



midlands aerospace alliance

MIDLANDS

AEROSPACE

ISSUE 49. SUMMER 2019

MAGAZINE



MEETING UP IN PARIS

53rd INTERNATIONAL
PARIS AIR SHOW
LE BOURGET
JUNE 17-23, 2019

53^e SALON INTERNATIONAL
DE L'AÉRONAUTIQUE & DE L'ESPACE
PARIS - LE BOURGET
17-23, JUIN 2019



Meet the MAA members exhibiting this year –
See pages 7 to 10

MAKE DIGITAL COMMUNICATION WORK FOR YOU



Read how three MAA members use social media. See page 4

ATTRACTING NEW TALENT TO AEROSPACE

How are MAA members addressing their skills gaps? See page 5

CELEBRATING MIDLANDS' CONTRIBUTION TO CONCORDE

Discover the 30+ Midlands manufacturers that made it fly. See page 12

Cover image © SIAE 2017 - Anthony Guerra & Alex Marc © SIAE 2017 - REA

Update

AerospaceForum BIRMINGHAM **CREATES RUNWAY TO SUCCESS**

350 DELEGATES → 200 COMPANIES → 11 COUNTRIES → 3,000 B2B MEETINGS

↘ This year's headline statistics made Aerospace Forum Birmingham one of the highest profile events in the aerospace calendar.

Held in March at the Birmingham International Convention Centre, the event played host to leading businesses and industry figures, who spent three days deliberating over the market opportunities and pressing issues facing aircraft and engine makers, first-tier suppliers and the global supply chain.

The first part of the forum featured the MAA Conference. This was followed by two days of B2B meetings organised by French B2B experts BCI Aerospace, the MAA's forum partner.



INDUSTRY KEYNOTE SPEAKERS



PLENTY OF NETWORKING



B2B MEETING OPPORTUNITIES



THE VISIT GAVE INSIGHT INTO FUTURE STRATEGY, TECHNOLOGY AND PROCUREMENT

BEHIND THE SCENES AT ROLLS-ROYCE CONTROL SYSTEMS

↘ MAA members recently enjoyed an entire day at Rolls-Royce Control Systems' site at Birmingham Business Park.

A total of 40 visitors from a wide range of aerospace companies received presentations on the company's products, strategic direction and supply

chain. They were then taken on a tour of the management organisation's electronic and hydromechanical manufacturing and engineering test facilities.

The day, which was sponsored by Robin Hill, MAA Director and Head of Electronics at Rolls-Royce, was the latest 'Inside... with the MAA' event.



BOOK NOW
PARIS DINNER
18 JUNE
2019

↓ NEWS ON MAA EVENTS

→ We are holding our first Midlands Aerospace dinner at the Paris Air Show, on 18 June at Les Noces de Jeannette restaurant in central Paris. To book your place, visit www.midlandsaerospace.org.uk/events/maa-paris-dinner-2019

→ The 2019 MAA annual black-tie dinner gives guests the chance to gather for an evening of aerospace and defence industry networking. Build on your business relationships and create new ones, whilst enjoying a VIP speaker and after-dinner entertainment. Not to be missed!
www.midlandsaerospace.org.uk/events/maa-dinner-2019



NETWORK OVER DRINKS BEFORE DINNER

BOOK NOW
ANNUAL DINNER
10 OCTOBER
2019



GKN SHARED THEIR EXPERIENCES AND PLANS

ONLINE: WWW.MIDLANDSAEROSPACE.ORG.UK/NEWS

MAA SEES GKN'S ADDITIVE MANUFACTURING UP CLOSE

Participants were full of praise following the latest DRAMA



event held at GKN in Filton on 30 April, set up by the MAA and the Manufacturing Technology Centre.

ROLLS-ROYCE TO HOST NEW TECHNOLOGY EVENT

Discover what supply chain companies have achieved at the second national NATEP 2 project dissemination event on 10 July at Rolls-Royce in Derby. **Look out for details!**



NEWS ON THE WEB

For the most recent news updates click through to www.midlandsaerospace.org.uk/news

→ Supporting the automotive sector's move towards electrification and the aerospace industry's desire for lightweight parts has helped **Advanced Chemical Etching** boost its sales by 40%.

→ **The Manufacturing Technology Centre** has launched a 'Factory in a Box' demonstrator that shows businesses how they can grow through the adoption of smart manufacturing techniques.

→ **Collins Aerospace's** 'junior factory' is open. It is a fully functioning business that supplies shims to the facility and is being led by graduates and apprentice employees.

→ One of the most powerful presses in the UK has entered production at **Mettis Aerospace**. The 40-tonne hammer press will be as powerful as a 20,000-tonne hydraulic press.



