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# aim

## aerospace in the midlands

The quarterly newsletter of the Midlands Aerospace Alliance

Issue 23 Summer 2010

### MAA introduces new minister to Midlands skills, expertise

MARK Prisk, the minister responsible for small business in the new UK coalition government, has praised the work of the MAA and its impact on aerospace.

He was speaking during a visit to MAA member Indestructible Paint of Birmingham – his first to a UK aerospace company – that was organised by the MAA.

MAA director Neil Rawlinson of Aero Engine Controls, who welcomed the minister, said: "It was pleasing to be able to explain in detail how the MAA's Aerospace Technology Exploitation Programme (ATEP) is helping

**Continued on page 2**



Mark Prisk (right) meets with Indestructible Paint's Graham Armstrong and Alan Norton.

### Cosworth in pole position with crossover into aerospace

MAA member Cosworth put its aerospace prowess on display for fellow members at its plant in Northampton in June.

Cosworth, a major name in motorsport, was hosting the regular MAA members meeting that focused on the crossover potential of the aerospace and motorsport industries. The company's Jog Lall and Mark Gallagher set out details of its successful journey and the 'halo effect' of the F1 racing world into which the company has made a triumphant return as an engine provider this season.

The view from the supply chain was provided by MAA members. Peter Platt of Kigass Aero Components, Eddie Shephard of Icon Polymer and Jason Aldridge of Arrowsmith Engineering commented on the similarities and differences in strategies and operations practices required to supply the two industries with their exacting standards yet different 'clockspeeds'.

MAA chairman Clive Snowdon, chief executive of Umeco, said: "It was excellent to hear first-hand about the sophisticated expertise of MAA members who serve these two markets."



midlands aerospace alliance

# MAA's record year at Farnborough

## Biggest-ever presence for alliance members at 2010 show

THE Midlands Aerospace Alliance (MAA) has brought a record number of companies from the Midlands aerospace community to Farnborough 2010.

It's part of the MAA's drive to promote the expertise and capabilities in the heart of the UK's traditional engineering and manufacturing belt.

And the companies themselves – all members of the MAA and many repeat exhibitors – are expecting big things from this year's show as the global aerospace sector takes tentative steps on the ladder to recovery.

The MAA's exhibition at Stand B14 in Hall 1 showcases a wide range of products and services from 19 exhibitors representing close to 30 companies (see pages 6-10 for details).

MAA chief executive Andrew



Flashback: The busy MAA stand at Farnborough 2008.

Mair said he was looking forward to meeting old friends and welcoming new visitors to the exhibition stand. "Farnborough is a high point of the MAA year and it consistently brings out the strength of our companies in the global industry," he said.

In addition to its record presence at the show, the MAA is

using Farnborough to launch its 2010 membership directory and capabilities matrix. This popular reference cross-indexes the 250 MAA members with the main types of work carried out in the Midlands region.

"Many of our members are at the forefront of their markets with leading technology and skills," said Mair. "This annually updated directory is a good indicator of the breadth of expertise available across the Midlands."

The MAA, which in just seven years has become one of the most active and respected aerospace bodies in the UK, is also relaunching its website. Web visitors will find more features, easier access to the member directory's listings and an active calendar of events at the click of a button.

**MAA-led support programme makes big impact in East Midlands: see page 4**



## ATEP 2 PROJECTS AND PARTICIPANTS

### A20X Aluminium Alloy

**Lead:** Aeromet, Worcester

**Partners:** Grainger & Worrall, University of Birmingham (research provider), London & Scandinavian Metals (unfunded – out of region), Aero Engine Controls (customer)

### Aerospring

**Lead:** G&O Springs

**Partners:** Alloy Wire, Reliable Spring Manufacturing, Institute of Spring Technology (research provider), Aero Engine Controls (customer), BAE Systems (customer)

### ATFEM Aircraft Tyres Finite Element Modelling

**Lead:** Dunlop Aircraft Tyres

**Partners:** University of Birmingham (research provider), Airbus (customer)

### Chrome Free Ipcote

**Lead:** Indestructible Paint

**Partners:** Ashton & Moore, Clean Burner Systems, Messier-Dowty (customer), Rolls-Royce (customer)

### Endurance Braking

**Lead:** Meggitt Aircraft Braking Systems

**Partners:** James Kent Ceramic Materials, CERAM (research provider), Embraer (end user), British Aerospace (end user)

### TASC Technology Advancement of Surface Coolers

**Lead:** HS Marston Aerospace Ltd

**Partners:** Advanced Chemical Etching, University of Wolverhampton (research provider), Rolls-Royce (customer)

such as titanium and various nickel alloys. Data gathered will enable accurate fatigue predictions for springs produced from any of the materials covered.

