

AMPHYON TOP USE CASES

Altair Partner Alliance

Predeform a Dental Implant to Eliminate Part Deformation

Challenge

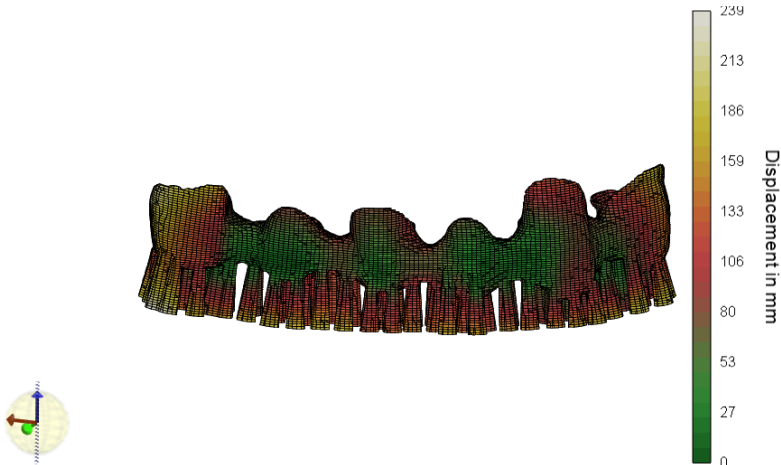
- Parts are distorted due to stresses induced by the process.

Solution

- A simulation is performed and the calculated results are used to generate a pre-deformed STL file, that meets the original shape after build up and stress release.

Result

- Eliminating faulty build jobs saves material and time for the customer.



Automatically Find an Orientation that Minimizes the Required Support Structures

Challenge

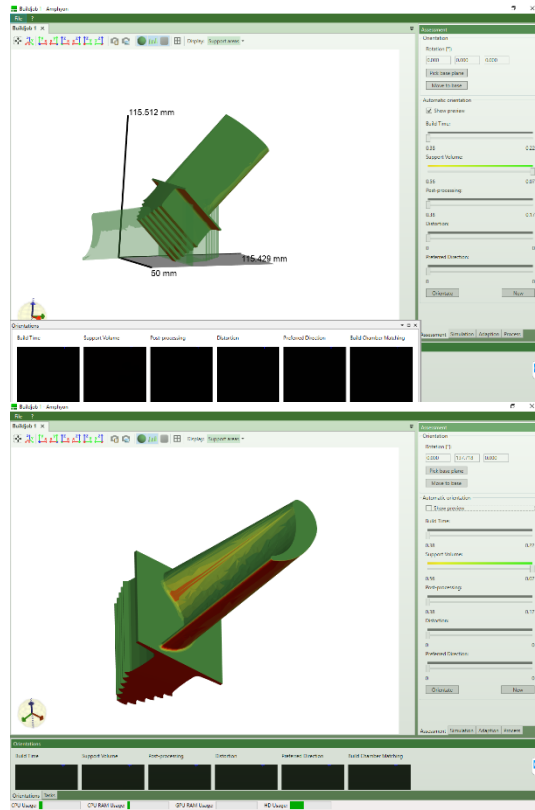
- It requires expert knowledge to determine the build up direction of parts for additive manufacturing in order to optimize certain criteria, such as minimizing support volume.

Solution

- Amphyon provides an automatic and customizable assessment and optimization of all possible build up orientations.

Result

- Our solution is saving time and expert knowledge in process development, which also makes entering into additive manufacturing easier for unexperienced users.



Check a Build Job for Recoater Interference

Challenge

- Due to deformations in the process, the recoater may interfere with a bend up part, leading to an abortion of the process and maybe even damage to the machine.

Solution

- After performing a simulation, each layer can be checked for possible interference with the recoater by checking for a certain displacement in z-direction.

Result

- Aborted processes as well as damage to the machines can be predicted and thereby prevented.

