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issue

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The quarterly newsletter of the Midlands Aerospace Alliance

Issue 26 Summer 2011

Midlands invests for global growth

Industry boosts capabilities in readiness for future demand

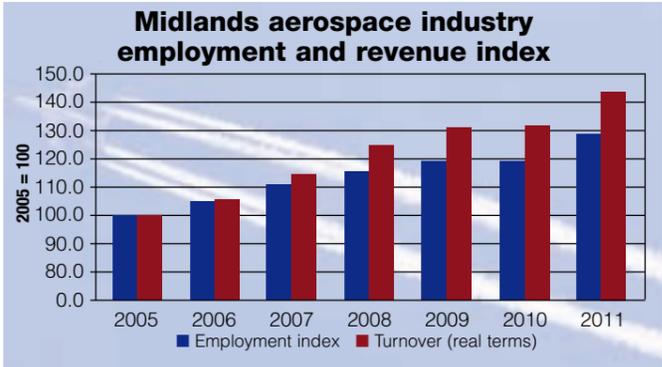
THE signs of global economic recovery are increasingly clear in the Midlands aerospace supply chain and the industry is gearing up for the future.

The latest Midlands Aerospace Alliance survey of its 250 member companies in mid-2011 shows that real-terms business revenue is up 7% in 2011 over 2010, compared to -1% (2009-10) and 4% (2008-09). Three-quarters of companies are already experiencing solid revenue growth.

And the region is investing in the skilled people needed to meet the requirements of the global aerospace industry. Employment has grown 8% between 2010 and 2011 — compared to 0% between 2009 and 2010 when industry leaders focused on securing stability in an uncertain economy.

Overall, the Midlands aerospace supply chain has seen real revenues grow by 44% since 2005, and employment grow by 29%, revealing productivity growth of 2.5% per year (see chart).

Exhibitors on the MAA stand at the Paris airshow are truly representative of the superb



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capabilities that members of the alliance offer their global aerospace customers. Many, such as **Amfin** and **Paul Fabrications**, are investing in modern new facilities to ensure they meet customer requirements for quality, delivery and cost. Companies like **G&O Springs** and **Cinch Connectors** are developing new technologies that contribute to improved aircraft performance. Still others bring together the best of the Midlands motorsports and automotive technology with aerospace – **Advanced Composites Group**, **Atlas Composites** and **Ricardo**. Fully integrated value-added

services complement hi-tech manufacturing at **Bromford Industries**. Making product development and materials supply more efficient are **IPI Solutions** and **Gould Alloys**. Specialised electronics manufacturing processes are offered by companies such as **Invotec**. **Sigma Precision Components** offers the flexibility of global supply chain solutions. And deep Midlands expertise in manufacturing equipment is epitomised by **Sapa Profiles**. Whatever your requirements, Midlands aerospace companies are ready and able to meet them!



New Italian connection for MAA members at Paris show

A SERIES of business-to-business meetings is being organised between Italian aerospace companies and companies exhibiting on the MAA stand this year at Paris.

The meetings, set up with the aid of UKTI's aerospace specialists for Italy, Ines Montella and Rossana Tenerelli, are a first for the MAA at a major airshow.

MAA chief executive Andrew Mair says: "Italy has a significant, successful aerospace industry. And with a strong Italian contingent also exhibiting, Paris is the ideal opportunity to bring our companies together."

Adds Ines Montella: "The MAA stand at the Paris airshow will be the perfect vehicle to acquaint relevant purchasing and technical directors of Italian aerospace manufacturers with the capabilities of Midlands aerospace."



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Paris Airshow 2011

exhibitors



On the MAA Stand



ACG scores aerospace first

ADVANCED Composites Group (ACG) has scored an aerospace industry first with its industry-leading out-of-autoclave (OoA) technology.

ACG's MTM44-1 prepreg will now be used for the manufacture of wing panels for the Airbus A350 XWB, the first use of OoA processing in commercial aircraft structure.

Manufacture is presently at the ramp up stage; full production is expected to begin in late 2011.

MTM44-1 was extensively used in ALCAS, an EU-funded programme led by Airbus and Dassault Aviation to define design and technologies for low-cost aircraft structures.