The **ATFEM** project is a good example of the innovative results that can be achieved with close industrial cooperation. Airbus, the customer, regularly provides input to Dunlop and the research team on the required direction for the FE modelling work and its future directions, enhancing the value of the collaborative effort. So far, modelling has been validated by work on an existing tyre and is set to move on to predictions for new tyres in future aircraft programmes.

The **TASC** project led by HS Marston, to model a novel surface cooler to increase the effectiveness of engine thermal management, follows on from developments in diffusion bonding carried out under an ATEP 1 grant.

To date a test rig has been built and commissioned and sample test results correlated with computer-generated



models. Working with Rolls-Royce as customer ensures that test data is truly representative.

Removing the hazardous elements from protective engine-surface coatings is the objective of the **Chrome-free Ipcote** project led by Indestructible Paint (IP). All funded partners are SMEs and are learning new technology development capabilities and project management skills

as the project develops with the technical support of ceramics institute CERAM.

As well as finding a substitute for the hexavalent chrome in current Ipcote coatings, the project team will require data to support the customer accreditation process and the many end-user accreditations. Team members are on the national committee overseeing REACH, the European regulations on use of chemicals, and are keeping abreast of possible new hazards that may affect the industry.

“On the REACH committee list of work needed, the chrome-free Ipcote project is the only one progressing so well, due to ATEP funding, so we are getting national recognition for this type of managed technology development project,” commented Day.

In **Endurance Braking** – a project with wide application in aerospace – SME James Kent and Meggitt Braking have been sharing knowledge to try and find an optimum material solution for the friction required at high temperatures. Thermal



Novel materials are put to the test in the Aerospring project, while ATFEM is modelling tyres for future programmes.

modelling has started and is being correlated to early test data on new carbon test pieces.

Meanwhile, the Aeromet-led project to develop a novel **aluminium alloy A20X** with considerable increases in strength characteristics has advanced to the successful casting of a 3,000kg batch of the alloy using production continuous casting equipment. Product demonstrator trials have commenced following chemical, metallographic analysis and mechanical testing of this latest ingot.

Simulation modelling of the casting process is also under way, while structural analysis and machining trials will test the extremes of the alloy capability.

# MAA-led support project makes impact

## East Midlands companies quick to rally to national supply chain programme benefits



THE launch by the MAA of an East Midlands SC21 support programme has been enthusiastically received within the aerospace community.

In less than a year, 43 businesses have received focused support for their business improvements under the Supply Chains for the 21st Century umbrella, which has also delivered specialist training workshops to 30 individuals and is currently providing funding support for 16 companies.

The MAA is running the project with funding from the East Midlands Development Agency (*emda*), working closely with the East Midlands Manufacturing Advisory Service (MAS-EM).

A key area of activity has been helping focus the work of SC21 clusters which allow top tier companies to work with their supply chains on improving all aspects of their business linkages.



Planning ahead: Delegates to the BAE Systems Midlands launch event.

Tim Holmes, SC21 manager of the MAA, said forming an SC21 cluster helps the MAA support and nurture participants as a group. "It's a good way for suppliers to position themselves to win future business in an increasingly competitive market," he added.

Another main area of work has been supporting the activities of key customers with the East Midlands supply chains. BAE

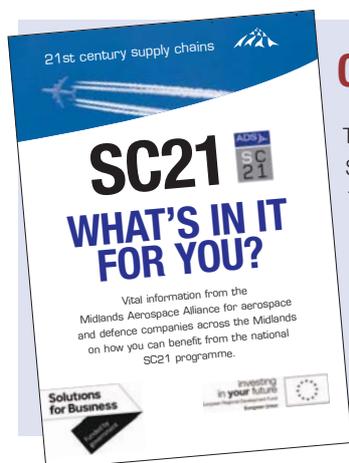
Systems, one such key customer, attracted more than 45 companies to its SC21 Midlands supplier launch day. Of those attending, half were from the East Midlands.

Four more customer launch activities are planned, said Holmes.

The MAA is developing other projects aimed at showing how deployment of SC21 internally within a top tier organisation brings benefits as the programme is then flowed down into its supply chain. "This provides a good demonstration of the SC21 programme's effectiveness," said Holmes. "That's what it was designed to do."

The impact is now being felt in the industry, with more than half of funding already allocated from the MAA's East Midlands support project. More than £75,000 in funding is still available in this project for assistance in deploying SC21.

