

MEGGITT

WINTER
2019

Review

Page 4
Interview
with CTO
Martine Gagné



Page 6
Sustainable
flight

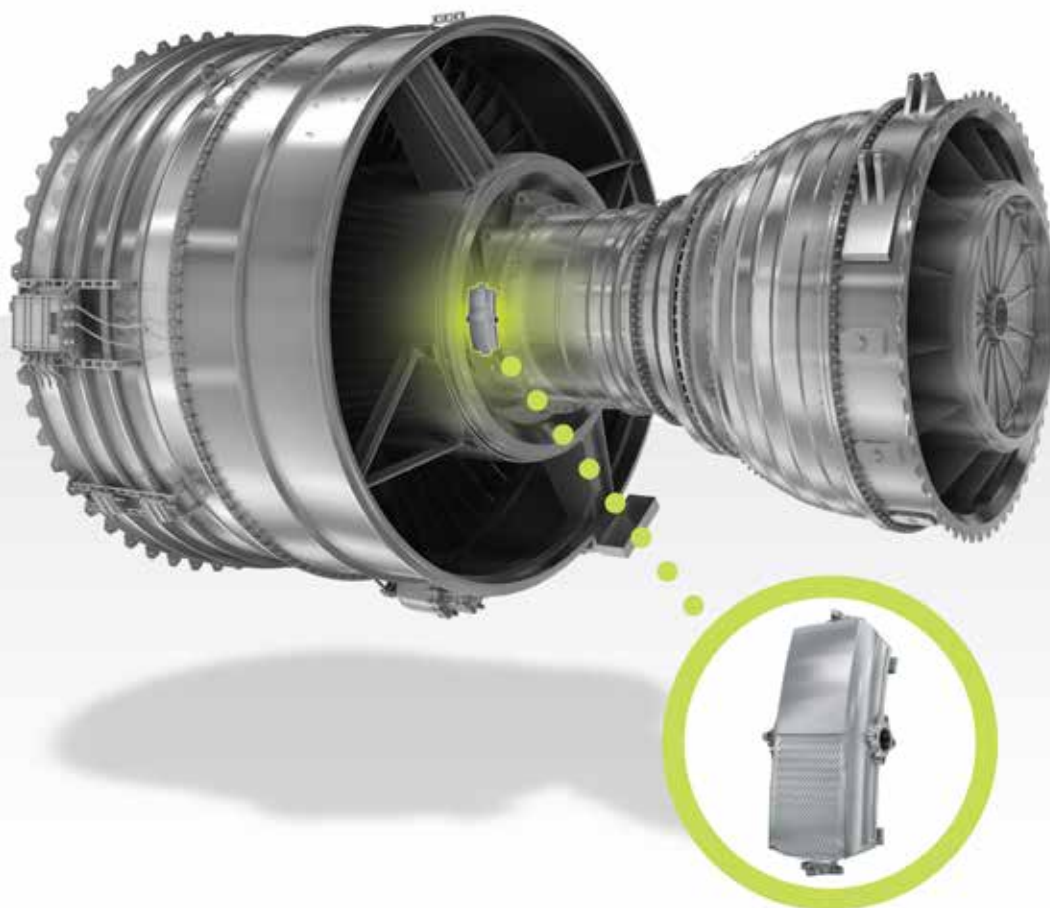


Page 20
SMART
Support



Enabling the Extraordinary

To Fly To Power To Live



Technology and Innovation Special

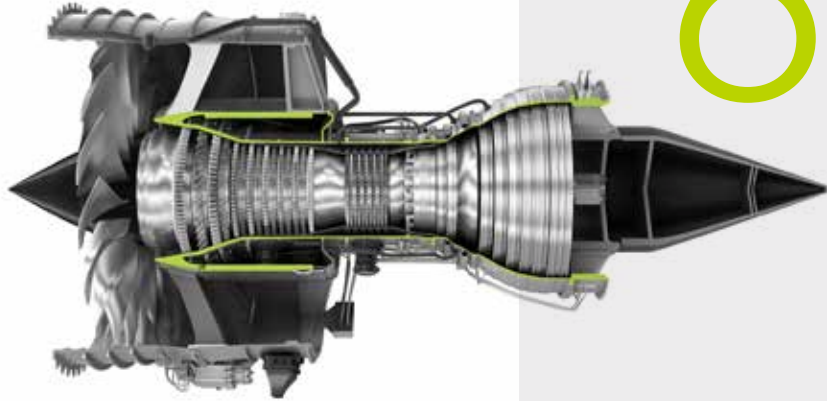
CONTENTS

What's in this issue?



6 In support of sustainable flight

Read about the challenges and opportunities our focus on reducing CO₂ emissions can bring.



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- 2 Technology and innovation special
- 3 Employee engagement survey
- 4 Meet Martine Gagné our Chief Technology Officer
- 6 In support of sustainable flight
- 8 Thermal solutions
- 10 New National Additive Manufacturing Centre DRAMA facility at MTC
- 13 Innovation is truly in our DNA
- 14 Diversity and inclusion
- 16 HPC – To 2020 and beyond
- 18 Embraer Legacy 500
- 19 Lufthansa Technik Shenzhen
- 20 SMARTSupport™
- 22 Around the world Saltillo
- 24 Our evolving Meggitt Production System
- 26 Apprentices – Top 5
- 28 Sharing your stories
- 30 News round-up
- 32 Contract wins

* Meet Martine Gagné
our Chief Technology Officer

4

20

SmartSupport™
Read about the ground-breaking partnership agreement with Lufthansa Technik Shenzhen



14

Diversity & Inclusion
A round-up of our employees supporting D&I this year

16

HPC – To 2020 and beyond
Two HPC success stories are shared

26

Apprentices – Top 5
Hear from our new group of apprentices

30

News round-up
Catch up with the highlights from across Meggitt, including some of your stories

32

Contract wins
See all our contract wins since the Summer edition



Welcome to the latest issue of the Meggitt Review.

We have interviews with our CTO Martine Gagné and new apprentices. We also have stories from colleagues across the business including success stories on HPC and an update on MPS.

Enjoy this issue, and if you would like to share something in future Reviews, please contact communications@meggitt.com

This publication The Meggitt Review is Meggitt PLC's magazine for colleagues. Headquartered in the UK, Meggitt is an international group operating in the Americas, Europe, Asia and Australia.

Meggitt is a leading international company specialising in high performance components for the aerospace, defence and selected energy markets.

www.meggitt.com

Delivering our vision

Technology and Innovation Special

Innovation is embedded in our DNA. We have shaped technology for over 160 years, from creating the world's first altimeter to next-generation turbofan architecture for the aircraft of tomorrow. In fact, our solutions can be found on over 72,000 aircraft worldwide. That's a Meggitt-equipped aircraft taking off every second of every day. Our technology protects countless lives and keeps the lights on for millions of people; we share a common purpose and pride in what we do.

Technology and innovation are at the heart of everything we do; that's why we consistently deliver solutions for the most challenging environments, designed to improve performance and quality of life for hundreds of customers and millions of people around the world. From airfield to desert, rigs to residential homes, we consistently deliver world-class solutions that push the boundaries of what's possible and deliver what matters.

This issue celebrates our reputation for innovation by showcasing some of the solutions which represent the Meggitt-difference – the unique benefits that our technology brings, benefits that allow our customers to enable the extraordinary in ways that were not previously possible.

Demands for a cleaner future is increasingly a focus for the world stage. A significant proportion of our future investment in research and technology (R&T) will focus on the products needed for sustainable aviation and low-carbon power generation. In this edition, we will be exploring some of the solutions we are developing to support these important goals for the benefit of the generations to come. ✱



Our Performance

Back in September we announced Meggitt's revised ranking in the Financial Times Stock Exchange (FTSE) and our automatic promotion to the FTSE100 as a result.

Investors are placing increasing confidence in Meggitt as we continue to transform our business to become one of the very best in our chosen markets. It's testament to the hard work of our 12,000 colleagues across the world and to the strategy we have put in place to grow our business and deliver the very best for our customers.

We should be proud to be recognised in this list as we continue to increase our profile and build our reputation as a blue chip organisation.

With exposure and content on some of the fastest growing and hardest worked platforms across civil aerospace and defence together with the benefits from our strategic initiatives, we are well-positioned for the future.

Our recent third quarter trading results reflect the continuing positive progress we are making in the operational transformation of Meggitt, including: investment in capacity and capability; our aligned, customer-focused organisation; our centre-led approach to purchasing, and footprint consolidation. This year we've further strengthened and focused our portfolio, with investment in priority technology areas such as thermal systems, optical sensing, fire protection and braking systems.

While we still have much to do to deliver on our commitments – we must retain our focus on eliminating customer arrears and reducing inventory while continuing to manage our costs diligently across the business – we should be heartened by the positive strides we are taking and by the increased confidence that our investors continue to place in Meggitt. ✱

Thank you

for taking the time to give feedback during our recent employee engagement survey. We've had an outstanding – best ever – response rate of **84%**. This is thanks to the importance you place not just in what we do, but why and how we do it. And also reflects the value you see in making Meggitt a better place to work.

