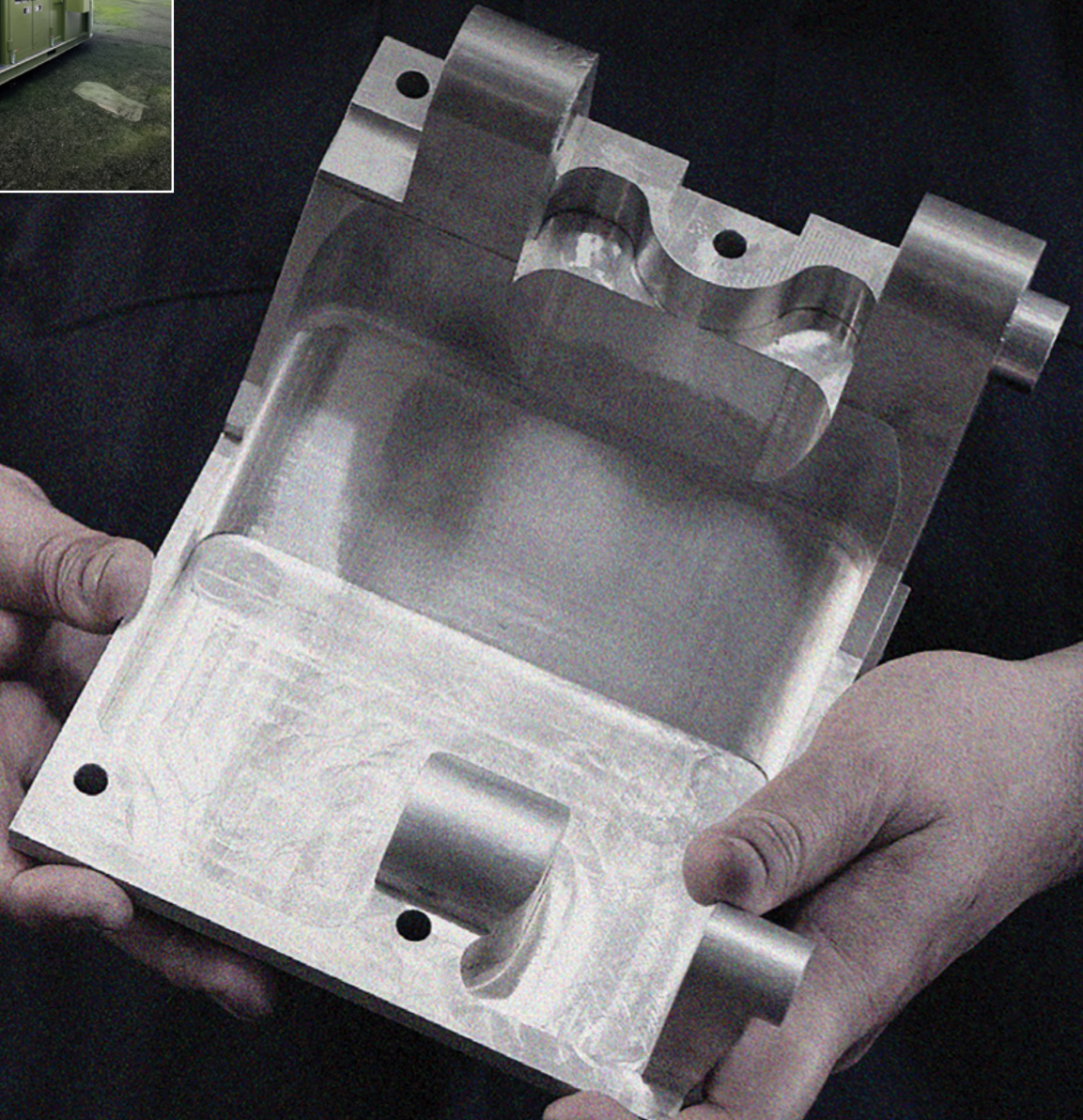


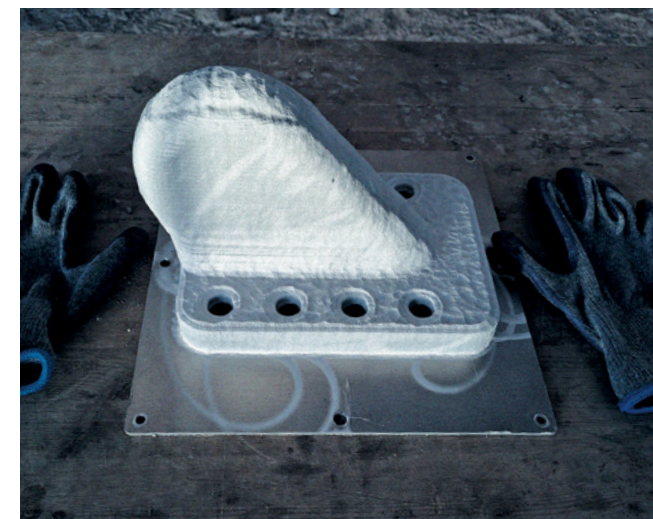
Expeditionary Manufacturing Unit

Print, post-process, and test metal parts on-site



Fast. Reliable. Deployable.