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## Compact introduction to SC21

THE MAA has produced a short introduction to the SC21 programme, called *SC21 – What's in it for you?* This brochure has vital information for aerospace and defence companies across the Midlands on how they can benefit from the national SC21 programme.

You can download the brochure from the MAA's website at [www.midlandsaerospace.org.uk](http://www.midlandsaerospace.org.uk), contact Tim Holmes for a copy or pick one up from the MAA exhibition at Hall 1, Stand B14 at Farnborough.

# We should be talking...

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## Midlands firms fly the flag at Farnborough



MORE than 130 Midlands companies have to date signed up to the UK's supply chain improvement programme, SC21 – the largest concentration of participants in the country.

Industry leaders acknowledge the region is setting a fast pace for other parts of the UK.

The programme, now in its fourth year, is designed to improve the performance of the UK's aerospace and defence sector and help companies compete successfully in global markets.

Annette Oliver, vice-president supply chain at Birmingham-based Aero Engine Controls, chairs the MAA's SC21 working group. She said participation in SC21 "demonstrates a commitment to improving performance. SC21 deployment in the Midlands is significant in national terms with more than one in five of all companies involved located in the region."

Seventy of those companies have

accessed £650,000 in financial help.

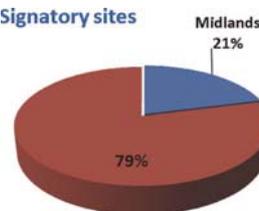
The support projects, delivered by the Manufacturing Advisory Service West Midlands (MAS-WM) and the MAA, are funded by Advantage West Midlands (AWM), the European Regional Development Fund (ERDF) and the East Midlands Development Agency (*emda*).

Around 140 Midlands companies have received technical support via the MAS and MAA.

One Midlands company that has benefited from SC21 – and is exhibiting with the MAA at Farnborough – is Paul Fabrications of Castle Donington, Managing director Ingard Sagstad said: "SC21 is a valuable initiative. Anything which can help us be more competitive is welcomed. Aerospace is a key sector in the East Midlands and it's important for us to tell our story."

Cliff Johnson, SC21 project manager at MAS-WM, said: "With over £1 million of funding still available the message is clear; any aerospace and defence

Signatory sites



supplier serious about improving their productivity, quality, cost and delivery should consider deploying the SC21 framework.

"We're using Farnborough to communicate to the global customer community the significant improvements already made by Midlands companies and to encourage others to participate in the programme."

Andrew Mair, chief executive with the MAA, said: "Farnborough International is one of the world's most iconic global aviation events and holds a prominent position in the aerospace calendar. Supporting local companies to exhibit on this international stage and highlighting their excellent performance as suppliers can significantly raise their profile."



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like the VC630/5AX (our new 5-axis machining centre) being launched - we expect that number to really take-off in the future.

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Since 2003, the Midlands Aerospace Alliance (MAA) has been the voice of companies in the British Midlands supplying global aerospace. Its steadily growing membership, now approaching 300, draws on the renowned engineering background of the heart of England, long a manufacturing centre of excellence.

MAA members demonstrate a wide range of skills and capabilities throughout the aerospace and defence business. A selection of that expertise is on display at the MAA's stand at Farnborough with the companies detailed on the following pages.

For more information on the MAA and its programmes, and on the capabilities of all its members, please visit us in Hall 1, Stand B14.



midlands aerospace alliance



## ASP tames the difficult jobs

ALUMINIUM Special Products (ASP) returns to Farnborough with a story of success in what is becoming a niche market: sourcing and supplying 'difficult' products. For a start, it's what helps keep the Spitfire flying.

As larger aluminium suppliers seek efficiencies through standardisation and high volume production, ASP finds less and less competition in supplying materials to the specifications of legacy designs.

"The secret of our success is the ability to source difficult products," says managing director David Robinson. "We're a raw material specialist and we're not afraid to commit to putting everything in place to support customers."

One of those customers is Airframe Assemblies of the Isle of Wight, one of the only firms producing Spitfire parts to the original 75-year-old Supermarine specifications. ASP supplies a whole range of items including the spar tubes, a suite of the most demanding parts, and all to the original drawings.

At the other end of the spectrum, ASP is currently developing ultra lightweight tubular parts for the new B/E Aerospace Pinnacle seating system, their exciting replacement for one of the biggest selling airline passenger seats.

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## Bromford offers value solutions

BROMFORD Industries is a new name at Farnborough this year but airshow regulars will recognise many faces on its experienced management team.

