

BRANCH NEWSLETTER



AUTUMN 2024



Recent 845 Naval Air Squadron activities (Photo Credit: UK MOD © Crown Copyright 2024)

The Chairs' Column

By Alisdair Wood

The start of the meteorological autumn heralds the start of the Yeovil Branch's 2024-25 lecture season. Your committee has worked hard over the past few months to develop a great programme with a blend of historical, technical and operational subjects from some excellent speakers. We hope they are both educational and enjoyable. If there are any topics of particular interest that you feel would work well as a branch lecture, please let the committee know and we'll aim to satisfy your request.

It has been a busy late Spring/Summer. A highlight was the very successful AeroWomen conference, which was attended by over 200 delegates; a detailed report is later in this newsletter. This event has gone from strength to strength, entirely down to the hard work of the organising committee and I would like to offer my public congratulations to the committee for its inspiring leadership. To my knowledge this is the only event of this type in aerospace in the UK.

It was a privilege and a huge pleasure to be asked to judge the rotary wing painting competition at this year's annual Guild of Aviation Artists exhibition. The standard and talent on display was outstanding and a reminder that art plays such a key role in the promotion of our sector in a world that tends to focus on the technical side. A detailed report is later in this newsletter.

It is very timely that this Newsletter's 'Meet the Yeovil Branch Committee' section includes an interview with Jerry Graham. Although it is a surprise that Jerry took so long to 'volunteer', his inclusion gives me the opportunity to congratulate him for his Vertical Flight Society UK Chapter Lifetime Achievement Award. Thoroughly deserved. Looking at the photos, we haven't seen flares like those for several years!

And finally, with very mixed emotions we said cheerio to Bryony Venn who has left Yeovil to pursue a career in Formula 1. We wish Bryony all the very best in her new high octane work but will miss her contributions, laughter and sense of fun in the Yeovil Branch Committee.

Branches Committee Update

By Bianca Erwee

It's been another busy quarter for the RAeS Branches Committee, in particular pulling together the myriad of feedback that the committee gained from the Summer conference in June - covered in detail in our previous summer newsletter of 2024. The key topics, on branch roadmaps and where we see our branches in 2026, and recruiting and retaining younger members generated a great deal of discussion. The ideas that came out from the conference are now forming a key part of our initiatives for the next year, considering how the society (and specifically the branches committee) can help and support branches more effectively. It is also, of course, helping to define our next steps for what we need to focus on in the next Branches Conference of 2025.

The conference in June highlighted that there are a number of branches across the society, struggling with both the recruitment and retention of early - mid career professionals. The branches committee is now closely looking at how it can help the RAeS branches to support the younger generations of people within the aviation sector in the most valuable way as they grow within the industry. A key part of this is the partnership of the branches committee with other parts of the society, in particular the Specialist Groups and newly formed Next Generation Board (NGB). This will hopefully allow branches to further support the invaluable STEM outreach activities done by the society, giving people in the aerospace sector opportunities to join these initiatives and reach out to their local communities. Specialist groups can also provide valuable opportunities for people in the aerospace sector to learn from vital subject matter experts not just in their companies but also in the wider industry.

The other key question, addressed at the conference, was where branches see themselves in a few years time. Over the past few decades, it has become increasingly clear that while lectures do form a fundamental part of what branches can offer to a local area, there are other STEM and outreach related initiatives that could massively improve the impact of the society on both local areas and the aerospace sector as a whole. One of the big questions facing the branches committee is what these initiatives are - and how all of the powerful work already being done by the so-

ciety through its Young Persons Committee (soon to become the Next Generation Board) can be extended by the branches networks. Answering this is one of the next big challenges for the branches committee, as well as the society itself.

In the new digital age, and particularly post COVID, the society has also swiftly adapted to embrace the modern forms of communication now available to us - in particular LinkedIn, Instagram and YouTube. This has been a fundamental cultural shift adopted by many branches - allowing them to continue communicating effectively to all age groups in current times.

The society itself has a wealth of recorded lectures, available on YouTube and also in podcast form on SoundCloud. In a sign of positive change across the society, we are seeing increasing numbers of local branches developing digital content, and embracing both online and hybrid lecture formats. The great benefit of these developments is that it not only improves communication but also allows the society to spread its wealth of knowledge to people across the globe - on an ever-growing list of aerospace related topics. The Branches Toolkit has now been extensively updated by the committee, to include advice and guidance to all branches on how to utilise their digital presence, and communicate most effectively with their local communities. As part of these communication improvements, it has recently also been more widely advertised that Branches may be able to include content in the Aerospace magazine. The branches committee is now looking at how this can be made most easily accessible to the RAeS branches across the world that may be interested in contributing.

To facilitate the adoption of new branch guidance, and related new guidance materials, regular branches briefings have been introduced. These meetings also allow local branches to communicate effectively with the branches committee on a regular basis, and request support / improvement initiatives. The next branches briefing will be later this month, and present useful How-Tos for branches.

For now, this is a brief summary of some of the ongoing work being done by the branches committee, looking at society communication, outreach and in particular how branches can best support their local communities.

Till next time...

Leonardo News from the Home of British Helicopters

AW609 tiltrotor successfully completes first ship trial campaign

With the support of the Italian Navy, the AW609 tiltrotor programme completed its first successful ship trial, setting another major industry capability milestone. The tiltrotor took off from the Maristaer Grottaglie Naval Base inbound from the ITS CAVOUR (the Italian Navy Flagship) 20 nm offshore.