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We will be available to meet at the Paris Air Show, Le Bourget, 19th and 20th June 2019.
If you would like to arrange a meeting, please e-mail: gary@indestructible.co.uk

THE POWER OF SOCIAL MEDIA

MAKING THE MOST OF SOCIAL AND DIGITAL MARKETING

↘ Aerospace is a sector that is applauded for its advances in technology, yet as an industry, it has been slow at embracing social media to its own advantage. To harness recruitment potential, boost business and sector awareness, share expertise and build relationships, a greater adoption of digital technology is needed, and quickly.

Three members of the MAA, **Bromford Industries**, **Kepston** and **Acres Engineering**, highlight the benefits and potential that social media and digital technology offer.

BROMFORD INDUSTRIES MAXIMISES TWITTER REACH

Bromford Industries uses social media and takes a content marketing approach using blogging and micro-blogging through Twitter to good effect. The company uses the platform to interact with other manufacturing companies, industry press and government organisations, boosting its reach, brand awareness and developing industry relationships and collaboration. Bromford Industries has also embraced digital marketing. It revealed its video brochures at the Farnborough International Air Show in 2018, providing an innovative, multi-sensory way to share its new corporate video.

LUKE PARKER AT ACRES ENGINEERING SHARES HIS TIPS:

- You can use LinkedIn for recruitment, developing a supplier base, connecting to like-minded individuals, gaining insight into new technology, and growing your business, amongst other things.
- Understand your target audience. Keep your posts short, interesting and measurable, in regard to how much engagement you are getting.
- Try posting on different days and at different times; does your audience access LinkedIn in the AM or PM?
- Try to have FUN! People choose to access LinkedIn for their own interests, but always maintain professionalism.
- Go and update your profile, engage and connect with the world!

KEPSTON'S YOUTUBE SUCCESS

The company uses Twitter, LinkedIn and YouTube, with YouTube being a particular success – its first video reached over 17,000 views. Supplementing this social media with interactive marketing, Kepston has been able to grow its brand awareness, differentiate itself from its competitors, gather qualified leads, increase its profits and open up new market sectors.

FOLLOW US ON TWITTER 🐦 @MAAAero 🐦 @Bromford_Ind 🐦 @AcresEng 🐦 @KepstonLimited



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ATTRACTING NEW TALENT TO AEROSPACE

➤ Talent comes in many forms: from young people entering their first job to experienced engineers who fancy a change of scenery, transferring their skills and knowledge from a different sector into the aerospace industry.

Aerospace is innovative, exciting and full of potential as a career, but how can businesses attract new talent to the sector across the span of age, skills and experience?

See our three tips to get you started. For more detailed information with insights from MAA members have a look at news stories on our website from companies like **AE Aerospace**, **ADI Group**, **Consilium**, **JJ Churchill** and **Nasmyth Group** www.midlandsaerospace.org.uk.

TIPS TO GIVE YOU INSPIRATION:

1. EDUCATE AND INSPIRE

Young minds are full of curiosity and aerospace is an industry that can and does inspire awe. This needs to be instilled at an early age, which is why AE Aerospace and ADI Group both work closely with their local schools.

2. SHOWCASE THE VARIETY

Aerospace offers a wide range of job prospects in a variety of roles to suit all ages and abilities. From apprentice machine operators to experienced engineers, companies need to actively promote the opportunities available within their communities.

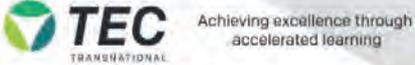
3. HIGHLIGHT LONGEVITY

Publicise the rich heritage and future-proof nature of the industry – many jobseekers are seeking a career with long-term security, which many aerospace companies in the Midlands already offer.

BOEING'S BUILD-A-PLANE CHALLENGE

Created to inspire young people into STEM (Science Technology Engineering and Maths) careers, Boeing's Build-a-Plane Challenge has seen the company supply kit planes to schools throughout the UK.

To date, the programme has engaged more than 3,500 teenagers since 2012. Its most recent project, sponsored by Nasmyth Group, took place at Ernesford Grange Community Academy in Coventry. The plane was assembled by 33 students, 11 volunteers and school staff before successfully completing its first public flight at Coventry Airport – the fourth plane of the challenge to be certified to fly by the Light Aircraft Association (LAA).



HOW CAN TEC TRANSNATIONAL HELP YOU?