Emerging from a PLC into a private equity environment, Bromford is more than a manufacturer of precision aerospace components.

It deals in engineered solutions aimed at delivering competitive advantage for its customers, be it machined parts, fabricated parts or the supply of complete assemblies for both OEM and aftermarket applications. If the best route to manufacture requires capital investment, this can be accommodated.

Serving main markets of aero engines, landing gear and industrial gas turbines, Bromford prides itself on the provision of complex machined components in hard-to-work materials to demanding tolerances.

The company handles everything from high-volume 'hand-size' components through to high-value engine casings for civil and military platforms with the strategy of developing long-term agreements with prime customers. Bromford holds all the necessary aerospace, environmental and NADCAP approvals.

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Finish machined aircraft landing gear link arms.



CHH CoNeX directors (l-r): Shaun Ashmead, Steve Turner, Andy Whitmore, Alan Coley and Tim Hughes.

## CHH CoNeX diversifies

CHH CoNeX, a provider of bespoke cable assemblies, integrated products and logistics services, is at Farnborough to give a boost to its diversification into aerospace and defence.

The company embarked on a major growth strategy following the appointment of Shaun Ashmead, former managing director of Axiom Manufacturing Services, as director in charge of operations.

The three-year strategy will focus on growth in existing and new niche markets, people development and quality assurance and starts with the implementation of new systems and processes to streamline its end-to-end operations and business development function.

CHH CoNeX currently provides cable assembly concept, design and manufacturing, box-build and rack integration and test, process audit and redesign and supply chain solutions to the telecoms and industrial markets.

The company plans to increase its turnover to £21 million over the next three years by diversifying into the aerospace and defence, medical, transport and security markets.

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# aerospace in the midlands

## Columbia flags high-end skills

COLUMBIA Precision brings a UAV engine to Farnborough to highlight its precision manufacturing capabilities. The company works closely with the rotary engine's manufacturer as a supplier of fully processed and tested parts.

Established more than 30 years ago by joint managing directors Neil Holmes and Gerry Evans (*below, right and left*) in the heart of the industrial West Midlands, Columbia has evolved into an internationally recognised force in high-end precision manufacturing solutions.

The company's two modern, adjacent facilities cover 3,000 sq m and are the result of a carefully structured growth. This continued programme of investment in state-of-the-art manufacturing technology, led by a highly skilled technical support team, ensures Columbia remains at the forefront of precision manufacturing.

Columbia continues to increase its unmanned manufacturing 24/7 capability, offering unparalleled enthusiasm and capacity to embrace the most demanding of projects and critical timescales.

The company remains quality led, holding and conforming to leading international accreditations and standards including AS9100, ISO9001, SC21.

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**VisualFactory in use.**

## Consultavila has the solution

HOW to become and stay competitive in the challenging Aerospace sector – that's what industry specialist Consultavila is showcasing at Farnborough.

Consultavila is working with NoMuda, authors of VisualFactory.net, to develop and deliver lean enterprise solutions to its clients.

Dr Jose Guzman, managing director of Consultavila Ltd, said: "In VisualFactory we've found a tool to generate, disseminate and capture critical information in a timely and effective way. It takes a complex process and makes it simple."

VisualFactory.net is a rapidly deployed manufacturing documentation system, proven in highly complex production environments. It enables paperless manufacture with integrated data collection and seamless integration into other enterprise systems.

It is currently in use by companies such as Esterline, Bombardier, Saab, Volvo and Zodiac where it has significantly improved quality and enhanced productivity.

Consultavila has an impressive track record in offering business transformation, working capital optimisation, performance improvement and leadership development solutions to the aerospace and defence industries.

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## Cubewano meets tough UAV spec

HEAVY fuel engine specialist Cubewano is at Farnborough to promote its range of liquid and air-cooled engines targeted primarily at the demanding requirements of the UAV and power generation markets.

Midlands-based Cubewano designs and manufactures small high-quality internal combustion engines that feature high power-to-weight ratio. Available in the 4-20hp range, the company's engines run on a multitude of fuels, including heavy fuel (JP8, JetA1).

UAV manufacturers demand the highest quality small power units available today. They require optimum reliability, time between service intervals and multi-fuel capabilities (heavy fuel, gasoline and others).

Cubewano is dedicated to meeting these requirements through researching and implementing the latest materials and technologies available. Its portfolio of patents demonstrates this focus on moving the technological boundaries forward.