Integral to the demonstration phase, was an initial test campaign developed and executed in a full synthetic environment leveraging the AW609 development/engineering simulator. Digital twin applications delivered a preliminary assessment of the activities and manoeuvres, which were later performed in operation to the benefit of capability development, time reduction, safety, and sustainability. Deck landing and take-off procedures were performed in over 15 different conditions (including wind conditions).

Gian Piero Cutillo, Managing Director of Leonardo Helicopters, said: “The success of these trials set a major capability demonstration milestone to show the unique advantages of tiltrotors, and particularly that of the AW609, through a combination of high performance and versatility, which remains unmatched in the vertical flight sector. This experience provides an important opportunity to appreciate benefits that can truly revolutionise a range of missions or even open new operational possibilities. We thank all of our partners in this demonstration and for the studies undertaken, we look forward to moving to the next stages of evaluation.”

Following the first ship trials campaign, Leonardo will start a detailed evaluation and analysis of the collected data. These would allow possible follow-on trials to better refine approaches as well as drive further platform enhancements to operate in the naval/embarked environment.

The AW609 excels at providing fast point-to-point transportation at long ranges, allowing timely access to remote locations, hosting up to nine passengers in the comfort of a pressurised cabin. It is the world’s first tiltrotor set to achieve a civil certification meeting demanding operational and safety standards.



AW609 first ship trial campaign

International Premiere for the Italian Army’s New Exploration and Escort Rotorcraft

With a maximum take-off weight of 8.3 ton, the AW249 is being developed to replace the Italian Army’s AW129 fleet which is nearing the end of its life-cycle. An AW249 prototype carried out its maiden flight in summer 2022. Four prototypes have been built since then, with two flying aircraft involved in performance, system integration and payload testing. The other two prototypes will start testing soon. The AW249 had its international public premiere at Eurosatory in Paris in June 2024. The production contract is expected soon, with deliveries to the Italian Army to begin in 2027.

The result of the strong collaboration between the Italian Ministry of Defence and Leonardo, the AW249 (designated AH-249A NEES – known as the ‘Fenice’) is the only Western clean-sheet combat helicopter design, in development to meet stringent emerging operational requirements for the next 30+ years. It leverages capabilities and technologies not available elsewhere today, uniquely and ideally bridging a further gradual evolution of military vertical lift.



The new AW249 which publically premiered in June

An Update from 845 Naval Air Squadron

By Lt Cdr Sam Cuff

Following the previous updates from Lt Cdr Luke Elston on the activities of the Merlin Helicopter Force at RNAS Culdrose, I would like to take this opportunity to provide an overview of 845 Squadron's Merlin activities deployed on Littoral Response Group (South) (LRG(S)) in RFA ARGUS, particularly in support of Exercise Predators Run (Ex PR), in the region of South East Asia and Northern Australia.

Ex Predator's Run took place between 15 – 26 July and involved LRG(S), U.S. Marine Corps, U.S. Navy, Australian Defence Force and Republic of Philippines Army. The two-week exercise saw the Merlin Mk 4 helicopters being utilized across a broad range of tasks including reconnaissance sorties, tactical insertions of Royal Marines and night raids on targets, as well as load lifting and personnel recovery. Alongside the exercise requirements, a cross-deck with the ITS CAVOUR and ITS ALPINO was flown by junior pilots who conducted their first landings onto a foreign ship.

The exercise required two flying lines most days, to facilitate the exercise and the two aircraft achieved over 45 hours of flying across the ten-day period. The sorties were predominantly at night which increased the operational challenges further.

There were a couple of key engineering challenges on LRG(S); the lack of efficient supply chain and the ship's aircraft lift being unserviceable being the most significant. Being deployed halfway around the world has meant that the stores bridge has been challenging. One aircraft was unserviceable throughout the Exercise due to a lack of stores, which increased the maintenance burden on the engineers to produce two from two serviceable aircraft for flying each day.

Maintaining aircraft at sea can add complexity and unfortunately the aircraft lift on ARGUS became unserviceable and has been unable to be

rectified. This meant that the aircraft have been on the deck for approximately seven months, greatly increasing the levels of corrosion risk due to the increased exposure to the maritime environment. Additionally, the lack of a gantry has meant that an external crane had to be rented in Darwin to conduct an engine change. Had the engine rejection occurred whilst at sea there may have been a significant delay in returning the aircraft to a serviceable condition until the next port visit.

Despite these challenges, the engineers on board worked hard to consistently produce serviceable aircraft to meet the flying requirement. During this time, the Maintenance Test Pilot and Airworthiness Review team flew out to Darwin to carry out the first deployed airworthiness reviews (ARs) and Maintenance Test Flight (MTFs) on two of the aircraft. They worked around the flying and maintenance to carry out physical and documentation checks on the aircraft, proving the capability for deployed ARs to be carried out worldwide. Overall, both aircraft were found to be in a good standard, especially considering the operating environment for the past nine months, with most of the pick-ups being, unsurprisingly, related to corrosion.

The level of success achieved during Exercise Predators Run, combined with the successful completion of the AR and MTFs, goes to show the high level of engineering effort that is occurring to deliver output at a high level whilst maintaining the aircraft in a good condition, despite all the challenges of being embarked for so long and so far from home.