Over the next few weeks you'll be hearing much more about these results and the action plans, for which we'll need your input. You'll be asked to participate in planning sessions and to help us prioritise what's really important to you.

Overall we've improved in the three key areas of **Engagement, Alignment, and Agility** – these are the three business drivers that every organisation needs to succeed in today's competitive business environment.

This tells us that the plans we've been putting in place are moving the business in the right direction, although we know that we have more to do.

Firstly, on **Engagement** – This captures the pride, energy and optimism you have in Meggitt and the results show strong improvements across the company with an **increase of 4 points** compared to last year. These scores are high and demonstrate increasing levels of teamwork across our sites.

Secondly, on **Alignment** – This is the connection between our work and the objectives of the company. Again, we've seen a **4 point increase** since last year. We know that our scores in this area remain a little below that of world class companies as we continue to build and embed our new customer aligned organisation. This will remain a continuing focus in the coming year.

Finally, on **Agility** – This is about our ability to sense and respond to change across the company. Here we've seen a **6 point increase** since last year. While Agility at Meggitt remains below that of other companies there have been significant improvements in performance over the last year.

We've also had strong gains in **working conditions, inclusion & diversity and respect & trust**. All of which are hallmarks of a world-class business. These results reflect the work we have all been participating in to build a High Performance Culture at Meggitt.

Your survey feedback highlights three areas of further focus and improvement that will be required in 2020.

Firstly, we'll further improve our **Communications** with a specific focus on improving our **site level communications**.

We'll also focus on improving our **Processes** – particularly the efficiency of our operations and functional processes.

We might not be able to read minds ...

2019
EMPLOYEE
ENGAGEMENT
SURVEY

Have
your
say



... but we can read your feedback

As we continue to build our culture and shared sense of purpose, we are keen to understand, from you, what you think about Meggitt and how you feel about the work you do. This feedback will help us to mould our business for the better as we continue to shift the value we place not simply on what we do, but why and how we do it.

Enabling the Extraordinary
To Fly To Power To Live

MEGGITT



Meet **Martine Gagné**, our Chief Technology Officer

Martine joined Meggitt in April 2019 as our Chief Technology Officer and is Executive Sponsor on the STEM ERG committee.

She began her career in 1995 as a Fluid Systems Specialist for Rolls-Royce based in Montreal, Canada. In 2005 she was appointed Chief Engineer of the Industrial RB211 and Avon products and moved to the UK in 2011 as Director of Product Integrity for the Energy division. She served as Head of Rolls-Royce's Strategic Research Centre from 2013. She joined Bladon Micro Turbines in 2017 as Chief Technology Officer.

// If you can't think of the next big idea that will bring you new business in the future then you're not going to stay competitive for very long //



How did you learn that we were looking to hire a new CTO?

I was approached by a recruiter about the role while I was on a career break. My family and I had just relocated back to Canada thinking this would be a permanent move from the UK. We had just moved into our new house when I got the first call about the role. I thought "surely we can't just turn round and go back", but it sounded like a great role, and by the time I had gone through the recruitment process, which took a few months, I was ready to come back!



Why did you want to join us?

I already knew some of the Leadership Team members so it was easy to piece together where the role would report to. At the time, there was a lot of restructuring taking place at Meggitt, and I thought it would be really great to join a company with that level of change afoot. Joining at that time really made me feel part of something that is growing and getting bigger and better all the time.



Did you always want to have a career in technology?

I think you go back to the subjects that you find interesting or that you were good at in high school. In Canada, math and science are part of the curriculum all the way through, and they were something I found interesting (and easy!). I was attracted to engineering as a career choice because there was a recruitment drive to get more females in engineering in Canada.



Why is innovation important to you?

It's the way of the future. A company can get better at what they are doing today, improving in all areas of operation, but if you can't think of the next big idea that will bring you new business in the future then you're not going to stay competitive for very long. Innovation is what brings forth new product ideas, new markets and new environments for tomorrow. So it's absolutely critical that we drive that in the organisation.



What do you see as the future of innovation at Meggitt?

I once heard someone say about Meggitt that "We're the big aerospace company that no-one knows about". People associate Boeing, Airbus and Rolls-Royce with aerospace easily, but generally don't know of Meggitt until I explain what we do. And then they say, "Oh, you guys do a lot of interesting and recognisable stuff". Innovation has always been a part of Meggitt's DNA from the first altimeter to the latest e-brakes. Our product and technology strategy processes assure a sustained pipeline of differentiated technologies.

I think it's an interesting time for the whole of the aerospace industry as so much of it is centred on the impact of aviation on climate change and on more sustainable technologies. Whether that's more sustainable fuels, component technologies that drive improved efficiencies, or more electric propulsion systems, there's this great appetite for all things new in this area. This is really where we can think of our positioning strategically. We've been quite vocal of our view on environmental concerns and are starting to put that message out internally and externally. I hope one day Meggitt will be known for the positive impact we've had.



What do you think makes a good leader?

It may sound really corporate, but we're driving a High Performance Culture and, fundamentally, HPC is a foundation for good leadership. All the elements that make it up – shadow of the leader, mood elevator, accountability ladder – really add up to a good formula. One thing that I've noticed at Meggitt specifically is the attention our Leadership pays to everyone. Visit a site and you'll see members of the Leadership Team stopping and talking to employees and asking how they feel that day, or whether they're looking forward to moving to Ansty

Park, or about their general well-being. The communication that transcends roles is really important from a leadership perspective.



Who inspires you?

I'm always inspired by early career people. Because they come in straight from University or they've transferred in from another role, they have a fresh outlook; they bring a different set of eyes, and aren't constrained by any barriers or prior knowledge or convictions. You point them in a direction and say "I'd like this to be done" and they don't come at it from a view of "this can't be done because..." They typically find the simplest, easiest route to a solution and I find that refreshing and always inspirational.



What's the best part of your job?

Hands down it's the variety! I have a distributed team with very few direct reports. The leadership is widespread, and there are a large number of individual sites each with their own array of products and technologies. At all levels there is variety in the people, technologies, location, geography and approaches, all of which makes this a really well-rounded and highly interactive role.

STEM Employee Resource Group – recognises the importance of Science, Technology, Engineering and Mathematics. The STEM Programme believes inspiring young people to engage in STEM subjects is crucial for a young person's educational development, and to the future of global STEM industries.



You're the Executive Sponsor on the STEM Employee Resource Group. Why is that so important to you?

An understanding of STEM-related careers is not something I was exposed to in school, so I chose my educational path in engineering without fundamentally understanding what that meant in practise. Because there were so few role models or career counsellors that knew anything about it, they couldn't articulate what a career in engineering would be like. For a science-oriented person, the first thought was of a career in medicine, but that was really not for me (I'd rather work with engines and oil and leave bodies to someone else!).

There was (and still is) a big vacuum there, a void of information, so STEM struck me as something that would be good to support. It's hugely rewarding to see the look on the kids' faces when they suddenly understand how an elastic band or balloon can propel a vehicle, and what they can do to make their vehicle go faster. Kids really get into it and this is the perfect opportunity to introduce them to STEM and explain that they could be doing this sort of thinking all the time. It's really nice to be able to have that influence, and whatever we can do to educate young people on the huge value we get from careers in STEM subjects is very positive.



How do we get more diversity in STEM?

I think it comes from role models. If you can picture yourself in someone else's shoes, doing what they do, it can be very inspirational. For instance, if you see an airplane flying, you wouldn't immediately make the association that designing parts of that plane is something you could do as a career choice. But if you see people you can relate to in such a role – people who look like you or have a similar background – you can more easily identify with that.



What is the best innovative non-aerospace product you can't live without?

My phone! I love to travel and I normally travel with kids in tow, which means a lot of baggage. This little device saves me from having to bring a camera, a travel book, bookings, maps and everything else. It allows me to stay connected and share experiences and photos in real time. Little convenient apps that you can use to cross a toll bridge and pay for it in one click, for example, save a lot of time and energy. You can Apple-pay your way through your trip; you don't even have to get bank notes out of a machine. It's great, so what we did before that...my mind boggles!



Outside of work, what do you spend your time on?

I'm quite sociable; I like to entertain friends and get out and about with my family. I think it comes with being an ex-pat but in the UK all you need is three days off in a row and you can take a quick flight to anywhere in Europe, so we travel quite a lot and see new things.

I also support a charitable organisation called Hope and Homes for Children whose work ensures children grow up in loving families instead of institutions, a charity that is really close to my heart since being introduced to it several years ago by a friend who is a patron. This same friend also introduced me to long-distance running, which I really enjoy so I try to fit it in wherever I can.



Do you think running helps with your mental well-being and do you do anything else to keep your stress levels down?

