

# NATEP

## ALM Projects



NATEP - ALM Projects

Project	Supply chain partnership	Contact
<b>Advanced Magnesium Investment Casting (AMIC)</b>	<ul style="list-style-type: none"> <li>• Aeromet International Ltd</li> <li>• Luxfer MEL Technologies</li> <li>• Spirit Aero Systems</li> </ul>	Paul Monington Head of New Technology  paul.monington@aeromet.co.uk
<p>The development of investment casting technology to enable the casting of near net shape magnesium castings. The project utilises additive manufacturing techniques in pattern production to reduce lead time and production costs, while addressing reported casting difficulties with innovative ceramic shell solutions.  <b>NATEP Grant £150,000</b></p>		

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<b>High Strength Aluminium Powder for additive manufacture (HighSAP)</b>	<ul style="list-style-type: none"> <li>• Aeromet</li> <li>• Phoenix Scientific Industries Ltd (PSI)</li> <li>• Renishaw plc</li> <li>• Rolls-Royce plc</li> </ul>	Mike Bond Director Advanced Material Technology  mike.bond@aeromet.co.uk
<p>HighSAP will bring a high strength aluminium powder to the AM market, with an improved operating temperature over AlSiMg or Scalmalloy.  <b>NATEP Grant £150,000</b></p>		

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<b>Wet Fit Slave Fasteners</b>	<ul style="list-style-type: none"> <li>• Kwikbolt Ltd</li> <li>• i2M</li> <li>• Wesco Aircrafts (customer)</li> <li>• GKN Aerospace (customer)</li> <li>• Lockheed Martin Aeronautics (customer)</li> </ul>	Mr Jan Niklewicz – Technical Director jan@kwikbolt.com
<p>The project will design and develop, in collaboration, new innovative wet fit slave fasteners to be used during composite aircraft assembly. Providing a more efficient and effective working environment as well as a more cost effective, environmentally friendly and reliable method of production.  <b>NATEP grant £145,000</b></p>		

Project	Supply chain partnership	Contact
<b>Lightweight Pipe End-Fittings</b>	<ul style="list-style-type: none"> <li>• Sigma Precision Components UK Ltd</li> <li>• 3T RPD Ltd</li> <li>• Customer</li> </ul>	Mike Andreae - Director of Technology and Improvement michael.andreae@sigmacomponents.co.uk
<p>The Lightweight Pipe End-Fittings project will design rigid pipe end-fittings for minimum mass, suitable for additive manufacture technology and test them in accordance with aero engine operating conditions.  <b>NATEP Grant £143,000</b></p>		

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<b>Hydraulic Hand Tool Development</b>	<ul style="list-style-type: none"> <li>• F E Robinson Ltd</li> <li>• Klauke UK Ltd</li> <li>• Airbus Operations (customer)</li> </ul>	Guy Williams Managing Director guy.williams@ferobinson.co.uk
<p>UK SME F.E. Robinson is leading the design and development of a range of light weight “Smart” Hydraulic hand tools tailored for use in the Aerospace sector. For the first time, the customer will be enabled in achieving substantial efficiency improvements in certain manual operation wing production processes.</p> <p><b>NATEP Grant £150,000</b></p>		

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<b>Polymeric Additive Manufacturing for Aircraft Interiors</b>	<ul style="list-style-type: none"> <li>• Bristol Aero Ltd</li> <li>• HiETA Technologies Ltd</li> <li>• Ipeco Holdings (customer)</li> <li>• Jet Aviation AG (customer)</li> </ul>	Brett Peterson – Head of Engineering brett.peterson@bristol.aero
<p>The use of recently developed, cost effective, polymeric additive manufacturing materials with sufficient levels of fire retardancy for use in high value aircraft interiors and systems is investigated through a full design-manufacture-test cycle.</p> <p><b>NATEP Grant £145,500</b></p>		