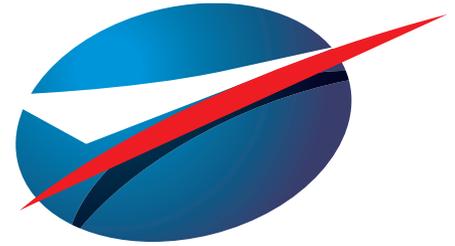
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WORLD AEROSPACE COMES TOGETHER
PARIS AIR SHOW 2019



53rd INTERNATIONAL
PARIS AIR SHOW
LE BOURGET
JUNE 17-23, 2019

53^e SALON INTERNATIONAL
DE L'AÉRONAUTIQUE & DE L'ESPACE
PARIS • LE BOURGET
17-23, JUIN 2019

PARIS AIRSHOW IS READY FOR TAKE OFF

↙ The world's aerospace industry is gearing up for the 53rd Paris Airshow. One of the most prestigious events in the industry's calendar takes place 17–23 June 2019 at the Le Bourget Parc des Expositions. The MAA will be out in force helping members network, raise their profile and join delegates from around the world in exploring the latest technological innovations.

The MAA will be exhibiting with 14 of its members, showcasing the best of Midlands manufacturing and providing the ideal base to meet with new and existing clients. Their pods on the MAA stand will put our region's representatives at the heart of the industry's global supply chain, gathered to discuss the challenges and opportunities ahead.

The first Paris Airshow was held in 1909 and since then it has flourished to become the largest and longest-running aerospace trade show in the world. In 2017

the show attracted 142,000 trade visitors to a venue which accommodated 2,381 exhibitors from 48 countries.

In the face of Brexit, there has never been a better time to demonstrate that the Midlands and the UK are ready to meet the industry's requirements. The Paris Airshow provides an invaluable platform to promote members' offerings, engage with customers and reach key decision makers.

The MAA's stand will be located within the UK Pavilion and accommodate 22 exhibition pods, twice as many as in 2017. For the first time, the MAA is also inviting members to attend a specially organised business networking dinner, on Tuesday 18 June at Les Noce de Jeannette restaurant in central Paris.

Leave us your business card for a chance to win our Concorde 50th celebration competition.



**VISIT US IN
HALL 2B,
STANDS
F188 & G183**

MEET THE PARIS EXHIBITORS

ON THE MAA STANDS, HALL 2B, F188 & G183

REVOLUTIONARY IDEAS IN MOTION

Carter Manufacturing has been providing revolutionary ideas in motion since 1999. Being accredited to BS EN ISO 9001:2015 incorporating AS9120 RevB, the company is able to provide customers with on-time service for all standard and specialist aerospace bearing requirements.

Carter Manufacturing is proud to be the European Master Distributor for custom aerospace bearing specialist Napoleon Engineering Services (NES). NES provides engineered bearings in small order quantities and fast lead times to the aerospace industry and other high technology markets. NES uses a wide variety of bearing materials to suit the customer's specific application, which can vary from satellite and UAV arm actuation

systems to antennas, fuel pumps, ram air turbines, rocket engine valves, turbo pumps, rotorcraft transmissions and aircraft turbine engines.

In addition to this, Carter supplies UNASIS aerospace bearing tooling for the correct installation, testing and removal of aerospace spherical plain bearings. Please visit Carter at Hall B, Stand F188 for a demonstration.

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SUPPORTING YOUR SUCCESS

The **Bibus Metals Group** has sales offices and warehouses in the UK, Germany, Poland, Czech Republic, Hungary, Romania, Ukraine, Russia and China in addition to its head office in Zurich, Switzerland. The purpose of the company is to supply nickel alloys, titanium and titanium alloys to all industries, including power generation and aerospace.

Products include all wrought forms such as plate, sheet, bar, tube etc. Complete packages of products can be offered including cut pieces. Extensive stocks are held

throughout the Group companies, many of which are AS9120 approved. Bibus Metals can also source products from its mill partners with whom the company has long-standing relationships.

In addition to supplying from stock, Bibus Metals can also source materials from a number of suppliers, which it has strong partnerships with.

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EXPANDING ITS UK FACILITY

CW Fletcher is expanding its current facility, adding a new 2,000 square metre building onto its existing UK site, in line with strong order book growth from its diverse customer base.

This growth has been five years in the planning and implementation and is another sign of the company's continuing success in diversifying its growing customer base.

Coupled with this facility growth is over £2.5m worth of investment in new 5 axis milling and turning machine tools.

"We are really excited about our growth to £27m in 2019 and the building of our new facility is the culmination of this success. Our new and existing customers are placing their trust in our capabilities," said Richard Phillips, Business Development Manager.

CW Fletcher operates in the aerospace, space and nuclear market sectors in size ranges up to two metres in diameter.

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PROVIDING MARKET-LEADING SOLUTIONS FOR SURFACE TREATMENT LINES

Surface Finishing Engineering Ltd is recognised as a world-class supplier of high quality surface treatment process lines and associated equipment designed for any chemical process that is required for any industry, concentrated mainly within the aerospace sector for new component manufacture, airframe components, wing components, engine hardware and engine MRO.

