ADS Securing UK advantage

NATEP

SC21

Supply Chain Solutions FRAMEWORK

Celebration of NATEP

Supplier Capability Brochure

24 April

Rolls-Royce Learning & Development Centre

Event Summary

- The event will take place on the 24 April at Rolls Royce Learning & Development Centre in Derby. The event will celebrate the National Aerospace Technology Exploitation Programme (NATEP) and a joint Supply Chain 21 (SC21) /NATEP Meet the buyer opportunity.

- The NATEP programme is drawing to a close after 12 years of funding innovation in the civil aerospace sector.

- Representatives of some of the nearly 250 funded projects in 10 technology categories will be present to showcase their maturing technologies to potential customers.

- Hear from industry on future technology requirements and about the funding opportunities available to support the R&D necessary to meet those challenges.

Agenda

Each of the scheduled NATEP Projects/SC21 B2B meetings (see bold on the right) will last up to 15 minutes with the opportunity for suppliers to brief your organisation on their technologies, capabilities, products, and services.

If you wish to participate in the NATEP 3 Projects / SC21 Meet the Buyer activity, please send an email with the following details:

To: Ed.Raggett@adsgroup.org.uk
Subject: Celebration of NATEP
Body:
- Name and contact details of lead point of contact
- Companies listed in the Supplier Capability Brochure that you wish for ADS to arrange B2B meetings with

Time	Agenda Item
10:00 - 10:30	Arrivals and Networking
10:30 - 11:30	OEM capability requirements presentation
11:30 - 11:45	ATI Programme Funding opportunities
11:45 - 12:15	Innovate UK Support for SMEs
12:15 - 12:30	NATEP 3 Evaluation report findings
12:30 - 13:30	Networking lunch
13:30 - 17:30	**NATEP 3 Projects/SC21 Meet the Buyer event (scheduled appointment)**
13:30 - 17:30	NATEP 3 Meet Innovate UK (Business Connect) (non-scheduled)
13:30 - 17:30	NATEP 3 Meet the ATI/ATI drop-in clinics (non-scheduled)
17:30	Meeting close

NATEP

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Supply Chain Solutions FRAMEWORK

Supplier Profiles

Active Electronics Plc

Website: www.active-electronics.co.uk

Address: Unit 6, The Valley Centre, Gordon Road, High Wycombe, Bucks, HP13 6EQ

Primary Sector:

Aerospace

Secondary Sector(s):

Defence

Organisation Summary

Privately owned company with 3 global sites. Supporting the aerospace and defence markets (BAE SYSTEMS / Rolls Royce / Thales) with component supply and Kitting and Assembly solutions.

NATEP since 2019

No

Capabilities

- Manufacturing
- Materials
- Sensing technologies

Technologies, Products, or Services

Supplier of electronic franchise components and supporting and supplying global products. Active can assist your design engineers with product solutions from our FAE team and Kitting and Assembly.

Certifications

- AS9100
- AS9120
- JOSCAR

Actuation Lab

Website: https://www.actuationlab.com/

Address: Unit 3a Princess Street, Bedminster, Bristol, England, BS3 4AG

Primary Sector:

Energy

Secondary Sector(s):

Aerospace, Defence & Space

Organisation Summary

Actuation Lab is an innovation-led valve business that has developed a breakthrough in valve technology - a valve with 1/10th the operating torque of traditional fuel system valves, that won't leak externally no matter how much you operate it.

We are an 18 strong team based in Bristol, UK. We are nearing completion of an ATI funded project to develop our technology for aerospace hydrogen fuel systems, having worked closely with one of the largest future customers of our technology. We have just secured a further £1.5m to get the valve through ground-based testing with Liquid Hydrogen in representative fuel systems.

NATEP since 2019

Yes

Capabilities

- Manufacturing
- Materials
- Testing

Technologies, Products, or Services

Actuation Lab, has developed the Dragonfly Valve technology. Our core innovation is the Dragonfly valve mechanism which allows leak-free, stemless operation of the valve, by reducing the valves operating torque 10x compared to an equivalent ball valve. This low operating torque allows magnetic torque input through the solid wall of the valve, ensuring zero external leakage from a compact package, even at high cycles. Current cryogenic valves require multiple sealing methods and large, heavy package sizes, rendering them unsuitable for long term aerospace service.

ATI's Destination Zero strategy identifies LH2 as a crucial enabler for achieving Net Zero carbon emissions for commercial aircraft by 2050, supporting the competitiveness of the UK industry. Deploying LH2 as an aviation fuel present significant barriers that are addressed by the DFV. For instance, small molecular size makes it difficult seal, both to stop it passing through a closed valve, and to keep it in the pipe as through body seals on moving components (valve stems) wear over time. Hydrogen will even permeate through solid materials. Should hydrogen escape, its wide explosive limits (4-75%) makes it extremely dangerous, while interaction with metals can cause embrittlement, reducing component durability. Liquid hydrogen introduces additional challenges. Extremely low temperatures limit the effectiveness of polymeric seals, while vacuum insulation and careful management of heat transfer and flow induced cavitation is needed to prevent rapid vaporisation and dangerous pressure build-up.

Our technology is specifically designed to tackle these challenges, and we are seeking partners to accelerate and trial this technology to advance the next generation of aerospace systems.

Certifications

- ISO9001 target award date April 2025

Adaptix ltd

Website: https://adaptix.com/ndt/

Address: Centre for Innovation & Enterprise, Oxford University Begbroke Science Park, OX5 1PF

Primary Sector:

Aerospace

Secondary Sector(s):

Defence, Security & Space

Organisation Summary

A company of 70+ people, owned by Avingtrans plc. The Adaptix NDT team offer a different way to do 3D imaging with X-Ray. The low power and speed enables 3D X-Ray in places that you can't do CT (imagine being able to image a whole aero structure like a wing in a few minutes, with 3D data as the output). The technology is particularly strong in composites inspection, metal additive, plastic additive, battery inspection, electronics components and electronics assembly inspections.

NATEP since 2019

Yes

Capabilities

- Additive Manufacturing
- Composites
- Testing
- Materials

Technologies, Products, or Services

Adaptix brings fast, low dose 3D X-Ray to places and applications that were not previously possible. Quicker than CT, and scalable across large parts. Key applications we can quickly image are welds, metal additive parts, composite production and MRO, battery inspection.

CT scans take hours, our Tomosynthesis approach gives CT quality images in under 2 minutes. The low dose means 3D imaging can now safely be done in the field on maintenance and repair applications, the speed means it can be integrated into a production line to reduce scrappage and to enable digital twin X-Ray data of the part through it's life.

• No-one else brings low dose, fast 3D X-ray to parts that are 10's of feet long/square.
• Quality checking composites doesn't have to wait until ultrasound is done at the end of production but can instead be checked pre-cure for flaws.
• Metal additive WAAM parts can now be inspected during the build, not after. Adaptix X-Ray will enable mass uptake of metal additive in aerospace as it is the complimentary NDT modality.
• Low dose means 3D imaging is possible in places where it was not previously possible to do so.
• File size much smaller than a CT scan, another reason why this approach works well as a digital twin

Metal additive can now be quickly checked in build and at the end of production, scrappage of composites reduced, enable digital twins of part data enabled for through life monitoring of parts. Wouldn't you love to have CT quality images of every composite/metal additive part you make?

https://www.youtube.com/watch?v=LFUTOMe2jo4&t=4s

Certifications

- As a medical and NDT company, we have ISO13485 accreditation for design and for manufacturing.
- Our devices are CE marked.

Advanced Fibreoptic Engineering (AFE Ltd)

Website: www.afe-uk.com

Address: Unit 3, Glebe Court, West Oxfordshire Business Park, Carterton, Oxfordshire. OX18 3FX

Primary Sector:

Aerospace

Secondary Sector(s):

Defence, Security & Space

Organisation Summary

AFE is a custom solutions provider serving international customers and markets. 55 full time employees, privately owned, profitable with no outside investment or debt with engineering and manufacturing co- located at a single site in Oxfordshire UK. A strong history in fibreoptics technology, we develop and manufacture, cutting edge optical, electronics, software and mechanical technologies, high performance products and sensing systems, specialising in harsh environments. Markets include aerospace, defence, security, space, oil & gas, test & measurement. Leading technologies in optical liquid sensing, structural health monitoring, the transmission of power, RF and data signals over fibre. Outstanding supplier performance, cost competitive, agile and ship in excess of 90,000 products per year using a single shift, >80% exported to the USA.

AFE consistently invest in new products and technologies either privately or through grant funding bodies including ATI, Innovate UK and NATEP.

NATEP since 2019

Yes

Capabilities

- Sensing technologies
- Propulsion
- Manufacturing

Technologies, Products, or Services

Power Over Fibre (PoF) and RF over Fibre (RFoF):
AFE have developed a PoF and RFoF system intended for an airborne platform. Able to supply higher levels of remote electrical power across optical fibre than normally available COTS systems. AFE Achieve a 50% efficiency conversion to electrical power. E.g. 7W optical converts to 3.5W Electrical. Taking up to 40GHz RF signals from the antenna and transporting across the platform via optical fibre (including Phase Matching) for on-platform processing. Cutting edge systems typically run up to 18GHz.
Other example applications include powering remote sensors and sending sensed data and operational health data to monitor the system. RFoF and PoF transmitted signals are free from outside interrogation and zero EMC

Optical Liquid Sensing:
AFE have developed a harsh environment, optical liquid level sensing system from height sensor through to interrogation electronics.
System at TRL6 and currently in the development for manufacturing phase.
Part funded by ATI/Innovate UK.

