



InfiniAM Suite

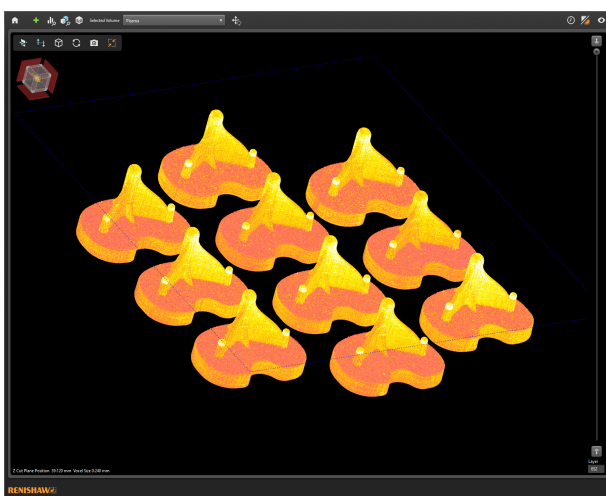
InfiniAM Suite is a set of software tools designed for Renishaw's RenAM 500 series of metal additive manufacturing (AM) systems. It consists of two modules, InfiniAM Camera and InfiniAM Spectral, that are both powered by the built-in DataHUB processing engine.

InfiniAM Spectral

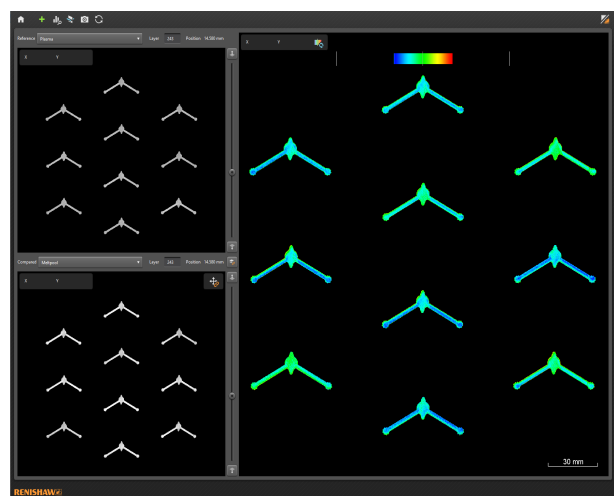
InfiniAM Spectral provides feedback about the energy input, melt-pool and plasma emissions produced by the laser(s) in the RenAM 500 series system.

These characteristics are shown as 2D and 3D heat maps of the build, which can give an insight into the properties of the metal used to build the part. These heat maps can be compared to previous parts to understand component quality throughout the build process.

The software uses Renishaw's MeltVIEW and LaserVIEW hardware, which contain sensors that integrate seamlessly into the optical path of the lasers. MeltVIEW detects near infrared plasma and melt pool emissions as the laser interacts with the powder, providing insights into material properties. LaserVIEW records the energy delivered by the laser which is combined with MeltVIEW data to assess laser performance layer-by-layer.



Laser data can be displayed as 3D heat maps

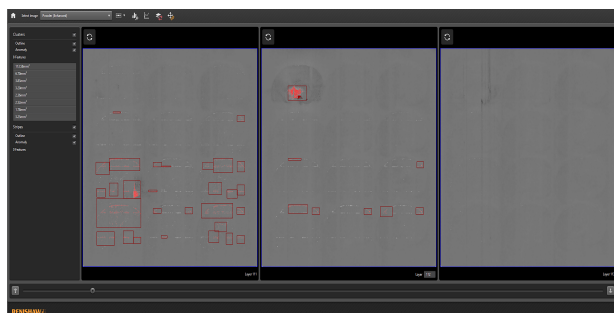


Compare MeltVIEW and LaserVIEW data for each layer

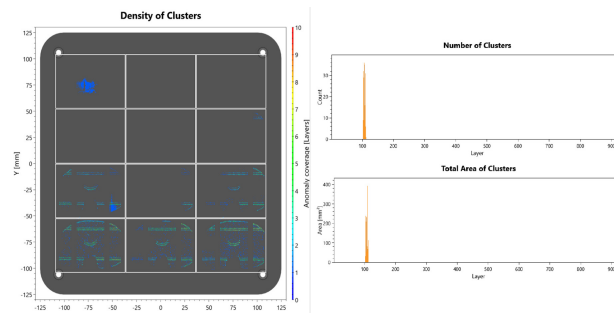
InfiniAM Camera

InfiniAM Camera uses a high-resolution camera placed inside the build chamber to take images of the powder bed. Two images are taken for every layer of your build; one of the powder bed after dosing and another after melting. The software can analyse these images to offer a visual representation of how your build is progressing and highlight key moments during the build that may require investigation.

