

Renishaw's TEMPUS™ technology reduces cycle time for 3D printed dental components by 38%



Time saved means lower cost per part



Part quality is unaffected



Challenge:

Renishaw's RenAM 500 series of metal additive manufacturing (AM) systems is used worldwide for volume production of dental implants. This is due to its cost-effective and high-quality output. However, any reduction in cycle time means a lower cost per part for manufacturers, and ultimately a better return on their investment.



Solution:

TEMPUS™ technology is a new scanning algorithm for the RenAM 500 series, which delivers a substantial increase in productivity without affecting part quality. By allowing the lasers to fire at the same time as the recoater is moving, TEMPUS technology can save up to 50% on build time (dependent on part geometry).



Outcome:

Utilising TEMPUS technology on a RenAM 500Q system reduced build times for a removable partial denture (RPD) build by 38%. This brings the time to produce the 32 parts per build plate down to under three hours and means that AM operators can complete multiple builds within a single shift. This level of productivity can be transformative for business competitiveness.

Part	Time: 4 lasers	Time: 4 lasers + TEMPUS™ technology
Dental RPDs	4:35	2:51