Electro Mechanical Capability and RF:
AFE have developed a family of highly accurate (0.1deg) turnkey positioning platforms. Azimuth, elevation and polarisation. Our largest system is 3m in height, weighs 400kg and built for harsh environments for horizon signal tracking.

AFE developed their own stand-alone mechanical gearboxes to ensure positional accuracy as part of these systems. All PCB's, motor control drive electronics and software developed by AFE. Precision linear actuation and control test platform (including software) designed and developed to simulate sea state 6.

AFE have developed ultra-sensitive Wide Band RF front ends (incl filters and LNA) as a stand-alone product. Improving an existing customer system by 6dB (reducing the noise floor to improve signal clarity).

Certifications

- ISO9001
- JOSCAR
- Cyber Essentials Plus

Airframe Designs Limited

Website: www.airframedesigns.com

Address: 11 The Pavilions, Avroe Crescent, Blackpool, FY4 2DP

Primary Sector:

Aerospace

Secondary Sector(s):

Defence & Space

Organisation Summary

Our purpose is to bring skills, experience and innovation to the aerospace supply chain in design, analysis, and manufacturing by nurturing and developing engineering talent. We are a team of highly experienced engineers (design, analysis, certification, and manufacturing) capable of delivering optimal solutions for mechanical structures in a digital environment.In the primary sectors, we provide engineering solutions for new design, modifications, repairs and reverse engineering for major airlines, special mission platform operators, military fleets, and VIP customers. We also offer a turn-key solution for product delivery by providing design, analysis and manufacturing to enable delivery of mechanical components and assemblies, all aspects of tooling, and 3D printed polymer parts. In addition to the primary sectors, we also operate in the nuclear, marine, medical, automotive and rail sectors.

Summary: based in NW (Blackpool), single site, 30 staff, high growth (x1.4 p.a. typically), investing in advanced polymer additive, and state of the art CAD design toolsets.

NATEP since 2019

Yes

Capabilities

- Additive Manufacturing
- Interiors
- Manufacturing
- Structures

Technologies, Products, or Services

We offer advanced polymer FDM additive underpinned by a strong design, analysis and certification team capable of delivering turn-key solutions for complex engineering and manufacturing problems.

We are AS9100 approved and heading towards obtaining our UK CAA Part21G production organisation approval for flight worthy parts.

We recently completed a NATEP project that researched ultra-polymer materials with soluble support structures, for civil cabin interior part applications.

We are working closely with BAE Systems for engineering support into FalconWorks and also in their additive supply chain for polymer parts.

We are becoming the subject matter experts for polymer ultra-polymers and the approach for certification with EASA and the UK CAA.

We are also involved with the design and development of a new low earth orbit satellite communication terminal for which we are currently applying for ATI-SME funding to assist the project in progressing from TRL3 towards a commercially viable product.

Our engineering design (CAD) and analysis (stress) teams currently work with AIRBUS, RAYTHEON, DRAKEN, QARBON, QINETIQ and various other customers in the delivery of airframe and mechanical structure design, using advanced engineering tool-sets such as CATIA, SIEMENS NX and NASTRAN. We deliver digital 3D models and produce Finite Element models to support structural substantiation and certification.

Certifications

- AS9100 Rev D
- ISO9001
- ISO27001
- ISO14001
- CYBER ESSENTIALS PLUS
- JOSCAR
- UK CAA PART21G (PENDING APPROVAL AUDIT)

Allan Webb Ltd

Website: https://allanwebb.co.uk/

Address: Bonds Mill Stonehouse Gloucestershire GL10 3RF

Primary Sector:

Defence

Secondary Sector(s):

Aerospace, Security, Land and Non-Defence

Organisation Summary

At Allan Webb, we take pride in being a leading provider of expert support services in high-security environments. For nearly 60 years, we have assisted MoD, OEMs and commercial clients with advanced engineering and data-driven solutions that optimise the life of their assets. Our specialities include asset lifecycle management, configuration, and supportability engineering, all aimed at maximising value and reducing costs. Our team of dedicated experts offers hard-to-find skills in areas like supportability engineering and integrated logistics support, ensuring your assets deliver long-term efficiency and performance. Our comprehensive range of capabilities across the entire CADMID cycle make us the partner of choice for OEMs in both the defence and commercial sectors.
Our people are central to our success. We are expanding into a dynamic organisation of over 270+ security cleared professionals, built on principles of equality, diversity, and inclusion. We are always striving to enhance our performance to maximise customer experience and employee satisfaction. We are a trusted and committed industry partner, poised for future growth, and we look forward to continuing to serve our clients with excellence.

NATEP since 2019

No

Capabilities

- Manufacturing

Technologies, Products, or Services

- Supportability Engineering
- Asset Lifecycle Management
- Technical Publication/Documentation
- Obsolescence Management
- Configuration Management
- Supply Chain and Inventory Optimisation
- Codification
- Data Solutions
- P3M Project, Programme and Portfolio Management
- Data Capture/Scanning
- IPS – Integrated Product Support
- Safety Critical Support Engineering
- S-Series Standards

Certifications

- ISO 9001
- ISO27001:2005
- ISO 14001
- Cyber Essentials
- Cyber Essentials PLUS
- JOSCAR Registered
- AFC Gold
- SC21 Silver

Alloyed

Website: https://alloyed.com

Address: 15 Oxford Industrial Park, Yarnton OX5 1QU

Primary Sector:

Aerospace

Secondary Sector(s):

Defence, Space, Aerospace & Consumer electronics

Organisation Summary

Alloyed Ltd is a rapidly growing company which originated from the renowned aerospace materials group at Oxford University. Alloyed employs a team of 150 people across three research and production sites in Oxford and a fourth AS9100D manufacturing facility in Seattle, operated through Alloyed Inc.

Alloyed has deep expertise in the computational design and optimization of metallic materials and the development of advanced additive manufacturing (AM) and post-processing strategies to optimize for performance-cost trade-offs. Alloyed's customers include some of the world's top companies across aerospace, automotive, industrial gas turbine, and consumer electronics.

NATEP since 2019

Yes

Capabilities

- Additive Manufacturing
- Design Manufacturing software
- Materials
- Propulsion
- Structures

Certifications

- AS9100 Rev D (Seattle production facility)

Technologies, Products, or Services

Alloyed's core capabilities include:
1) Propriety software platforms for alloy design, DfAM and AM processing, which enable us to beat competitors on cost, mass, feature fidelity and crack-free performance.

2) One of the most compact and comprehensive suites of equipment for end-to-end fabrication and characterization of ALM components in OEM-independent hands in Europe, consisting of over 15 state-of-the-art ALM machines, EDM and 5-axis CNC machines and furnaces for post-processing, and a metrology, characterisation and inspection suite including high-temperature mechanical testing equipment, CT, SEM, and optical microscopy facilities, and blue-light and GOM scanners for measuring dimensional conformance.

3) Manufacturing services for laser powder bed fusion (LPBF) components in commercially available and proprietary materials such as AlSi10Mg, high-temp Aluminum (ABD® M420), ABD® Al MMC, Scalmalloy, Ti6Al4V, nickel-based superalloys (ABD®-900AM & ABD®-1000AM), and niobium (C103 & FS-85).

By leveraging its unique capabilities Alloyed can offer customers:
- Monolithic part consolidation (typically 75-90% reduction in number of parts)
- Lightweight AM design (30-50% weight saving through greater design freedom)
- Improved functional density (e.g. integrated structural and thermal management)
- High feature fidelity (e.g. ±75 µm in AlSi10Mg)
- Near net shape manufacture to reduce material wastage and post-processing (buy-to-fly ratio ~1:1)
- Dramatically reduced development cycles and lead times
- Surge production capacity on a geometry agnostic AM machine fleet

Link to NATEP Project - https://youtu.be/c-wB43uE-H0

Apex Additive Technologies

Website: www.apex.tech

Address: Units 7&8, Lime Avenue, Ebbw Vale, Blaenau Gwent, NP23 6GR

Primary Sector:

Aerospace, Defence, Space & Security

Secondary Sector(s):

Medical Devices, Oil & Gas, Industrial

Organisation Summary

Apex Additive Technologies, part-owned by the Welsh Government through the Cardiff Capital Region, is committed to lowering the technology barrier to the advanced manufacturing of metallic components.

Drawing on a decade of process development and materials expertise, alongside OEM-level hardware knowledge, we provide end-to-end metal 3D printing solutions for aerospace, medical, automotive, and other high-performance sectors. With five LPBF multi-laser systems, vacuum heat treatment, EDM, surface finishing capabilities, and a robust balance sheet, we deliver consistent, cost-effective results from our single site in Wales. Future investments include 5-axis CNC machining and a large LPBF build volume system, underpinning our commitment to offering cutting-edge capabilities for clients seeking advanced additive manufacturing.

Technologies, Products, or Services

Apex Additive Technologies has developed its own laser processing parameters that significantly increase machine productivity (upto 4x), and therefore reducing costs per part, without compromising quality. By conducting post-processing in-house—including heat treatment, EDM, and surface finishing—we maintain full control over quality and traceability, all while minimising lead times. This integrated approach enables us to deliver reliable, high-performance components quickly and at a lower cost than traditional additive manufacturing service providers.