SFE offers a design service to ensure the process line meets the bespoke requirements of the end user and ensures that the process line design and build satisfy the exacting standards of the aerospace industry.

SFE process lines vary from complete fully automated lines with PLC/SCADA control systems, semi-automated lines and a range of manually operated process lines. It is an approved supplier to some of the largest aerospace OEMs in the world.

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NEW LARGE VOLUME CAPABILITIES

G&O Springs comes to Paris re-invigorated by widespread major developments in its manufacturing plant and processes.

Over the last year, the company has added CNC coiling to its capabilities to reduce costs and increase capacity, with very encouraging results.

Managing Director Steve Boyd says G&O is looking at growth of more than 50% after adding a complete auto-coiling department. The first of three new cells has been set up and is being commissioned.

"We have always been seen by our customers as a small volume, niche supplier," he said. "This development allows us to achieve the same excellent levels of quality in much higher and more cost-effective production runs. Our weekly output has risen by 46%, but we are targeting an additional 50% increase with the new system."

Around £375,000 has been invested to date, with additional spending set to take place later this year.

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MEET THE PARIS EXHIBITORS

ON THE MAA STANDS, HALL 2B, F188 & G183

SUSTAINABLE, WORLD-LEADING AEROSPACE RESEARCH

The University of Nottingham's **Institute for Aerospace Technology (IAT)** is a major hub catalysing, integrating and promoting world-leading aerospace research, technology development and innovative teaching for the aerospace sector of the future.

The IAT supports a 400-strong, multi-disciplinary team of leading researchers. Together with global

and regional aerospace companies and aviation sector leaders, it is developing the cutting-edge technologies that will radically improve all aspects of future aerospace.

Its ambition and drive make the IAT a partner of choice in five key areas of research:

- Aerospace Electrification
- Future Flight
- Aerospace Manufacturing



- Aerospace Operations
- Aerospace Materials and Structures

If you share its ambition and passion to discover the next innovation within aerospace, the IAT would like to hear from you.

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SIGMA DRIVES PRODUCT INNOVATION FOR COST AND WEIGHT

Sigma Components is working in partnership with global OEMs and Tier 1 suppliers to develop new technologies to improve environmental performance and reduce product cost.

Mark Johnson, founder and CEO, said: "Thanks to our new technology, multi-site capabilities and our focus on lifecycle management, our innovations offer a real step change for future aircraft performance."

Sigma's world-class centre for new product introduction allows the team to look at the full product lifecycle – from initial R&D and NPI to full production – whenever a new product is devised.

Johnson added: "It's an approach that is proving popular with both aerospace OEMs and Tier 1 customers around the world."

"Being able to offer this in-house capability means we can take an idea from initial concept – testing that idea with customers and securing development funding – right through to devising the method, tooling and production procedures, before moving into full production. This work is also supported by our Chinese facilities, which are increasingly taking on their own NPI work, not simply delivering new products developed in the UK."

Sigma's New Product Introduction and R&D team, comprising dedicated design engineers, fabrications and pipe engineering specialists, CNC programmers, commercial engineers, project managers and even engineering interns, invests in its own R&D, working closely with customers to innovate and add value.

The R&D team is already revolutionising component design with its SigmaLite range of lightweight composite and additive-manufactured components, while the NPI team is delivering exciting new parts for a range of applications. As the aerospace supply chain undergoes a period of substantial change, the company sees a real opportunity to work more closely with OEMs and Tier 1 customers to drive innovation in the sector.

The capabilities and cost structures of Sigma's UK and Chinese operations mean the team can optimise performance and competitiveness throughout the supply chain.

Sigma will be showcasing its capabilities at Paris Air Show including new products from Sigma's ongoing R&D programmes. These include composite pipes (COMPipe), lightweight end fittings and composite drive shafts for airframe and aero-engines, offering weight

savings of more than 50% versus traditionally manufactured components.

The R&D programmes have been supported by investments by the National Aerospace Technology Exploitation Programme (NATEP), Sharing in Growth, CleanSky programme and the Advanced Manufacturing Supply Chain Initiative (AMSCI). Most recently, Sigma has been awarded a grant by the Aerospace Technology Institute (ATI) to lead a £1.4m collaborative R&D project to develop production methods for its composite pipes and transmission shafts.

For more information on Sigma's product portfolio and range of value-added services, visit Hall 2B, Stand G183.

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MEET THE PARIS EXHIBITORS

ON THE MAA STANDS, HALL 2B, F188 & G183

INVESTMENT FUELS EXPANSION

Spincraft and **Enginetics** are at Paris to showcase manufacturing processes and hardware components integral to their expanding roles in the aviation market. Spincraft's current Airbus contract includes single-piece and machined lip skins for A320NEO LEAP and A350 nacelles. This complements earlier A320NEO awards on the geared turbo fan engine, and five-piece exhaust plug and nozzle sets.

