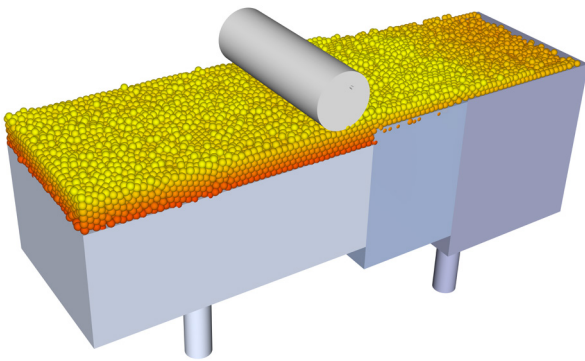


FLOW-3D[®] AM

We Solve the Toughest CFD Problems

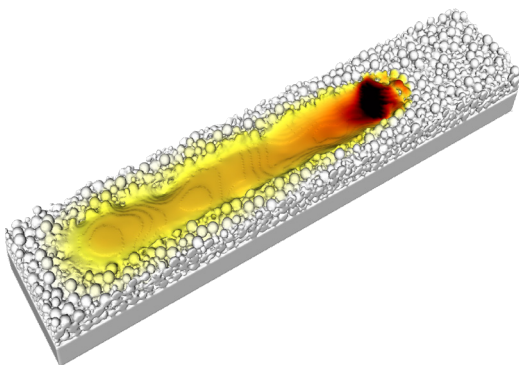
FLOW-3D AM is a CFD software that simulates and analyzes additive manufacturing processes such as laser powder bed fusion (L-PBF), binder jetting, and directed energy deposition (DED). **FLOW-3D AM**'s multiphysics capabilities offer highly-accurate simulations of powder spreading and compaction, melt pool dynamics, porosity formation for L-PBF and DED, and resin penetration and spreading for binder jetting processes, for analysis and optimization of process parameters.

ADDITIVE MANUFACTURING SIMULATIONS



POWDER SPREADING

Using the discrete element method, **FLOW-3D AM** accurately simulates the powder packing and spreading processes. Models to study particle-particle interactions, particle-roller/knife interactions, and full particle-fluid flow coupling for various particle size distributions are available.

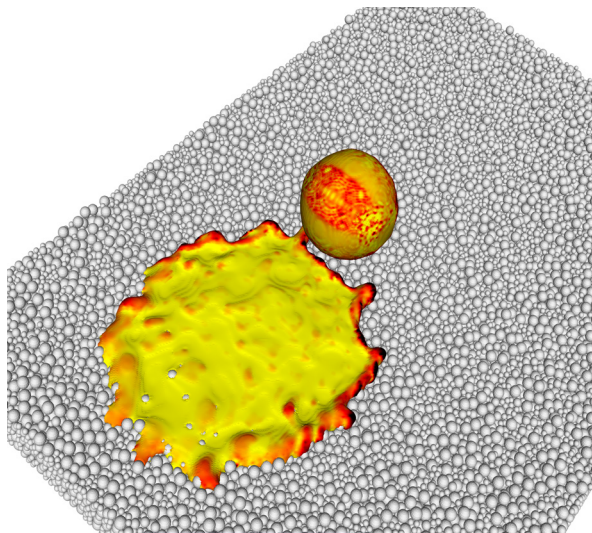


LASER POWDER BED FUSION

FLOW-3D AM helps engineers understand the effect of process parameters like laser power, scan patterns and scan speed on underlying physical phenomena occurring at the melt pool scale, including porosity formation in keyhole welding, the onset of balling defects and solidification microstructure evolution.

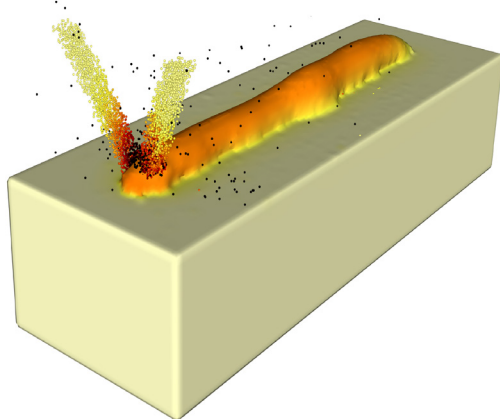
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BINDER JETTING

FLOW-3D AM simulates resin infiltration and lateral spreading in a powder bed during a binder jetting 3D printing process. Fully and accurately resolving the particles and voids within a particle bed enables analysis of droplet infiltration time and spreading which can help optimize process parameters.



DIRECTED ENERGY DEPOSITION

In directed energy deposition processes, process parameters such as powder injection rate, particle size distribution, laser power and scan speed can influence the printed layer thickness and crystal orientation. **FLOW-3D AM** simulates these DED processes in fine detail to achieve better process control of multi-layer deposition.

GLOBAL DISTRIBUTION NETWORK

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