Photo credits: UK MOD © Crown Copyright 2024

Meet the Yeovil Branch Committee

Jeremy Graham



I joined Westland Helicopters as a post graduate apprentice in 1975 and was engaged in the UAV systems engineering group from 1977 until 1983 after which I was assigned to work with the Future Projects team on the avionic and weapon system aspects of the Light Attack Helicopter.

From 1986 I was appointed as the Head of Avionics and Systems Technology until 1989 when I was seconded to EH Industries to lead the initial EH101 Utility offer to the MoD to meet an RAF requirement and then to lead the in-country engineering team bidding for the Canadian SAR programme, based in Ottawa. From 1995 I was appointed as the lead engineer for the Merlin Tactical Support Helicopter bid to the MoD, subsequently to become known as the HC3 Variant.

In 2003 I was promoted to Chief Safety and Airworthiness Engineer for Westland Helicopters and from 2007 the Head of System Reliability and Safety for the integrated AgustaWestland engineering organisation. Finally, in 2012 I was assigned the role of Chief Engineer for the out of production types, Sea King, Apache and Chinook, retiring from that position in 2016 after 41 years with the Company.

I am a Fellow of the RAeS, a member of the RAeS Medals and Awards Committee, Joint Chair of the Yeovil Branch of the RAeS and a

member of the Vertical Flight Society Historic Group. In retirement I have taken on the role of Archivist for the historical Petter/ Westland records held at Leonardo in Yeovil.

What is your greatest professional or personal achievement?

Without doubt leading the engineering effort for the design, development, certification and build of the Merlin Mk3. I operated in that role from the first bid to the final aircraft delivered.

What do you value most about the RAeS?

The companionship of likeminded aerospace oriented persons.

When did you join the Yeovil Branch committee and why?

Must be 30 plus years ago. I originally joined as part of my route to Chartership (CEng) via what today is known as CPD.

What is your role in the committee and what does it entail?

I am currently Joint Chair, a position established when it was clear that one senior person could not reliably service the meeting schedule.

What do you think the RAeS should focus on in the future?

Clarifying the benefits of membership. CEng is a highly desired status for engineers but (unlike in other European countries) it is not yet essential in respect of significant responsibility. This is changing in regard of both military and civil appointments to key positions, but I would like to see the Society lobby for a wider expectation that links the CEng status to progression in an aerospace engineering organisation. CEng is only valuable if it is linked to CPD which must be supported with vigour by the Society.

How do you relax?

I might say enjoying helping out my children and their children but the truth is likely more an interest in aviation history.

Describe yourself in three words.

Willing, transparent, realistic.

From Astronauts to Analytics: Women Shaping Aerospace Careers

By Erin Coulson and Georgia Devlin

AeroWomen held its biggest audience yet at the Westlands Entertainment Venue in Yeovil. On the 19th June, over 200 attendees, ranging from students, trainees, professionals and retirees came together to celebrate women in aerospace. In its fourth year the event featured inspirational speakers, workshops, and a panel.

The aim of AeroWomen is to create an inclusive and welcoming environment for women at all stages of their Aerospace career. This year's theme centred on 'From Astronauts to Analytics: Women Shaping Aerospace Careers' providing an opportunity to explore the varied careers within aerospace including engineering, marketing, finance, business and creative design.

The day started with Freya Woollett's (Chair of the AeroWomen Committee) sincere opening remarks about what AeroWomen means to her, followed by Clive Higgins (Chair & CEO of Leonardo UK) discussing Leonardo's sponsorship of the event and the company's continual aims of supporting women in the business. The first speaker of the day was Dr Tess Morris-Paterson who delivered an inspirational speech about her diverse career that she achieved through resilience and ambition. Tess previously worked as a scientist in elite sports, notably as the Head of Performance for Olympic and Paralympic teams before transitioning her expertise from athletes to astronauts completing a doctorate in Aerospace Physiology with the NASA Ames Research Centre. She then successfully completed the first two out of six stages of astronaut training and shared this journey with the AeroWomen audience. Alongside these impressive accomplishments Tess also shared insight into her other roles, including British Army Reserve Officer and ski instructor, a pilot of small aircraft and master scuba diver. Tess then discussed how she has used the resilience developed through these experiences to found her own business AstroPerform, a company that supports astronaut selections for international space agencies.

Sonetonna Ifezulike (Marketing and Media lead of the AeroWomen Committee) led the first workshop of the day titled 'The Bigger Picture' with a focus on networking and its importance. The workshop featured 'snap' cards with ten inspirational women from aerospace history and their career journey. Attendees played snap with surrounding tables to encourage networking with new people. One of the inspirational women featured was Barbara Harmer. Barbara left school at 15 and became a hairdresser, but six years later she had a career

change to become an air traffic controller at London Gatwick Airport. She took out a loan for flying lessons to gain her private and commercial pilots licence before becoming a flight instructor at Goodwood Flying School and became a pilot at Genair. At the age of 30, she joined British Caledonian and flew the BAC One-Eleven and McDonnell Douglas DC-10 aircraft. When British Airways bought British Caledonian there were only 60 female pilots out of over 3,500 pilots. By the age of 39 Barbara became the first qualified Concorde pilot and remains just one of three women to have ever flown the Concorde.