Oh absolutely! I have a long drive home, and that's when I put on some music and switch gears between work and home, which makes a nice buffer between the two. I try to run at weekends; the really long distances are the best for freeing up your mind and it's something anyone can do. It's even better if a friend comes along and you can run at 'chat pace' for a few hours! ✨



In support of sustainable flight



The global aviation industry produces around 2% of all human-induced CO₂ emissions and accounts for more than 3.5% of total annual climate change emissions. It is broadly recognised that there is no easy fix as it's hard to decarbonise the aviation industry due to the energy density of jet fuel. The industry is intrinsically linked to our quality of life, and to the success of world economies. International aviation emissions are excluded from the Paris Accord on climate change, so the industry is currently working to voluntary targets. These targets include a 75% reduction in CO₂ emissions by 2050, relative to 2000, and carbon-neutral growth in aviation from 2020 onwards. That means a commitment to keep net CO₂ emissions at or below 2020 levels, a particularly ambitious target given that the number of aircraft in operation is set to double over the same timescale. Without a step change in propulsion technology, or the introduction of carbon taxes to reduce demand, aviation could account for 10-25% of global carbon dioxide emissions by 2050.

At the Paris Airshow in June 2019, leading industry representatives acknowledged the

challenge and identified three elements of sustainable aviation. These include the continued development of improvements in fuel burn and CO₂ emissions through improvements in aircraft and engine technology, commercialisation of sustainable liquid aviation fuels and radically new aircraft and propulsion technology.

Meggitt's response

We are committed to ensuring that all of our sites operate in compliance with all applicable environmental laws and regulations. We will be investing two-thirds of our spend in new technology into the products needed for sustainable aviation and low-carbon power generation. And we will also be doubling our target for reducing greenhouse gas emissions to a 50% reduction by 2025 (versus 2015).

Sustainability is at the core of our own innovation activities and this is the first in a series of features designed to introduce you to the many pioneering solutions we are developing to deliver a positive impact on climate change related emissions. In this edition we are exploring thermal management systems. ✱



Optimising

the performance of future engine architecture with step-change innovation

// Next generation engines present specific challenges for thermal solutions //

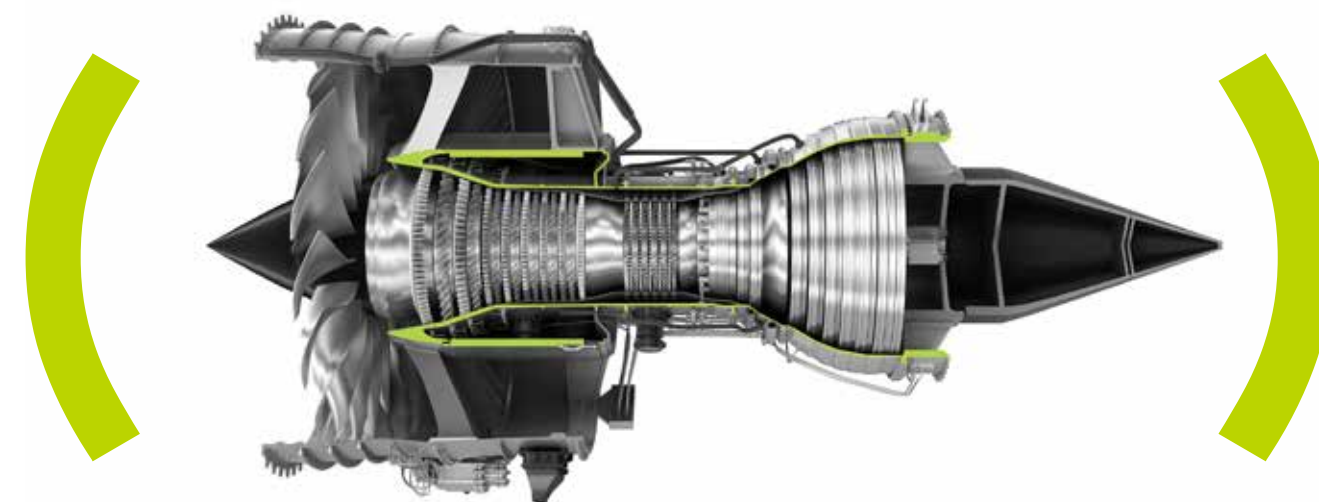
Engine and airframe manufacturers worldwide are working hard to meet goals set by The Advisory Council for Aviation Research and Innovation (ACARE), designed to encourage the evolution of new technologies that will enable a 75% reduction in CO₂ emissions per passenger kilometer, when compared to the performance of aircraft produced in the year 2000. To achieve this, they need to find innovative ways of both improving engine operating efficiency and reducing overall fuel consumption. Many believe one of the solutions lies in the continued development of next generation Ultra High Bypass Ratio (UHBR) engines, featuring a power gearbox configuration and slim line nacelle.

UHBR engines optimise engine propulsion by boosting the amount of air drawn in through the fan to achieve a bypass ratio of 15:1, that's 15 kg of air per second passing through the bypass duct for every 1 kg/s of air passing through the core. Conventional solutions typically have a bypass ratio of around 10:1. The higher air volume in the UHBR solution creates a more efficient thrust and can potentially deliver a 10% improvement in fuel burn and CO₂ emissions. The benefits are obvious but UHBR technology creates a significant design challenge. To generate more airflow, it's necessary to introduce a

radical new power gearbox that practically doubles the amount of heat to oil that the engine thermal system must cool. At the same time, to improve fan thrust, fan diameter is increasing, compromising the available space for other equipment traditionally housed between the engine and the nacelle. For thermal solution design this is critical, as it forces the fan case thermal system into a reduced space envelope on the core case, where it is subject to higher operating temperatures and increased heat load from the power gearbox.

Transforming heat exchanger technology

A tighter space envelope and higher operating temperatures present specific challenges for heat exchanger design. Heat exchangers transfer heat from one fluid to another whilst ensuring the fluids are kept separate. Our team of experts began to look at ways they could advance current system expertise to support sustainability goals and meet changing customer requirements. The solution was born from an innovative manufacturing process developed by our own Energy & Equipment division known as diffusion bonded technology.



A tighter space envelope and higher operating temperatures present specific challenges for heat exchanger design

Heatric pioneered the development of stainless steel diffusion bonded printed circuit heat exchangers (PCHE) to support efficiency improvements in the oil and gas industry. Diffusion bonding creates a heat exchanger core with no joint, welds or points of failure, resulting in exceptional performance. Our aviation team recognised the product potential and began to adapt the technology to suit aerospace applications. They faced two major challenges, the Heatric solution needed to be smaller and the structure needed to be much lighter. This was achieved by using aluminium alloys because they are lighter than steel and offer better corrosion resistance. In addition, aluminium's thermal conductivity is roughly three times greater, making it an ideal candidate for cooling and heating in high temperature environments.

To construct our heat exchangers we form the aluminium into thin plates, chemically etch channels into each one to allow the fluids (fuel/oil) to flow, sandwich them together and diffusion bond in a furnace. Aluminium is a soft metal and getting the diffusion bonding process right is particularly challenging due to the oxide layer that forms on the surface, but the end results are worth it. This pioneering process can potentially generate a 25% reduction in costs compared to current technology, a

25% reduction in weight and an outstanding 50% increase in performance for a given volume to weight ratio. All leading to greater efficiency and a more sustainable future.

Cleaner future

In future editions we will continue our journey, as we explore the weight and space savings generated by using advanced composites and optical sensing, investigate green solutions for fire suppression and share with you our market leading battery and electrical power expertise. We hope you enjoy discovering just how much these ground-breaking technologies are helping to build a cleaner future for generations to come. *

DID YOU KNOW

"The engine housing is not just home to the engine and the fan. It contains more than forty pieces of equipment, such as electrical harnesses and boxes, fire detection and protection, accelerometers, sensors and thrust reverser actuators, to name just a few..."



New National Additive Manufacturing Centre **DRAMA*** facility at MTC

* Digital Reconfigurable Additive Manufacturing facilities for Aerospace

In September, the UK Secretary of State for Business, Energy and Industrial Strategy (BEIS), Andrea Leadsom MP officially opened the MTC's new National Additive Manufacturing Centre DRAMA facility.

DRAMA (Digital Reconfigurable Additive Manufacturing facilities for Aerospace) is a three-year, £14.3 million collaborative research project and part of the UK's Aerospace Technology Institute's (ATIs) programme.

Unveiling a plaque in the new facility, Business Secretary Andrea Leadsom said, "I am delighted to launch this new facility. It is a great example of the strength of the UK's capability in cutting edge manufacturing technology and has significant potential to help boost the competitiveness of UK companies and their supply chains. We're investing £11 million to help build it and support aerospace suppliers to develop their manufacturing capability."

The Manufacturing Technology Centre is making an important contribution to ensuring the UK remains a world leader in advanced manufacturing and I'm looking forward to seeing companies from across the sector make use of this facility."