What sets us apart is our LPBF (Laser Powder Bed Fusion) OEM background and commitment to knowledge sharing and consultancy. Beyond producing components, we partner with other LPBF users to optimise and refine their processes, drawing on our deep expertise in process parameter development, materials science, and system operation. This structured approach helps our clients improve product performance, improve quality, enhance consistency, and reduce time-to-market.

Our disruptive technology and process innovations allow for onshoring production to the UK, strengthening supply chains and supporting local manufacturing. By pioneering better materials and achieving superior mechanical performance, we empower our customers to push the boundaries of their product designs—whether they need lighter, stronger, or more complex parts. From cutting-edge aerospace components to advanced automotive parts, our solutions deliver the next generation of performance, reliability, and value for a wide range of industries.

NATEP since 2019

Yes

Capabilities

- Additive Manufacturing
- Design Manufacturing software
- Manufacturing
- Materials
- Testing

Certifications

- Working towards ISO 13485, followed by AS9100 Rev D and ISO 27001.
- Cyber Essentials certified.

Carbon ThreeSixty

Website: https://carbonthreesixty.com/

Address: Unit 1 The Hub, Bumpers Way, Chippenham, SN14 6LH

Primary Sector:

Defence

Secondary Sector(s):

Aerospace, Automotive, Energy & Industrial

Organisation Summary

Carbon ThreeSixty is a high growth structural composites business taking ideas from concept through to series manufacture in the UK. We're in a 44,000 ft2 factory in the South West, 30mins east of Bristol. We specialise in out of autoclave processes such as RTM, compression moulding and filament winding, with a strong focus on first principles understanding and design.
Turnover has doubled year on year since inception in 2017 and this year will be ~£4m with a strong future growth trajectory and a mix of development and production work. We have manufactured parts for the automotive industry in series at volumes around 40k parts / annum and are developing a number of aerospace & defence products.
We continue to invest in R&D, facilities and capabilities to meet current and future customer requirements and expect to have a US site in the next few years.

NATEP since 2019

Yes

Capabilities

- Composites
- Interiors
- Manufacturing
- Propulsion
- Structures

Technologies, Products, or Services

We specialise in out of autoclave technologies and designing / manufacturing composites at rate, using materials in low-cost formats, which offers significant benefits over traditional hand lay / autoclave methods.

Our experience of preforming technologies, stabilisation approaches and track record of developing and manufacturing highly complex aerostructures is a rare capability. This combined with our strong growth and maturation of quality standards means we are a significant supplier in the aerospace and defence sector.

We have significant expertise in tailored fibre placement and use this in combination with braided, 3D woven and NCF materials in most of our products. We have significant experience and expertise in filament winding and manufacture both classic and complex non-axisymmetric parts, due to extensive experience of winding within the business.

We are currently ISO9001, with AS9100 underway and expected by Q2 this year. We are Joscar registered and have Cyber Essentials Plus.

In terms of composite products we produce carbon wheels, composite rotors and rotor banding for high performance motors, aero propulsion structures including vanes, blades and impellers.

We have active R&D on high volume automotive wheels, ultralight automotive structural panels, carbon fibre civil nose-wheel, AAM rotor blades and composite brackets. These all push the boundaries of light-weighting, rate capability and cost.

NATEP Project -HALOS Composite Rotor Blades
https://www.youtube.com/watch?v=hGap2A6Iqn0

NATEP Project - GTTC - next generation composite wheels for rotary wing aircraft
https://youtu.be/Q9T3eMb42Ek

Certifications

- ISO 900
- AS 9100D - Q2 2024
- Jocar registered
- Cyber Essentials Plus

CCP Gransden Ltd

Website: www.ccp-gransden.com

Address: 17 Moss Road, Ballygowan, Northern Ireland BT23 6JQ

Primary Sector:

Defence

Secondary Sector(s):

Aerospace & Space

Organisation Summary

CCP Gransden are a flexible dynamic firm specializing in the design, development, and manufacture of advanced composites across multiple sectors. We
manufacture Advanced Composites of varying sizes, shapes, complexities, quantities via potentially the largest selection of in-house composite manufacturing processes in the U.K. We are highly accredited (JOSCAR, SC21 Gold, AS9100 +more).

We are a Rolls Royce approved supplier, and we are aiming to reach sabre 4 level approval in 2025. We have recently been accepted onto the Ministry of Defence's pilot scheme, Defence Supplier Capability Development Programme where we will enhance our offering to Primes further.

NATEP since 2019

No

Capabilities

- Composites
- Manufacturing
- Additive Manufacturing
- Structures

Technologies, Products, or Services

CCP Gransden manufactures critical composite components for various industries. Founded in 1894 as an engineering firm in Belfast's shipyards, we have over 130 years of continuous engineering experience. As industry needs evolved, we developed our expertise in advanced composites, growing into a trusted supplier of composite solutions for global primes.

Some recent projects include producing multiple critical composite parts for Rolls-Royce's UltraFan engine, Rolls Royce's FCASW Programme, Thales' Starstreak system, as well as onsite GRP repairs and upgrades to MCMV Hunt Class (Minesweepers).

To meet and exceed the varied challenges of our multi-sector clients, we have built up a highly skilled team and invested in the latest advanced composite manufacturing technologies.

Our sophisticated UK factory facility offers one of the country's most extensive in-house composite manufacturing capabilities.

We ensure the highest quality standards by holding JOSCAR, AS9100, and SC21 GOLD accreditations—quality and traceability are central to everything we build.

The Directors of CCP Gransden, believe that the future of composites manufacturing will follow three themes;-

a. Light-weighting (Improved strength /weight, Improved fuel economy, air & road, metal part replacement opportunities), achieved by improved design and materials use.
b. Move to thermoplastic composite materials (Improved impact resistance, Thermoformable, Repairable, Recyclable), or quick cure thermosets.
c. Speed and quality of production (Robotics / Automation where possible (fast, and repeatable). Thermoforming or fast cure thermosets (out of autoclave)).

We have these capabilities inhouse now and we are using this philosophy on numerous projects with prime and tier 1 customers.

Certifications

- AS9100 Rev D
- SC21 Gold
- Joscar
- ISO14001 – Environmental
- ISO45001 - Occupational Health and Safety
- ISO50001 - Energy Management

Creative Composites

Website: https://www.creativecomposites.co.uk/

Address: 1 Ferguson Road, Lisburn, Co Antrim, Northern Ireland, United Kingdom, BT282FW

Primary Sector:

Automotive

Secondary Sector(s):

Defence

Organisation Summary

Creative Composites are at the forefront of delivering innovative composite solutions across a range of industries and their wealth of knowledge and expertise particularly in compression moulding has allowed them to build a strong reputation within the composites industry.

Since its formation in 2000, the company has invested heavily in advanced equipment and the latest technologies within their purpose built 150,000sq/ft factory located in Northern Ireland, employing over 200 skilled staff. They house two of the largest presses in the UK dedicated to compression moulding allowing them to cater for a wide variety of components across different applications and work closely with customers from the design phase through to volume production. Their aim is to deliver the highest quality components that meet stringent requirements expected by the world-renowned brands they work with.

NATEP since 2019

Yes

Capabilities

- Composites
- Manufacturing

Technologies, Products, or Services

Creative Composites specialises in the manufacture of compression moulded components, in particular sheet moulding compound (SMC). They house the largest production presses in the UK with advanced process controls allowing them to meet the highest quality standards.

The application of compression moulding has seen increased interest across different industries due to the scalability, rapid cycle times, minimal waste, lower unit costs and design freedom with regards to moulding complex geometries. This offers significant advantages in comparison to standard autoclave and infusion processes which struggle to support existing industry volumes and certainly forecasts for future flight applications.

The knowledge and expertise at Creative Composites allow them to support customers in the design and manufacture of innovative products using the latest material developments. The dedicated team like to work closely with customers throughout the early concept phase to develop cost effective solutions that can be manufactured at volume. Coupled with their expertise in moulding, Creative also house multiple 5-axis machining centres, manual and automated assembly and bonding cells, paint lines and CMM capabilities.

NATEP Project:
to develop a new software solution to predict the structural performance of SMC composite materials and enable their use in aerospace applications. SMC is a discontinuous fibre, moulded composite commonly used for performance automotive applications. Its carbon fibre reinforced variants (known as C-SMC) can have higher specific strength and stiffness than aluminium, with lower material cost and cycle time than continuous CFRP.

https://youtu.be/RCKhByp5gcM

Certifications

- ISO 9001
- ISO 14001
- ISO 45001
- IATF 16949

Donite Plastics

Website: https://www.donite.com/

Address: 8 Station Road, Saintfield, Northern Ireland, BT24 7DU

Primary Sector:

Aerospace

Secondary Sector(s):

Transport

Organisation Summary

Donite Plastics are one of the UK and Irelands leading industrial vacuum forming companies. Partnering competitive pricing with design expertise, our processes are ideal for low to high volume production. Our friendly and efficient design team can help you turn your ideas into finished products in a timely fashion.

Donite is a multi-sectoral company selling into a range of sectors, seeking to increase presence in the Aircraft interiors market.
A limited company, with continual focus on new technology and investment in new machinery.

NATEP since 2019

Yes

Capabilities

- Interiors
- Manufacturing

Technologies, Products, or Services

Thermoforming is often considered as an older technology, however Donite is applying new innovations to bring about improvements and better offerings to customers.