Dr Tess Morris-Paterson

Folayo Osekita (Chief of Staff to the Chair & CEO Leonardo UK) led a talk surrounding allyship and what can be done to improve diversity in the workplace. Folayo spoke as both Chief of Staff and as a father reflecting on what world he wants to see for his son and daughter in the future. 2024 is the first year AeroWomen has invited a male speaker to the event; reflecting on the importance of involving men in the conversation of diversity and allyship.



Folayo Osekita, Chief of Staff Leonardo UK

It is important for allies to encourage the different perspectives presented by a diverse workforce. Small actions of encouragement can work towards creating a workplace where everyone has the confidence to share ideas and be themselves, which ultimately promotes industry creativity and productivity levels. The various speakers at the event shared how their resilience and determination lead to their successes. The work of allies can help break down the barriers of discrimination that may make these successes harder to achieve.



Krystina Pearson-Rampeearee

Krystina Pearson-Rampeearee (Engineering Delivery Lead at BAE Systems) spoke on her journey in engineering starting as just one of two women within her university class. Krystina faced the challenges of picking a degree which was not initially what her parents agreed with and tackling the stereotypes that come with working in a male dominated industry. She went on to discuss the additional challenge of navigating motherhood, Krystina shared useful advice regarding pregnancy, maternity leave and creating a work life balance focusing on the effects of stereotypes in the workplace.

The panel titled 'From Astronauts to Analytics: Women Shaping Aerospace Careers', comprised of Helen Haxell-White (External Communications Manager at Leonardo Helicopters UK) as the moderator, Mavis Amadi (Engineering Delivery Manager at Babcock International Group), Charlea Boucher (Project Officer at Leonardo Helicopters UK), Becky Veal (Associate Director at Morson Projects) and Shanice Woodman (Air Traffic Control Officer at London Biggin Hill Airport). These women discussed the variety of roles available within aerospace. Each panellist shared insight into the challenges they have faced in their career and how they overcame this, sharing advice on how they might handle these situations differently if faced with them again. A key message of the panel was the importance of community to create balance and collective responsibility whether this be in a workplace or social setting. The message to be courageous and draw courage from others was also

prominent through the range of accomplishments and career paths taken to get to where they are today.

The final workshop of the day was titled 'Making Pledges' and focused on reflection, it was led by Erin Coulson (Communications Lead of the AeroWomen Committee). This gave attendees the opportunity to use their pledge cards to set themselves a goal for the coming year, Erin shared her pledge as an example 'I pledge to take the following three actions: To be more confident in the delivery of presentations; Become involved in a support/mentoring network either within or outside of Leonardo; Continue to be an ally for myself and my female peers to support the progression of our aerospace careers, this will be completed by continuing to support the AeroWomen committee'.

One pledge shared by an attendee of the event stated 'My pledge is to be a positive role model to any young girls looking to get into engineering and to push myself out of my comfort zone and do the things that scare me the most.' Another shared 'A few of my pledges include backing myself in all my endeavours, taking opportunities when they come and being brave to speak up in the office or in any meetings that I'm part of.' condensing the advice shared throughout the day.

Throughout the day, various networks participated in-



Panel Discussion

From L-R: Mavis Amadi, Becky Veal, Shanice Woodman, Charlea Boucher and Helen Haxell-White

cluding AFBE (Association for Black & Minority Ethnic Engineers), Morson Projects and Equalise each of which discussed the important work their network does for the industry. Gareth Beck, Divisional Director of Marine, Aerospace & Defence, represented Morson Projects sharing how his aims within industry are to promote STEM outreach to potential future engineers and support women further in the workplace Helen Allen (Senior Change Agent (Future Factory) and Chair of Equalise) represented Equalise and WES (Women in

Engineering Society) at Leonardo UK. She shared the success of the network to date in projects such as the free period products initiative providing sanitary products in female toilets at all Leonardo sites and Leonardo's recognition as a WES company plus partner.

The Royal Aeronautical Society, Yeovil College, Leonardo and Morson Projects all had stands which were supported throughout the day for attendees to ask questions and learn further about pathways into the industry. The RAeS stand shared how they can provide support at varying stages of careers including students, apprentices and professionals looking at charter ship. Promotional material was also available promoting Alta, the RAeS women-women online mentoring platform.

The 2024 AeroWomen event was organised by trainees at Leonardo Helicopters UK: Freya Woollett, Erin Coulson, Sonetonna Ifezulike, and Georgia Devlin. The day could not have ran without the help of Gale Jenkinson (Events and Visits Officer at Leonardo Helicopters UK) and Helen Haxell-White (External Communications Manager at Leonardo Helicopters UK) who supported the committee throughout the planning and organisation.

The Committee looks forward to hosting future events which will continue to create an inclusive environment for women at all stages of their Aerospace career and promote allyship throughout the industry.

Any queries, please email AeroWomen.mbx@leonardo.com.

To summarise, one attendee stated: 'What I enjoyed about the event is seeing so many amazing, inspirational, hard working women come together all to work on the same goal of inspiring women in aerospace. This was an amazing event and I think it should always continue and honestly we need as many allies and people involved as possible.'



AeroWomen Committee 2024

From L-R: Sonetonna Ifezulike, Erin Coulson, Freya Woollett and Georgia Devlin

Name the Aircraft



Hint 1: This helicopter was designed in the 1970s based on the control strategy developed for Wideeye meaning there was no need for highly skilled pilots.

