

NATEP

National Aerospace Technology Exploitation Programme

Materials projects



Materials Projects

Project	Supply chain partnership	Contact
A20X Surface Treatments Development	<ul style="list-style-type: none"> • Aeromet • Poeton Industries • Boeing (customer) 	Mike Bond - Director of Advanced Material Technology mike.bond@aeromet.co.uk
<p>The project will develop and verify the performance on a range of metal finishing treatments (anodic and chemical conversion coatings) for Aeromet's A20X family of casting alloys without using hexavalent chrome compounds (which have a limited life under REACH legislation).</p> <p>NATEP grant £35,000</p>		

Project	Supply chain partnership	Contact
Thermoplastic Composite Fusion Welding (CoFusion)	<ul style="list-style-type: none"> • AGC AeroComposites • The National Composites Centre • Ten Cate Advanced Composites Ltd • Rolls-Royce plc (customer) 	David Conway - Materials Technology Director dave.conway@agcaerocomposites.com
<p>The CoFusion project builds on previous development work to optimise the efficiency and applicability of an innovative, rapid, low cost and flexible thermoplastic composite welding process to aerospace standards.</p> <p>NATEP Grant £137,000</p>		

Project	Supply chain partnership	Contact
Large Deployable Antenna for Space	<ul style="list-style-type: none"> • Oxford Space Systems • Reliance Precision Ltd • MDA Corporation UK Ltd (customer) • VTOL-Technologies (customer) 	Mat Rowe – Project Manager mat.rowe@oxfordspacesystems.com
<p>Oxford Space Systems will design & develop a reflector surface for attachment to their existing scalable large deployable antenna.</p> <p>NATEP Grant £150,000</p>		

Project	Supply chain partnership	Contact
Flexible Air distribution ducting	<ul style="list-style-type: none"> • AVS- SYS Ltd • Arville Textiles • Raytheon (customer) 	Andrew Whitehead – Engineering Director awhitehead@avsupport.org.uk
<p>The project is to design weight-saving and cost saving flexible aerospace ducts which will support the development of a new manufacturing facility in the North West of England providing employment opportunities and increased exports.</p> <p>NATEP Grant £127,850</p>		

Project	Supply chain partnership	Contact
Rapid Development Compressor Component Manufacture	<ul style="list-style-type: none"> • Centrax Turbine Components • Mettis Aerospace • West Country Tools (WCT) • Rolls Royce plc (customer) 	Josh Sansom Josh.sansom@centraxtcl.com
Providing a full commodity manufacturing solution to the production of HPC components to meet cost, quality and delivery targets in a flexible design sphere NATEP Grant £149,340		

Project Title	Supply chain partnership	Contact
Polymeric Additive Manufacturing for Aircraft Interiors	<ul style="list-style-type: none"> • Bristol Aero Ltd • HiETA Technologies Ltd • Ipeco Holdings (customer) • Jet Aviation AG (customer) 	Brett Peterson – Head of Engineering brett.peterson@bristol.aero
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. NATEP Grant £145,500		

Project	Supply chain partnership	Contact
Metal Matrix Composites for Helicopter Applications	<ul style="list-style-type: none"> • Aerospace Metal Composites Ltd • Mettis Aerospace • Leonardo MW Ltd (customer) 	Dr Stuart Godfrey – Business Development Manager stuart.godfrey@materion.com
This project will develop both an aluminium and Silicon Carbide (SiC) metal matrix composite (MMC) material and create a forging supply chain specifically for helicopter applications. The funding will thus create a UK source (for the first time) for this high performance material which is required in the aerospace market. NATEP Grant £ 150,000		

Project	Supply chain partnership	Contact
SmartHUD	<ul style="list-style-type: none"> • Artemis Optical • Plessey Semiconductors Ltd • BAE Systems (customer) 	Stuart Allan – Technology Director stuart.allan@artemis-optical.co.uk
SmartHUD aims to use the recent proliferation in LED light sources and design unique and novel thin film coatings to enable their use in Head Up Display systems. The advantages sought are reduced weight, longer useful life of the light source and enhanced optical performance of the overall module. NATEP Grant £102,890		

Project	Supply chain partnership	Contact
Lead-Free Detonating Cords	<ul style="list-style-type: none"> • Chemring • Brunel University • Martin Baker Aircraft (customer) 	Andrew Bentley - BD Technology & Innovation Executive – Devices andrew.bentley@chemringenergetics.co.uk
<p>The identification of suitable alloys and manufacturing processes to replace lead in the explosive detonating cords used in aircraft and space launch vehicles. NATEP Grant £128,890</p>		

Project	Supply chain partnership	Contact
Composite Electrostatic Transport Elements (CompETE)	<ul style="list-style-type: none"> • AGC Aero Composites • Element Materials Technology • ENL Ltd • Technical Fibre Products Ltd • Airbus Operations (customer) 	David Conway – Materials Technology Director dave.conway@agcaerocomposites.com
<p>The development of lightweight, shaped and damage resistant composite fuel pipe assemblies that by virtue of their tightly controlled electrical properties can be used safely in composite aircraft fuel tanks NATEP Grant £131,090</p>		

Project	Supply chain partnership	Contact
High Strength Aluminium Alloy Failure Modelling	<ul style="list-style-type: none"> • Cabot Design Ltd • Gingerneering Ltd • Airbus Operations (customer) 	Mervin Davidson – Director merv.davidson@cabotdesign.com
<p>An advanced material model which facilitates the accurate analysis of high strength aluminium alloys under complex loading conditions, with specific application to the prediction of the initiation of failure under load. NATEP Grant £150,000</p>		

