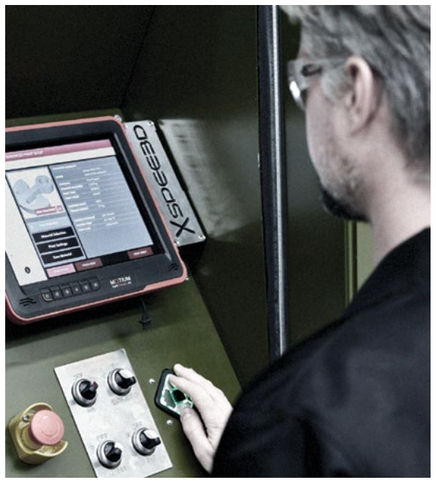
A Revolution in Repair

SPEE3D

XSPEE3D

Fast. Reliable. Deployable.

Introducing Cold Spray Additive Manufacturing (CSAM)—and the ability to easily, rapidly manufacture cast-equivalent spare metal parts on-site and on-demand. It's the innovation you need to accelerate battle damage repair from weeks and months to hours and days.



Make the part. Complete the mission.

XSPEE3D—our expeditionary printer—gives defence organisations and the equipment manufacturers that support them everything they need to produce cast-equivalent metal parts in remote locations. Containerized, ruggedized, and easily deployed, it enables you to effectively reduce disruption and downtime in the field.

- Manufacture metal on-site in remote, austere environments
- Ensure material properties equal or superior to their cast counterparts
- Reduce the need for extensive training

The right tech for fast results

Our CSAM technology enables you to manufacture cast-equivalent metal parts on-demand and on-site, reducing 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

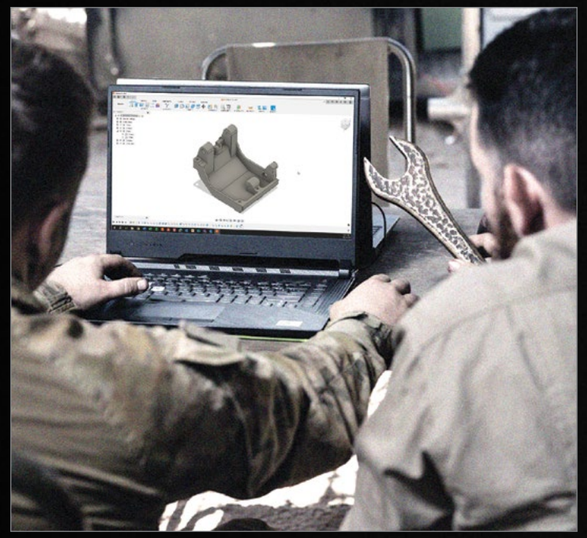
- Produce high-density metal parts
- Increase particle deformation
- Reduce the need for dangerous, expensive gases

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

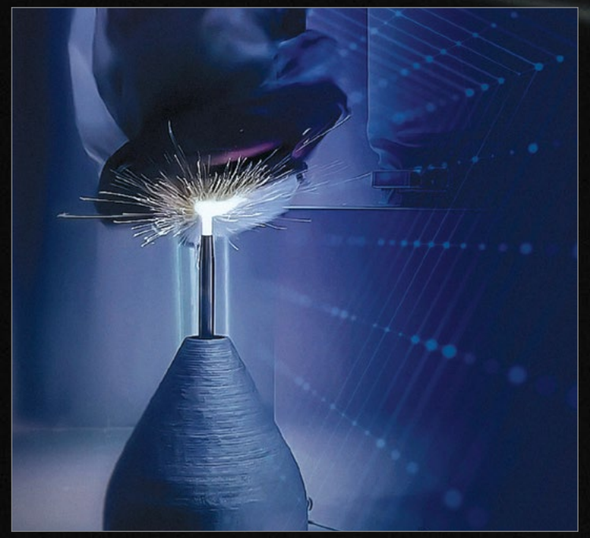
How it works

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.



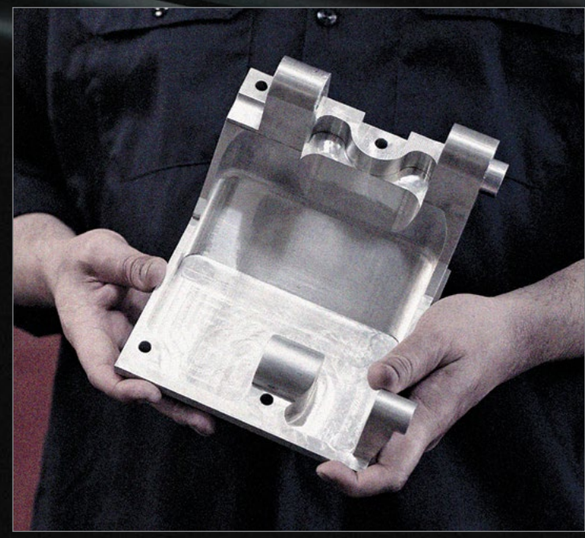
1. Design

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.

The power of CSAM

The XSPEE3D printer takes metal casting into the 21st century, enabling you to rapidly produce critical replacement metal parts on-demand directly at the point of need. It's fast, it's efficient, and it's revolutionizing battle damage repair.

Speed

- Drive build rates up to 100g/minute (3.5oz/minute)
- Reduce time-to-part from weeks and months to hours and days

Mobility

- Transport XSPEE3D as you would a standard shipping container
- Supply power and begin fabricating immediately

Flexibility

- Choose from aluminium, aluminium bronze, nickel aluminium bronze, stainless steel, and copper—with other materials in development
- Print one or multiple parts at once up to 40kg (88lbs) and Ø0.9m x 0.7m/ (Ø35" x 30")

Automation

- Print directly from your CAD files or scans
- Create a digital prototype before you print your part

Ease of use

- Reduce the need for inert gases or extensive training
- Simplify user experience with an intuitive Human Machine Interface (HMI) designed specifically for outdoor and red-light conditions

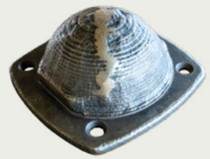
Printed part examples

Type C Camlock Fitting

Print Time	24 Minutes
Material	Aluminium 6061
Weight	660g (1.5lbs)

M113 Wheel Bearing Cover

Print Time	29 Minutes
Material	Aluminium Bronze
Weight	2kg (4.4lbs)



316 Stainless Valve Handle

Print Time	60 Minutes
Material	316 Stainless Steel
Weight	1.2kg (2.6lbs)

Bilge Pump Housing

Print Time	83 Minutes
Material	Aluminium Bronze
Weight	8.3kg (18.3lbs)

Copper Rocket Nozzle Liner

Print Time	199 Minutes
Material	Copper
Weight	17.9kg (39.5lbs)

Technical specs

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 I 3 Phase I 50/60Hz I 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.)

XSPEE3D weight:
12500kg (27558lbs)

Minimize downtime in the field

The expeditionary XSPEE3D metal printer puts the power of metal manufacturing right at your fingertips—so you can accelerate battle damage repair in the field.

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

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Learn more today

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