Meggitt Partnership

The project and facility will help build a stronger additive manufacturing supply chain for UK aerospace by developing a digital learning factory. DRAMA will act as a proving ground allowing Meggitt to try different hardware and software options before investing in our own plants. During the project an additive manufacturing Knowledge Hub (Wiki database and training source) will also be created, to allow faster adoption and implementation of this transformative technology by UK businesses. *



ANSTY PARK

Secretary of State for BEIS, Andrea Leadsom MP visits our new super site

Ms Leadsom also visited our new Ansty facility, hosted by Chief Executive Tony Wood, Executive Director of Commercial and Corporate Affairs Philip Green and Group Director of Engineering & Strategy Hugh Clayton, she learned more about Meggitt's role in the UK economy as well as discussing a range of strategic issues from diversity in STEM to the role of Meggitt technology in sustainable aviation. She toured our new UK Centre of Excellence at Ansty Park, currently under construction, to understand our future vision for manufacturing in the UK.

It was a great opportunity to showcase Meggitt and our new facility; construction is now close to completion and we are scheduled to begin a phased transition into the new building next year.

Sustainable future

The photo-voltaic (PV) panels are currently being installed on the roof of the building at Ansty Park. When complete, it will be one of the largest roof-covered PV systems in the UK, with panels covering an area of 167,000 ft² (15,550 m²). *



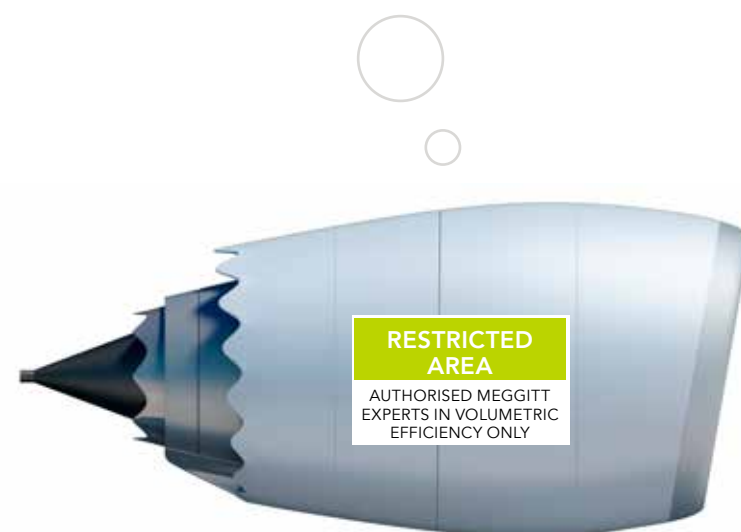
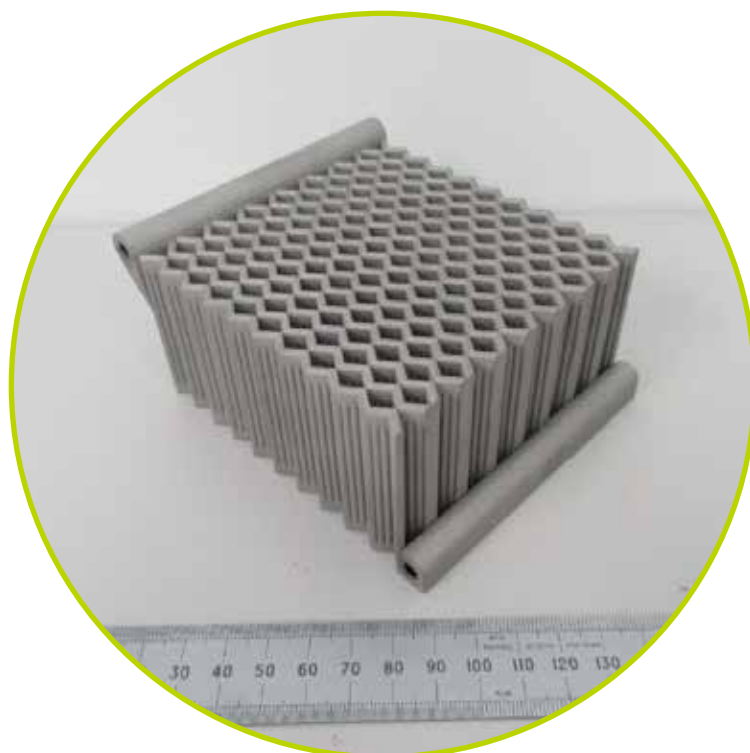
**167,000 ft²
(15,550 m²)**
one of the largest roof covered PV systems in the UK

Shaping the future

It's not always hip to be square

Additive Layer Manufacturing (ALM), otherwise known as 3D printing, is a process where products are created by building layers of material until a complete 3D object is formed. The process takes digital design data and transforms this information into a physical part much quicker than conventional methods. ALM is set to revolutionise the way products are conceived, designed and manufactured by providing much greater flexibility.

We began to explore ALM possibilities as a means of improving the performance of our aluminium air-oil heat exchangers and we had great results. Using 3D printing gives us the ability to produce more complex shapes which improves thermal properties as it allows us to get more heat transfer surface packed into a smaller area. Another advantage to using 3D printing, is we are able to design and print any shape to fit into practically any space, this is extremely important, especially when suppliers are looking to find increasingly creative ways of shaping product to fit tight spots without compromising performance. Producing this way also means we can do single piece build, reducing inventory costs and resulting in efficiency gains all round. ✨



- ✓ More complex shapes
- ✓ Better thermal properties
- ✓ Shape designed to fit any space

Meet Jenna

Name: Jenna Becker

Born: Santa Barbara, California, USA

Joined Meggitt: 2014



My career to date: I joined Meggitt as a member of the Engineering Graduate Programme, with placements at Simi Valley, Portland, Birmingham, and Kentucky. Since completing the programme in 2018 I have worked as a part of the Thermal Systems AR&T team based in Coventry, UK. Part of my role is helping to develop aluminium ALM air-oil heat exchangers.

What I love the most: I get to work with a great team on interesting problems and exciting new technologies.

ALM benefits? The technology and methods conventionally used to design and manufacture heat exchangers have not really changed in decades. The design freedom offered by ALM gives us the chance to rethink heat exchanger design entirely. We're able to develop novel heat exchanger geometries that will be smaller and lighter than a conventional heat exchanger. ALM machines are continuously improving, becoming faster and more precise, meaning that it is becoming more and more feasible to use ALM in a production environment.

Innovation is truly in our DNA

INNOVATION

DNA is how we pass on hereditary experience and characteristics. Meggitt's Heatric organisation was the originator of diffusion bonded heat exchangers, a strand of innovation that has been passed down to our aerospace teams who continue to build on this legacy. So what's the Heatric story?

For over 30 years, Heatric has been at the forefront of innovation for Printed Circuit Heat Exchangers (PCHE) used in upstream and downstream, oil and gas, and power generation activities.

By incorporating diffusion bonding and high-alloy welding, we are able to produce gasketless, seamless products, making them more robust, durable and safer than conventional shell and tube solutions. They are more compact which means higher efficiency. The unique design also builds immunity to the catastrophic failure modes other heat exchanger technologies are vulnerable to.

Our pioneering diffusion bonding process creates a bond that has parent metal strength; the potential of this technology is significant when applied to customer equipment that operates in extreme environments.

Structural integrity and durability are key features for the oil and gas and power generation industry. But it's not one size fits all, the required structural characteristics are typically application and customer specific. Our unique manufacturing process enables us to tailor PCHE design to meet individual requirements.

This is achieved through carefully selecting the right manufacturing materials to suit the specified heat transfer duty and by producing bespoke flow plates using innovative chemical etching technology.

All these benefits combine to provide a heat exchanger that is not only capable of superior performance over conventional solutions, but it is also approximately 85% smaller than traditional shell and tube components.

It's this strand of DNA that we are continuing to build-on, leveraging years of experience in some of the most demanding environments in the world. ✨

Our extraordinary people supporting Diversity and Inclusion

Here's a round-up of some of the great stuff that's been going on at Meggit in 2019.

MARCH



International Women's Day - 8th March 2019
We celebrated those colleagues who have contributed to driving gender equality at Meggit. **#BalanceforBetter #IWD2019**

APRIL



Employees from our Ventura County facility participated in the University of California Riverside's Bourns College of Engineering outreach event. This event, hosted by Society of Women Engineers (SWE), is geared towards school children grades and introduces future generations to engineering. The event was attended by roughly 1,500 people.

MAY

We launched our new Employee Resource Groups.

JUNE



International Women in Engineering Day – 23rd June 2019

Celebrating the achievements of women at Meggit as we believe in transforming the future. Uniting females around the world, your colleagues salute you. Inspiring a new generation of engineers. **#MeggitMoment #LifeatMeggit #WomenInEngineering #WIE2019**



STEM event

Our Coventry facility hosted ten local students who currently attend the WMG Academy for Young Engineers. This Academy's aim is to encourage young people to study science, technology, engineering and maths.

The work experience week provided attendees an insight into the world of engineering with a chance to solve challenges first hand.

Employees across Meggit came together to support the event, where students were provided with an overview of the aerospace industry, engineering at Meggit and the importance of HPC.