Current use of co-bots in automatic glue application for twin skin bonded assemblies bring big opportunities for customers. A recent project has taken an existing assembly and taken out 39% weight and reduced part count by 89%.

By bonding multiple vacuum formed parts together, and mixing with other media, we can offer more than just piece parts, but higher value assemblies.

NATEP Project:

Development of an automated assembly cell , incorporating Made Smarter technologies, for Advanced Thermoformed Twin Skin Panels (TTSP) for aircraft seating systems. The assembly cell will be developed to create a human and machine collaborative environment for increased human machine efficiency. Flexible fixturing will be developed allowing for flexibility within a family of components with improved agility for efficient changeover. Digitisation will increase control and conformance and will include rapidly deployed digital work instructions to the operator.

Certifications

- AS9100 Rev D
- ISO9001
- ISO14001

D-RisQ Ltd

Website: https://www.drisq.com/

Address: Malvern Hills Science Park, Geraldine Road, Malvern, WR14 3SZ

Primary Sector:

Aerospace

Secondary Sector(s):

Defence, Security, Space, Medical devices, Autonomous systems, Rail, Nuclear...etc

Organisation Summary

D-RisQ is an SME that has produced accessible, automatic verification tools for embedded real time software systems development. These tools cover system and software requirements, enabling exploration of issues well before design/code is undertaken, verification that a design satisfies the requirements, that autocode satisfies the design.

We have shown that savings are possible of 30-80% and certification evidence to meet regulatory requirements is produced as a by-product. We can be subcontracted, transition development to customers and licence tools as needed. We are based in Malvern UK and have been financially successful for over 12 years.

We continuously invest in our technologies and have a planned expansion of capability over the next 12 months and beyond.

NATEP since 2019

Yes

Capabilities

- Design Manufacturing software

Technologies, Products, or Services

System Kapture: Exploits structured English in easy to use templates. The use of a tool to write clear, concise, unambiguous SRATS enables an exploration of desired properties and crucially, to show absence of undesired behaviour. There is a 'requirements standard' adhered to as a by-product of the use of this technology, which means that a user focuses on the important aspects of requirements. This provides a robust base upon which to develop the software, with the bulk of the effort dedicated to evolving the SRATS.

Kapture:Software High Level Requirements development tool, again using a structured English approach in Kapture®. This tool has formal semantics in the background and complies with a requirements standard encapsulated within the tool. Proves that software requirements implement the SRATS.

Modelworks: A design has been undertaken in a subset of Simulink®/Stateflow® and compliance with a standard is checked. Then an automatic independent proof is undertaken using Modelworks® to show that the graphical design correctly implements the requirements, or to show where it does not.

CLawZ: By using an autocoder, the production of source code is a matter of a few seconds and is automatically checked for compliance to a coding standard. It is then automatically and independently verified using the formal proof in CLawZ® to show that the code correctly implements the design or to highlight issues.

FEVER: The final part of the development is the verification of the Executable Object Code (EOC), again through the use of formal proof embedded in our forthcoming FEVER® tool.

By bringing all the tools together, we also show how to achieve an equivalent to 'coverage' of both requirements and code structure, thus significantly reducing effort.
Together savings of 80% can be made while meeting certification needs; no other tools do all this. See: https://www.drisq.com/case-study-steam-boiler-exemplar

Certifications

- DO-178C

ELE Advanced Technologies Ltd

Website: www.eleat.co.uk

Address: 41 Churchill Way, Nelson, Lancashire, BB9 6RT

Primary Sector:

Aerospace

Secondary Sector(s):

Defence,& Power Generation (IGT)

Organisation Summary

Manufacturer of Hot Gas Path Products, Turbine Blades, Vanes and Seal Segments foe aerospace & power generation engines, using multiple processes including Viper Grinding, Cooling Holes Technology (Stem Drill, Capillary Drill & Fast Hole Drilling), EDM, Milling, Creep Feed Grinding, and full processing & quality control around these products. £25m turnover, 2 UK Sites, 1 Slovakia Site

NATEP since 2019

Yes

Capabilities

- Manufacturing

Technologies, Products, or Services

Cooling Hole Capability (Stem drill, Capillary Drill & Fast Hole Drill)

NATEP Project FARGO:

FARGO aims to develop a prototype hybrid production line for the entire manufacturing process of an aerospace turbine blade. A turbine blade is the core component of an aircraft engine performance, having complex geometry and operating at extreme temperature and pressure. At present, the manufacturing of a turbine blade is highly complex, involving casting, machining, and other processes. The project is focussed on improving productivity via design and manufacturing process improvement of turbine blades through the adoption of additive manufacturing (AM). The uptake of AM as a production route is currently low due to a number of barriers such as variation in material properties, fragmented software, material selection, and finishing processes. More importantly, the majority of manufacture now is done in the supply chain where there is a significant knowledge gap.

FARGO does things twofold by expanding general research knowledge around AM on complex components and combining this with the upskilling of a high-end member of the supply chain to engage in this marketplace. This project will provide the SME an example capacity for full production lifecycle and open opportunities for significant market expansion through the additional offering.

https://youtu.be/rg_Mlma8snw

Certifications

- AS9100 Rev. D
- Nadcap Approval for Special Processes

Hyde Aero Products

Website: www.hydegroup.co.uk

Address: Hyde Aero Products Limited Tudor Works Ashton Street Dukinfield SK16 4RR United Kingdom

Primary Sector:

Aerospace

Secondary Sector(s):

Nuclear, Security & Defence

SC21 Bronze Award

ADS

Hyde Aero Products
A Hyde Group Holdings Company

Organisation Summary

Hyde Aero Products, part of the privately owned Hyde Group, specialises in the design and manufacture of complex components, tooling, testing systems, and urgent operational support. It serves safety-critical sectors including aerospace, life sciences, security and nuclear industries.It excels in producing detailed parts and integrated structural assemblies, providing both long-term strategic support and rapid-response services such as urgent operational requirements (UOR) and aircraft on ground (AOG) solutions. With over 20 specialist group companies, it offers a fully integrated service, covering machining, turning, fabrication, assembly, surface treatment, inspection, and testing. A trusted supplier to UK and global OEMs, it holds top-tier security accreditations and extensive international and client-specific approvals.

Founded in 1968, Hyde Group has a $112M turnover, 75,000 square meters of manufacturing space, 130+ CNC machines, and delivers over 20,000 manufacturing man-hours weekly. With a long-term policy of re-investment, over $25m has been spent in the last five years

NATEP since 2019

No

Capabilities

- Additive Manufacturing
- Manufacturing
- Sensing technologies
- Testing

Technologies, Products, or Services

Fabrication and welding

Hyde Aero Products provides extensive fabrication capabilities, from sheet metal components to complex welded structures. Its advanced facilities support welding of stainless and carbon steel, aluminum, and titanium, with rigorous radiographic and NADCAP-certified non-destructive testing.
Example: A Search and Rescue helicopter racking project utilized concurrent design and manufacturing, reducing lead time by 42% compared to conventional methods.

Assembly

Hyde Aero Products operates dedicated assembly facilities with isolated build floors and temperature-controlled environments. Large-scale assembly is supported by clean rooms rated at Class 100,000, 10,000, and 100. Inspection, testing, and installation services are conducted using laser trackers, coordinate measuring machines, on-machine verification, and FARO arms. The company also provides test rigs for research, functional testing, and operator training, with 60-tonne lifting and handling capacity.
Examples: Clean room panel assembly for a space project; full instrument build and serial production for a mass spectrometer.

Precision machining

Hyde Aero Products is a leader in machining complex, high-value components, with one of the UK's largest capacities. It specializes in hard, soft, and exotic metals, using advanced machining, large-capacity turning and mill-turn technology. Automated handling and driven tooling enable efficient small-part production, with capabilities ranging from precision nuts to 50-tonne thread rolling for landing gear.
Example: Design, machining, and treatment of helicopter gearbox housings.

Coatings and treatments

Hyde Aero Products offers automated penetrant inspection, chromic acid treatment, and chromate conversion. Its facilities include large-scale spray and bake paint booths, spectrometer testing, and zinc deposition via electric arc spray.
Example: Surface finishing and painting for mission console integration into aircraft.

Additive manufacturing

Hyde Aero Products combines expertise in metallic and non-metallic additive manufacturing to optimize weight savings and efficiency. Its rapid prototyping service reduces costs and lead times compared to traditional methods.
Example: Prototype service handles, 40% lighter than machined-from-solid alternatives

Certifications

- AS9100D
- ISO14001
- NADCAP – M&I, CP, HT, NDT, WLD.

Ionix Advanced Technologies LTD

Website: https://ionixadvancedtechnologies.co.uk/

Address: Lynthorne House, Intercity Way, Leeds, LS13 4LQ

Primary Sector:

Ultrasonic Sensors

Secondary Sector(s):

Aerospace & Industrial

Organisation Summary

Ionix Advanced Technologies core technology is a piezoelectric ceramic materials, able to operate in extreme environments of temperature (hot and cold), shock and stress. Ionix manufacture sensors based on this technology, many of which are ultrasonic, for corrosion monitoring, flow measurement, level sensing. New platforms include hydrogen level and flow monitoring, and sensors for SMR. Ionix provided end to end solutions in a range of sectors including aerospace, energy, motorsport and manufacturing sectors.