Project	Supply chain partnership	Contact
Graphene Composites Evaluated in Lightning Strike (GraCELS)	<ul style="list-style-type: none"> • Haydale Composite Solutions Ltd • SHD Composites Ltd • Cobham Antenna Services • Airbus UK(customer) • BAE Systems plc (customer) 	Gerry Boyce – Managing Director gerry.boyce@haydalecs.com
<p>The addition of functionalized graphene nanoparticles into the epoxy resin matrix of composite materials will greatly enhance the electrical conductivity thereby making them much more resistant to lightning-strike damage. NATEP Grant £150,000</p>		

Project	Supply chain partnership	Contact
Biocomposites for Aerospace Interiors (BAIT)	<ul style="list-style-type: none"> • Net Composites Ltd • AIM Composites • Composites Evolution • AIM Cabin Interiors (customer) 	Elliot Fleet – Project Manager elliot.fleet@netcomposites.com
<p>The project will develop pre-impregnated (“Prepreg”) composite materials for aerospace interior applications that are based on a novel 100% bio-based fire-safe resin system that provides an alternative to conventional petrochemically-derived phenolics</p> <p>NATEP Grant £146,570</p>		

Project	Supply chain partnership	Contact
Enterprise Bio-Interiors Project	<ul style="list-style-type: none"> • SHD Composite Materials Ltd • AIM Aviation Ltd • Ipeco Composites (customer) 	Nick Smith – Technical Director nsmith@shdcomposites.com
<p>The innovative technology to be developed is a water based resin pre-impregnated glass fibre composite material (prepreg) giving good Fire Smoke and Toxicity (FST) properties for the aircraft interiors market.</p> <p>NATEP Grant £74,500</p>		

Project	Supply chain partnership	Contact
Inkjet Printed Graphene Composite Materials	<ul style="list-style-type: none"> • Applied Graphene Materials Limited • SHD Composite Materials Limited • The Boeing Company (customer) 	Dr Tim von Werne Technical Director Tim.vonwerne@appliedgraphenematerials.com
<p>This project seeks to produce lighter and more damage tolerant composites by optimising the application of new graphene materials and processing techniques. Successful demonstration will enable composites to achieve a step further towards their full potential. In practical terms: tougher composites means lighter composites which leads to significantly lower operating costs for the aerospace industry.</p> <p>NATEP Grant £150,000</p>		

Project	Supply chain partnership	Contact
Next Generation Single Crystal Helix	<ul style="list-style-type: none"> • Investment Casting Systems Ltd • C&M Mould Tools Ltd • Resinex UK Ltd • Rolls Royce (Precision Casting Foundry) (customer) 	David Granados Alcala Programmes Manager David@investmentcastingsystems.co.uk
<p>Design and production of an innovative feature which will increase the production yield of the casting process for single crystal turbine blades & structures.</p> <p>NATEP Grant £142,600</p>		

Project	Supply chain partnership	Contact
Mouldable Liners	<ul style="list-style-type: none"> • SKF • WMG HVM Catapult • Leonardo (customer) 	Grant Dennis Project Manager grant.dennis@skf.com
<p>This project will develop greater flexibility and customisation to plain bearings technologies, permitting them meet the changing and demanding requirements of the aerospace market.</p> <p>NATEP Grant £150,000</p>		

Project	Supply chain partnership	Contact
Textilub – a novel self-lubricating liner	<ul style="list-style-type: none"> • SKF • Tiab Limited • Agusta Westland (customer) 	Michael Colton Local Product Development Manager Michael.Colton@skf.com
<p>Textilub will deliver the next generation of novel plain bearings to the meet the changing and demanding requirements of the aerospace market</p> <p>NATEP Grant £150,000</p>		

Project	Supply chain partnership	Contact
Multifab- A Multifunctional composite fabric concept	<ul style="list-style-type: none"> • Diversus Ltd • University of Bath • Leonardo MW Ltd (customer) 	Chris Brill Director info@Diversus.Technology
<p>The main objective of this project is the development of a multifunctional fabric to be embedded as an additional layer in conventional helicopter blades. Intrinsic functionalities include anti and de-icing properties, damage detection and lightning strike protection.</p> <p>NATEP Grant £148,000</p>		

Project	Supply chain partnership	Contact
Graphene-Enhanced adhesive Technology through Functionalisation	<ul style="list-style-type: none"> • Haydale Composite Solutions Ltd • SHD Composites Ltd • Element Materials Technology Hitchin Ltd • Airbus (customer) • GE Aviation Systems (customer) 	Dr Quentin Fontana Collaborative R&D Manager quentin.fontana@haydalecs.com
<p>Addition of functionalized graphene to epoxy adhesives will allow them to act as electrical conductors rather than as insulators allowing for an electrically unified structure</p> <p>NATEP Grant £150,000</p>		

Project	Supply chain partnership	Contact
Cooled Core Die Blocks	<ul style="list-style-type: none"> • Gardner BTC Ltd • Material Solutions • Invest Tech Ltd (customer) 	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
LoVar for aerospace and space applications	<ul style="list-style-type: none"> • Aerospace Metal Composites Ltd • ExoTec Precision • NASA Goddard Space Flight Centre 	David Tricker Technical Manager david.tricker@materion.com
<p>This project will develop a Fe-36Ni metal matrix composite (MMC) material. Specifically this composite material will have reduced density and improved thermal expansion properties compared to more conventional Invar® type systems</p> <p>NATEP Grant £120,000</p>		