Hint 2: This helicopter was much smaller and quieter than a typical two-seat helicopter design

Hint 3: The idea was abandoned in 1979, before a prototype could be built.

The answer may be found on page 17

Royal Aeronautical Society: Rotorcraft Specialist Group

Recently members of the Rotorcraft specialist group (RSG) have been involved in guidance and understanding of heliports and vertiports. High profile examples such as the fatal accident involving a Sikorsky S-92A at Derriford Hospital [1] in March 2022 and a V-22 Oprey destroying a helipad at Addenbrookes Hospital [2] in 2021 highlight the importance of ensuring that landing sites are properly considered for rotorcraft operations. This has possible implications for both existing helicopter operations and any emerging operators such as eVTOL/UAM aircraft currently in development.

The AAIB identified the S-92's downwash as the causal factor in the Derriford accident and that "uninvolved persons were not prevented from being present in the area ... that was subject to high levels of downwash". Contributory factors listed indicate that alongside the helicopter's physical downwash characteristics there was also inadequate assessment of the impact on the adjacent area, and that a gap existed between the operators and the latest guidance on outwash/downwash.

RSG committee member Richard Brown supported the CAA's publication of CAP2576 "Understanding the downwash/outwash characteristics of eVTOL aircraft" [3]. In this paper, Richard argues that while the fundamental relationship between disc loading and downwash velocity remains the same there are some configuration specific factors that apply particularly to typical eVTOLs.

Generally, eVTOLs have higher disc loading than helicopters and therefore a higher average downwash velocity. In the paper Richard uses simulations using the Vorticity Transport Method to model the outwash/downwash of some representative eVTOL designs, this predicts the use of multiple, smaller rotors instead of a single rotor will change the characteristics of the downwash making it more directional even for the same disc loading. If this result is shown by the experimental evidence then it may not be appropriate to simply apply the existing helicopter operating guidance to this newer class of aircraft.

The International Civil Aviation Organisation (ICAO) has also been developing operating guidelines for vertiports including reviewing how the dimensions of typical eVTOL designs can be

applied the TLOF & FATO. The physical characteristics of several eVTOL configurations have been assessed considering statistical methods for manoeuvring error and operations. The findings are then mapped onto guidance for the markings and design of vertiports.

As well as this, ICAO has also conducted a study of the clearways, obstacle limitation surfaces, and the requirements for takeoff climb and approach profiles of eVTOL vehicles. Notably, "eVTOLs and more modern helicopters with enhanced navigation accuracy and tailored flight control modes allow more accurate positioning. This could present an opportunity for more appropriate provisions and a reduction in complexity"

All this seems to indicate that as a rotorcraft industry aiming to promote safe operations it is imperative that aircraft characteristics are well understood and that this is effectively communicated to heliport/vertiport operators. Further that both operators and regulators stay abreast of this guidance and implement it for existing and emerging platforms. For the emerging eVTOL/UAM markets it will need a combined effort from manufacturers, regulators, operators, and the wider industry to ensure Vertiport operations are a success.

[1] [AAIB Formal Report: Sikorsky S-92A \(G-MCGY\), Fatal accident, 4 March 2022 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/107444/AAIB-Formal-Report-Sikorsky-S-92A-G-MCGY-Fatal-accident-4-March-2022.pdf)

[2] [Addenbrooke's Hospital's destroyed helipad site back in use - BBC News](https://www.bbc.com/news/health-61444444)

[3] [CAP2576: Understanding the downwash/outwash characteristics of eVTOL aircraft | Civil Aviation Authority \(caa.co.uk\)](https://www.caa.co.uk/~/media/CAA/Images/News/2023/CAP2576-Understanding-the-downwash-outwash-characteristics-of-eVTOL-aircraft-Civil-Aviation-Authority-20230823.pdf)

[4] [ICAO Annex 14 Aerodromes, Heliports, Vertiports Annex 14 - Aerodromes - Annexes | ICAO Store](https://www.icao.int/Annexes/Annex-14/Aerodromes/Heliports-Annex-14-Aerodromes-Annexes)



First look at UK vertiport revealed as planning secured.
Image source: <https://skyports.net/first-look-at-uk-vertiport-revealed-as-planning-secured/>

An Interview with Becky Veal

In this edition of the Newsletter, we sit down with Becky Veal, Associate Director—Engineering Delivery for the Aerospace Sector at Morson Projects and a panellist at AeroWomen 2024, to discuss her career, including the challenges she has faced, as well as how she has embraced new opportunities.



Becky began her engineering career in 1998 as a Technical Administrator at a Bath-based Engineering Consultancy. Over the next decade, as the organisation expanded, she advanced through various roles, including Recruitment Consultant, HR & Technical Recruitment Manager, Project Manager, and eventually Programmes Director. During this period, Becky led significant projects, contributing to the company's growth and success.

Following the birth of her son in 2010, Becky sought a new challenge and transitioned her career in 2012. After extensive research and networking, she collaborated with industry experts to launch a recruitment and consultancy venture in the Aerospace and Defence sector. In its first year, the business secured a contract with Leonardo, supporting the Technical Publications Department. Becky found the experience of building a business from scratch to be exhilarating, exposing her to entrepreneurship aspects like branding, marketing, payroll, recruitment, and client relationships, providing valuable insights into boardroom dynamics and business operations.