JULY



July marked the 1st anniversary of the Women in Aviation and Aerospace Charter. At Meggit we continue to commit to working towards gender equality and encouraging young people to get involved in the aerospace industry.

#MeggitMoment #1YearOfWiAA

AUGUST



The Global Young Professionals Employee Resource Group held its first international event in Irvine, drawing over 70 participants across five US facilities. Colleagues traveled from North Hollywood, San Diego, Simi Valley, and even Miami to participate.

SEPTEMBER

Meggit employees participated in our Shine ERG cycling challenge in support of World Suicide Prevention Day.



OCTOBER

In October we proudly supported World Mental Health Day by holding an employee drop-in session. **#MeggitMoment #YNA**



Women In Engineering

We were delighted to announce that Marina Thomas, our Senior Vice President & Group Company Secretary, had been named as one of the top 100 Most Influential Women in the Engineering Sector. This is an incredible achievement and we're really proud that Marina is recognised for paving the way for women in the engineering industry. Marina has been a champion for diversity and inclusion at Meggit and is the executive sponsor of our gender balance employee resource group. Congratulations again Marina! **#WIE100**



NOVEMBER



The Society of Women Engineer's (SWE) hosted its Annual Conference at the Anaheim Convention Centre with several representatives from Meggit in attendance. Led by SVP of Talent and HR Operations, Sara Kruse, the 3 day event was a chance for networking, training, development and recruiting.

(inclusion)
= DIVERSITY + ENGAGEMENT

In May 2019 we launched our Employee Resource Groups (ERG)

Introducing our Employee Resource Groups (ERGs)

We believe diversity fuels our innovation at Meggit. With sites in 16 countries across the world, our employees come from a wide range of nationalities and cultures. We are committed to fostering an environment where different perspectives and ways of thinking are encouraged and promoted. An inclusive environment allows us to challenge the status quo and seek creative and innovative solutions. To celebrate and focus on the strength that diversity brings to our workplace, we launched our new Employee Resource Groups. You have a voice; let it be heard. Let's be inclusive.

In May 2019 we launched ERGs. To date, there are five:

1

Shine

Promoting the awareness of disability both visible and non-visible including mental health for all current and future employees here at Meggit.

2

GLOW

Creating an inclusive culture that supports, encourages and promotes LGBTQ+ employees and future employees so they have the opportunity to flourish and glow in an accepting and caring environment.

3

Young Professionals

Offering new ways of thinking and collaboration to cultivate an environment where young professionals – and employees of all generations – can develop, grow their talents and contribute a positive change to the world we live in.

4

PAVE (previously Gender Balance)

Promoting equality for all, whatever your gender.

5

STEM

Recognising the importance of Science, Technology, Engineering and Mathematics. The STEM Programme believes inspiring young people to engage in STEM subjects is crucial for a young person's educational development, and to the future of global STEM industries.

Would you like to set up a new ERG?

Just contact beinclusive@meggit.com

High Performance Culture: To 2020 and beyond

We've come a long way since we launched our High Performance Culture (HPC) in 2017. The 'unfreezing' rollout continues apace, so far we've 'unfrozen' over half our colleagues around the world; that's nearly 7,000.

This year alone, just under 4,500 colleagues were 'unfrozen' – an amazing achievement – and more than 1,300 colleagues have been 'reinforced'.

What is next for HPC in 2020?

We need to finish formal unfreezing and reinforcement sessions and we also need to accelerate completing reinforcement for managers and leaders. But please remember that these formal sessions are just the **beginning**. This is a journey and we have only just started. In 2020 we need to shift the focus away from formal sessions and onto actual daily reinforcement and application of concepts and tools so that HPC can really help us live our values of **Teamwork**, **Integrity** and **Excellence** every day.

Over 300 sessions completed

Over 6,500 employees 'Unfrozen'

50 HPC Facilitators

Over 400 Culture Champions



“How do you measure human behaviour in the workplace?”

Your HPC successes

We love hearing about the ways the HPC programme has had a positive impact on you. Here are two great examples from Danville and North Hollywood:

Accountability lives here

Mike Gay, HR Manager for Danville and HPC facilitator, has developed a way to measure HPC behaviour adoption.

Early in the process, he realised that the best way to prove that change is taking place is through metrics. But the question remained: How do you measure human behaviour in the workplace?

Using MPS and Continuous Improvement concepts, he developed a visual management tool and a method of measuring HPC behaviours.

He introduced this concept and challenged the Danville Site Leadership Council (SLC) to accept the responsibility of measuring their behaviours daily. A challenge they accepted.

This measurement tool benefits employees in three ways:

- First: it reinforces HPC behaviours for leaders.
- Second: it creates a system to capture human behaviour via metrics, ensuring you think about HPC on a daily basis.
- Third, and most important: it positively affects employee trust in the SLC members. Hourly employees can walk up to this visual management tool and see if their supervisor is doing what they were taught in the HPC sessions. They can see if a supervisor is really walking the walk, or just talking the talk.

If hourly employees can see that the leadership is at least trying to practice HPC concepts, then respect is earned. At the same time, as a leadership team, we can't hide in the grass like Easter eggs with a system like this. Your results are out there for everyone to witness. It demands truth. It demands personal accountability. And it is completely transparent.

And finally, Mike feels benchmarking this idea as a best practice across Meggit is his responsibility. If he has a good idea for a useful tool and doesn't share it, then he's not doing his job. We all have a responsibility to share best practices, to get Meggit to where we know it can be.

North Hollywood lives HPC

"HPC is not just a poster on the wall", says Stacie Neal, HR Director and HPC Champion for our North Hollywood site, "it's a way of life. We live HPC."

But it wasn't always like this. The North Hollywood HPC Champions are on a mission to incorporate HPC concepts into everything on site, from DLA observation posters to their Kudos employee recognition program, and much more. This wasn't an easy goal. Previously the culture was somewhat fragmented, but this is turning around. They began an ambitious unfreezing path to have 100% of employees (c. 370 people) unfrozen by the end of July. HPC is becoming embedded into their daily lives and, as more and more employees are unfrozen, is now building its own momentum.

As an example of the culture changes taking place:

North Hollywood is also one of the Focus 8 sites. In the past, the required actions would have been seen as challenges which might have been addressed with an "every man for himself" approach. Now, as a result of HPC training, site leadership is embracing the actions and seeing them as opportunities for improvement. And this attitude is spreading throughout the site, with those working towards Focus 8 actions thinking and acting as a team. 🌟



Top left: Visual management tool at Danville. **Top right:** DLA observation tools in action. **Bottom left:** Alicia Sherman, Kayla Macias and Stacie Neal present Kayla with her certificate. **Bottom right:** HPC Champion board at North Hollywood.



EMBRAER LEGACY 500



In November our business jet experts headed to the biggest event in the Biz Jet calendar – NBAA (National Business Aviation Association). In honour of the event, we'd like to feature the Embraer Legacy as our show and tell in this edition of the Review. A favoured choice of transport for celebrities, businessmen and businesswomen worldwide – your own jet would cost you a cool \$21 million to purchase. We are proud to provide the technology behind its success.

The Legacy 500 is recognised by Embraer as a game-changing jet, the industry benchmark for performance, passenger room and comfort.

Range:
5,788 km (3125 miles)

Wing span:
20.25 m (66 feet 5 inches)

Maximum Operating Mach:
0.83

High Speed Cruise:
863 km/h (466kt)

Maximum operating altitude:
13,716m (45,000 feet)

Take-off distance:
1,245 metres (4084 feet)

Engine Model:
HTF7500E

Max Passengers:
8-12

Nose to tail

- Dual park emergency brake valves
- Shuttle valves
- Nose and main wheel assembly
- Brake, control units and control valve assembly
- Shut-off valve assembly
- Pressure transducers
- Brake temperature sensor assembly
- Wheel speed transducers
- Drive cap assembly
- Hydraulic fuses
- Accumulator assembly
- Pressure switch assembly
- Emergency backup battery
- Pressure regulating shutoff valves
- Fan air valves
- Recirculation fan shutoff valves
- Single bleed, cross bleed and pack backup shutoff valves
- Pressure switches
- APU air inlet seals
- Insulation strap supports
- Seals and gaskets
- Pylon, cargo and emergency door seals
- Vent flap seals
- Air-con ducts
- Hatch seals



Services & Support signs ground-breaking partnership agreement with Lufthansa Technik Shenzhen, to serve our growing Chinese customer base

Leading industry analysts Oliver Wyman predict that the civilian Chinese aircraft fleet is set to grow at a compound annual growth rate of 7.9% per year, between now and 2029. That means approximately 3,600 new aircraft entering service. The more aircraft that become operational, the greater the MRO opportunities, with a forecast spend in excess of \$18.3 billion by 2029, that's an anticipated CAGR of 9.4%.

Our Chinese aftermarket business is already showing strong growth and for some time the Services & Support team has been looking at ways of expanding our reach into this pivotal market. At the Paris Air Show this year, months of planning came to fruition and we signed a ground-breaking partnership agreement with Lufthansa Technik, enabling us to establish a Chinese MRO Centre of Excellence for parts and repair, operating out of the Lufthansa Technik Shenzhen facility in mainland China.

