion revenue



**MED**  
Medical Technology

EUR **1.546** billion revenue\*



**COM**  
Consumer Markets

EUR **1.106** billion revenue

# ZEISS 3D ManuFACT

## The Holistic Integrated Process for Additive Manufacturing



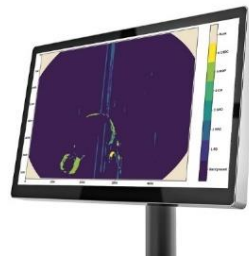
### Powder and Material Characterization

SEM, LM, X-ray CT



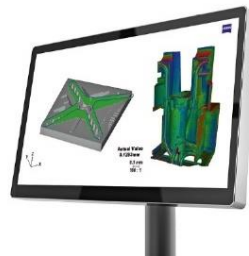
### In-Process Metrology and Data Analysis

Powder Bed Inspection



### Post-Print Heat Treatment and Part Removal

CMM, 3D Scanning



### Defect and Inner Structure Inspection

X-ray CT, LM



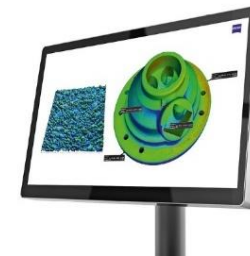
### Post-Print Material Quality Inspection

SEM, LM, X-ray CT



### Dimensional and Surface Quality Inspection

CMM, X-ray CT, 3D Scanning, LM



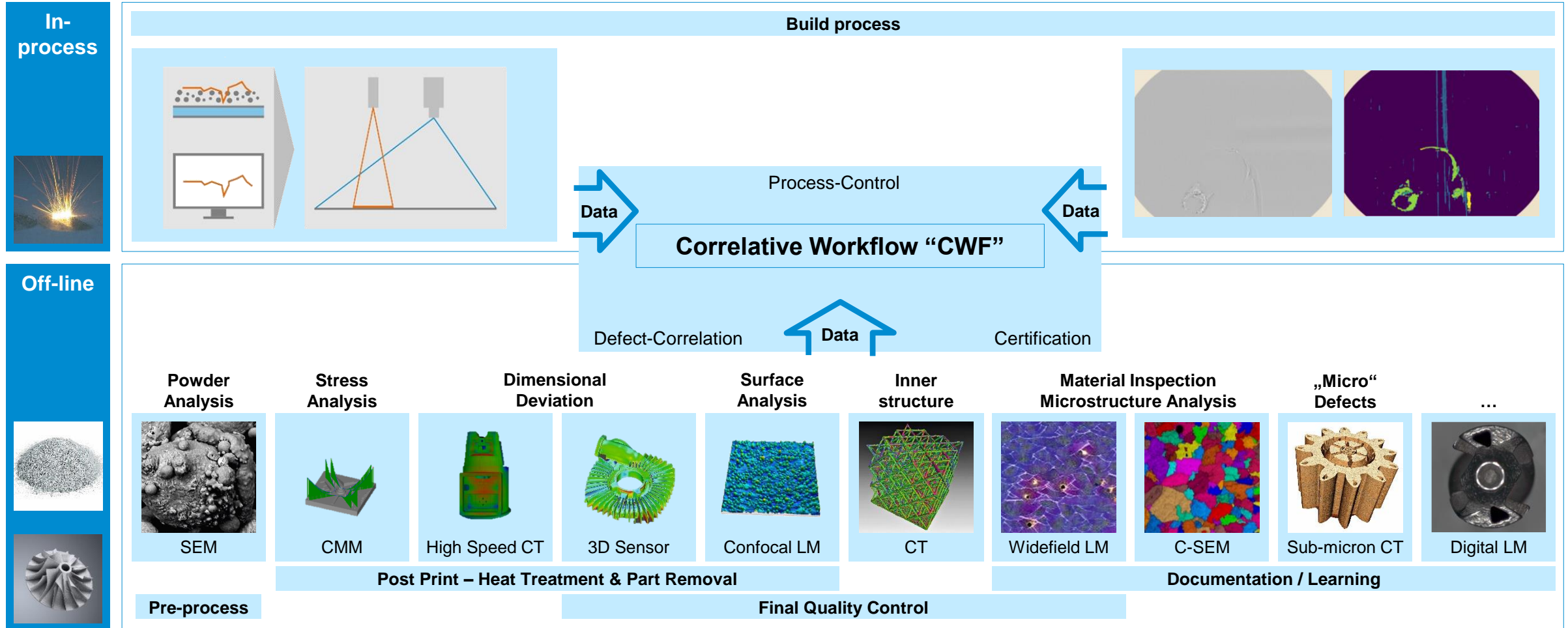
### Process Data Statistics and Analytics

PiWeb, Analytics and Correlation Tools



# Outlook – ZEISS correlative workflow for AM

Combining multi modal data points to derive correlations for holistic process optimization of the entire AM process chain



# ZEISS AM Characterization Center at Oak Ridge National Laboratory

AM dedicated ZEISS application laboratory as part of CRADA with MDF ORNL

