

# Renishaw's TEMPUS™ technology enables 38% build time saving for system-critical component



**Time saved means  
lower cost per part**



**Part quality is  
unaffected**



## Challenge:

The adjacent image is a radial recuperator, a heat recovery system in a micro-turbine. It is critical to overall system efficiency since it is responsible for 'recovering' the heat from the exhaust gas leaving the turbine. Given the high complexity and relative size of this component, this build takes almost 60 hours even on Renishaw's highly productive RenAM 500Q AM system.



## Solution:

TEMPUS technology is a new scanning algorithm for the RenAM 500 series of metal AM systems, 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:

Turbine components and heat exchangers which fill the whole build plate and include large numbers of layers see significant absolute time savings with TEMPUS technology. With the addition of optimised process parameters, we completed this build on a RenAM 500Q in just 35 hours, 56 minutes – a huge saving in time and cost.

Part	Time: 4 lasers	Time: 4 lasers + TEMPUS technology	Time saving %
Radial recuperator	57:52	35:56	38%