

NATEP

Process Improvement projects



| Project | Supply chain partnership | Contact |
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| ADAPT – Affordable Detail Additive Parts Technology | <ul style="list-style-type: none"> • Hyde Aero Products Ltd • HK3D Solutions Ltd • MBDA UK Ltd • The Boeing Company (customer) | 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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| Composite Baseplates for aerospace antennas | <ul style="list-style-type: none"> • Technical Composite Systems Ltd • Cobham Antenna Systems • University of Exeter • (customer) tbc | 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>NATEP Grant £145,115</p> | | |

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| BASELINE - Rapid Machine Tool Verification | <ul style="list-style-type: none"> • Insphere Ltd • Hexagon Manufacturing Intelligence (UK) Ltd • Nuclear Advanced Manufacturing Research Centre • Rolls-Royce plc | Ben Adeline Chief Executive ben@insphereltd.com |
| <p>The Baseline project will develop a solution for rapid verification of large volume machine tools. The outcome of this will be to improve machining processes, reducing scrap and improving machine uptime.</p> <p>NATEP Grant £107,790</p> | | |

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| Chrome Replacement Super Finish Technology | <ul style="list-style-type: none"> • Hardide Coatings Ltd • Perfect Bore Manufacturing • Engis UK Ltd • Impcross Ltd (customer) | Dr Yuri Zhuk –Technical Director yzhuk@hardide.com |
| <p>Development of machining techniques to a chrome replacement coating applications on parts such as seal counter-bodies, erosion and high load bearings with complex geometries including internal bores.</p> <p>NATEP Grant £150,000</p> | | |

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| COP-E4 Combustion Optimisation Program | <ul style="list-style-type: none"> • Weslake Air Services Ltd • Aerospace Metal Composites Ltd • EFI Ltd • Swift Air (customer) • Axter Aerospace (customer) • Britten Norman Aircraft Ltd (customer) | John Lamberton Managing Director John.lamberton@weslake.eu |
| <p>The COP-E4 project will develop a novel heavy fuel powertrain for lightweight, safe and more fuel efficient aero-engines with significant reductions in cost and emissions.</p> <p>NATEP Grant £150,000</p> | | |

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| Foyr Toshee | <ul style="list-style-type: none"> • RLC (UK) Ltd • Aquajet Holdings Ltd • GF Machining Solutions • Warwick Machine Tools • EMAG(UK)Ltd • Rolls-Royce plc (customer) | Mayank Patel – Project Manager mayank.patel@rlc-group.com |
| <p>The approach of this project is to advance existing technologies to create a closer to form material input which will both reduce the raw material input cost and reduce RLC manufacturing costs, resulting in a competitive manufacturing method for the Titanium Fan Blade Leading Edge</p> <p>NATEP Grant £125,000</p> | | |

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| Helicopter Auto Regime Recognition and Continuous RTB | <ul style="list-style-type: none"> • Helitune • University of Bristol • Prosig • Castle Air (customer) | Dominic Southgate - Project Manager dominic.southgate@helitune.com |
| <p>This project will use novel algorithms that automatically detect helicopter flight regimes to enable continuous recording of rotor track and balance data. The outcome will be a reduced number of dedicated maintenance flights, increased helicopter availability and reduced overall costs to aircraft operators.</p> <p>NATEP Grant £150,000</p> | | |

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| Thermoplastic Encapsulated Embedded Power Modules (TEE-P) | <ul style="list-style-type: none"> • Tribus-D Ltd • Ultrawise Innovation Ltd • Leonardo MW Ltd | info@tribus-d.uk |
| <p>Assembly processes for the power electronics modules are critical for efficiency, size, weight and costs. This project will maximise thermal dissipation and minimise circuit parasitics through advanced interconnection and device encapsulation techniques</p> <p>NATEP Grant £37,200</p> | | |

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| Developing a new ultra-low temperature Hardide coating | <ul style="list-style-type: none"> • Hardide Coatings Ltd • Westmoreland Testing & Research Ltd • Perfect Bore Manufacturing • Airbus (customer) • Leonardo (customer) | Dr Yuri Zhuk –Technical Director yzhuk@hardide.com |
| <p>Development of, and characterisation of properties, of an ultra-low temperature CVD nano-structured tungsten/tungsten carbide based coating to increase wear, galling and corrosion resistance for low-tempering temperature steels. Providing an alternative to Hard Chrome, HVOF and other similar coatings on a wider range of materials.</p> <p>NATEP Grant £150,000</p> | | |

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| Hot Isostatic Pressing of Titanium Components (HIPNOTIC) | <ul style="list-style-type: none"> • Maher Ltd • Nikken Innovation Centre Europe Ltd • Replicast Ltd • Westmoreland Testing & Research Ltd • Airbus (customer) | Gerry Clark Managing Director gerry.clark@maher.com |
| <p>The aim of the project is to deliver component demonstrators for the Wing of Tomorrow programme led by Airbus. Novel technology delivered by a newly established local supply chain will be used to manufacture the components.</p> <p>NATEP Grant £148,545</p> | | |

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| Forging Near Net Shape Titanium Components (FRANTIC) | <ul style="list-style-type: none"> • Maher Ltd • Bifrangi UK • Westmoreland Testing & Research Ltd • The Boeing Company (customer) | Gerry Clark Managing Director gerry.clark@maher.com |
| <p>The FRANTIC project aims to establish a new supply chain in the UK for titanium aero structures. Using novel forging techniques to manufacture near net shape components will result in cost competitive solutions for the end user</p> <p>NATEP Grant £97,040</p> | | |

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| Low cost packages for semi-conductor devices | <ul style="list-style-type: none"> • Semelab Ltd • Panda Europe • AK Industries Ltd • GE Aviation Systems | Liam Mills – R&D Manager liam.mills@semelab-tt.com |
| <p>The project proposes to develop a recyclable high temperature polymer that can be moulded around a metal lead frame to produce a lower cost package alternative to traditional co-fired ceramic surface mount packages for current aerospace applications and future high temperature requirements</p> <p>NATEP Grant £150,000</p> | | |