The business was acquired by Morson Projects in 2015, where Becky took on the role of Business Unit Manager and continued to have the freedom to expand the busi-

ness. In 2023, she transitioned into the role of Associate Director – Engineering Delivery for the Aerospace Sector. In this capacity, Becky supports engineering teams across Morson Projects' UK offices on critical defence programs.

Reflecting on her journey, Becky expressed pride in being recognised as one of the first women to hold such a position within the organisation's aerospace division, and she wholeheartedly cherishes her career choices and profession over the years.

What drew you to Engineering?

Although I never initially harboured aspirations of becoming an engineer, my journey into the field was shaped by the passionate individuals I encountered and the innovative ideas they were bringing to life. From the outset, I found myself surrounded by a team whose enthusiasm for problem-solving and ingenuity was contagious. Their dedication to pushing the boundaries of what's possible inspired me daily.

One pivotal experience that shaped my appreciation for engineering was the opportunity to visit client sites, seeing first-hand the intricate processes and meticulous attention to detail that go into designing and creating products. These visits allowed me to witness the tangible impact of engineering on everyday life, turning abstract concepts into functional, ground-breaking products.

It was through these experiences that I developed a genuine admiration for the industry. I consider myself incredibly fortunate to have been exposed to such a dynamic and creative environment early in my career. This exposure not only broadened my understanding of engineering but also ignited a passion within me to contribute to a field that is constantly evolving and improving the world around us.

What led to you starting your own recruitment and consultancy business, which now forms part of Morsons?

After the arrival of my son, I took the opportunity to reassess and redefine my career goals. As a mother, I became acutely aware of the value of time and the importance of making it truly meaningful, both personally and professionally. It was during this time that I realised my ambition to establish my own recruitment and consultancy business.

As a mother, I became acutely aware of the need for flexibility and the desire to create a venture that could provide not only for my family but also contribute positively to the industry. I understood that while the dream was mine, the journey to success would require collabo-

ration with industry experts. Recognising the necessity of building a strong foundation, I sought out partnerships and mentorships to gain insights and knowledge from professionals within the industry.

Despite the demanding learning curve, my unwavering determination and dedication propelled me to new heights in my professional journey. My pursuit of excellence allowed me to develop a business that stood out in the competitive landscape.

Eventually, this journey led to the integration of my business with Morsons, a move that not only expanded our capabilities but also aligned with my original goal of meaningful collaboration. Together, we have been able to achieve so much, combining our strengths to deliver exceptional value to our clients and candidates alike.



Becky Brind leading the success at Milsom

The early stages of Becky's career

Tell us about an achievement that you're most proud of during your career.

One of the achievements I'm most proud of during my career is being invited to join the panel session at this year's AeroWomen event. This opportunity was particularly meaningful because AeroWomen is a renowned annual conference dedicated to celebrating and empowering women in the aerospace industry through a series of workshops, speakers, and panel discussions.

During the event, I had the privilege of sharing my personal experiences and career journey spanning over 20 years in the aerospace sector. It was a powerful moment to reflect on the challenges I've overcome and to offer insights and encouragement to other women in the field. Being able to engage with and inspire a room full of talented and passionate women was incredibly rewarding. Moreover, I had the chance to collaborate with other influential women in the industry, such as Charlea Boucher, Shanice Woodman, and Mavis Rowland, under the moderation of Helen Haxell-White. Their stories and achievements were truly inspiring and reinforced the importance of fostering an inclusive and supportive environment for women in aerospace.

I'm looking forward to now contributing to the Next Gen Mentoring programme. This initiative aligns perfectly with my commitment to supporting the next generation of women in STEM. By mentoring young professionals, I hope to be able to facilitate their personal and professional growth, helping them navigate their careers and reach their full potential. Perhaps, providing the support I wish I had had when starting out in the industry.

Tell us about the biggest challenge you have faced during your career.

The biggest challenge I have faced during my career came after twelve years in my initial role. When the business owners decided to sell the company, it marked a significant turning point and introduced uncertainty into my professional life for the first time. What had previously been a secure and familiar position within a close-knit, small company suddenly transformed into part of a dynamic American organisation with ambitious plans for extensive transformation.

This pivotal moment forced me to confront the unknown and evaluate my career path. Instead of retreating from the challenge, I saw it as an opportunity for growth and development. I chose to embrace the change and took proactive steps to secure a pivotal role in the new organisation. Recognising the potential for both personal and professional growth, I decided to put myself forward for the Programmes Director position.

This decision required me to step out of my comfort zone and adapt to a new corporate culture with different expectations and goals. It was a daunting process that demanded resilience, strategic thinking, and the ability to navigate through uncertainty. However, it also allowed me to showcase my leadership skills, adapt to a rapidly changing environment, and ultimately contribute to the successful integration and transformation of the company. This experience not only reinforced my ability to manage significant transitions but also solidified my confidence in embracing future challenges.



AeroWomen 2024 Panel

What is the aspect of your role that you most enjoy and why?

The aspect of my role that I most enjoy is the opportunity to build and nurture long-term client relationships. Over my career, I have developed and cherished relationships with clients like Leonardo Helicopters, working with them for over 20 years.

These relationships allow for collaborative teamwork and the successful delivery of complex engineering projects. This aspect is particularly fulfilling because it combines my passion for engineering with my ability to support and lead diverse teams towards common goals, ensuring both client satisfaction and team development.



