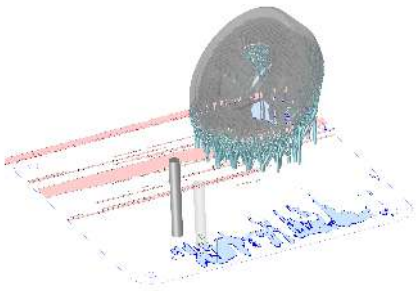
Oqton Launches Build Quality Product Suite

Build Job Quality Report

Build Summary

Machine Type, Name	**SLM 280, 2323435**
Build Job ID	**B 873929**
Material	**Nickel 718**
Job Failed	**Yes**
Overall Quality Rating	**Failed**
Exposure Parameter ID	**SLM_76R_533**
Layer Thickness	**60 um**
Layers Printed	**151**
Total Build Job Height	**1260 mm**
Build Job Interruptions	**0**
Parts with Anomalies	**1**
Job Duration	**3hrs**
Job Start - Finish	**2022-03-38 15:00 - 18:00**
Duration	Exposure **2hrs,** Idle **1hr**

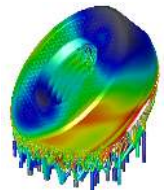


Pre-Build & Correlation

Thermal Simulation

Max temperature exceeded at layer	**130**
Layers with exceeded max. temperature	**45%**
Total part temperature within spec	**No**

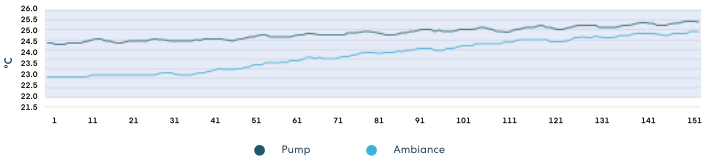
Mechanical Simulation



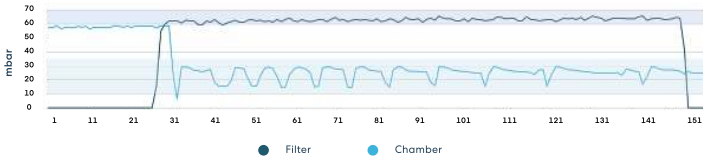
Z-deformation exceeded at layer	**168**
Layers with exceeded z-deformation	**33%**
Total part temperature within spec	**Yes**

Sensor Data

Temperature Monitoring



Pressure Monitoring



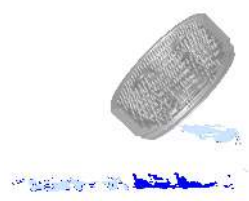
Anomalies Summary

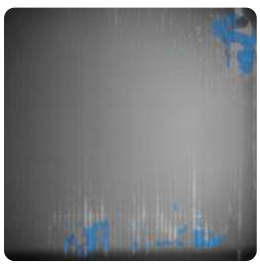
Critical Anomalies

	Qty	Vol (mm³)
Short Feed	1	0.5
Warpage	1	53.3
Recoater	1	17.8

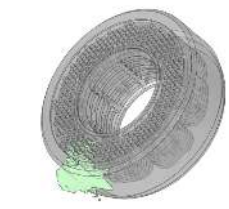
Non-Critical Anomalies

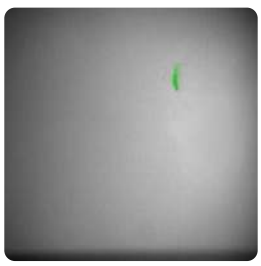
	Qty	Vol (mm³)
Short Feed	1	7.0
Warpage	12	77.3
Recoater	9	34.9



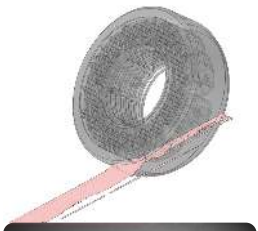


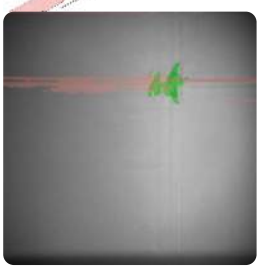
Layer 1





Layer 143





Layer 149

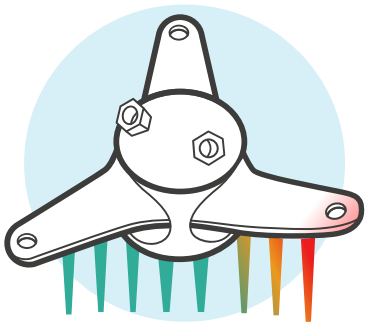
Oqton Build Quality

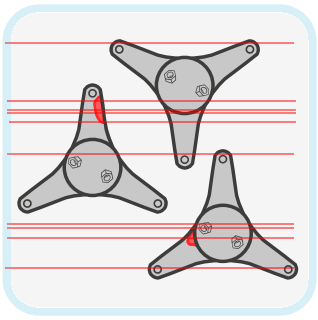
Trace quality of AM parts and evaluate build performance

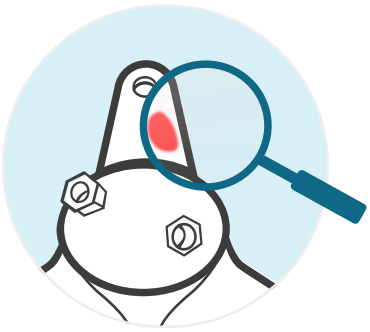
Oqton now offers a new AI-enabled solution as part of its Build Quality suite.
The solution enables users to monitor, track and inspect quality metrics of metal powder bed builds throughout the full additive manufacturing process.

- Simulate and analyze for deformations, shrinklines, plastic deformations, thermal performance and more with **3DXpert Build Simulation.**
- Monitor in real-time the build process using the power of AI with our cloud-based **MOS Build Monitoring.**
  - Take fast decisions to drastically reduce scrap related costs with no extra sensors needed.
  - Enable remote monitoring of the machine status.
- Analyze print anomalies in context with the build plate inside of **3DXpert Build Inspection** to infer root causes, optimize and correct build procedures to correlate with simulation and scan path analyses in 3DXpert.
- Trace the full quality process thanks to comprehensive traceability.
  Generate detailed quality reports for each part produced.

BEFORE | **DURING** | **AFTER**







Build Simulation

Prevent predictable anomalies & defects

Build Monitoring

Detect on-line anomalies

Build Inspection

Inspect and correct anomalies & defects

OQTON