Enginetics' extensive metal forming, metal joining and precision machining capabilities support a broad range of next generation engines, including GTF and LEAP.

To support increased volume, a new 7,246 square metre Spincraft facility opened in 2016. The plant, located in the US state of Wisconsin, specialises in aluminium close tolerance air inlet components including clad products for the business jet market. Recent investments include an additional heat treatment facility, capable of supporting single-piece lip skin production for the twin aisle market.

In addition, £1m has been invested in Spincraft's Newcastle plant. The investment has enabled the plant to expand its capacity and in-house vertical integration capabilities within the aviation and space markets. The newly built cell includes CNC forming, machining, CMM inspection, fluorescent penetrant and robotic surface finishing. ETG now offers customers full turnkey manufacturing solutions that are crucial to meeting their long-term needs.

Together, Spincraft and Enginetics make up Standex International's Engineering Technology Group. With six facilities throughout the UK and US, the group provides global manufacturing solutions via collaborative engineering efforts. Precision metal forming technologies are supplemented with vertically integrated manufacturing processes to support aviation, defence and space system markets.

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CONTINUING TO INCREASE AEROSPACE CAPACITY

Leading manufacturer of premium quality castings **Maycast-Nokes Precision Engineering** is recognised as the UK's most comprehensive foundry.

The Essex-based aerospace foundry offers fully finished precision sand, investment and gravity die castings in a wide range of aluminium alloys and steel alloys.

Maycast-Nokes offers an "end-to-end" manufacturing service – from a single purchase order it can deliver a fully finished component ready for customer final assembly.

Sales Director Dave Blower said, "These are exciting times for Maycast-Nokes; we are supplying parts for a number of aerospace programmes including A320 NEO, A330 NEO, 777X and Boeing TX and we expect to see significant growth over the next two years. In anticipation of this we have recently added further capacity into our production facilities with the addition

of a second HAAS UMC-750, 5 axis machining centre and the commissioning of a brand new gravity die foundry."

In addition to its extensive foundry and machining services, the company's Nadcap-approved X-ray/PFD departments are able to develop bespoke process techniques for companies wishing to test the integrity of their cast components.

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ULTIMATE PRECISION, ULTIMATE QUALITY, ULTIMATE POSSIBILITIES...

Internationally recognised, **Columbia's** reputation for supplying high quality precision components to aerospace, nuclear, defence, motorsport, petrochemical and medical industries is unrivalled.

Two sites in the West Midlands, situated near all the major motorway network links, offer lights out manufacturing and provide a full turnkey solution for the manufacture of simple to complex fully processed and tested assembled products.

The company's in-house prototyping/pre-production and 3D printing enables Columbia to risk share on component development as well as reducing lead time costs and expediting. In addition, Columbia controls a network of sub tier suppliers with skills that complement its own, providing customers with a comprehensive facility.

Columbia consistently works to a tolerance of 5 microns and below, producing key components and assemblies for UK and US military and supporting customers such as Rolls-Royce, Moog, GE, Collins UTC and many more with a one-stop shop.

Ted Yarnall, Operations Director, said: "Continuous investment into innovative technologies and the latest modern plant ensures that we remain cost competitive on the world stage; it gives us the ability to reduce the number of operations, in return reducing cost for customers – providing a cost competitive alternative to low-cost economies."

Columbia holds and conforms to all leading industry accreditations including: AS9100 Rev D, ISO9001, SC21 and Nadcap approvals.

In addition, Columbia has customer approvals from Collins UTC, Moog, GE and Rolls-Royce, and has a fully supported Special Process Department.

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MEET THE PARIS EXHIBITORS

ON THE MAA STANDS, HALL 2B, F188 & G183

INDEPENDENT SPECIALIST METALS STOCKHOLDER

Dynamic Metals is an independent stockholder, supplying aerospace-grade metals to many industry sectors worldwide. From its UK-based distribution centre, the company supplies titanium alloy, nickel alloy, stainless steel, aluminium and alloy steel in bars, plates, sheets and tubes.

Dynamic Metals has the capability to saw cut material to customer requirements in house and can also manufacture material and semi-finished products to unique customer requirements through the UK-based Conversion Centre with in-house metallurgists.

Dynamic Metals prides itself on competitive pricing, short lead times, personal service and no minimum order charge. Its customers buy from the company in confidence, reassured that it can meet their unique requirements and deliver on time.

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HEAT TREATMENTS AND HARD COATINGS

In Pod 10 of the MAA stand, **Wallwork Group** is expecting strong interest in its extensive vacuum brazing and plasma nitriding services.

