



# ADDITIVE MANUFACTURING AT TWI

**TWI offers a uniquely independent approach to additive manufacturing, combining advanced deposition techniques with our world-renowned expertise in materials performance, joining, and non-destructive testing.**

Where others focus on process development, we focus on assured performance, helping you certify, validate, and deploy AM in the world's most regulated and safety-critical industries.



## Benefits

The benefits of using additive manufacturing include the opportunity to:

- Create bespoke parts with complex geometries, including internal features
- Manufacture replacement parts where original items are no longer available
- Add features onto existing parts
- Iterate and prototype new designs more rapidly
- Reduce material costs through lower waste and recyclability
- Reduce lead times
- Reduce machining
- Fabricate parts as a single object for improved strength and durability
- Repair and remanufacture worn components

## TWI Support

TWI provides companies with support covering every aspect of metal additive manufacturing (AM), from simple feasibility and fabrication projects to full adoption and integration of metal AM systems. Systems available at TWI encompass Directed Energy Deposition equipment of various power sources, although our expertise covers other techniques including Powder Metallurgy Hot Isostatic Pressing.

As well as completing one-off manufacturing contracts, we can offer complete guidance relating to every stage of the AM adoption process for businesses considering acquiring this technology, including advising on the best system for your needs.. We also help companies already using additive manufacturing to maximise the effectiveness of the process.

Our AM support covers everything from initial feasibility studies and business case proposals, numerical modelling and topology optimisation, and material and process selection, to finishing, heat treatments, testing, certification and validation, as well as relevant standards. Our AM teams are supported by process modelling and non-destructive inspection from our in-house colleagues, giving you confidence in our ability to deliver solutions for AM joining, validating and surfacing for repair or coatings.

**FOR MORE INFORMATION, PLEASE CONTACT US AT [CONTACTUS@TWI.CO.UK](mailto:CONTACTUS@TWI.CO.UK).**