Cold Spray Additive Manufacturing (CSAM) makes it possible to rapidly manufacture cast-equivalent metal parts on-site and on-demand. It enables you to accelerate equipment repair and produce replacement parts faster than ever thought possible.



Metal parts wherever—and whenever—you need them

The Expeditionary Manufacturing Unit (EMU) is a total on-site manufacturing solution comprised of two components: our XSPEE3D printer and our SPEE3DCell post-processing and testing unit. Together, they give you everything you need to print, post-process, and test metal parts in the field or the factory—reducing your reliance on supply chains.

- Containerized, ruggedized, and easy to deploy
- Metal properties equal or superior to their cast counterparts
- No extensive training or complex infrastructure required

The right tech for fast results

The EMU gives leaders across defence and heavy commercial industries an all-in-one metal additive manufacturing solution that reduces time-to-part from weeks and months to hours and days.

TwinSPEE3D automation software

- Process 3D geometries automatically
- Identify unfeasible part features and incorporate design modification suggestions
- Generate print paths for printing or coating

Phaser nozzle

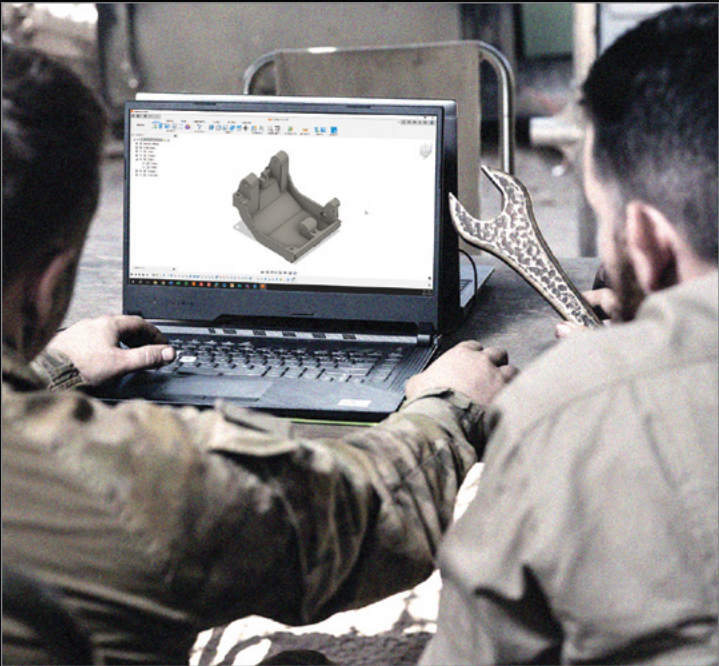
- Produce high-density metal parts
- Increase particle deformation
- Reduce the need for dangerous, expensive gases

SPEE3DCell expeditionary post-processing and testing

- Heat treat, machine, and test parts in the field
- Transport with NATO in-service vehicles in a single 20-ft container
- Leverage the ideal complement to XSPEE3D in the field

How it works

In our highly automated process, metal particles are sprayed at supersonic speeds onto a substrate to build your part in layers. At such a high velocity, the sheer force of the kinetic energy causes the particles to bind together—creating denser parts with lower porosity and predictable material properties.



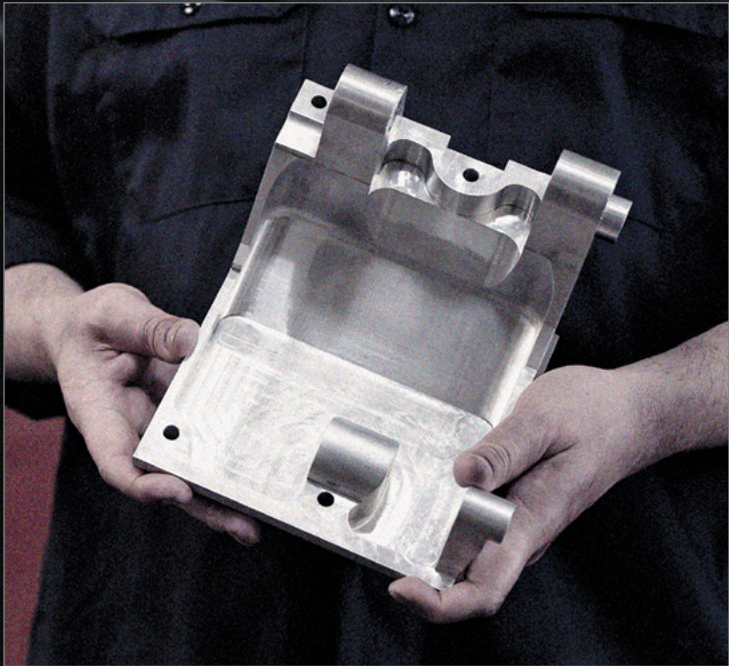
1. Design

Use our TwinSPEE3D automation software to create a tool path from your CAD file or scan, create a full simulation, and modify the design to correct anomalies before you start printing.