ACG, part of the Midlands-based Umeco group, is promoting other OoA aerospace structural materials at Paris. Its prepreg systems MTM45-1 and MTM46 are widely used in USA and Europe for the manufacture of structural components in UAVs, general aviation and military aircraft.

ACG also manufactures a wide range of aircraft interior prepreg materials qualified to the specifications of Airbus and other major OEMs. The company's prepreg range includes epoxy, phenolic, and bismaleimide (BMI) resin systems supplied in a number of different formats and fibre reinforcements.

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Amfin sees its resilience tested

FIRST-time exhibitor Abbey Metal Finishing (Amfin) is at Paris after a year that tested the company's resilience and ingenuity to the limit.

Amfin lost two-thirds of its business, 90% of which is in aerospace, when an unexplained fire destroyed most of its operation in April 2010. What rose out of the ashes was firstly a survival plan followed by a year of intensive rebuilding.

Today Amfin has a new 65,000sq ft plant fitted out with new state-of-the-art process equipment, the result of a multi-million-pound reinstatement and considerable investment by its parent company Camellia PLC.

Amfin undertakes a wide range of finishing operations on machined and formed parts. General manager Mike Beirns says Amfin's all-new treatment lines include plating, anodising, including new TSA anodising as specified by Airbus for its new A350. These services are complemented by new equipment to undertake painting and plasma coating services.

It has also introduced a large semi-automatic etch line, in response to demand, to conduct inspections prior to NDT.

"Our biggest area of growth in customers and volume is mainland Europe," says Beirns.

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Atlas strength is in excellence

ESTABLISHED manufacturer Atlas Composites is using Paris 2011 to promote the broad scope of its experience and expertise in the challenging field of composite materials and tools.

Midlands-based Atlas has earned a reputation for excellence through its work for the aerospace, defence, communications and automotive industries. Underpinning its reputation are ISO9001/2000 and AS9100 accreditations and a skilled workforce of 60 people.

Aerospace currently accounts for almost 70% of Atlas's output, and MD Shaun Moloney sees room for expansion. "Aerospace and defence are growth sectors," he says.

Atlas's strength lies in being able to respond to tight lead times and the high standards demanded by its customers. Its motto is 'Putting strength where you need it', an approach that starts with total control through programme management, a practical approach and proven capabilities of its in-house CAD/CAM and five-axis machining.

"We offer the complete design and manufacture service from new products through to the conversion of existing metal parts into higher performing composite structures," says Shaun. "We offer the solution to your problem."

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Bromford boasts full solution ability

FULLY integrated precision-manufacturing, fabrication and assembly solutions are what Bromford Industries offers, and those capabilities are what the Midlands-based company is promoting at Paris 2011.

Bromford Industries, a privately owned enterprise trading on a global basis, supplies performance-critical components to leading OEMs in the aerospace, defence, marine, power generation and nuclear markets.

The company specialises in fully integrated solutions utilising core competencies including complex machining and fabrication of super-alloys, supply chain management expertise, specialist finishes and assemblies, all fully integrated and supplied to customers' requirements.

It prides itself on providing its customers with a competitive edge, through lowest total cost of acquisition, from a single source supply point and a high level of integration through assembly packages.

Bromford Industries produces a wide range of components and assemblies for aero and marine gas turbines, aircraft landing gear, helicopters, static gas generators, nuclear and specialist engineering applications.

Products include critical-performance components and assemblies found throughout modern commercial turbofan engine modules, as well as

military fixed and rotary wing gas turbines and marine derivatives.

In the area of landing gear, its products include torque links, articulated links, twisted links, pins, braking components and sub-assembly packages.

The company specialises in 'difficult-to-manufacture', performance-critical components, in the full range of aerospace alloys and exotic materials.

Machined components range from small, medium and large prismatic through to rings up to 2m in diameter.

Bromford also maintains a specialised engineering service for the supply of a wide range of complex aero gas turbine components in low volumes. The service ranges from project management of prototype work at the leading edge of current manufacturing technology to the supply of spares to restock out-of-production programmes.

Bromford's continuous improvement philosophy employs a Define, Measure, Analyse, Improve, Control (DMAIC) methodology to ensure maximum customer benefit.

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Photo courtesy Messier-Dowty



Landing gear torque link.