All Cubewano engines are fuel injected with electronic engine management to maximise power, fuel efficiency, reliability and emissions requirements. Its current engines are Wankel rotary type with enclosed recirculating oil systems.

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## Delcam systems support quality

AEROSPACE manufacturing demands the highest levels of quality and consistency, plus cost-effective production and the shortest-possible delivery times. Delcam is at Farnborough to demonstrate how it can help companies both large and small to meet these requirements.

Delcam's CAD/CAM systems are used on every type of aircraft programme, from the manufacture of components for UAVs and helicopters up to the production of engines and airframes for the largest passenger and transport aircraft. The company's customers have undertaken projects in all the various areas that go towards producing a successful aircraft, from developing more fuel-efficient engines, to manufacturing airframe components more effectively, and even in designing more comfortable and more attractive interiors.

Delcam also supports a large number of MRO operations. These companies use Delcam systems to enable the fast, efficient repair or replacement of damaged components. By minimising design and manufacturing times, while maintaining the highest levels of quality, repairs can be completed as quickly as possible, so minimising the lost operating time of the aircraft.

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## G&O wins client kudos again

THERE'S no better measure of success than an award from a satisfied customer. That's what Midlands-based G&O Springs is learning after receiving the thumbs-up from Aero Engine Control Systems (AEC).

Precision spring manufacturer G&O returns to Farnborough after earning recognition from AEC as 'best in commodity for hardware 2010' with an enviable delivery and quality performance record – the second year in a row that it has won this award.

Managing director Steve Boyd said: "Winning this award a second time means the world to us. It's a reward for all of the team at G&O who are working harder than ever before to continuously improve all aspects of our performance"

G&O hopes to continue its winning ways by swapping its current SC21 bronze award for the more prestigious SC21 silver status before the end of the year.

❖ Steve once again has a bottle of bubbly for anyone who can stump him with a problem related to springs. Put him to the test at Stand B14, Hall 1.

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## Gould delivers on commitments

GOULD Alloys returns to Farnborough this year to talk about its ability to supply high integrity metals into the world's most demanding markets, including aerospace.

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

In-house services include plentiful warehousing, modern efficient saws, conventional and CNC machining capability, water jet capability and the company's own transport fleet.

Customers benefit from access within the wider group to a dedicated laser cutting facility, in-house transport company and enhanced stock availability.

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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## Clean win for new look HDE

HYDRAPOWER Dynamics Engineering (HDE) comes to Farnborough with a new identity and major new success to sing about.

The Midlands-based firm was so successful as a division of Hydrapower Dynamics, a multi-disciplined engineering company creating world-class industrial solutions across a broad spectrum of industry, that it was spun off as a separate company.

As Farnborough opens, the ink is barely dry on HDE's latest success, three new fully-automatic programmable aqueous-based process lines for cleaning aero engine parts, an investment of more than £2 million.

The facility is understood to be the largest installation for aircraft engine overhaul in the UK and was designed to handle the engines for the latest Boeing family aircraft as well as other variants built by the customer, an engine prime.

HDE designed and installed the new engine cleaning shop in space already occupied by the existing facility, without disruption to its 24/7/365 operation. The phased installation ensured the customer had chemical processing and cleaning facilities at all times while the old manually operated cleaning shop was decommissioned and dismantled.

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## Icon Polymer at top of game

ICON Polymer is a world-leading supplier of bespoke safety-critical engineered elastomeric products to programmes such as Eurofighter Typhoon and Lockheed Martin F-35 Lightning II.

Utilising natural and synthetic polymers and working to exacting standards, Icon offers bespoke, custom-engineered solutions to military and civil aircraft manufacturers and partners.

World-class process capability and in-house engineering expertise for compound development and component design, coupled with comprehensive manufacturing resources, enables Icon to produce high performance elastomeric composite solutions.

Since last year's management buy-out, the *Sunday Times* Buy-Out Track Top 100 listed company is continuing to invest in its team of specialists, plant and equipment to align itself with the expectations of its global customer base – activity which lifted Icon to the finals of Nottinghamshire's business of the year award.

Products include airframe seals, oxygen and fuel hoses, precision mouldings and specialised ducting systems. All materials are fully traceable, the company being certified to AS EN 9100:2003.

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Icon polymer products fly on the latest military and commercial aircraft.



# aerospace in the midlands



## IPI carves out global market

MIDLANDS-based IPI Solutions punches well above its weight in the global aerospace market. It's at Farnborough this year to talk about the remarkable uptake of its flagship VisualFAIR application.