2. Print

Use our ultra-high energy phaser nozzle to spray metal powder at supersonic speeds onto a base plate using only compressed air to build your part from a wide range of materials.



3. Cook & Cut

Use our SPEE3DCell expeditionary post-processing unit to heat treat, machine, and test your part before putting it to use.



XSPEE3D

Part Build

- Maximum part size:**
Ø0.9m x 0.7m/ (Ø35" x 30")
- Maximum part weight:**
40kg (88lbs)
- Deposition spot size:**
6mm (0.24")

Software & Interface

- Software:**
TwinSPEE3D
- CAD input:**
STL & STEP format
- User interface:**
Navigation pad & rugged screen
- Required operating system:**
Windows 8 or higher

Performance Specifications

- Deposition rate:**
Up to 100g (3.5oz)/minute
- Electrical power supply:**
400V | 3 Phase | 50/60Hz | 50Kva
- Noise:**
<85dBA @ 1m
- Footprint:**
20ft container (doors closed): 6.2m(L) x 2.6m(W) x 2.6m(H) [20ft(L) x 9ft(W) x 9ft(H)] (approx.)
- Weight:** 12500kg (27558lbs)



SPEE3Dcell

Overall

- Dimensions:** 20ft container (doors closed):
6.2m(L) x 2.6m(W) x 2.6m(H) [20ft(L) x 9ft(W) x 9ft(H)] (approx.)
- Weight:** 8 tonnes
- System power requirement:**
400V | 3 Phase | 50Hz | 50kVA

3-Axis CNC Machine

- Travel:** 18" x 11" x 16.25" (457mm x 279mm x 413mm)
- Spindle:** 10,000rpm

Sintering Furnace

- Temperature max:** 1150°C
- Inner dimensions (mm):** 610W x 610D x 600H

Aging Furnace

- Temperature max:** 650°C
- Inner dimensions (mm):** 560W x 750D x 650H

Test Equipment

- Hardness tester
- Metrology equipment

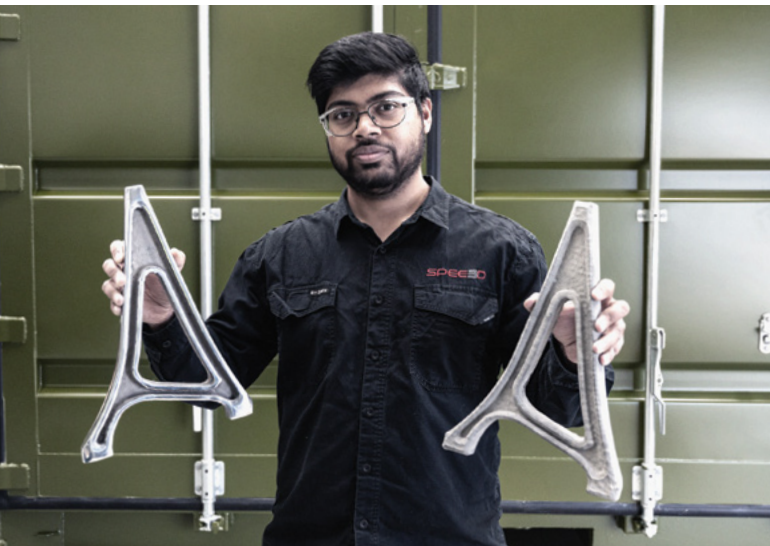
Manual Equipment

- Work bench incorporating tool storage
- Pedestal drill (1.5kW)
- Grinder and finisher
- Vice
- Air compressor (16 litre)
- Quench tank

Tooling

- CNC machine tooling
- Soluble oil cutting fluid

Minimize operational downtime



The Expeditionary Manufacturing Unit (EMU) enables you to print, post-process, and test cast-equivalent metal parts on demand and on-site. This reduces your reliance on supply chains and dramatically accelerates equipment repair and part production.

Features

- Containerized, ruggedized, and easily deployed
- Rapid build rates up to 100g (3.5oz)/minute
- No extensive training required



SPEE3D

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Learn more today

Ready to bring your metal additive manufacturing application to life?
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