Supporting Leonardo at DSEI 2023

What advice would you give to someone embarking on a career in the aerospace industry?

As I reflect on my career journey, I've come to understand the importance of staying informed, especially through social media platforms. I've also learned the importance of developing soft skills are just as crucial as technical skills, for personal and professional growth. Real-world experience is invaluable, so look for opportunities to get experience in this industry. Find an organisation that wants to invest in you as an individual, giving you the opportunity to nurture your goals and aspirations.

You have spent time setting up your own business, as well as being part of Morson Projects. What are some of the key differences you have seen between running your own company and working for an already well-established company, such as Morson Projects?

In my experience of setting up my own business and working for Morson Projects, I've noticed several key differences that have significantly impacted my profes-

sional journey. One of the major differences was the transition from overseeing every aspect of my own organisation to being able to concentrate on a specific job function within Morson Projects.

Running my own business provided the autonomy I cherished, but it also brought about sleepless nights due to concerns about timely client payments and ensuring adequate funds for staff salaries. I always found great enjoyment in the dynamic nature of each day, keeping the bigger picture in mind to overcome the challenges I faced.

Working for a well-established organisation like Morson Projects allowed me to delegate the financial responsibilities and benefit from dedicated support teams. Allowing me to concentrate on the areas I knew I was good at!

Overall, the shift from running my own business to working for a renowned company brought about a significant change in responsibilities, stress levels, and the support available for driving innovative ideas forward.

How do you relax?

I have a very energetic sprocker spaniel (as well as 2 children!), who I love taking on long walks especially at the beach. During these walks, I enjoy immersing myself in compelling podcasts such as the Diary of a CEO and Unstressable with Alice Law. Additionally, I am a Bath Rugby fan and passionately supporting my home team. I also find joy in planning my next holiday, ensuring that there's always something exciting on the horizon to anticipate!

If you could meet any person from the past or the present, who would it be and why?

If given the chance to meet anyone from the past or the present, I would undoubtedly choose Dr. Tess Morrison-Patterson. I recently had the privilege of listening to her at the AeroWomen event in Yeovil, and I was truly captivated by her inspirational career journey and her unwavering "can do" approach to life.

One of the key takeaways for me was her mantra to live life courageously, a set of values that strongly resonate with my own career choices. Dr Tess Morrison-Patterson's words deeply impacted me: "**Be courageous when approaching something new, keep your values and associated behaviours as close to your heart as possible, making sure those are on show when it matters most.**" I am eagerly looking forward to the opportunity to meet Tess in person at future events.

The Bristol Branch of the RAeS in conjunction with the South West and Wales Branch of the IMA are pleased to announce the joint event:

AI IN AEROSPACE



Can You Tell a Mathematician from a Fish?

Prof Chris Budd OBE FIMA
University of Bath

Data based machine learning is one of the fastest growing areas of AI and is having a transformative effect on all industries. In this presentation we will look at some of the mathematics which underpins this capability, what strengths it possesses, and what its limitations are.



Deep Generative Models in Aircraft Aerodynamics

Xavier Bertrand FRAeS
Airbus

Deep learning has proven effective in capturing and modelling complex aerodynamic patterns. In this presentation, we will look at how advanced generative algorithms such as GANs, VAEs or Diffusion Models support the generation of accurate aerodynamic models early in the design process at Airbus.

Doors open at 5:30pm
Lectures start at 6:30pm
Event ends at 8pm



Between doors opening and the lectures all attendees can enjoy a free drink (alcoholic and non-alcoholic options available), canapés, networking opportunities, and a tour of the last Concorde to fly, G-BOAF.

Members and Non-Members Welcome

There are a limited number of tickets on sale until 25/09/24. Tickets cost £7 plus a booking fee and must be purchased in advance from the Eventbrite page here:

<https://www.eventbrite.co.uk/e/ai-in-aerospace-tickets-941813478467>

DATE

Thursday 10th October 2024

LOCATION

Aerospace Bristol, Hayes Way,
Patchway, BS34 5BZ



The Misuse and Abuse of Software in Aerospace

By Ben Howard

Patriot Missile Defence System

The Patriot Missile Defence System is a US Army surface-to-air mobile air defence missile system. To avoid detection the system was designed to be mobile and only operate for a limited amount of time. The Patriot weapons control computer performed the system's major functions including the tracking and intercepting of targets and was based on a design from the 1970s.

In 1991 during the Gulf War the Patriot failed to intercept an incoming Scud missile and this subsequently struck an American Army barracks killing 28 soldiers and injuring over 100 more. The cause of this failure was deemed to be an inaccurate time calculation within the software. Time was calculated using the system's internal clock multiplied by 0.1 to produce the time in seconds. This calculation was performed using a 24 bit fixed point register. Given a finite number of bits, fixed point binary can only provide an approximation to represent non-integral numbers. This binary representation introduced an error of 0.000000095 decimal into every calculation.

This error may sound minor however we know the Patriot Missile System was operating for over 100 hours and running this equation ten times per second would lead to 0.34 second inaccuracy in every calculation. A Scud travels at 1676 m/s and thus would lead to the missile intercept position off by 569.84 m. By using a floating point register or a higher bit fixed point register than 24 bits this would have avoided this problem altogether.

