DMP Inspection

**Beta release now available**

Minimize secondary inspection in metal AM with automated analysis that correlates with CT findings

Speed up the validation process with 3D visualization, root-cause-analysis and correction in one single software solution. Effectively ensure consistent part quality and reduce costly secondary inspection in your production process

**SHORTEN VALIDATION TIME**

All-in-one software solution:
- Identify - Incidents of lack of fusion and warpage
- Analyze - Complete root cause analysis with 3D visualization of areas of interest over the digital model and printing parameters
- Resolve - Easily take corrective actions and check if the issues are resolved

**REDUCE COSTLY SECONDARY INSPECTION**

- Automated algorithms detect lack of fusion and warpage (enabled in Beta release), down-facing surface roughness and recoating quality
- Advanced 3D visualization tool allows to look into the part without having to take a CT Scan
- Save time, costly post-processing, and testing by quickly identifying parts that don't meet your quality standards

**FEATURES**

- Automated post-build detection of defects/potential quality issues
- Advanced 3D visualization tools
- Complete root-cause-analysis and corrective actions in one single software
- 100% correlation with lack of fusion (LoF) found in CT scan data for defect > 200 µm verified experimentally in a study for a representative test variety of parts in LaserForm Ti Gr23 (A) and Maraging Steel (A) printed on DMP 320 metal 3D printer
- Detection and 3D visualization of warpage
- Beta release includes algorithms for lack of fusion and warpage and is available for DMP 320 and 350 metal 3D printers
- DMP Inspection is available as an option within 3DXpert™ All-in-one Metal AM software
- DMP Inspection requires the purchase and installation of DMP Monitoring
DMP Monitoring

Real-time process monitoring for informed decisions on product quality

Generate a wealth of process data for non-destructive analysis and understanding of metal 3d printing build quality, accelerated process parameter optimization and enhanced understanding of process results.

IN-BUILD REAL-TIME DATA COLLECTION AND VISUALIZATION

- Visually (manually) detect, analyze and minimize 3D metal printing inherent process effects such as: lumps, spatters, flow quality, porosities, feed quality, etc.
- Control and ensure that the process is running smoothly, monitoring consumables and maintenance items such as the coater and materials
- Remote monitoring capable for combined control from centralized space, e.g. using live camera and remote machine access*

POST-BUILD PROCESS ANALYSIS

- Analyzing Vision and Meltpool images synchronized side by side allows to monitor build quality on a macro level to e.g. ensure powder deposition quality
- The post-build analysis of DMP Meltpool images enables the user to further improve build quality by monitoring e.g. porosity on a micro level
- Use DMP Inspection for automated root cause analysis and corrective actions in one single tool

FEATURES

- Automatic data recording
- Fully configurable user interface
- Real-time job analysis, and offline functionality
- Synchronized side by side comparison of Meltpool and Vision data, comparison with previous print jobs (meltpool-to-meltpool, vision-to-vision, meltpool-to-vision)
- Synchronized zooming and panning through all jobs opened on screen
- Integrated live camera
- Video generation: sequential layers to video frames
- Coordinates and scale display on screen matching with build plate
- Measurement tool: line and surface
- Automatic back-up tool (to server or external data storage)

* Remote machine access requires standard 3rd party software