NATEP since 2019

Yes

Capabilities

- Materials
- Sensing technologies

Technologies, Products, or Services

Ionix piezoelectric technology is unique in that it is able to work in extreme environments, which high sensitivity and fidelity. Our customers usually have a solution that works in the temperature range -55 to + 125, and Ionix are able to work with the customer to offer extended temperature range -200 to + 580 C.

Current products include:

- Ultrasonic thickness monitoring, using Time of Flight, our flagship HotSense platform, for corrosion and erosion monitoring. Both hand-held, and permanent attachment methods
- Ultrasonic flow measurement, in hot liquids, gases, steam, and molten salt.
- Level sensing, using both time of flight through a fluid, or using submersion level switching
- Range sensing
- Acoustic emission and vibration sensing
- Bubble monitoring - sensing bubbles in oil, molten salt, heat transfer fluids
- High temperature piezoelectric actuators

NATEP Project – SmartThread

SmartThread is a dual mode intelligent critical fastener, able to self- or proximity- monitor over a wide temperature range. It will be able to actively monitor how tight it is, determine if it is damaged, and 'listen' to acoustic events in proximity related to damage mechanisms, such as bearing failure or fretting.

https://youtu.be/0_E76j6U9qo

Certifications

- ISO 9001
- ATEX and IECEX for design and certification of sensors in explosive atmospheres (inc hot hydrogen gas)

Jigsaw Structures Ltd

Website: www.jigsawstructures.com

Address: Jigsaw Structures Ltd, The Old Pottery, Simonsbath TA24 7SH

Primary Sector:

Aerospace

Secondary Sector(s):

Space

Organisation Summary

Jigsaw Structures Ltd is a Bristol, UK based micro-SME founded in 2017 with a focus on research and development in the field of lightweight structures, in particular, the appropriate synthesis of conventional and advanced materials. The company has been successful in obtaining several Innovate UK (the UK Innovation Agency) and ATI (Aerospace Technology Institute) funding grants to support the development of its in-house innovations.

Jigsaw under the terms of public funding has invested £268k of its own funds in developing its technologies over the past seven years and the Company is budgeting another £40k of R&D investment for the next financial year.

NATEP since 2019

Yes

Capabilities

- Composites
- Structures

Technologies, Products, or Services

LAMINAR FLOW SEALING SYSTEM

In the future, airframe assembly will be increasingly smart, modular, and automated; our Sealing System and its innovative assembly & removal process champions this ambition. Our novel Sealing System contributes to laminar flow exploitation on future wings - natural laminar flow for short-range aircraft and hybrid laminar flow for long-range. Although our Sealing System applications are focused on wing assemblies, benefits could also be realised in other cross-cutting use-cases in the fin, tailplane, engine nacelles and wind turbine blades where the maintenance of Laminar Flow over major joints is desirable.

The ease of assembly of our innovative Sealing System removes the need for application of sealant between joints (steps/gaps) balancing the conflicting requirements of tight aerodynamic tolerances, against cost-effective, easy-to repair modular structures. Our Sealing System delivers a complete innovative wing assembly sealing system employing a high build-rate End Effector to snap-fit an operability-friendly seal.

Moreover, as a replacement for traditional sealant (which is increasingly incompatible with highly flexible advanced wings), our Sealing System will contribute to a ramp-up in aero-structure production rates, which will also be a differentiator with the upturn in aircraft demand and the required delivery at pace of sustainable aviation airframes. The wear characteristics of our Sealing System, contrasted with the impact of ageing traditional sealant (cracking/swelling), further builds the case for adoption of a mechanical snap-fit sealing system over sealant.

To exploit our patented sealing technology, we are seeking a pilot manufacturing partner to develop new solutions for sealing of laminar flow aerodynamic surfaces in airframes and wind turbine blades.

Certifications

N/A

Laser Additive Solutions Ltd

Website: www.laseradditivesolutions.co.uk

Address: 1A Bankwood Lane Industrial Estate, Doncaster, DN11 0PS

Primary Sector:

Defence

Secondary Sector(s):

Aerospace

Organisation Summary

We are a Doncaster based SME specialising in Laser-based additive manufacturing processes. These services include Laser Welding, Laser Cladding, Direct Metal Laser Sintering (metal 3D Printing).

Our USP is that we are the UK's most industrially experienced company at solving problems and implementing innovative solutions to engineering/production problems encountered by our customers (from a wide range of industrial sectors) using state-of-the-art laser-based equipment.

We have 3 laser Additive Manufacturing systems based at our single UK site.

NATEP since 2019

Yes

Capabilities

- Additive Manufacturing
- Manufacturing
- Materials
- Propulsion

Technologies, Products, or Services

See above.

NATEP Project: Development of an automated precision Surface Hardening Process using Lasers ('Sharp-LASE')

The Sharp-LASE project will develop an automated robot-controlled precision laser hardening process, tested and proved to aerospace standards. Using existing production components which are normally induction hardened, the integrated process will demonstrate the improved accuracy and reliability achievable through laser hardening compared to conventional methods.

Certifications

- ISO 9001

Loughborough Surface Analysis Ltd

Website: https://www.lsaltd.co.uk/

Address: Pegasus House, Prince William Road, Loughborough, LE11 5GU, England

Primary Sector:

Materials Analysis and Characterization

Secondary Sector(s):

Semiconductors and Complex Technological Materials

Organisation Summary

Loughborough Surface Analysis Limited (LSA) is a strongly established and well-known laboratory specialising in surface analysis, chiefly using secondary ion mass spectrometry (SIMS). Our forté is in the analysis of aerospace alloys, hi-tech materials and semiconductors.

Having over 30 years of experience in the field, we provide confidential and professional contract services to both industrial and academic partners. Our approach is to actively encourage interaction and participation during the analytical process, with the belief that personal care and attention is as important as technical ability. Confidentiality is of the upmost importance at LSA, and thus all of our analysis is undertaken in the strictest confidence.

NATEP since 2019

Yes

Capabilities

- Testing
- Materials

Technologies, Products, or Services

Throughout our history, we have taken part in many different R&D projects, ranging from simple fault-finding exercises through to large-scale projects that have lasted a number of years.

We recently led a NATEP-funded project, applying semiconductor-analytical techniques to aerospace materials, probably for the first time. The focus of the project involved the analysis of complex aerospace superalloys, particularly in the area of corrosion and material failure. This project involved a variety of composition-characterisation techniques, specifically including Secondary Ion Mass Spectroscopy (SIMS).

SIMS is a powerful analytical technique sensitive to all elements, with the ability to detect contaminant species at concentrations as low as parts per billion (ppb). It involves bombarding a sample surface located in high vacuum with energetic primary ions. The ejected secondary ions undergo mass-to-charge ratio analysis. Using this method, it is possible to analyse species of interest with respect to their location as a function of distance from the sample surface (depth profiling) as well as across a sample surface (mapping).

Additional to SIMS, we provide SEM-EDX, XPS and FIB sectioning. These complementary techniques can assist in determining the cause of a number of surface and near-surface issues, including corrosion, staining, delamination and adhesion failure.

Link to NATEP project:

https://youtu.be/IkPKxwmyv6c

Certifications

- ISO9001
- Cyber Essentials Certified

McGreevy Engineering Ltd

Website: www.mcgreevyengineering.co.uk

Address: Maryland Industrial Estate, Ballygowan Road, Belfast, BT23 6BL, N.Ireland

Primary Sector:

Aerospace

Secondary Sector(s):

Defence

Organisation Summary

McGreevy Engineering has 40 years' experience in tool manufacture and precision engineering.

Over the last number of years, the business has used this capability to transition into the aerospace sector, driven by investment and collaboration with supply chain partners. As an AS9100 / SC21 accredited supplier, the business offers responsiveness, manufacturing excellence, proven quality and delivery performance.

With in-house CNC machining, CNC CMM and assembly capability; coupled with key partnerships on special processes, EDM, fabrication and material supply, McGreevy Engineering provides integrated engineering solutions

NATEP since 2019

No

Capabilities

- Manufacturing

Technologies, Products, or Services

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As an AS9100 / SC21 accredited supplier, the business offers responsiveness, manufacturing excellence, proven quality and delivery performance.

With in-house CNC machining, CNC CMM and assembly capability; coupled with key partnerships on special processes, EDM, fabrication and material supply, McGreevy Engineering provides integrated engineering solutions

Certifications

- AS9100 Rev D
- SC21 Silver
- JOSCAR

NEMA Ltd

Website: https://nema.ltd.uk/

Address: Unit 16, Chichester Business Centre, Chichester Street, Rochdale, OL16 2AU, United Kingdom

Primary Sector:

Aerospace

Secondary Sector(s):

Defence & Space

Organisation Summary

NEMA is an employee benefit run private enterprise with 40 employees and an annual turnover of approximately $5-6M.NEMA designs, manufactures, tests, and repairs and overhauls electromechanical actuation devices, such as motors, generators, transformer/rectifiers, etc., and manufactures components on-site in the UK via machining, wire-forming and pressed fabrication. NEMA develops advanced electric motors/generators for challenging environments and space envelopes. NEMA provide quantities ranging from 1 to a million, thus supporting both product development and Full Rate Production quantities. NEMA has full aerospace accreditation, such as AS9100 and individual approvals from Airbus, BAE, Safran, Collins, Leonardo, etc, as well as Cyber Essentials Plus. Due to the certifications held, plus that the business is an SME, NEMA have been essential in technology development programs run by the MOD, where UK manufacturing from a versatile and responsive company was needed. NEMA invest significantly into machinery, latest investments are: fully-automated winding machines.