With an enviable reputation in ultra-hard PVD coatings, the company will also be championing its Nadcap-approved Nitron Flight coatings for aerospace that can offer up to 33 times improved life on specific components. Nitron Flight significantly contributes to reducing life cost ownership, fuel consumption, CO2 emissions and more. Another area of interest for visitors will be the Group's ability to process aluminium and magnesium components.

Highly skilled metallurgists and skilled surface engineers, along with full laboratory and substantial in-house testing facilities, enable the company to provide a quality service to aerospace component manufacturers, with speedy order turnaround times.

Contact: Wallwork Group
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ORSCHELN®

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Orscheln Europe will be making its debut appearance at the Paris Air Show to promote its range of products within the aircraft markets.

The company supplies the world with innovative solutions and manufactures different types of mechanical control and cable systems for a wide range of aircraft – commercial, business, military, fixed wing and rotary.

Established in 1946, Orscheln has built a reputation as the leading supplier of motion control systems that are produced at its AS9100/1509001 approved manufacturing facility.

"This recognition comes from our continuous commitment to manufacturing quality, leading-edge products and providing superior service," explained Fraser Simpson, Orscheln's Technical Sales spokesperson.

Orscheln's extensive product range includes emergency gear release mechanisms; emergency air; fuel shut off; oxygen; rat release controls and cables; parking brakes; engine control cables – power, mixture, propeller pitch and ejection seat control cables/seat adjustment cables.

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PUSHING THE ENGINEERING INNOVATION BOUNDARIES

MJ Sections Ltd will be appearing at Paris for the third time running.

The company will be showing examples of its pioneering work, including its latest engineering innovation which is designed to cut lead times and costs. Its most recent investment into new capabilities includes the introduction of 5-axis laser cutting at its sister company Electro Discharge Ltd (fully AS9100 and Nadcap approved).

MJ Sections Ltd supplies precision-formed sheet metal fabrications and machined components to the UK and global aerospace markets, providing a fast and proactive response to its customers' needs. It is proud to include global airframers and engine makers amongst its customers.

Currently undergoing a major expansion programme, the building of the company's new adjacent factory is now complete. Planning permission has also been approved for a new factory which will double the capacity of the Halesowen facility.

The company's portfolio of parts includes rolled rings, rolled stringers for airframes, precision sealing rings/wires/honeycomb rings, pressed brackets and fabrications, and machined parts made from turning and milling (3 and 5 axis).

It also offers a diverse range of special processes – all Nadcap approved – including welding, NDT, vacuum heat treatment and high temperature vacuum brazing.

MJ Sections' latest engineering innovation is to replace (traditionally) expensive machined forgings with sheet metal rings. The company is able to join several rolled rings together into one complex ring assembly and hold critical tolerances where needed. The driving forces behind this are the significant lead time and cost

reductions that will be made, where the finished product could actually cost less than the forged starting material/ring.

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CUTTING-EDGE MIDLANDS TECHNOLOGIES FOR CONCORDE

Technology from the Midlands played a pivotal role in the development of the world's first supersonic passenger plane. From engine fuel pumps to flight control actuators, from wheels and brakes to heat exchangers, Midlands firms supplied Concorde with a plethora of the high-tech parts needed to fly passengers at 60,000ft and twice the speed of sound.

Half a century on, more than three quarters of those suppliers are still in business. At many, the current generation of highly skilled engineers is working in new factories and supplying the newest versions of their core technologies to the latest Airbus and Boeing commercial aircraft – demonstrating the enduring appeal of the best of British engineering...

And, of course, international collaboration is now a stronger theme than ever.

BELOW ARE SOME OF THE MANY MIDLANDS COMPANIES THAT SUPPLIED CONCORDE

Abbey Panels

(now closed)
Fuel tanks

Accles and Pollock

(now Liberty Tubular Solutions)
Tubes for heat exchangers

Brooks

(now SPS Technologies, PCC)
Fasteners

Dunlop Precision Rubber

(now Meggitt)
Airframe and engine seals

IMI Birmingham

(now Timet, PCC)
Titanium engine parts

Integral

(now Collins Aerospace)
Primary and auxiliary hydraulic pumps

James Booth Aluminium

(now Arconic)
Unknown

John Thompson

(unknown)
Three 12,000 gallon refuelling tankers

JS Chinn

(now Nasmyth)
Hot air pipes

Light Metal Forgings Ltd.

