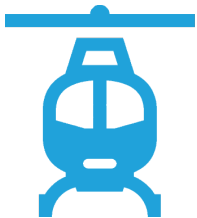


Monitor and correct defects in real time to assure the highest quality 3D printed parts

DigitalClone[®] for In-Situ Monitoring (DC-IM)



DC-IM is a quality assurance system for metal additive manufacturing process. It currently leverages Matsuura hybrid metal AM machine and in-situ sensing capability to monitor and correct defects in real time, assuring the highest quality of asprinted metal parts. In the DC-IM system, each printing layer is monitored by using an infrared sensor, followed by Sentient's proprietary real-time data analysis algorithm to determine the acceptance of layer quality at end of each printing. Bad layers are machined off and re-built based on Sentient's optimized strategy. This detection and correction process will repeat until the entire component is built.

MANAGE DEFECTS IN REAL TIME



While most AM defect detection capabilities in development are focused on geometric features, DC-IM can identify individual layer abnormalities that - if left uncorrected - can severely limit the fatigue life of the resulting part.

AUTO TRIGGER THE REPAIR PROCESS



Each layer that is printed is monitored using an infrared sensor. Once a bad layer is identified, the cutting and reprinting program will be triggered automatically to correct those layers within the Hybrid Additive Manufacturing Machine.

RESUME BUILD AUTOMATICALLY

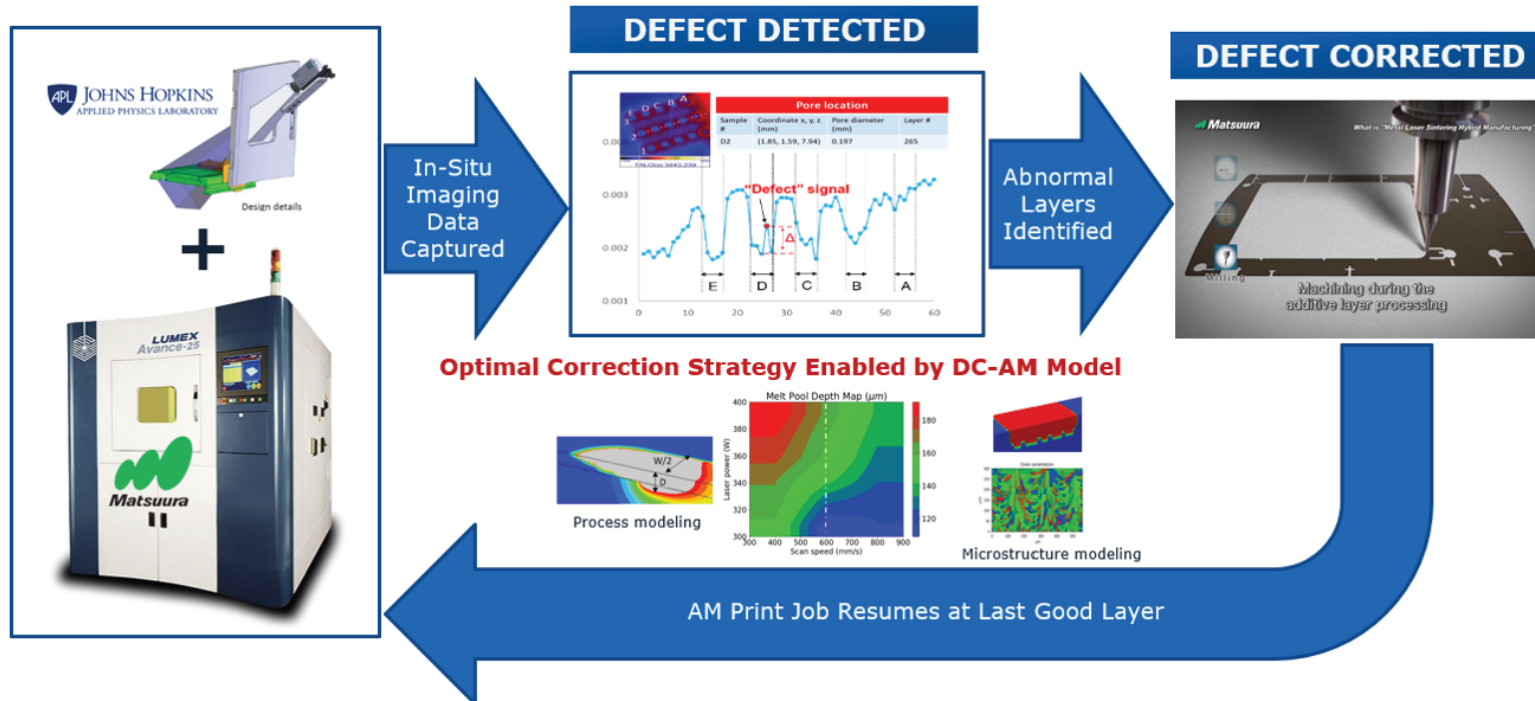


After the bad layer(s) are cut off as defined by Sentient's optimal repair strategy, then the layers are reprinted by using good parameters.

INTEGRATED CLOSED-LOOP FEEDBACK



DC-IM is a closed-loop feedback control system that will perform layer-by-layer analysis and anomaly detection.



CONTACT US TODAY FOR A FREE DEMO!

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