The partnership was formally ratified in late September with an on-site ribbon cutting ceremony attended by over 50 local customers, both potential and existing. Shop construction is now underway and the facility will initially encompass the following capabilities; fire detection and suppression, fuel/oil heat exchangers and control systems.

MRO is planned to come on-line towards the end of 2020 and the shop should be fully operational by 2021 with the team already planning to expand their product and service offering in China over the coming years.

CAGR
+7.9%



The civilian Chinese aircraft fleet is set to grow at a compound annual growth rate of 7.9% per year, between now and 2029

What I appreciate about you

When celebrating new business or strategic milestones, we are frequently so busy patting ourselves on the back that we forget the efforts and hard-work of the team in the background that actually makes things happen. Our partnership with Lufthansa Technik is very important to the growth plans of the Services & Support team in China. Many months of planning and negotiation have taken place to complete this contract. For this reason we would like to thank our Commercial team, often the unsung heroes, for successfully delivering this partnership. In particular, the Services & Support team would like to honour **Mango Tan**, their Commercial Manager in Asia. Her patience and professionalism has opened up the door for future co-operation, ultimately leading to substantial organic growth in the region. On behalf of the leadership team and all your colleagues, Mango, we salute you. 🍌



Mango Tan, Commercial Manager

“The more aircraft that become operational, the greater the MRO opportunities, with a forecast spend in excess of \$18.3 billion by 2029”



Global solutions, local support

Tailor-made aftermarket care



In 2016 our Services & Support organisation was barely out of the cradle. A new team had been appointed to transform Meggitt's thinking about customer aftermarket needs. At this time, product groups around the world were handling queries for their own sites, there was no economy of scale or clear visibility of our internal operations, and our customers had several Meggitt companies listed as a supplier, depending on the capabilities required. Services & Support was established to set up a one-stop shop of Meggitt products and services, making it easier for our aftermarket customers to do business with us.

By 2017 the team were starting to run, rolling out a trading model to support centralisation of inventory and parts availability, they also began to establish regional hubs, ideally located to support our global customers' local needs. Singapore was our first real MRO Centre of Excellence. Established in 2012, it became a best-in-class example for the developments to come. We also began to build our parts distribution strategy, starting with the launch of a pioneering partnership with leading aerospace distributor, Proponent, giving us more space and time to focus on our key customers.

2018 has to qualify as the coming of age. Three regional hubs established in Miami, Florida, Coventry, UK, and Singapore, Asia, over 12,000 parts on offer and an expanding capability list worldwide. This was also the year our SMARTSupport™ value proposition was launched, designed to give our customers the freedom to configure a personalised aftermarket care package, tailored to their specific operational needs.

In January, Services & Support was officially elevated to divisional status, with all the accountability that entails. The Miami Centre of Excellence was officially opened in July, and the EMEA hub is planning its move to the new Ansty facility next year. As an organisation that has rapidly matured, the team is now actively rolling out SMARTSupport™ to capitalise on growing MRO opportunities around the World. The number of ATA Chapters we serve clearly illustrates our ability to supply nose to tail spares distribution and MRO solutions.

But it's not just about a catalogue of parts; it's about adding value to our customers' operations. In fact, SMARTSupport™ covers almost all Meggitt aerospace products, whether airframe or engine, civil or defence and it enables our customers to create a long-term aftermarket agreement for a selected portfolio of products and services, for both spares and MRO.

// The ATA Chapters clearly illustrates our ability to supply nose to tail spares distribution and MRO solutions //

There are three key elements to SMARTSupport™. Firstly, we offer fixed pricing; which enables operators to better budget total cost of aircraft operation. The second element is material scoping. This means we are constantly reviewing the material content of the parts we are maintaining and repairing to help us reduce customer costs and enhance performance. We can also provide retrofits and modifications, developed by our own in-house system experts. Finally, SMARTSupport™ offers rotatable pools. Rotatable pools support speedier turn-around times and parts can be put on consignment to customer operations as requested.

It's been a packed three years, with never a dull moment. We started with a dream of building a one-stop shop for aviation customers and we are now well on our way to constructing a supermarket of products and services, easily accessible to customers around the world. We look forward to sharing our 2020 adventures in the next edition of the Meggitt Review. ✨



ATA Chapters we serve

AIRFRAME SYSTEMS

- 21 Air Conditioning
- 23 Communications
- 24 Electrical Power
- 25 Equipment/Furnishings
- 26 Fire Protection
- 27 Flight Controls
- 28 Fuel
- 29 Hydraulic Power
- 30 Ice and rain protection
- 31 Indicating/Recording System
- 32 Landing Gear
- 33 Lights
- 34 Navigation
- 36 Pneumatics
- 44 Cabin Systems
- 45 On-board Maintenance Systems
- 49 Airborne Auxiliary Power

STRUCTURE

- 52 Doors

POWER PLANT

- 71 Power Plant
- 73 Engine Fuel & Control
- 74 Ignition
- 75 Air
- 77 Engine Indicating
- 78 Exhaust
- 79 Oil
- 80 Starting

Some of our many
SMARTSupport™
Customers



AROUND THE WORLD

SALTILLO, MEXICO

With a population of nearly 1 million, Saltillo, Mexico, is the second largest city in the state of Coahuila. It was founded in 1577 and is located in the northern part of Mexico, about 75 miles southwest of Monterrey and 180 miles from the US border at Laredo, Texas.

Saltillo is famous for Saltillo tile and locally woven fine sarapes, and has a long history of automotive manufacturing including large OEMs such as Chrysler and General Motors.

Saltillo has over 16 universities, 12 technical institutes and over 11 research and training centres, meaning there are nearly 200,000 students filling the pipeline with future talent. The education system works closely with the manufacturing community, making sure they continue to offer programs and training that best fit the region's future. This highly skilled workforce means companies can become extremely productive in a relatively short period of time.

Engine Systems Saltillo
Our Saltillo facilities joined the Meggitt family in 2015 following acquisition of the advanced composites businesses of EDAC Technologies (formerly Parkway Products), which also included our facilities in Cincinnati, Ohio, and Erlanger, Kentucky. They are all part of the engine composites product group within the Engine Systems division.

Our Saltillo campus consists of two facilities located mere meters from each other. Combined they make up 104,000 sq ft and house nearly 400 employees.

These facilities work closely with Erlanger where products are designed for manufacture. Since the EDAC acquisition, Meggitt has perfected a product transfer process where the products are designed in Erlanger, the manufacturing process is perfected, and then the whole project transferred to Saltillo to satisfy customer production orders. Sometimes dual production lines are maintained in Erlanger and Saltillo, while other projects are 100% transferred to Saltillo. The Saltillo team has become expert at this transfer process.

United States

MEXICO

Saltillo Campus Layout

Aero-Tech
51,000 sq ft

Meggitt/Collins (PHS)
53,000 sq ft

Main products manufactured

Aero-Tech Composites de México

- RTM Stator Vanes
- Composites IGVs and OGVs
- Composite APUs
- Spinners
- Platforms

PHS – Meggitt/Collins joint venture

- Advanced Composite Air Ducts
- Packboards
- Composites Plenums
- Flow Devices

Our **Aero-Tech** facility is a wholly-owned Meggitt plant on the receiving end of Meggitt's perfect product transfer process. Last year this facility was expanded by nearly 50,000 sq ft, making room for programs such as Pratt & Whitney spinners and platforms.

PHS (Parkway-Hamilton Sunstrand) facility is part of a joint venture with Collins Aerospace and focuses on polymeric composites manufacturing for commercial aerospace applications (auxiliary power management systems, air management units and aero structures).

Saltillo specialises in composite hand layup, in which sheets of composite materials such as carbon or glass fibre are layered over a mould. This assembly is bagged and sent to an autoclave where the fibres are pressed into the mould using heat and/or pressure. The piece is then machined, bonded, assembled into the final product, inspected and shipped to the customer. ✱

Key facts	Aero-Tech	PHS
Employees	135	262
Customers	General Electric Honeywell Pratt & Whitney	Collins Aerospace
Platforms	Boeing 737, 777 CF6 Engines A220, A320 HTF7000	787-8,9,10 777, 777x ERJ 170, 190 A380
Main production processes	Layup Autoclave RTM Machining	Layup Autoclave Machining
Recent transfers	Spinners Platforms	E2 Packboards A380 Packboards 777x

The greatest experience Meggitt has is that of its employees



Rahel Martínez

Meggitt employee for six years. Rachel has been instrumental in the project transfers of A380and E2 packboards and 777x for the layup process.



Jose Luis Torres

Meggitt employee for six years. Jose Luis travelled to the US to train and collaborate on the transfer of A380 packboards from the assembly process.



Francisco Ochoa

Meggitt employee for seven years. Francisco took part in the transfer of the E2 and A380 packboards as part of the assembly process.