In just five years, the company has taken significant market share with VisualFAIR, a software tool to enable companies to mistake-proof the First Article Inspection (FAI) process and reduce the cost of compiling the report by 75%.

Now the software is used across the entire supply chain, from blue chip organisations including GE Aviation, GKN, Goodrich, Westland Helicopters, Meggitt, Lord & Woodward to the smallest companies within their supply chains.

OEMs like VisualFAIR's electronic mistake-proofing tools and make its use a condition of achieving 'Gold' supplier status. The supply chain benefits from reduced variation in the FAI process and significantly reduced costs for everyone.

Our latest development is Visual IPI – Integrated Process Improvement toolbox with process flow and PFMEA tools, control plans, SPC etc – which was launched in May.

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## MAN sets sights on aerospace

A UNIQUE approach to delivering global manufacturing solutions is reaping dividends for 10 world-leading engineering companies in the Midlands.

MAN, which offers technical excellence in every aspect of mechanical, electrical and electronic engineering processes, is celebrating its fifth birthday in style at Farnborough by announcing a recent contract haul in the automotive, aerospace medical and white goods sectors.

It takes the Group's total sales past the £10 million mark and has helped protect and create in excess of 100 jobs in the manufacturing base.

Backed by this recent success, MAN has recently introduced the evolution of a new identity for the group, with a new brand, promotional material and website launched in preparation for a major sales push in the aerospace and low carbon markets.

The 10 members of the group are Advanced Chemical Etching, Alucast, Barkley Plastics, Brandauer, Excalibur Engineering, FW Cables, Note UK, PP Electrical Systems, Westley Engineering and Wrekin Circuits.

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## Paul buoyed by aerospace sector

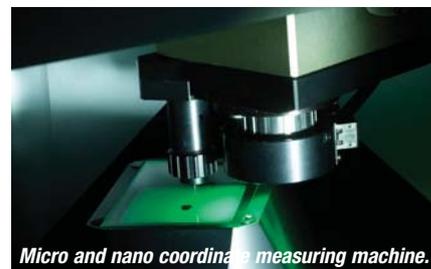
THROUGHOUT the difficult economic climate of the past two years, Paul Fabrications has gone from strength to strength and is able to return to Farnborough with healthy revenue streams in both the aerospace and nuclear power generation sides of the business.

The financial stability and overall strength of the company was shown last November when it was able to purchase a 20,000sq ft facility adjoining its site in the Midlands and invest in new equipment to the value of £2.5m to meet the changing needs of a major customer.

Customer service excellence remains a core value that Paul Fabrications staff work to; operational performance in terms of both quality and delivery remains at extremely high levels as attested by messages of praise from Paul's global customer base.

Already approved to AS9100, with five NADCAP approvals, the company is not resting on its laurels, and is actively looking to add to a prestigious global customer base which includes Rolls-Royce, FACC, Meggitt and Pattonair.

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Micro and nano coordinate measuring machine.

## PMC opens door to research

THE Precision Manufacturing Centre – University of Nottingham (PMC) is a world-class research and specialist engineering centre focusing on high-precision micro manufacturing, metrology and assembly technologies.

Its leading edge research has attracted significant funding and investment from UK and EU funding bodies, regional development agencies as well as industry and the PMC is at Farnborough this week to demonstrate to aerospace companies how they can have affordable access and benefit from the technologies at the centre.

The PMC provides expert knowledge in product design, product engineering, one-off prototyping, small-batch contract manufacturing, contract measurement/testing, flexible assembly systems design and bespoke tooling development.

Its facilities encompass precision machining, micro injection moulding, high-resolution rapid prototyping, ultra-precision metrology, nano-scale processing, reconfigurable high-precision assembly and laser micro-processing platform.

Interested companies should get in touch with the PMC, which is a dedicated technology transfer and commercial arm of the University of Nottingham.

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# Farnborough 2010

Visit us  
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## Premier on drive into aerospace

COVENTRY (Premier) Aerospace is taking a leaf from the new British government – its own 'alliance' brings established automotive manufacturing knowhow into the aerospace industry.

Premier is at Farnborough to talk about how it made the transition and how the experience of more than 20 years supplying top manufacturers including Jaguar, Land-Rover, Bentley and Morgan now benefits aerospace customers such as GKN and Marshalls (Boeing).

Coventry-based Premier is looking to extend its aerospace connections through speciality work in aluminium deep drawn pressings and sheet metal components such as brackets and riveted assemblies. Its rubber press is suited to producing struts and stiffeners for repairing damaged fairings and fuselages. It also has extensive machining facilities.