(unknown)
Unknown

Linread

(now Arconic)
Fasteners

Lucas Aerospace

(now Rolls-Royce)
Fuel pumps for engines

Ransome and Marles

(now NSK)
Engine bearings

RISTS

(now Leoni Wiring Systems)
Wiring/electrical circuits

Rose Bearings

(now NMB Minebea)
Bearings

Sterling Metals

(now closed)
Aluminium castings for engine

Systron Donner

(now closed)
Pulse generator for test rigs

Triplex

(now GKN)
Cockpit windscreens

AEROSPACE SUPPLY DEEP ROOTS IN THE

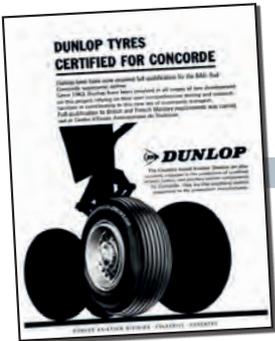
Unbrako *(now closed)* made specialist fasteners.



High Duty Alloys *(now Mettis)* forged brake torque tubes.

CHAINS WITH REGION

Dunlop Aviation (now *Dunlop Aircraft Tyres*) made tyres.



Dunlop Aviation (now *Meggitt*) made the wheels and the innovative carbon brakes.

FIERCELY PROUD TO WORK ON CONCORDE

Advertisements from the late 1960s and early 1970s offer us a glimpse of the aerospace industry of the time. Our companies promoted their prowess based on their contributions to Concorde. Many of the same core capabilities are still being deployed today to develop the aircraft of the future.



(With thanks to aviationancestry.co.uk)

Dowty Boulton Paul
(now *Moog Aircraft Group*)
Powered actuation systems (eight) for elevon and rudder controls

High Duty Alloys
(now *Mettis*)
RR58 alloy forgings

Dunlop Aviation
(now *Dunlop Aircraft Tyres*)
Tyres

Henry Wiggin & Co
(now *Special Metals Wiggin, PCC*)
Nickel alloys for combustion chambers

Hymatic
(now *Honeywell*)
Fuel tank pressure control design/equipment

Dunlop Aviation
(now *Meggitt*)
Wheels, brakes

Hobsons
(now *Collins Aerospace*)
A/C generator/ hydraulic drive



Midcast Numerical Control
(unknown)
Unknown

Saunders Valve
(now *closed*)
Fuel control valves

Serck
(now *Meggitt*)
Heat exchangers

Smith Clayton Forge
(now *Wyman Gordon, PCC*)
Forging of engine compressor wheels and turbine disks

Truflo
(now *IMI Truflo Marine*)
Sheet metal fabrications for engines

Unbrako
(now *closed*)
Fasteners for braking systems

Union Carbide UK
(now *Arconic*)
Alloy engine housing parts

PROFILE

VIEW FROM THE MAA BOARDROOM

“Midlands aerospace is growing in both size and capability and we need to establish a more mature supply chain if we are going to sustain the growth.”

Lisa Swan, Operations Director and site lead at Collins Aerospace, who has recently moved from the automotive to the aerospace industry, says aerospace is accelerating at the same speed as the automotive world right now.

Q. HOW LONG HAVE YOU WORKED IN THE AEROSPACE INDUSTRY?

A. I have been working in the sector for a year in my current role as an Operations Director. Prior to this I was a Plant Manager for a company that made safety electronics for the automotive industry.

I decided to make the move from automotive to aerospace so that I could get experience of another industry. I also wanted to use the opportunity to transfer some of the good processes from automotive to the world of aerospace.

Q. WAS THE SECTOR WHAT YOU THOUGHT IT WOULD BE WHEN YOU FIRST JOINED?

A. Coming from an automotive environment, I was told that the aerospace industry is very slow-paced in comparison. I can say that this is absolutely not the case!

Q. TELL US ABOUT YOUR CURRENT ROLE

A. My role as Operations Director for Collins Aerospace in Wolverhampton gives me a lot of responsibility for growth in terms of sales, and at the same time, as a business, we also need to recognise the need to transform our facility in order to drive improvements in financial performance for our shareholders.

Q. WHAT ARE YOU WORKING ON RIGHT NOW?

A. Achieving operations and productivity improvements are our number one priority right now and for the rest of this year. We are currently working on managing significant



“Coming from an automotive environment, I was told that the aerospace industry is very slow-paced in comparison. I can say that this is absolutely not the case!”

volume increases, implementing automation and increasing employee training, which will help improve flexibility.

Q. WHAT IS THE MOST CHALLENGING ASPECT OF YOUR WORK?

A. Having enough time to get everything done! I am responsible for all of Collins' operations support functions, as well as the manufacturing processes, and we are trying to drive improvements throughout every part of the organisation.

Q. WHAT DO YOU FIND MOST REWARDING ABOUT IT?

A. Within the field of operations, you tend to see results quickly, which is very motivating. Developing and promoting talent from within the organisation and seeing people succeed is also very rewarding.