María Guadalupe Olague

Meggitt employee for eight years. Maria Guadalupe has contributed to the successful transfer of projects A380 packboards, 787-9, 777x and E2 packboards for the layup process.



Santiago Vázquez

Meggitt employee for six years. Santiago travelled to the US to participate in transferring the 777x project for the machining and assembly processes.



Dora Elia Berino

Meggitt employee for more than 17 years. Dora has been pivotal in the company to transfer the projects A380, ERJ, 787-8 and 787-9 for the layup process.

Learn more about the transfer team in [this video](#) on MC²



I am very proud to be part of this team

Jesús Obispo

Spotlight on Saltillo colleague

Jesús Obispo was born in Tantoyuca, Veracruz. He is married, no kids and can speak Tének, a language passed down from his parents. Jesús is very proud of his heritage and loves speaking his language. He has even participated in translation teams, keeping his language alive.

He met the love of his life while she was on vacation in Veracruz, leaving behind all that was familiar in order to be with her in Saltillo.

Jesús was very persistent; he applied to Meggitt twice and visited the facility on four occasions before receiving the job in the machining area. His passion for the job soon moved him to an area leader position where he had the opportunity to travel abroad to Erlanger to learn other projects so that he could train others. We have been lucky to count on Jesús for the last five years and we are sure he will teach us many new words in Tének!

In his words: Jesús talks about his journey from Veracruz to Saltillo and his success at Meggitt in his video. You can **watch it here** on MC².

Our evolving Meggitt Production System

MPS reflection

We have had many amazing transformations through the Meggitt Production System (MPS) and it's sometimes hard to believe it was launched a mere six years ago. For employees just joining Meggitt, MPS is our journey toward a single global operating system. It is the way we conduct our day-to-day activities to deliver results for our customers and accelerate growth.

Our initial MPS objectives still resonate today.

- Increase employee engagement and innovation
- Optimise opportunities through cross-divisional synergies
- Create a common approach and common language
- Maintain a systemic approach towards excellence
- Deliver Safety, Quality, Delivery, Inventory and Productivity (SQDIP) results at increased rates

// Ansty Park gives us the perfect opportunity to build MPS from the beginning //

The MPS journey



The MPS journey consists of six stages. The first three "colours" stages – Red through Green – focus mainly on a site's culture and leadership. These stages create the backbone of MPS and our High Performance Culture (HPC). Developing a unified Leadership Team drives performance improvement and lays a solid foundation for employee engagement to flourish. A certified Green stage site develops a continuous improvement mindset and the agility to drive operational performance throughout ever-changing business conditions. This is easier said than done as the challenges of integrating all functions into MPS requires innovative thinking, new ways of doing things and a strong commitment to developing our people. Our 2019 early-stage MPS site exits prove the end results are worth the effort.

Energy & Equipment Irvine and Airframe Systems Baltimore certified to Yellow and into Green stage. Both sites already performing to Green level quality and delivery standards and prepared to sustain through forward rapid growth.

Engine Systems Cincinnati certified to Yellow into Green with high quality and delivery performance that has positioned the site to support a diverse product portfolio, including supplying composite moulds to other Meggitt businesses.

Engine Systems Indiana certified to Green into Bronze through a renewed focus on leadership culture and the positive impact it's had on operational performance and customer experience including expansion to an internal Meggitt supplier.



In the last three stages of MPS, the "metals" stages – Bronze onwards – the wider remit is to Blue Chip strategy impact through payback from our investment in culture, people development and continuous improvement. To reach this stage of maturity, our HPC culture challenges the status quo to bring all functions working closely together to create an Operational Excellence model with the shop floor at the "Centre of the Universe" for us all. Long term strategy is deployed within the Product

Group which acts as the new "point of impact" of our business whereby functional processes are thoroughly streamlined to support the journey to an enhanced future state. Our new organisation structure, rolled out in January 2019, sets us up to win in this regard.

Heatric certified to Bronze and into Silver by reshaping their business model in an aggressive market demanding cost and lead time reduction. Employee engagement turning ideas into innovation, and a strategic investment in people and process improvement translating to sustained 100% on-time delivery to customers.

Investing in capability

Our MPS Learning Academy has firmly established a Lean Learning Programme expanding training and certification to British Quality Foundation-accredited Lean Green Belt and Lean Expert standards. Our 2019 candidates are already seeing measurable results in critical area. These MPS champions will mentor new candidates in 2020, and so on, ensuring a continuous wave of expertise in throughout all Meggitt sites. Going forward, we are extending the Lean tools beyond manufacturing and into functional areas (key to our business-wide continuous improvement reach) and collaborating with Group Quality to include Six Sigma Black Belt training.

Ansty Park

Ansty Park, our first green field site since we launched MPS, gives us the perfect opportunity to build in MPS from the beginning and get it right the first time. Through the Meggitt Production System collaborating with several other functions we are developing an integrated strategy deployment model that will deliver a new method for other divisions, product groups and sites to connect and execute on their blue chip strategies.

Communication and Accessibility

Through MC², our global intranet, accessing MPS material is easier than ever before. Through a steady flow of news on our site, we can share best practice, recognise and celebrate success, and ensure a more thorough understanding of MPS. Keeping employees engaged with MPS is essential to our strategy and we encourage regular feedback to help us continually shape MPS for the future. Visit the [site here](#).

Forward Strategy

We've learned a lot since MPS launched in 2013. We know that 20% of the core elements give us 80% of the results and we're focusing on making it easier to deploy these elements and sustain improvement.

And we've heard you. We've taken your employee engagement feedback on board and are simplifying the system to make it easier to apply and support across all sites and, now, many functions. Specifically, we're simplifying the basics: strategy deployment, leadership culture, daily layered accountability, people and leadership development, continuous improvement in our functions and Lean factory transformations.

Learning from our success and turning challenges into opportunities

As we move forward, it's important to understand how our certified Bronze sites have transformed and sustained the required performance through MPS. In these sites, you can see the extension of MPS as a global operating system.

Energy & Equipment Xiamen is developing the competitive basis for our polymers business to demonstrate our vision of what a certified Silver site will look like. Lean is the norm in factory and office to achieve all-inclusive operational flow while maintaining top performance.

Similarly, **Airframe Systems Kentucky** has deployed 'single piece flow' on wheel and brake manufacturing when most said it couldn't be done. Lean factory transformation is driving sustained Bronze standard performance whilst the site is expanding carbon processing capacity to service growth in aircraft braking systems.

But we can't yet rest on our laurels. We recognise that 40% of our sites are still at Red or Yellow stages which, combined with the substantial growth in military and commercial markets over the last two years, has created operational performance challenge. To overcome these, MPS deserves to be raised to a higher priority. While the actual MPS deployment is owned and driven at the product group "point of impact", we need Group Operations to hold our businesses and functions accountable to embrace MPS and deploy it at faster rates and to higher standards in terms of business assurance.



Commitment to Excellence

MPS' commitment to deliver continues apace. We will continue to evolve around the needs of the organisation to strengthen our operational performance. Working together we can harness our collective ideas to meet objectives and 'Enable the Extraordinary'. 🌟



APPRENTICES TOP 5

Our new group of apprentices started their training in September. They were each asked three questions; here are their top five answers...



Why did you think an apprenticeship was right for you?

1. I would be able to do something hands on, and something physical
2. I would be in a better learning environment to school/university
3. I couldn't decide on a further education course or if university was for me and had heard great things about apprenticeships
4. I believe employers value experience over theory
5. I would be able to be creative



Why did you choose Meggitt?

1. The facilities are out of this world!
2. I'd gain first-hand aerospace experience
3. It's a sustainable company with longevity
4. It offers opportunities in different fields and in different countries
5. It's got a good reputation and family, and friends work or have worked here



What are your aspirations for the apprenticeship programme and beyond?

1. I would like to be a successful engineer
2. I would like to build and lead a team
3. I want to learn as much as I can
4. I want to go into a specialist role
5. I want to be in the best position to get the best possible job

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MC² is available on your mobile, so it's now even easier to keep up-to-date whilst on the go.

To get started, register at <http://mc2.meggitt.com>



Sharing your stories

July

Archamps took time out for their traditional lunch-time barbecue before the summer holidays. Employees look forward to the chance to socialise with employees from different departments.

Avionics in Fareham presented Sam's Haven charity with a £5,000 cheque and continued to support Sam's Haven charity throughout 2019. Our colleagues have raised money through a series of events including bake offs; Christmas jumper day; quiz nights; Easter raffle; weekly lottery bonus ball and employee sponsored events.



August

Akron joined dozens of local companies to support the United Way of Summit County's Day of Action through service projects throughout the county. Fifty Meggitt employees were sent to Springfield High School to help Summit Education Initiative, a non-profit organisation working to increase educational attainment. Our employees prepared hundreds of boxes of reading success packets, which are given to children with low language and literacy scores as part of a ten-week programme. The packets include books, activities and assignments to increase their reading ability.



Services & Support in Miami hosted a Family Day for over 100 employees and their families.

Activities included a tour of the newly expanded MRO hub, a decadent barbecue and lots of fun activities such as face painting, miniature golf, giant board games and balloon art.