Cinch connects with aerospace

CINCH Connectors is showcasing its broad range of Hyperion Fibre Optic interconnect products at Le Bourget.

A multi-national manufacturer, Cinch is a major supplier to the defence and aerospace market, with significant presence in the commercial aircraft industry, as well as in the munitions, missile, and satellite communications segments.

The company also possesses various enabling technologies and expertise, which it uses to its customers' advantage to provide custom solutions and products.

For the transportation market, Cinch has developed a number of leading-edge products; the company supplies the telecom market with various standard products as well as a number of new, higher speed devices consistent with the rapidly changing needs in the sector.

Cinch supplies a variety of devices to the high end computer market with emphasis, to date, on work station and server products.

Cinch product engineering and development activities are carried on in the US and England, with the design groups operating from common databases, tools and software to optimise design and shorten the new product development cycle.

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G&O puts design software on show

BACK at Paris after a successful show in 2009 is Midlands specialist manufacturer G&O Springs, flying high through recognition under the UK's 21st Century Supply Chains (SC21) programme.

G&O's SC21 Bronze award has served to reinforce its reputation for quality manufacturing of all types of springs and wireforms for the aerospace industry.

At Paris, G&O invites showgoers along to see a demonstration of a test version of the Aerospring software that has been developed by the Institute of Spring Technology (IST) for the Aerospace Technology Exploitation Programme (ATEP). Partners on the Aerospring project are G&O, the Reliable Spring Company, Alloywire International and the Institute of Spring Technology.

This version of IST's leading spring design software is a world first, containing data that allows users to evaluate their spring designs for fatigue life and relaxation performance at temperature for the various titanium and exotic alloy grades used in the aerospace industry. "This data has never before been available and will significantly improve springs designed from these materials," says G&O managing director Steve Boyd.

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Gould delivers on commitments

GOULD Alloys is in Paris to talk about its ability to supply high integrity metals and an extensive range of processing services into the world's most demanding markets, including aerospace.

The Midlands-based company pursues a policy of nurturing and developing relationships with its customers to best understand their requirements. Gould's continual investment in both people and plant enables it to deliver its commitments cost-effectively.

The company carries a comprehensive range of stock and can source and supply non-standard items for specific requirements.

In-house services include plentiful warehousing in a modern, purpose-built facility close to the heart of the Sheffield steel manufacturing industry, modern efficient saws, conventional and CNC machining capability, water jet capability and the company's own transport fleet.

Gould provides a total integrated service package encompassing purchasing, processing and just-in-time delivery of cut and pre-formed pieces specifically tailored to individual customer needs. In addition, it is able to offer a revert service designed to maximise returns and material utilisation.

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Invotec reinforces quality vision

INVOTEC Tamworth, a member of the Invotec Group, has recently gained Nadcap accreditation for electronics, further reinforcing its commitment to the control of its special processes and a system of continuous improvement.

A leading European manufacturer of high-technology printed circuit boards (PCBs), Invotec is already accredited to AS9100, the quality management standard specifically written for the aerospace industry.

The new approval, says group managing director John Ennis, "demonstrates the commitment of the company and its people to the highest standards of reliability and quality in our product and our passion to satisfy stringent customer requirements and specifications."

Acknowledging the tremendous contribution of the Tamworth workforce in attaining these standards, Ennis comments that this was clear demonstration of Invotec's commitment to the Supply Chain 21 programme.

The European aerospace and defence sector accounts for 65% of the Tamworth factory's output. Sales grew by 20% during 2010, and 2011 has been very positive despite the difficult economic climate. The company continues to invest heavily in people, equipment and technology to support a growing demand for Invotec's specialist services.

"We make the most complex high-reliability PCBs manufactured in Europe and take enormous pride in the strength of engineering and manufacturing skills of our people," says Ennis.

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IPI solution cuts FAI report time

HAPPY clients are the best advertisement, and Midlands-based IPI Solutions counts Goodrich Actuators Systems among theirs.

Goodrich implemented IPI's flagship VisualFAIR software application in 2008 after trials showed it could chop 64% off the time taken to manually create First Article Inspection (FAI) reports. A further study lasting 28 weeks showed a 75% reduction in the time needed to produce FAI templates Form 1, 2 and 3 and balloon drawings ready for inspection use.

