midlands aerospace alliance

another great idea from NATEP

New technologies for the aero engine supply chain

(and more innovations from UK aerospace suppliers)

Rolls-Royce Learning and Development Centre, Derby,

18 Jan 2017 09:00 - 16:00

8:00	**Registration and coffee**	
9:00	**PLENARY 1: WHAT NATEP IS ALL ABOUT**	
	Introductions and welcomes	*Dr. Andrew Mair, Chief Executive, Midlands Aerospace Alliance*
	Future engine concepts at Rolls-Royce	*Simon Burr, Director, Engineering and Technology - Civil Aerospace, Rolls-Royce.*
	Why a National Aerospace Technology Exploitation Programme (NATEP) for aerospace suppliers?	*Dr. Andrew Mair*
	NATEP projects: the breadth of innovation in the supply chain	
	• Failure modelling of high strength aluminium alloy	*Cabot Design, Gingerneering. End user: Airbus Operations.*
	• Reducing the weight of aircraft seats with novel miniature actuators	*CNR Services International, Midland Aerospace. End user: BE Aerospace.*
	• Understanding distortion and residual stress in manufacturing	*Silcoms, Craftsman Tools, Sandvik Coromant, The AMRC with Boeing. End user: Rolls Royce.*
	• Automating the translation to new ILS (integrated logistics solutions) standards	*Aspect Supportability Consultants, Showcase Graphics. End user: UK Council for Electronic Business.*
	How the primes and tier 1s have supported NATEP	*Bridget Day, Deputy Programme Director, NATEP*
	Towards integrated support for the UK aerospace supply chain	*Andy Page, Chair, NATEP National Steering Board and Chief Executive, Sharing in Growth*
11:00	BREAK	

11:30 **PARALLEL SESSION 1: NATEP projects with actual and potential application in aero engine supply chain (main meeting room)**

• Reducing the cost of software verification through test automation	*Altran UK, Rapita Systems, University of Oxford. End users: MBDA UK / Rolls-Royce.*
• Improving safety with control system software verification tools	*Rapita Systems, University of York. End users: Airbus Defence and Space / Rolls-Royce.*
• Better reliability, performance and cost with configurable double-sided cooled power electronics modules	*Semelab, Pre-met. End user: Rolls-Royce.*
• Better aero engine efficiency applying novel piezoelectric materials to engine controls	*Ionix Advanced Technologies, Linwave Technology. End user: Rolls-Royce.*

11:30 **PARALLEL SESSION 2: NATEP composites projects (some with actual and potential application in aero engine supply chain) (Room T305 upstairs)**

• New ways to process continuously reinforced advanced composite thermoplastics	*CCP Gransden, Comco Plastics. End user: Bombardier*
• How to inhibit delamination in CFRP (carbon fibre reinforced plastic) composites	*M Wright & Sons, Composite Innovations. End user: GKN Aerospace*
• New weight-saving fasteners for composites	*Rotite Technologies, Sigmatex, University of Manchester. End users: Airbus UK/ Aircelle/ EJOT UK*
• Designing and manufacturing low-mass composite mould tools	*Kaman Tooling, Hexcel Composites, Kaman Composites, Ten Cate Advanced Composites. End user: BAE Systems*

12:30 **LUNCH**

13:30 **PARALLEL SESSION 1 CONTINUED (main meeting room)**

• Reducing size, weight and cost by writing electrical circuits onto 3D aerospace structures with lasers	*Laser Optical Engineering, Moulded Circuits. End user: MBDA UK.*
• Digital closed-loop systems for smaller, more accurate, more responsive flight controls with less internal leakage	*Moog Controls, 4C Electronics. End users: Moog Aircraft Group – Commercial Sector / Embraer S/A*
• Improved yield and quality in manufacture of multi-chip module electronic devices through plasma cleaning	*Welwyn Components, Accelonix. End user: Rolls-Royce.*
• Measuring temperatures in extreme aerospace environments using optical sensors	*Oxsensis, Meggitt Sensing Systems. End user: Airbus Operations SAS.*

13:30 **PARALLEL SESSION 2 CONTINUED (Room T305 upstairs)**

• Keynote: Developments in composites at GKN Aerospace	*Ben Davies, Composites Research Engineer, GKN Aerospace*
• Innovative fusion welding of thermoplastic composites for aerospace	*AGC AeroComposites, Ten Cate Advanced Composites, The National Composite Centre. End user: Rolls Royce*
• Repeatable, cost-effective bending of composite pipes	*Sigma Precision Components, e-Mould (UK). End users: Rolls-Royce plc / Bentley Motors.*

14:30 **PLENARY 2: NATEP SUPPORTS DESIGN, ENGINEERING, TEST, MANUFACTURE . . . (main meeting room)**

• Using thermal history paints to measure engine temperatures	*Sensor Coating Systems, Indestructible Paint. End user: MAN Diesel & Turbo.*
• More design scope for aluminium investment castings using water soluble ceramics	*Aeromet, Adaptive Engineering Sols. End user: Airbus.*
• Improving consistency and throughput of measurement in manufacturing by automating gauge-block calibration	*Powerkut, Coventry University. End user: Winbro.*
• Designing "smart" hydraulic hand tools for aerospace manufacturing	*FE Robinson, Klauke UK. End user: Airbus Operations.*
Future technology directions and requirements in aero engines for the supply chain	*Robin Hill, Engineering Fellow - High Integrity Electronics, Head of Strategy and Innovation, Rolls-Royce, Steve Dennison, Head of Research and Technology, Control Systems, Rolls-Royce*
How Rolls-Royce acquires new capabilities by working with the supply chain	*Chris Bradford, Chief of Externals - Centre of Competence, Rolls-Royce*

16:00 **END**