Q. IF THERE IS ONE THING YOU COULD CHANGE ABOUT THE AEROSPACE INDUSTRY, WHAT WOULD IT BE AND WHY?

A. We are held back by the design of some of our products and recognise that we would be able to transform quicker if we could make some design modifications.

Q. WHICH PERSON/ACHIEVEMENT INSPIRES YOU THE MOST WITHIN THE SECTOR?

A. There are too many to name within an industry with such an impressive history, but if I had to pick one, it would most probably be Amelia Earhart.

Q. HOW DO YOU THINK MIDLANDS AEROSPACE IS EVOLVING?

A. The Midlands aerospace sector is growing in both size and capability and we need to establish a more mature supply chain if we are going to sustain the growth.

Q. IF YOU WERE NOT WORKING IN AEROSPACE, WHICH SECTOR WOULD YOU BE WORKING IN?

A. I would probably still be in automotive.



<https://www.collinsaerospace.com/>

FOR YOUR DIARY

ONLINE: WWW.MIDLANDSAEROSPACE.ORG.UK/EVENTS

CALENDAR

**MAA NETWORKING DINNER
– PARIS AIR SHOW**
18 June 2019
Les Noces de Jeannette
Restaurant Central Paris

Join members of the aerospace and defence industry for dinner.

PARIS AIR SHOW
17-23 June 2019
Le Bourget Parc des Expositions

Attend the 53rd Paris Air Show and take part in the largest aerospace trade show in the world, which is home to global industry leaders and the very latest technological innovations.

**NATEP - NEW TECHNOLOGIES
IN THE SUPPLY CHAIN**
10 July 2019
Rolls-Royce, Derby

A showcase of new technologies being developed in the aerospace supply chain supported by NATEP.

**MAKE THE MOST OF BEING AN
MAA MEMBER**
24 September 2019
MAA Offices, Coventry

Come and meet the MAA team over breakfast and learn how we can help your business.

MAA ANNUAL DINNER
10 October 2019
Council House, Birmingham

Our hugely popular business networking evening will be returning to Birmingham's fabulous Council House. Make sure you secure your seat.

 For further information and to book your place at an MAA event, please visit www.midlandsaerospace.org.uk/events

ABOUT THE MAA...

The Midlands Aerospace Alliance (MAA) is the voice of companies in the British Midlands supplying global aerospace. Its 300 member organisations range from global aerospace players to SMEs. The MAA board comprises senior managers from Collins Aerospace, Meggitt, Moog Aircraft Group and Rolls-Royce, elected supply chain representatives and key regional partner bodies.



For additional copies of *Midlands Aerospace*, or to add your colleagues to the distribution database, please contact the MAA by any of the means below.

If you have a query or suggestion that you would like to make, please contact the MAA.

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E: info@midlandsaerospace.org.uk

NEW MEMBERS

The MAA welcomes the following new members

ACCURA ENGINEERING
Willenhall
Supplier of specialist machining.

ADVANCED ENGINEERING UK LTD
Birmingham
Leading provider of multi-axis precision engineering solutions.

CGTECH LIMITED
Hove
Programming and simulation software provider.

CITYSPRINT
London
Providing flexible and reliable courier service.

DRUCK LTD
Leicester
Druck is a world class supplier of pressure sensing solutions.

GORDANO SUPPORT GROUP
Bristol
Provides logistics support services and packaging products.

HARDMET ASSOCIATES LIMITED
Suckley
Manufacturer of tungsten carbide and technical (industrial) ceramic components.

PELI PRODUCTS (UK) LTD
Glossop
Supplier of protector cases for the protection of instrumentation and tooling.

PRODRIVE
Banbury
Premium engineering services provider.

QUEST 4 ALLOYS LTD
Willenhall
Suppliers of rare and exotic nickel alloys and stainless steels in most product forms.

**QUICK RELEASE
AUTOMOTIVE LTD**
Gallows Hill
Product data management specialist.

**STATUS METROLOGY
SOLUTIONS LTD**
Nottingham
CMM inspection service.

THE SEMPRE GROUP LTD
Gloucester
Provider of high quality measuring, testing and software-based systems.

**TT ELECTRONICS ROXPUR
MEASUREMENT & CONTROL**
Sheffield
Manufacturer of temperature, pressure, flow, and level measurement products.

TURBO CAST (INDIA) PVT. LTD
Rajkot, India
India's first indigenous investment casting foundry for ferrous and non-ferrous materials.

Become a member of the MAA and join the 300+ other companies and organisations who are already enjoying the benefits of belonging to one of Europe's largest aerospace industry regional bodies. It costs your company only £595 per year if you are in the Midlands or £950 if not.



www.midlandsaerospace.org.uk/maa/join-the-MAA



midlands aerospace alliance

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