

A FASTER, SEAMLESS PROCESS WITH

# Amp™ — Simulation & Compensation



**Witness the power of the Amp software platform.**

Simulation & Compensation, a module of GE's Amp software, enables teams to predict distortions, stresses, interference and defects before manufacturing—saving time and costs on physical iterations for additive parts.

## Challenge

GE needed a cost-effective way to innovate the design for its traditional closed impeller and test for optimum performance.



Casting can lead to small internal and surface defects, limited surface quality and geometrical inaccuracies.



Current post-process can be expensive and time-consuming with relatively low yield.

## Approach

GE's AddWorks™\* engineers designed a traditional impeller that could significantly reduce the cost and time required to create the part. Aided by the Simulation & Compensation module, the team could identify errors and make corrections before production.

\*Trademark of General Electric Company

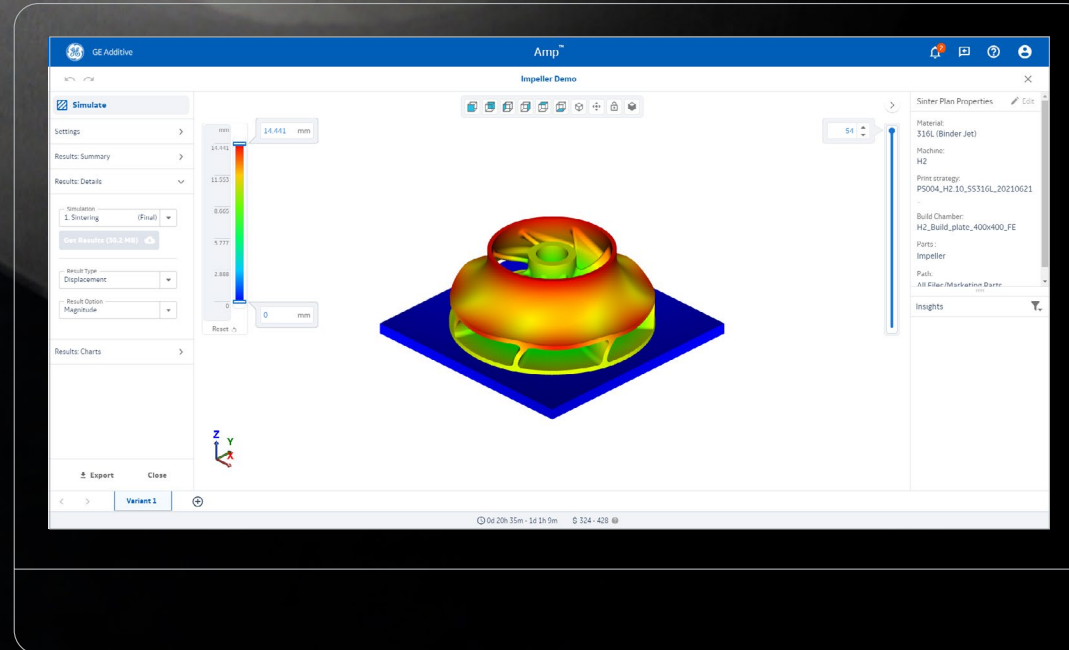
## Why use Amp's Simulation & Compensation?

Unlike other tools today, Amp's Simulation & Compensation is iterative, adaptive and convergent. This easy-to-use tool reduces the barriers for non-simulation experts and integrates into your additive process for a seamless user experience.

## Pave a faster, cost-effective path to full metal additive production.

Download the white paper to learn more about GE's Amp software platform.

[LEARN MORE](#)



## Results

Simulation & Compensation enabled the team to generate simulation-based calculations of distortion before the print process. The team could digitally iterate and compensate until they found a solution that achieved the design intent.

### SIMULATION



Discover potential fail points by simulating the build process before printing.



Simulate and identify where the heat stresses will occur during the build.



Predict thermal, mechanical stresses to better arrange parts on a build plate.



Eliminate manual intervention for compensation and part adjustments.

### COMPENSATION



Generate simulation-based calculations of distortion before the print process.



Compensate for distortions using an intelligent morphing algorithm.



Predict re-coater crashes based on clearance, as well as provide useful insights to fix potential issues.



Reduce manual processes and wasted resources from trial builds.