Premier deploys a team of qualified engineers, backed up with excellent CAD facilities, and a workforce skilled in working with all types of materials. Their years of expertise and knowledge in producing precision quality components in short lead times combine to make an attractive proposition for the aerospace industry.

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## Tower Tool turns tables on design

TOWER Tool Company Ltd brings its renowned 'one stop' service solution to Farnborough – design resolutions in reverse engineering techniques.

Tower is promoting its computer aided design (CAD) techniques and data of parts, which pre-date sophisticated CAD manufacturing. This is ideal for situations where accurate technical drawings are cumbersome, may not exist or are incomplete, or where recreating those drawings to generate CAD data would be inefficient or time-consuming.

With testimonials from clients such as Meggitt Polymer Solutions, Tower is regarded in the industry as the name tool designers and engineers can trust.

Established more than 50 years, Tower offers a range of services including the design, manufacture and maintenance of rubber mould tools for the aerospace elastomer industry.

The company provides a full tool design service, in-house tool manufacturing capability, tool CMM inspection (for FAIRs) and secure tool design data archiving.

And because Tower recognises its customers are important, it combines advanced engineering and manufacturing capabilities with logistics – ensuring on time delivery in its own vehicles.

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## Wolverhampton making it happen

THE city of Wolverhampton is at Farnborough to showcase its aerospace heritage and to demonstrate why it's a great place to do business.

In a century of innovation and aeronautical excellence we've seen Sunbeam produce engines for seaplanes and Bristol fighters and equip the R34 airship with V12 engines, HM Hobson (Goodrich) produce carburetors for Spitfires, Lancasters and Sunderlands and Boulton Paul Aircraft (Moog) produces the Defiant night fighter and Balliol advanced trainer – the last piston-engined AT supplied to the RAF.

Today the aerospace sector continues to play a major part both in the West Midlands' and Wolverhampton's economy. The city is an aerospace centre of excellence and home to global companies such as Goodrich Actuation Systems Ltd, Moog Aircraft Group, Timken UK Ltd and H S Marston Aerospace Ltd.

Wolverhampton supports its businesses, has a coordinated approach to its long-term economic future and is increasing the pace, scale and quality of business growth opportunities which are transforming the city.

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**Boeing 787 gear manufacture at Moog Aircraft Group.**



Zeeko IRP1600 installed in Wales.

## Zeeko shines in global market

ZEEKO, the Midlands-based company specialising in innovative precision polishing technology, is at Farnborough to tell a fascinating story of challenges overcome and scientific aspirations met.

Intelligent Robotic Polishers (IRP) are the best-known of the ultra-precision polishing machines that Zeeko manufactures. They top a list that includes corrective polishing machines for fabricating high precision optics, semiconductor applications and precision moulds in many different materials.

From its origins in 2000 as a start-up with innovative technology for polishing ultra-precision surfaces for telescope mirrors and other optical surfaces, Zeeko has evolved into a market leader with a wide polishing and metrology product portfolio.

Zeeko has been a key innovator in the development of processes that in the coming years are expected to underpin the astronomical community.

It remains an innovative, young and dynamic technology-based business with globally protected intellectual property extending to 52 worldwide patents.

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## SC21 CASE STUDIES

## System upgrade yields results for Precision Micro

**ADS** **SC 21** BIRMINGHAM-based Precision Micro is one of the largest independent manufacturing operations of its kind in Europe, using a range of technologies to manufacture precision flat-profile and three-dimensional components for aerospace and other high-tech engineering applications.

Despite many years' experience as an aerospace supplier, and with a raft of customer approvals, managing director Anthony Marrett saw the need to upgrade the company's already stringent quality management system to encompass all aerospace and defence customer requirements and lock in advancements in lean manufacturing.

With support from MAS-WM under SC21,



Value throughout the business.

Precision Micro completely re-structured its quality management system under the new revision of the AS/EN9100 standard to adopt a more modern visual approach, actively involving the entire operational team.

The work has paid off through the doubling of output for one of its key accounts and improved quality and

housekeeping issues throughout the entire business.

The company has also successfully deployed the values of SC21 from board level right through to the shop floor and is actively encouraging the application of rigorous quality systems and lean manufacturing methods to promote continual improvement and development.

MD Anthony Marrett said: "I was particularly proud that our extremely talented team was able to implement the system and achieve 100 per cent first-time compliance in a matter of months... We have always sought to achieve the highest standards of quality and AS/EN9100 certification demonstrates this commitment throughout our entire organisation."