NATEP since 2019

Yes

Capabilities

- Design Manufacturing software
- Manufacturing
- Testing
- Propulsion

Technologies, Products, or Services

High-speed, high power density motors/generators, Active Magnetic Bearings and electrical assemblies.

NEMA responds to technical requirements rapidly and cost-effectively. NEMA's motors have increased efficiency and reduced 30% mass in aerospace systems by increasing rotation speeds (183,000 RPM) and employing novel winding techniques to produce motors.

NEMA are a one-stop-shop for electro-mechanical actuators. NEMA design and manufacture complete systems using vertically integrated manufacturing processes with few outsourced processes, such as plating. All processes are carried out in-house, resulting in efficient quality control and expedition of lead-times when necessary. As NEMA is a fully accredited SME, this vertically integrated manufacturing separates the business from competitors who are either large entities or sub-contract processes.

NEMA have certified equipment for civil/defence aircraft, submarines, frigates and land vehicles. NEMA engineers work to the finest details in electrical engineering problems and overcome them through the hard work and versatility of our team. Apprentices make up 10% of the workforce, which has been invaluable in maintaining skills that the UK manufacturing sector has lost, such as electrical winding and assembly, metal fabrication, etc. NEMA recently won Rochdale apprentice trainer of the year award in 2024 as recognition of the excellent training program and opportunities awarded to our apprentices.

During the covid-19 pandemic NEMA were identified as critical to the UK defence industry by tier 1 customers. The business broke-even in 2020/21, the year prior to and years subsequently to YE2021 resulting in >20% profit. Profit is shared amongst the employees through the employee benefit trust model, and reinvested via machinery and facility upgrades.

NEMA are at the cutting edge of technology development for aerospace and defence. Project MAMBA will introduce disruptive technology for engines in aerospace by facilitating lighter, more efficient, smart magnetic bearings used to levitate turbine shafts frictionlessly, all developed and manufactured within the UK.

NATEP Project – EVAMBA
https://youtu.be/XIX663ESzMk

Certifications

- AS9100 Rev D
- ISO9001
- Cyber Essentials Plus

Individual approvals from:

- Airbus
- BAE systems
- Leonardo
- Collins Aerospace
- Safran
- etc

Nexam Chemical St Andrews Ltd

Website: www.nexamchemical.com

Address: Nexam Chemical St Andrews Ltd, Prestonhall Industrial Estate, Cupar, Fife, KY15 4RD, UK

Primary Sector:

Aerospace

Secondary Sector(s):

Defence

Organisation Summary

UK manufacturer of high temperature polyimide resins, when specified in the design, supports complex geometric aerospace parts where there are high surface temperature needs.

NATEP since 2019

Yes

Capabilities

- Additive Manufacturing
- Composites
- Materials

Technologies, Products, or Services

Innovative aspects of the NATEP project - The Tape Extreme consortium (Advanced Thermoformable Cross-linking Resin Unidirectional Tapes) aims to combine the best elements of thermoplastic and thermoset composite materials and their processing, to deliver a new high-performance option for the aerospace industry.

The primary target is as a replacement for titanium and high-end composites. Examples include:
- The internal non-rotating components of jet engines
- Thermal management within engines to improve efficiency.
- Exhaust flaps and airframe components

The unique element of this project focuses on combining dry UD fibre with a unique high temperature resin formulation, which is not currently on the market, to create a tape.

However, the tape manufacturing technology can be utilised to make intermediate fabric preforms, which could be formed and cured into composite parts via compression moulding. The fact that this project is focused on the manufacture of tapes gives the consortium an advantage as fabric preforms can also be made by weaving narrow slit tapes.

NATEP Project:
https://youtu.be/tUcArX5QDx0

Certifications

None

Overview Limited

Website: https://overview.co.uk/

Address: Overview House, Kingswey Business Park, Forsyth Road, Woking GU21 5SA

Primary Sector:

Defence

Secondary Sector(s):

Security

Organisation Summary

60+ Employees and growing
Development of Drives and motors for use in Defence and security
Balance sheet is currently strong
One UK manufacturing and Administration site

NATEP since 2019

No

Capabilities

- Manufacturing
- Sensing technologies

Technologies, Products, or Services

Overview Ltd. designs, develops and manufactures advanced remote autonomous surveillance and reconnaissance sensor systems and specialist sensor pointing systems. Our innovative technology supports customers in the defence, security, broadcast, and professional AV markets

Overview manufactures more than 80,000 camera and sensor pointing systems per year.

NATEP Project - Counter UAS (CUAS) and Perimeter Intrusion Detection System (PIDS) Autonomous Air and Ground Surveillance Pod (ASP) Sensor Clusters - to develop an infrastructure independent sensor and automated perimeter sweep system to protect airports against disruption from air and ground threats.

Certifications

- ISO9001
- ISO14001

Qdot Technology Ltd

Website: https://qdot.tech

Address: London Oxford Airport, Langford Lane, Kidlington, Oxfordshire, OX5 1RA

Primary Sector:

Aerospace

Secondary Sector(s):

Nuclear fusion

Organisation Summary

Qdot Technology Ltd. is an Oxford University spin-out company with 16 employees based in Oxford Airport.
Our mission is to enable clean flight by leveraging thermal management expertise and IP to create components and systems for zero-emissions and low-emissions propulsion.

We are currently developing a hybrid powertrain for heavy-lift VTOL drones that uses innovations in battery and hydrogen fuel cell thermal management to maximise power and energy density, thereby allowing greater payload and range capability.

Qdot is also about to embark on further projects to develop our additive manufacturing technique for thermal management components and bring in-house the capability to produce metal AM parts.

NATEP since 2019

Yes

Capabilities

- Additive Manufacturing
- Propulsion
- Testing

Technologies, Products, or Services

Qdot is developing a hybrid zero emissions powertrain for a heavy VTOL drone that enables 40% additional payload at 300km range. It's battery thermal management system can reduce total cost of ownership by 20% due to increasing the lifetime. We have also developed additively manufactured heat exchanges that can improve the weight efficiency by 20% compared to current state of the art conventional heat exchangers.

Our team is led by world-class experts in thermal management from Oxford University who have created innovative solutions to thermal management challenges in aerospace and nuclear fusion. We have the capability to develop a technology from the idea-stage, through design, modelling, prototyping and testing in representative conditions, all in a rapid timescale and excellent cost-efficiency.

In addition to developing our own IP and products, we also offer thermal management consulting and subcontracting services. Using our unique team of experts and capabilities, we have developed and tested solutions for clients in aerospace and nuclear fusion. We are keen to apply our knowledge and build relationships with all organisations in the aerospace industry.
NATEP Projects - **Binder-jetted heat exchangers for eVTOL aircraft**
Qdot Technology and Meta Additive worked together to develop a heat exchanger design, and manufacturing process, taking advantage of hierarchical binder jetting. The project is applying novel, aluminium binder-jetting technology for the thermal management of eVTOL aircraft systems. Opening the design space, and scalability of the process will result in high-performance, and high-efficiency, heat exchangers
ADditive End PlaTes for Fuel Cells (ADEPT FC) This project will exploit recent advances made at the MTC in producing aluminium parts from Powder Bed Fusion -- Laser Based (PBF-LB) to make a lightweight PEM fuel cell stack for aviation applications. Light-weighting will be achieved not only through exploiting the additive process to make optimised topologies, but by incorporating multi-functionality into components as well. The target will be to increase stack power density by at least 10% and reduce the overall number of components in the system.

Certifications

N/A

Righton Blackburns Aerospace & Defence

Website: https://www.rightonblackburns.co.uk/markets/aerospace-defence

Address: Parkway House, Unit 6 Parkway Industrial Estate, Pacific Avenue, Wednesbury, WS10 7WP

Primary Sector:

Aerospace

Secondary Sector(s):

Defence, Space & Power Generation (Nuclear)

SC21 Silver Award

ADS

Organisation Summary

Righton Blackburns Aerospace & Defence is a trading name of Righton & Blackburns Limited, the market leaders in the supply of safety critical raw metallic materials to the aerospace, defence, nuclear and power generation markets. Our USP is consistent SC21 Silver service year on year since 2012.
Our principles: Operate within a safe working environment, deliver great customer service, continually improve and develop, expect the most from everyone with personal accountability against targets and always pay our suppliers on time as per agreed terms =SC21

- Four AS9100D/AS9120B approved sites located in Plymouth, Bristol, Portsmouth, Manchester
- Part of Amari Metals Europe, who are in turn part of a Global family of Metal Stockist and Distributors
- RB 2024 circa turnover = £150 Million
- Investment in state of the art cutting equipment and a new 38,000² foot Aerospace site in Havant
- Continued growth and investment in India and Europe

NATEP since 2019

No

Capabilities

- Materials

Technologies, Products, or Services

Our Approach to Supply Chain Partnerships

- Supply Chain Partnerships - Open and engaging with shared aims and aspirations
- Relationships - Promote mutual trust & respect throughout the Supply Chain
- Risk & Opportunity - Shared & managed in a co-ordinated manner for mutual benefit
- Best Practice - Collaborative activity to share business improvements both internally and externally
- Ethical Approach - Honesty & transparency employed at all levels of the business