September

Martin Smith of Heatric took on the Brutal Triathlon and raised over £750 for prostate cancer charity in the UK. This challenge has been voted one of the world's toughest triathlons. It starts off with a 2.4 mile swim, followed by a 116 mile bike ride over challenging hills, and finishes with a 26 mile trail marathon which includes ascending Mount Snowden, the highest peak in Wales.



Congratulations to the Erlanger chapter of the Meggitt Women in Engineering and Technology Employee Resource Group, who completed their first charity event in September. The Sunflower Rev it up for Parkinson's 5k run/walk, held in memory of the father of one of our engineers, who passed away from Parkinson's disease, raised over \$179,700 for Parkinson's disease research.

Henry Morton, Graduate Engineer, and three friends tackled the Six Peaks Challenge and raised over £800 for the British Heart Foundation. This charity focuses on researching ground-breaking cardiac surgery and treatment, a cause close to all four members of the group.

The challenge consists of a non-stop hike of six peaks in less than 48 hours. The group completed the challenge in 37 hours and 15 minutes with a total walking time of 23 hrs 13 mins.



October

Erlanger employees got some much deserved recognition with an afternoon of food and fun in appreciation of their hard work and dedication this year. All shifts were invited to participate in a catered cookout style lunch, basketball, corn hole competition, and door prizes.

For a small donation, the employees had their chance to dunk supervisors and management in a dunk tank, with all proceeds going to Cincinnati Children's Hospital. In all the employees raised over \$600 for this great cause.



Charlotte's Triple Charity Challenge

Charlotte White completed her Triple Charity Challenge. The Meggitt Flag made it all the way to the Summit of Mt Toubkal – to put this into perspective the peak is 700ft higher than the skydive she did! Total raised **£1,642** not including the Meggitt pledge of £500 for UHCW who fund equipment, research and facilities for University Hospital, the Hospital of St Cross and Coventry and Warwickshire's community and mental health care services. Well done Charlotte.

A huge **#charitytuesday** thank you to all the Coventry and Warwickshire businesses that played their part in the **Meggitt** Charity Football Championship raising a whopping £11,812 for **Teenage Cancer Trust!**



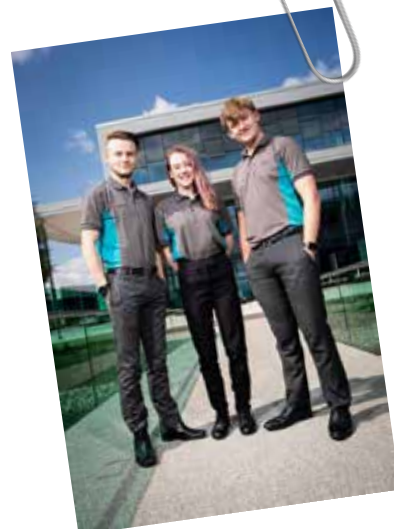
News round-up

JULY

Delivery performance and customer service fundamental to growth

In July, Services & Support Miami celebrated the grand opening of their expanded MRO Centre of Excellence with a customer roundtable event. Around 40 customers attended a presentation about the Miami facility and were treated to a tour of the shop before the roundtable. We invited our customers to talk openly about how we can improve. When asked to rate the importance of key deliverables to their own organisations, delivery performance and customer support ranked higher than cost underscoring that our focus needs to be on lead time commitments and turn-around times.

The day ended with a drinks reception and far better understanding of how the team can develop best-in-class service levels.



Meggitt apprentices take first prize in the 2019 Home Automation Challenge

Every year the IMechE sponsors a Home Automation Challenge competing for the top prize of £2000.

This year's competition was held on 12th July at the MTC in Coventry and the first prize winner, Team "Prodigies", consisted of Meggitt apprentices William Burton and Richard Smith, and Paige Beard from DMG MORI. Their winning project: An automated irrigation system, which collected rainwater and used a number of processes, such as moisture sensors and solenoid valves, to detect when hanging baskets, needed watering.

Congratulations to our apprentices for their excellent work!

AUGUST

Meggitt's first Lean Green Belts receive their certificates

On 14th August, Tony Wood awarded Meggitt's first four Green Belts with their certificates at the MTC in Coventry. Russell Buxton, Executive Sponsor for the Meggitt Lean Learning Programme, and Gerry Kellahe, MPS Process Leader and Lean Learning Manager, were present to encourage the newly qualified Belts.

Tony, a trained Green Belt himself, talked about how the Lean perspective allows us to think analytically in any situation. He also emphasised the need for our new Belts to be champions of Operational Excellence to help drive further improvements and also stressed the need for more candidates within all businesses and functions.



SEPTEMBER

Portland employees remember 9/11

On 11th September, 2019, employees of Airframe Systems Portland showed support in wearing red, white or blue, and held a moment of silence at 9:45 AM.

Employees gathered outside for a group photo forming a large heart to send love and support in memory of the courageous women, men, and first responders who made the ultimate sacrifice on this day in 2001.

It's moments like these that reinforce our sense of community and culture at the facility level, and really show how big of a team we're playing, even in remembrance of a day that can be very difficult for most.



A warm welcome to our new Group General Counsel and Director, Corporate Affairs

On 16th September we welcomed Andrew Garard to Meggitt as our Group General Counsel and Director, Corporate Affairs. Andrew is a member of the Executive Committee and will work closely with Philip Green on the handover of responsibilities for the global legal, trade compliance, commercial functions and government relations functions until the end of 2019 when Philip formally steps down from both the Board of Directors and the Executive Committee and Andrew assumes responsibility for Philip's direct reports from 1st January 2020.

Andrew brings a breadth of experience to Meggitt. He studied jurisprudence at the University of Oxford, and later worked for Clifford Chance in both London and Singapore as a member of the corporate team. Since then, Andrew has worked in private practice for Freshfields, was a partner at LeBoeuf, Lamb, Greene & MacRae, and led the global legal teams at Reuters and Cable & Wireless.

We'll be hearing more from Andrew in the next issue of the Meggitt Review.



Contract wins

AUGUST



New orders with Lockheed Martin and Defense Logistics Agency

- Facility: Ventura County
- Customer: Lockheed Martin
- Product: Rudder pedal assemblies
- Platform: F35 aircraft
- Value: \$65 million
- Facility: Rockmart
- Customer: Defense Logistics Agency
- Product: Fuel bladders
- Platform: Super Hornet F/A-18 E/F/G
- Value: \$20 million



Meggit selected for braking and tyre pressure monitoring system

- Facility: Akron
- Customer: Dassault
- Product: wheels, brakes, brake control system and tyre pressure monitoring system
- Platform: Falcon 6X

SEPTEMBER



Meggit signs \$16 million advanced composites contract with Chemring Australia

- Facility: Engine systems
- Customer: Chemring Australia Pty
- Product: Heat-resistant flare countermeasure assemblies
- Platform: F35 fighter
- Value: \$16 million



Meggit awarded liquid palletized system contract from the US Navy

- Facility: Meggit Defense Systems
- Customer: US Navy
- Product: liquid palletized cooling units
- Platform: P-8A aircraft
- Value: \$8 million

OCTOBER



Meggit awarded \$48 million US Army contract

- Facility: Defense Systems, Irvine
- Customer: US Army
- Product: Aerial Weapons Scoring Systems
- Value: \$48 million



Multi-million pound contract with Japanese aftermarket specialist

- Division: Services & Support
- Customer: Hamanaka Sangyo Corporation
- Product: supply of spares on a dual-use engine for aerospace and marine applications
- Value: £ multi-million



Multi-million dollar SMARTSupport™ contract

- Division: Services & Support
- Customer: GA Telesis
- Product: component spares and MRO services



Multi-million dollar fuel cell contract

- Facility: Rockmart
- Customer: Lockheed Martin
- Product: fuel bladders
- Platform: C-130J Super Hercules
- Value: \$16.5 million

Braking system for Gulfstream G700

- Facility: Akron
- Customer: Gulfstream
- Product: main and nose wheels, carbon brakes, brake control system brake temperature monitoring system and full autobrake capability via touchscreen controls
- Platform: G700

NOVEMBER



Landmark contract for MRO services in Asia

- Division: Services & Support
- Customer: Batam Aero Technic (a member of Lion Air Group)
- Product: fire extinguisher maintenance and repair
- Platform: Boeing 737



Six-year fuel bladder contract has potential lifetime value of \$130 million

- Division: Airframe Systems
- Customer: Defense Logistics Agency
- Product: flexible fuel bladders
- Platform: F/A-18 Super Hornet, V-22 Osprey, CH/MH-53 Super Stallion
- Value: up to \$130 million



EXTRAORDINARY (PEOPLE)

Coming Soon

Our new global employee recognition programme **(Extraordinary People)** launching early next year. This is your chance to nominate a colleague or a team to be recognised for the extraordinary contributions they have made to make Meggitt such a great company.

More information is available on MC2.

Enabling the Extraordinary

To Fly To Power To Live

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