These anomalies can provide an indication of potential wiper damage, short-dosing or bare metal exposure. When notified early, engineers can analyse these anomalies and intervene before they compromise build integrity. This enables tighter quality control, minimal material waste, and enhanced system reliability.



InfiniAM Camera captures powder bed images to detect potential layer anomalies during the build

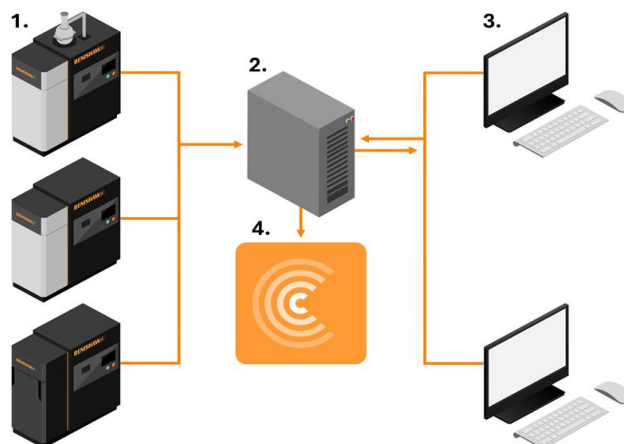


Detailed PDF reports are sent out via email in near-real-time when an anomaly is detected

DataHUB processing with Renishaw Central

DataHUB is the dedicated processing software built into InfiniAM Suite. It compiles raw data taken from your AM machine, processes it and then converts it into a file which can be visualised using InfiniAM Spectral and InfiniAM Camera. DataHUB also features an API designed for you to create your own custom plug-ins. This allows you to seamlessly integrate the raw data into your preferred software tool.


The plug-ins you create can connect to Renishaw Central - Renishaw's manufacturing data platform that collects and presents system data from across the shop floor. When displayed in Renishaw Central, these invaluable insights allow you to analyse, identify and mitigate potential process errors before they occur.



1. RenAM 500 series systems connected to the local network
2. Data collection PC with DataHUB software
3. Viewing PC with InfiniAM software
4. Renishaw Central

www.renishaw.com/infiniam

 #renishaw

+44 (0) 1453 524524  uk@renishaw.com

© 2025 Renishaw plc. All rights reserved. This document may not be copied or reproduced in whole or in part, or transferred to any other media or language by any means, without the prior written permission of Renishaw.

RENISHAW® and the probe symbol are registered trade marks of Renishaw plc. Renishaw product names, designations and the mark 'apply innovation' are trade marks of Renishaw plc or its subsidiaries. Other brand, product or company names are trade marks of their respective owners.

WHILE CONSIDERABLE EFFORT WAS MADE TO VERIFY THE ACCURACY OF THIS DOCUMENT AT PUBLICATION, ALL WARRANTIES, CONDITIONS, REPRESENTATIONS AND LIABILITY, HOWSOEVER ARISING, ARE EXCLUDED TO THE EXTENT PERMITTED BY LAW. RENISHAW RESERVES THE RIGHT TO MAKE CHANGES TO THIS DOCUMENT AND TO THE EQUIPMENT, AND/OR SOFTWARE AND THE SPECIFICATION DESCRIBED HEREIN WITHOUT OBLIGATION TO PROVIDE NOTICE OF SUCH CHANGES.

Renishaw plc. Registered in England and Wales. Company no: 1106260. Registered office: New Mills, Wotton-under-Edge, Glos, GL12 8JR, UK.

Part no.: H-5800-4810-01-A

Issued: 07.2025