Value Add Services include:-

- Customer inventory management/Customer stores management
- Direct feed to line service
- Bar, hollow, plate and sheet processing
- Import & export services
- Non-Destructive/Destructive testing
- Metal heat treatment to customer requirements
- PMI inspection on goods inwards and outwards
- Third party chemical & mechanical testing
- Metallurgical support covering machining, chemical & mechanical analysis, heat treatment, testing criteria, material form and application suitability
- Working with and advising designers on materials that are relevant, meet design criteria and which will be available for the lifespan of the product
- Working with customers to reduce total acquisition costs – Are they using the correct product? Is there a more cost effective size/form to manufacture from?
- Regular review meetings to discuss not only performance (Which should be a given, assuming accurate customer forecast) but also metal prices, lead times, potential shortages and trends that all can all help shape more informed bids
- Customer bespoke Portals :- Live stock, Incoming stock, Material costs, Invoices, Historical usage, Test certification, Certificates of Conformity, E Commerce
- Ongoing integration of Industry 4 Digitalisation with key customers & suppliers

Certifications

- AS9100D
- AS9120B
- ISO9001
- ISO14001
- Cyber Essentials Plus
- JOSCAR
- Numerous 2nd Party Approvals

Rinicom Ltd

Website: www.rinicom.com

Address: Riverway House, Morecambe Road, Lancaster LA1 2RX, UK

Primary Sector:

Security

Secondary Sector(s):

Aerospace

SC21 Bronze Award

ADS

rinicom secure communications

Organisation Summary

Rinicom is a Lancaster, UK based privately owned SME specialising in providing state-of-the art communications and detection systems for law enforcement agencies, first responders, and critical civilian infrastructure protection facilities. Incorporated in 2002, Rinicom gained initial recognition as a leading-edge technology company providing bespoke telecommunications solutions. Today Rinicom's portfolio of new and innovative products includes, a self-healing COFDM IP ad-hoc mesh SDR radio and various novel and unique video analytics solutions. In addition to a robust product base, we place a strong focus on R&D to maintain our competitive advantage and ensure continuous innovation. We listen to our customers and over the last 4 years have worked closely with 10 law enforcement agencies throughout Europe to develop, test, and validate emergency and community focused software platforms and mobile applications to improve communication and collaboration, prevent crime, build trust, increase accountability and support large and small scale disasters. Rinicom currently employs 28 FTE employees and is proud to have been awarded a Queen's Award for Enterprise twice; first in 2013 and again in 2018. Both times for International Trade.

NATEP since 2019

Yes

Capabilities

- Sensing technologies

Technologies, Products, or Services

NATEP funded project. - New secure ultra-reliable and low latency Data Link for UAV (SUREAL)

Mesh-in-the-Sky system developed. The system provides secure and reliable communications The development, implementation, and demonstration of a mesh based novel data link system for professional Unmanned Aerial Vehicles used by First Responders to support search and rescue missions during various emergency scenarios (such as forest fire, natural or manmade disasters) when communication infrastructure is damaged or nonexistent.

Certifications

- IOS9001

RogersEV Ltd

Website: Rogersev.co.uk

Address: Quinton, House, sherfield English lane, Plaitford, Hants SO516EJ

Primary Sector:

Aerospace

Secondary Sector(s):

Organisation Summary

We are a startup developing a cool running rim driven coreless electric propulsion system that was sponsored by NATEP to produce a prototype to prove its patented design could deliver a 30% improvement in efficiency over a convention propellor based system while being quieter and more compact.

NATEP since 2019

Yes

Capabilities

- Propulsion

Technologies, Products, or Services

In the rush to electrification in aerospace the market has matched a propellor which is inefficient and noisy to a compact design of centrally driven electric motor/motor gearbox which is heavy or large to reduce noise, and which require ancillary cooling which increases the complexity of the solution, adds weight.

Our coreless EDF is both compact (30% smaller), quiet, and 30% more efficient to-date than the conventional equivalent, and with is core-less centre enables a shorter nacelle (50% smaller) and more compact design. This should in most executions translate into a 50% improvement in vehicle range for the same battery weight and due to its increased performance it will reduce the number of frequent fast charges required thus extending battery life and reducing the total system CO2 footprint significantly.

NATEP Project - HaloDrive - Rim Driven Electric Propulsion System - see link below

https://youtu.be/4D9Wel_2AYo

Certifications

- No

S & C Thermofluids Ltd

Website: www.thermofluids.co.uk

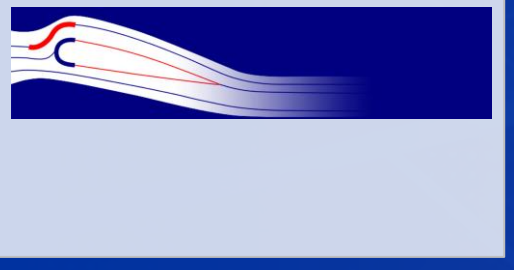
Address: The Old Tannery, Kelston, Bath BA1 9AN

Primary Sector:

Defence

Secondary Sector(s):

Aerospace



Organisation Summary

S&C Thermofluids is a micro SME providing fluid flow and heat transfer analytical and experimental consultancy services for research and development tasks.

The company has a UK based office, manufacturing workshop and testing facility which uses gas turbines to generate representative aerospace environments for testing novel components, materials and propulsion systems.

NATEP since 2019

Yes

Capabilities

- Propulsion
- Testing
- Sensing technologies
- Materials

Technologies, Products, or Services

Our testing services provide rapid derisking capabilities for next generation products - generating real data at low cost to accelerate learning and innovation.

We are coming to the end of a NATEP funded project to develop a flexible wind tunnel arrangement tailored towards in-flight performance testing of electric propulsors for drones and business jets. The arrangement can deliver on-axis and cross-wind flight stream, and is not a blow down facility so can be operated at a range of flight speeds over an extended duration. The facility is being commissioned with small-scale propulsors but has been designed with the intention of testing motors up to 2m in diameter.

Certifications

- ISO9001:2015
- Cyber Essentials Plus

Sensor Coating Systems (SCS) Limited

Website: www.sensorcoatings.com

Address: Yewtree Avenue, londoneast-uk ,Technical and Business Park, Dagenham East, London, RM10 7FN

Primary Sector:

Aerospace

Secondary Sector(s):

Energy

Organisation Summary

Sensor Coating Systems (SCS) provides Thermal Mapping Services to the Aerospace and Energy Industry. With the assistance of NATEP grants it has developed a unique temperature memory technology which has found global traction with blue chip companies specifically in the US, Europe and East Asia. The company was founded in 2012 and reached profitability in 2016. It has grown its customer base form 15 to 28 over the last three years. It has established a US presence from his head quarter in Dagenham. 80-90% of turnover is export driven. The company has grown from 5 ('12) to 17 ('24). The company provides unrivaled temperature maps across gas turbine components.

The activities of the company have been recognised by several international and local organisations such as the Royal Academy of Engineering, ASME and ATI. The relevance and cutting edge approach has been acknowledged by the publication of several peer reviewed scientific papers and patents.

NATEP since 2019

Yes

Capabilities

- Propulsion
- Materials
- Sensing technologies
- Testing;

Technologies, Products, or Services

Advanced temperature sensing in gas turbines will be crucial non-intrusive achieve Net Carbon Zero. The increase in firing temperatures to meet emission targets and the consequential impact on material life needs to be closely monitored and evaluated during the design process and later during operation.

SCS's sensing technology has several distinct advantages over existing technologies:

1) unmatched data point density (thousands of temperature measurement points on a single component e.g. turbine blade, providing significant temperature field information)
2) 2) High durability compared to traditional thermo chromic paints lasting for tens or hundreds of hours instead of a few minutes
3) 3) Better sustainability - REACH compliant in contrast with thermo-chromic paints which contain heavy metals
4) 4) Non intrusive - compared to using thermal crystal or using thermocouples - components can be reused.
5) 5) a large temperature range from 150degC to more then 1600degC. Providing an unmatched dynamic range.
6) 6) Providing a temperature precision of 5degC.
7) 7) fully digitised output resulting in much faster turnaround times and more accurate temperature visualisation.

Link to NATEP project:
https://www.youtube.com/watch?v=2bEj_4uRcNc

Certifications

- thermal history coatings are sprayed according to NATCAP

SHD Composite Materials Limited

Website: https://shdcomposites.com/

Address: The Reservation, Sleaford, NG34 7BY

Primary Sector:

Automotive

Secondary Sector(s):

Aerospace, Defence & Space

Organisation Summary

The SHD Composites Group is a global prepreg manufacturer producing innovative materials in industrial quantities. In addition to our UK HQ / manufacturing site, we have 2 manufacturing plants in North Carolina / Oklahoma (USA) and one in Slovenia (EU). Total combined capacity of over 6 million square metres per annum across woven fabric and unidirectional product ranges.
Group turnover is approx. $50M pa. with 140 staff. We are introducing innovative plant design across the Group to broaden material choice and maintain high levels of flexibility and materials availability. Key strategic objectives for SHD include maintain short 2-3 week lead-times and industry leading OTIF measures. On-going product enhancement including the use of sustainable materials. We supply a range of materials to aerospace, defence and space companies worldwide, including materials for structures and tooling

NATEP since 2019

Yes

Capabilities

- Composites
- Materials
- Testing

Technologies, Products, or Services

SHD offer a wide range of epoxy prepregs with strong, supporting databases, suitable for structural and non-structural parts, including high temperature (max dry Tg of 505°F/263°C and dry service at ~ 392°F/200°C). Materials developed for autoclave, out of autoclave and press moulding, including snap cure systems for reduced cycle times/temperatures.

