North West Texnet - Advanced Flexible Materials

Craig Carr
Manufacturing Technology
Military Air Solutions
Samlesbury
Samlesbury Airframe Design & Manufacturing Centre

Principal Responsibilities: -

• Military and Civil Aircraft Design and Manufacture
• Airframe Structures
• Composite Assemblies
• Electrical Assemblies
• Advanced Machining and Fabrication
• Advanced Tooling Manufacture
• Customer Support Organisation

General Information: -

• £300M Sales Turnover
• 4000 Employees
• 156000m² floor space
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**Key Projects:**

- [Image of Eurofighter Typhoon]
- [Image of F-15 Eagle]
- [Image of T-45 Goshawk]

- [Image of easyJet aircraft]
- [Image of unmanned aerial vehicle]
- [Image of construction site]
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<td>🔷RAE announce breakthrough in CFC materials</td>
<td>🔷First flight Jet Provost rudder trim tab</td>
<td>🔷Jaguar wing demonstrator</td>
<td>🔷Tornado fuselage demonstrator</td>
<td>🔷Jaguar engine bay door</td>
<td>🔷Harrier horizontal tail</td>
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<td>🔷Jaguar engine bay door</td>
<td>🔷Tornado Taileron</td>
<td>🔷A300/310/320 structures</td>
<td>🔷First flight gripen wing</td>
<td>🔷First flight EAP wing</td>
<td>🔷AMCAPS 1</td>
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<td>🔷AMCAPS 1</td>
<td>🔷JAST fin</td>
<td>🔷AAI (JSF)</td>
<td>🔷Fubacomp</td>
<td>🔷Corax, Raven, Taranis</td>
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Advanced Manufacturing Business
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Composite Detail Manufacturing and Processing Facilities :-

The Samlesbury composites facility is one of the most up to-date anywhere in the world and has recently had a £1m refurbishment in readiness for Eurofighter Tranche 2 production, JSF and other business opportunities.
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Composite Detail Manufacturing and Processing Facilities :-

• Cincinatti V4 contour ATL
• GFM Ply Profiler
• Virtek laser
• 5 Autoclaves up to 5m diameter
• HML IR Preformer
• NDT up to 10 axis
• 5 Axis ICY
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Special Engineered Composite Facility
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Current Research & Technology

This area specialises in new materials process development, infusion processes and automated fibre placement, to support our Future Systems development and other opportunities. The facility is supported by a team of specialist engineers from all disciplines to provide a total capability.

Facilities: -

• RADIUS Tandem RTM press
• Oil Heated RTM
• Cincinatti Viper 1200 FP Machine
• Zund Ply Profiler
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Current Research & Technology

Low temperature pre-preg on technology demonstrator vehicles:
- Corax
- Raven
- Talisman

Academic, DTI and European collaborative programmes:
- Terrasoar
- AIRPOWER
- WILMA
ASTRAEA Technology:-

• Affordable manufacturing techniques being developed for wing skin and spar

• Dialogue with North West academic and SMEs.

• Spar preform options

• Wing skin preform binder options in 5HS and NCFs

• Manchester University developing spar boom preform structures
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Future Direction
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**Advanced CFC Applications:**

- Representative fast jet / UCAV Spars
- Large representative complex frame and box components
- Braided stiffeners, cleavage fillers over braided structures
- Trans-lamina reinforcement
- Standard prepreg tools suited to resin infusion process trials (VARTM, RFI, LRI)
- Modular preforming techniques
TARANIS
Thank you for your attention

QUESTIONS