"Factor in the other benefits such as the report mistake proofing features within the software and this quality improvement becomes even more attractive," says a spokesman for Goodrich Wolverhampton. "We have been able to utilize the VisualFAIR software extensively."

A digital pen and paper solution from IPI converts hand-written results to digital data and compares it against the drawing requirement to help spot mistakes. Goodrich is also investigating importing CMM data, another solution available from IPI.

VisualFAIR has more than 1,000 users worldwide. Many OEMs stipulate its use to their supply chains.

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Maycast-Nokes boosts capability

MAYCAST-Nokes Precision Engineering recently extended its state-of-the-art CNC machine shop and is at the Paris airshow this year to promote its capability to supply fully machined castings in kit form, as part of an assembly or as an individual part.

A privately owned company, it specialises in the manufacture of high quality precision castings. From a single site location in Essex, Maycast-Nokes manufactures fully machined lost wax/investment castings and precision sand castings in a variety of materials.

IT holds quality approvals including ISO 9001:2008 and AS9100, and also Nadcap approval for NDT and heat treatment.

Maycast-Nokes employs 115 people; 75% of its turnover is for aerospace or defence applications.

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Paul Fabs grows aerospace sales

PAUL Fabrications returns to Paris buoyed by strong sales in the aerospace components market that jumped by 50% in 2010 and are projected to rise 35% in 2011.

The growth comes on the back of further investment to upgrade its 4-5 axis machining capability which enhances the existing wide fabrications capability it provides to both the aerospace and nuclear industries.

The company has recently completed the manufacture of the first Rolls-Royce Trent XWB drains mast, which is a complex 40-detail part, a titanium assembly hand-built using all the skills of its experienced workforce. The part will be going onto the Rolls-Royce Flying Test Bed and all future 'flying' development engines.

Paul Fabrications has increased shop floor personnel by 43% in the last four months to ensure continuity, through the period of growth, of the high levels of operational performance that customers have come to expect. More staff in supporting functions have also been added.

Already approved to AS9100, with five NADCAP approvals, the company is looking to add to a prestigious global customer base which includes Rolls-Royce, Goodrich Aerostructures, FACC, Meggitt and Pattonair.

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Ricardo: Buggatti to Dreamliner

THE best modes of transport demand the best manufactured components, and Ricardo High Performance Transmission Products is at Le Bourget this week to promote its ability to deliver that level of quality.

Ricardo, based in the British Midlands, is now an approved supplier of 'Make to print' high quality machined gears and splined shafts in all types of materials to the aerospace industry.

Dedicated plant and equipment at its facility in Leamington Spa enable Ricardo to produce gears of the finest quality.

The company is capable of finish tooth grinding both external and internal spur and helical gear profiles, with the added advantage of being able to grind either form from the solid blank, thus eliminating the long lead times to produce the necessary cutters.

Ricardo's recent investment in plant and people ensures that it is at the leading edge of precision transmission components. All methods and processes, whether the job is producing a one-off development part or volume manufacture, are run in accordance with its AS9100 accreditation.

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Sapa Profiles: all around access

'SAFE working at height' is the motto of Sapa Profiles, and the UK Midlands-based company (part of the worldwide Sapa Group) is at Paris to show the aviation sector how to do it.

A world-leading producer of extruded aluminium profiles, Sapa puts its knowledge of the properties of aluminium to good use by designing and producing safe, lightweight access systems.

"Bespoke access platforms can help reduce the cost of maintenance and improve safety," says marketing manager Jude Howson. "They are competitively priced, particularly when compared with the repeated erection costs of temporary scaffolding, and will improve the safety of operations carried out at height."

Sapa maintenance platforms are manufactured under ISO 9001 quality standards and meet health and safety regulations worldwide. The platforms feature durable non-slip aluminium decks, built-in hand and guard rails, toe/kick boards and staircases. They can comfortably accommodate challenging access problems without compromising safety.

Environmental considerations are part of Sapa's business ethos, as recycling is the cornerstone of aluminium's sustainability. Sapa invites its customers to take part in the recycling programme.

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Sigma seals new multi-million deal

SIGMA Precision Components is celebrating a new three-year, multi-million dollar contract to deliver rigid pipe assemblies and precision machined parts to GE Aviation's plants in North America.

