

Australian Army Proves Metal 3D Printing can Strengthen Sovereign Capability

Darwin, September 4, 2020

The Australian Army has now completed a successful two-week field trial of a 'WarpSPEE3D' metal 3D printer at the Mount Bunday Training Area, Northern Territory.

A team of Royal Australian Electrical and Mechanical Engineers (RAEME) soldiers from 1st Combat Service Support Battalion (1CSSB) overcame extreme conditions to design, print and finish a series of ground-breaking 3D printed parts in the field as case studies.

The trial proves metal 3D printing enabled, by appropriate technical documentation and engineering processes, can support the Army's supply chain resilience and strengthen Australia's sovereign capability.

Developed by SPEE3D, Australian award-winning manufacturer of metal additive manufacturing technology, WarpSPEE3D is the world's first large-format metal 3D printer to use patented cold spray technology.

The printer is capable of printing large metal parts up to 40kg at a record-breaking speed of 100grams per minute. The process harnesses the power of kinetic energy, rather than relying on high-power lasers and expensive gasses, allowing 3D metal printing in the field, at an affordable cost.

Prior to the trial, the team conducted 3D printing training at Charles Darwin University, teaching them the skills they need to design, print, heat treat, machine, test and install metal parts that may fail in the field and can be difficult to replace with existing supply chains.

In one of the case studies during the trial, the team printed a Gunner's ratchet. This specialised multitool is currently used by Defence in the service of the M242 Australian Light Armoured Vehicle Machine Gun. Sourcing the tool using existing supply chains can cost the Australian Army in both significant time and money.

During the trial it was proven that the ratchet can be easily replaced on demand and in the field with a version designed by 1CSSB personnel.

The 1CSSB design was 3D printed in under an hour and with a material that costs approximately \$100.

SPEE3D

Following success with the ratchet, 1CSSB designed and printed an essential metal mounting bracket on the bulk fuel support module which was not in the field supply inventory.

The part took thirty minutes to print; proving that with some design skills and metal 3D printing, Army soldiers can solve common problems.

These case studies, along with over forty others developed during the program, will now form a digital library to be accessed and printed on demand.

This trial proved the Australian Army are effectively able to supplement existing supply chains and connect the skills of the soldiers and a sovereign industry Capability to be *ready now* and *future ready*.

Commanding Officer of 1CSSB, Lieutenant Colonel Kane Wright, valued the benefits of custom-made solutions in the tactical environment.

“Custom made parts, designed and printed in the field, means we can provides the mechanism for our people to get equipment back into action quickly and return it to its primary role on the battlefield,” Lieutenant Colonel Wright said.

“It was great to see the team working together to think of new ways to use the 3D printer, it demonstrated the many hidden talents Australian soldiers possess.

About SPEE3D

SPEE3D, based in Darwin and Melbourne, Australia, is an innovative supplier of metal-based additive manufacturing technology. SPEE3D focuses on the development, assembly, and distribution of machines and integrated system solutions based on the patented supersonic 3D deposition (SP3D) technology. The products enable significantly faster, lower-cost, and more scalable production than traditional metal printing techniques for copper and aluminium.

The Australian Army announced a \$1.5 million investment in a pilot of SPEE3D technology in February 2020 with a 12-month trial designed to test the feasibility of deploying 3D metal printers both on base and in the field. SPEE3D partnered with the Advanced Manufacturing Alliance (AMA) and Charles Darwin University (CDU) to deliver the program with soldiers from the Australian Army's 1st Brigade training in 3D printing at CDU since February.

Note for Editors:

This press releases, along with images and videos can be found in the Resources – Press Kit section of the SPEE3D website (www.spee3d.com/resources).



Media Contact

Aerin Langworthy

SPEE3D

Telephone: +61 403 879 709

aerin.langworthy@spee3d.com

www.spee3d.com

Australia