All materials are available from our UK, US and Slovenian facilities.

Through Research & Development, we offer extensive in-house testing capability for support in development and qualification.

More sustainable, bio-based resins and natural fibre prepregs also available.

Other high temperature materials include BMI and Cyanate Ester (max dry Tg capability of 653°F/345°C, after post-cure) that meets low-outgassing requirements.

Current developments include higher thermal performance Ceramic Matrix Composite materials for Exhaust Ducts and Heat Sheilds (>1650°F/>900°C)

SHD has developed a sustainable, bio-derived PFA (Polyfurfuryl Alcohol) based composite material with a ‘non-combustible’ classification in engine fire testing.
It is a unique composite material that can be used for ducting, ablatives, heat shielding, nacelles, battery enclosures etc. Potentially a great aid to light-weighting next generation space systems to reduce fuel burn.

Wet Tg is 590°F/310°C and 15 minute exposure to 2000°F/1200°C is possible. This product is unique to SHD and is currently being evaluated for aerospace, defence and space programmes. It is already certified for civil aviation flight in several light aircraft battery enclosures for thermal runaway and fire containment applications.Hot melt systems that contain no Volatile Organic Compounds (VOCs), so PFA prepreg materials are without the SHE concerns associated with traditional phenolic resins (formaldehyde) and are compliant with REACH regulations and Toxic Substances Control Act (TSCA).
The material is fully developed, available in programme supporting quantities and produced in volume in the UK, USA and Europe.

Other materials include FRVC411, an FST compliant Epoxy with several UL94 V0 certifications.
Link to NATEP project https://youtu.be/-6rwYK0XSyE

Certifications

- BS EN ISO 9001:2015
- EN 9100 : 2018 (Technically equivalent to AS9100D)

Silcoms

Website: www.silcoms.co.uk

Address: Piggott Street, Bolton, BL4 9QN

Primary Sector:

Aerospace

Secondary Sector(s):

Defence, Industrial Gas Turbines

SC21 Bronze Award

ADS

SILCOMS
Precision Engineered Products

Organisation Summary

Silcoms Ltd is the United Kingdom's leading supplier, by value and volume, of machined rings to the aero engine industry. Annual sales of rings, casings, seals, shrouds and segments amount to £12m, supplied to customers in Europe and Asia, including Rolls-Royce, Kawasaki, Spirit and Siemens. Lean techniques and the latest CNC 5 axis technology are used throughout.

We specialise in producing complex parts from nickel alloys, titanium and aluminium and we have 5 axis milling capability up to 2000mm. Silcoms offers a complete service including, design and procurement of forgings, kitting and NADCAP approved, treatments and sub-tiers.

All parts are fully traceable to source.

NATEP since 2019

No

Capabilities

- Manufacturing

Technologies, Products, or Services

Large Diameter Thin Wall Rings
Silcoms specialises in machining large diameter thin wall rings. We supply parts up to 1800mm diameter with wall sections as thin as 1.00 mm. We have many years experience of controlling distortion and stresses, designing work holding, design for manufacture and as well as design of forgings.

Parts are supplied for all sections of the engine, from the fan through compressor, combustor, turbine to exhaust.
We also have many years experience of manufacturing honeycomb seals and shrouds for numerous applications in a variety of nickel alloys and supplied as full rings, half rings or segments. The honeycomb is manufactured and brazed by a network of specialist partners within a 20 mile radius. The seal diameters, whether plain or stepped, are machined in house.

Lean principles and 5 axis machining are used throughout, enabling us to be very responsive and agile with lead times kept to a minimum (less than 6 weeks for complex rings).

Prismatic Parts and Assemblies
Silcoms supplies prismatic parts in nickel and titanium, including mechanical assembly. We have large 5 axis milling capability up to 2000mm x 2000mm as well as mill turn capability to 1200mm x 1200mm. This enables us to machine a wide variety of complex parts to very tight tolerances. The machines are twin pallet which allows off line set ups to minimise cost and reduce lead times. We manage all heat and surface treatments through a network of trusted and reliable specialists. We supply kits of parts to reduce the transactions with our customers and take responsibility to manage the program and supply chain.

Certifications

- AS9100 Rev D
- ISO14001
- NADCAP NDT and Non-conventional machining

Technical Composite Systems Ltd

Website: https://www.technicalcompositesystems.com/

Address: Systems House, 1 Claylands Way, Paignton, Devon, TQ4 7TY

Primary Sector:

Defence

Secondary Sector(s):

Industrial

Organisation Summary

Technical Composite Systems (TCS) is a dynamic, agile, forward-thinking SME located in Devon (UK). We specialise in the manufacturer of advanced composite components and structures, tooling, fixtures and 5-axis machining.

Our team works using both conventional and novel materials while employing data driven processes and AS9100 controls. TCS supplies domestic and international customers and is actively engaged in novel R&D programs and STEAM outreach activities in the local community. We do not have a catalogue of products – we do have a unique skillset and capability, driven by an open, honest team who are engaged and accountable in their work.

NATEP since 2019

Yes

Capabilities

- Composites
- Interiors
- Manufacturing
- Materials
- Structures
- Sensing technologies

Certifications

- AS9100

Technologies, Products, or Services

- High quality autoclave, pre-preg composite components with integral features.
- Fabrication and assembly bonding of large composite structures including honeycomb panels.
- Design and manufacture of metamaterials.
- Frequency selective surfaces – designed for specific Rf applications
- Metamaterial Incorporation in composite laminates.
- Magnetically tuned composites – stealth and Radar cross section.
- 5-axis machining of tooling board patterns/foams/honeycombs/composites.
- Desire to develop high temperature composites (>1000°C)

NATEP Project: High functionality, low cost, small composite antennas.
Wireless communication performance is a function dictated by the design, structure and materials used in their manufacture. We seek to challenge convention by creating new composite materials that permit smaller, more efficient and low cost communication hardware.

https://www.youtube.com/watch?v=fvhh9HZxRWY

ToffeeX

Website: www.toffeex.com

Address: 60 Grays Inn Road, london

Primary Sector:

Aerospace

Secondary Sector(s):

Defence & Space

Organisation Summary

Spin-out of Imperial College London developing next-gen cloud native engineering design tools for thermo fluid design with 25 employees. ToffeeX specialise in automated design tools for thermal-fluid components including cold plates, heat exchangers and cooling systems for batteries, power electronics, radar and a variety of other aerospace applications.

- Cloud based software with unique, market leading capability to deliver validated designs for cooling plates that are 38% lighter, 4deg cooler with 65% lower internal pressure drop.
- User-defined optimization for unique designs that drive performance and lightweiting.
- Simultaneous design for performance and manufacturability.
- Maximise investments in additive manufacturing and solve previously impossible engineering problems.
- Replace legacy pin fin or serpentine cooling systems with unique generated designs that out perform.

NATEP since 2019

No

Capabilities

- Additive Manufacturing
- Design Manufacturing software

Technologies, Products, or Services

3D printing cold plates, heat exchangers and manifolds.

NATEP Project - Multiscale optimisation algorithm for the next generation of heat exchanger

The innovation of this project is to create an **alternative design framework for cold plates**. **Cold plates** are common devices allowing components such as battery packs and micro-electrical devices to **operate within tolerance**. They take high importance with the current conversion being seen in the aircraft industry towards electrification and hydrogen due to NetZero Regulation.

Certifications

N/A

Wavedrives Ltd

Website: Wavedrives.com

Address: Unit 10, Stable Yard, Windsor Bridge Road, Bath, Somerset, BA2 3AY

Primary Sector:

Robotics & bionics

Secondary Sector(s):

Aerospace

Organisation Summary

Wavedrives is an RD&I intensive micro-SME, currently focused on commercialisation of its novel ultra-efficient linear actuation technology - SILA - with non-contact magnetic gearing. We are currently providing advanced SILA prototypes for evaluation configured to specific OEM requirements.

In our NATEP project we developed SILA-P9, a scaled up implementation of SILA technology with 8.2+kN demonstrated lift, highly responsive and readily backdrevable to a specification from end-user Airbus. We are now working with Airbus on a landing gear application.

NATEP since 2019

Yes

Capabilities

- Sensing technologies

Technologies, Products, or Services

WaveDrives' SILA actuators use a unique non-contact magnetic transmission to overcome the limitations of conventional EMAs for next-generation ultra-efficient, power-dense, safe, clean and flexible actuation.

SILA advantages include:
- Smooth, precise and reliable movement control
- More power dense and more efficient for dependable performance across the human dynamic range
- Safer, more resilient and modular, no hard stops, low voltage DC operation, restarts after overload
- Very low maintenance: as no transmission wear, no lubrication, no sparks, passive cooling
- Clean and near silent operation
- Free and predictable backdrive for energy regeneration and free-fall
- Compact streamlined form
- Responsive, speed only limited by motor controller
- Intrinsic accurate real-time force feedback for contact sensing and telehaptics
- Scalability, flexibility and configurability for diverse applications
- Lifetime cost and carbon reduction due to simplicity, efficiency, robustness, longevity, ease of manufacture/re-manufacture, low maintenance and greater cost/benefit

Link to NATEP Project;
https://youtu.be/Ryfpkt-4EfE

Certifications

n/a