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<b>Additive Aero Valve Optimisations (AAVO)</b>	<ul style="list-style-type: none"> <li>• Meggitt Aerospace Ltd</li> <li>• Ashton &amp; Moore Ltd</li> <li>• GE Aviation (customer)</li> </ul>	Scott Lathrope –Meggitt PLC Engineer Scott.Lathrope@meggitt.com
<p>A program to design, manufacture and test a functional aircraft component that is fully optimised for additive layer manufacture. A standardised optimisation capability will be generated by capturing process “lessons learned”.</p> <p><b>NATEP Grant £142,500</b></p>		

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<b>Project Fusion</b>	<ul style="list-style-type: none"> <li>• AVPE Ltd</li> <li>• South West Metal Finishing</li> <li>• Airbus Innovations(customer)</li> <li>• Airbus Group (customer)</li> <li>• Renishaw plc (customer)</li> <li>• LIMA (customer)</li> </ul>	Chris Steel – Chairman chris.steel@avpe.co.uk
<p>AVPE is an SME supplying directly into Airbus’ MRO business. Project Fusion will develop Airbus certified “Class 2” components manufactured using ALM technology with modified post ALM machining, NDT and surface treatment processes.</p> <p><b>NATEP Grant £150,000</b></p>		

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<b>Metrology for Additive Manufacturing</b>	<ul style="list-style-type: none"> <li>• Insphere Limited</li> <li>• Renishaw</li> <li>• Airbus Group Innovations (customer)</li> </ul>	Ben Adeline Chief Executive ben@insphereltd.com
<p>This project will develop an innovative and highly sought after metrology verification method for additive manufacturing processes. This will enable unique techniques for additive manufacturing process control supporting the certification of AM parts for production aerospace use.</p> <p>NATEP Grant £122,800</p>		

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<b>ALFLEX</b>	<ul style="list-style-type: none"> <li>• 3D Metal Printing Ltd</li> <li>• University of Bath</li> <li>• Leonardo MW Ltd (customer)</li> </ul>	Alberto Casonato Managing Director alberto@3dmetalprinting.co.uk
<p>The objective of this research is to investigate the capability of manufacturing in ALM a Tail Driveshaft Flexible Coupling for an AW helicopter. The expected results are to improve damage tolerance, inspectability and eliminate the presence of fasteners and ultimately to reduce component complexity. Because this is a flight critical part, AW will also be working with and supporting the partners on a less critical Fan Impeller to enable more testing that will improve and influence the Coupling design.</p> <p>NATEP Grant £88,200</p>		

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<b>Cooled Core Die Blocks</b>	<ul style="list-style-type: none"> <li>• Gardner BTC Ltd</li> <li>• Material Solutions</li> <li>• Invest Tech Ltd (customer)</li> </ul>	Keith Fulford Project Manager kfulford@gardner-aerosapce.com
<p>Gardner BTC Ltd., manufacturer of Injection dies is developing new technologies to produce core dies using alternative advanced manufacturing methods, specifically focused on providing better injected parts and reduced non-conformance.</p> <p>NATEP Grant £52,150</p>		

Project	Supply chain partnership	Contact
<b>ADAPT – Affordable Detail Additive Parts Technology</b>	<ul style="list-style-type: none"> <li>• Hyde Aero Products Ltd</li> <li>• HK3D Solutions Ltd</li> <li>• MBDA UK Ltd</li> <li>• The Boeing Company (customer)</li> </ul>	Paul Mellor Technical Director pmellor@hydeaero.co.uk
<p>The ADAPT project will seek to determine the applicability of Atomic Diffusion Additive Manufacturing technology for use in cost effective manufacture and optimised design of detail metallic components in aerospace when compared to traditional subtractive manufacturing strategies.</p> <p>NATEP Grant £98,150</p>		

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<b>Composite Baseplates for aerospace antennas</b>	<ul style="list-style-type: none"> <li>• Technical Composite Systems Ltd</li> <li>• Cobham Antenna Systems</li> <li>• University of Exeter</li> <li>• (customer) tbc</li> </ul>	Michael Sloan Managing Director msloan@technicalcompositesystems.co.uk
<p>The project consortium aims to develop, test and exploit new technologies to improve aircraft communication hardware. Structural composite materials and advanced surfacing technologies will reduce the mass of current systems.</p> <p><b>NATEP Grant £145,115</b></p>		