▲ [www.precisionmicro.com](http://www.precisionmicro.com)

## Arrowsmith achieves performance boost through SC21

**ADS** **SC 21** A LONG-established Coventry engineering firm, Arrowsmith saw the opportunity through SC21 to reduce the impact of overseas competition in the precision component industry, improve its own manufacturing performance and thus remain competitive internationally.

Managing director Jason Aldridge realised that gaining SC21 recognition would demonstrate Arrowsmith's commitment to performance within its supply chain.

Diagnostics funded by MAS-WM and conducted by expert consultants TEC identified key areas to focus on under the programme, including on time in full (OTIF) performance, referencing customer satisfaction and achieving the SC21 bronze award.

The most significant impact on customer OTIF achievement stemmed from delays in sub-contract processes. Arrowsmith

worked with TEC to re-layout and maintain the quality assurance area to improve throughput, which reduced inspection waiting time. Introduction of total production maintenance (TPM) has also proved successful in reducing downtime.

As a result of the SC21 programme, Arrowsmith has increased OTIF performance by 20 per cent.

The information from the new manufacturing resource planning (MRP) system is being used to drive supplier OTIF achievement.

A formal SC21 improvement methodology has been successfully woven into all operations at Arrowsmith, resulting in a complete culture change for the company.

Arrowsmith saw its manufacturing excellence and business excellence scores increase significantly, from 180 to 318 within the space of 12 months.

▲ [www.arrowsmitheng.co.uk](http://www.arrowsmitheng.co.uk)

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## NEW MEMBERS

The MAA welcomes the following new members:

### FULL MEMBERS

#### Able Aftermarket

*Birmingham*  
Precision engineering.

#### Aerospace Contract Services

*Mansfield*  
Manufacturing cost appraisal and optimisation, negotiation support and modelling.

#### Arvada Strategic Marketing Ltd

*Lichfield*  
Marketing consultancy.

#### David Hayes Export Controls

*Leicester*  
Consultancy advising on compliance with export control laws.

#### Doncasters

*Burton on Trent*  
Precision engineering.

#### GRM Consulting

*Leamington Spa*  
Engineering consultancy.

#### Hucknall Sheet Metal Eng Ltd

*Nottingham*  
Aerospace laser fabrication, machining and assembly.

#### I M Kelly Aerospace

*Coventry*  
Supplier of soft interior and trimmed products for aircraft.

#### Morson Projects Ltd

*Solihull*  
Engineering consultancy.

#### MP Engineering UK Ltd

*Hinckley*  
Manufacturer of components.

#### P B Archer Consultancy

*Derby*  
Business consultancy.

#### Pentaxia Ltd

*Derby*  
Manufacturer of patterns and tooling.

#### RMDG Aerospace Ltd

*Swadlincote*  
Supplier of specialised rigid tube assemblies and fittings.

#### Shaw Sheetmetal (Rugby) Ltd

*Rugby*  
Sheetmetal work and fabrication.

#### Tower Tool Company Ltd

*Wigston*  
Precision engineering and toolmaking.

#### Virtual PiE

*Coventry*  
Engineering design and development services.

### ASSOCIATE MEMBER

#### Encocam

*Huntingdon*  
Manufacturing and engineering services.

## IN BRIEF

Midlands prime **Rolls-Royce** celebrated the first run of the Trent XWB, the latest member of its Trent aero engine family, on schedule in June. More than 1,000 examples of the engine, which will power the Airbus A350 XWB family of aircraft, are on order.

The Midlands site of robotics specialist **KUKA** is teaming up with Airbus on an innovative automation system for assembling complex aircraft structures. The work is part of the EC-backed Advanced Low Cost Aircraft Structures (ALCAS) project.

Two next-generation waterborne structural primers from **AkzoNobel Aerospace** have received approvals from Bombardier Belfast. Aerowave 2001 and 2002, supplied by AkzoNobel's Midlands site in Leicester, are reduced chromate and chrome-free primers.

Derbyshire engineering firm **RMDG Aerospace** was won a contract worth £350,000 to produce parts for the GE CF34-8 engine. RMDG will supply hydraulic pipes and tubes for the nacelle which is manufactured by Aircelle.

Midlands-based **Gardner Group** has acquired R D Precision, a manufacturer and supplier of metallic aerospace details and sub-assemblies. The business is now known as Gardner Aerospace – Broughton.

## 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.**

## Contact the MAA

*If you have a query or suggestion that you wish to make, please contact the MAA by any of the means below:*

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midlands aerospace alliance