The company cites its global capability for enabling it to offer a competitive proposal during the bidding process. Sigma's facilities in both Hinkley, UK and Chengdu, China will fulfil the contract.

Sigma says this contract builds on existing business with GE Aviation and acts as a conduit into the North American market.

Part of Avingtrans plc's Aerospace Division, Sigma manufactures rigid pipe assemblies, precision machined components and fasteners for aerospace and other markets. Its 130 employees work in 50,000sq ft of modern facilities.

Sigma's specialist processes include tube manipulation, fabrications, machining, welding, brazing, NDT and X-ray. Among its approvals are AS9100, NADCAP, ISO14001 and Rolls-Royce.

Access to sister company Chengdu Sigma Precision Components in China allows Sigma to offer local supply combined with the highest possible value to clients through engineering experience and low-cost sourcing.

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More Midlands aerospace success

Regional firms scoop 25% of UK awards for supply chain excellence

ADS SIX more Midlands companies are flying high from their work under the UK's 21st Century Supply Chains (SC21) programme.

They are the latest of 14 companies from the region to have won silver and bronze awards in recognition of excellence and capability in serving the global aerospace and defence industry.

This latest achievement continues a line of SC21 success for the Midlands: the region to date has taken 25% of all awards made nationwide under the programme, which is designed to improve the competitiveness of the aerospace and defence industry by raising the performance of its supply chains.

The latest winners of bronze awards are:

- AAR International of Waddington, Lincolnshire;
- Burcas Ltd of Birmingham;
- Fourmasters Ltd of Wolverhampton;
- Midd Aeromech Engineers Ltd of Coventry;
- Technoset Ltd of Rugby, Warwickshire;
- The Seat Design Company Ltd of Derby.

Tim Holmes, SC21 manager of the Midlands Aerospace Alliance (MAA), said: "Gaining recognition on the national SC21 programme is no mean feat. To receive an award, a supplier must consistently deliver on-time and to the highest quality across all its customers."

The MAA is the regional partner to A[D]S, the

UK industry body advancing AeroSpace, Defence and Security, and supports companies across the Midlands to engage in the national SC21 programme. To date, Midlands signatories to the SC21 plan account for 20% of the total, or 132 of 656 companies.

Thirteen of the 14 award winners have accessed funding assistance and support from the MAA and its partner the Manufacturing Advisory Service (MAS). They have been funded by Advantage West Midlands (AWM), the East Midlands Development Agency (emda) and the European Regional Development Fund (ERDF) to provide assistance to companies at all levels of the supply chain.

"SC21 deployment in the Midlands has always been significant," said Tim, "but to see so many regional companies achieving world-class performance is fantastic."

The other eight companies, whose awards have previously been announced, are:

- A&M EDM Ltd
- Arden Precision Ltd
- AWS Electronics Ltd
- Bulwell Precision Engineers Ltd
- G&O Springs Ltd
- Glenair UK Ltd
- Graves Aircraft Components
- Midland Precision Equipment

AWS Electronics won a silver award while the others took bronze.

New technologies on show thanks to ATEP programme

WORK is nearing completion in the second phase of the Aerospace Technology Exploitation Programme (ATEP 2), a £1.5 million scheme run by the MAA to encourage the development and exploitation of new technologies in West Midlands aerospace and defence supply chains.

ATEP is part-funded by the regional development agency Advantage West Midlands (AWM) and the European Regional Development Fund (ERDF), and helps SMEs partner larger manufacturers and leading universities to develop new technologies that address future aircraft programme requirements.

Visit the MAA stand to learn about these projects and how your company can benefit from their innovations in:

- longer-life aircraft brakes
- new spring designs for actuation systems
- novel improved-strength aluminium alloy
- chrome-free coatings for engine-surface coatings
- new aircraft tyre design techniques.

About the MAA...

The Midlands Aerospace Alliance (MAA) is the voice of companies in the British Midlands supplying global aerospace. It was set up in 2003 to improve wealth creation and employment for companies and people involved in the aerospace industry across the Midlands. The MAA is supported by Advantage West Midlands (AWM) and the East Midlands Development Agency (emda).



For additional copies of AIM, or to add your clients to the distribution database, please contact the MAA Secretariat.

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