Fifteen days before the disaster the Patriot Project Office received data suggesting a 20% shift in intercept missile accuracy after eight hours of operation. The office released a message to users of the Patriot urging them to not allow the system to operate for more than eight hours. The software patch arrived the day after the disaster.



14 **Patriot Missile Defence System**

Boeing 737 Max

In 2018 and 2019 two Boeing 737 MAX 8 crashed less than 15 minutes after take-off, killing 346 people in total. In both these incidents a system called the MCAS (Manoeuvring Characteristics Augmentation System) was at fault and activated due to erroneous angle of attack data and inadequate pilot training. But why did the Boeing 737 MAX need the MCAS and why was it so faulty?

The Boeing 737 MAX was created to compete with the Airbus A320neo which boasted a greater fuel economy from its larger engines. The Airbus A320 already had enough ground clearance to install the new bigger engine, although as the Boeing 737 airframe design is over 50 years old the fuselage sits much lower to improve baggage and passenger access. Therefore the engines were mounted further forward and much higher resulting in a change within the aerodynamic characteristics that made the aircraft more prone to stalling. To combat this Boeing implemented the MCAS system that would read the angle of attack to automatically push the nose of the aircraft down in a stall. Although why did Boeing select a software solution to solve a hardware problem?

Modifying the airframe to sit higher off the ground would allow for better positioning of the engines. However this would require changes to landing gear, wings and engine mounts which is all expensive development. Too much development would mean greater certification and training. The selling point of the 737 MAX is that it's more efficient and any existing 737 pilot could fly it with minimal training.

The MCAS had a single point of failure which was the angle of attack (AoA) sensor. Although the aircraft had two sensors, MCAS only interfaced with one. Problems with the AoA sensor had been reported over 200 times to Boeing before 2019 and yet Boeing never addressed this issue.

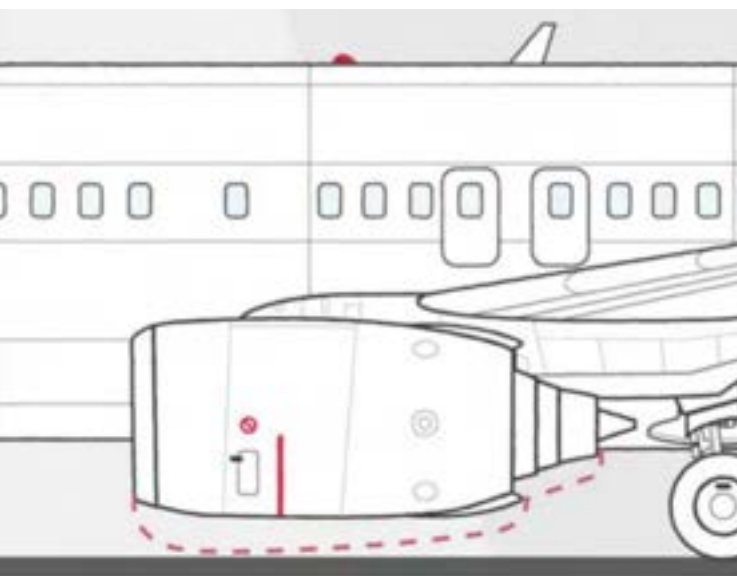
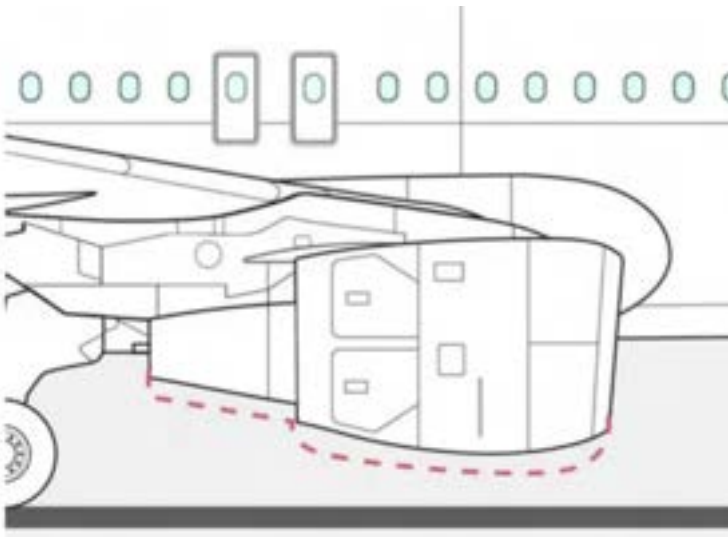
In testing FAA pilots conducted stress testing evaluating a fault in a microprocessor. The result of this test was the horizontal stabiliser pointing the nose of the aircraft down. The test scenario simulated the toggling of five bits in the flight control computer. This allowed engineers to simulate single event upsets and this artificially induced MCAS activation. There is evidence of high-energy charged particles striking memory hardware and flipping the polarity of bits. This possible failure scenario was known in 2017 and Boeing concluded that the pi-

lots could perform a procedure to shut down the motor driving the stabilizer to overcome the nose down movement.

In 2018 MCAS did not officially exist in the pilots' documentation or training. The pilots in the Lion Air crash in 2018 had no idea why the aircraft was adjusting its horizontal stabilizer. MCAS was regarded as an addition to the flight control computer rather than a new function.

"If we emphasize MCAS is a new function there may be greater certification and training impact"

This is a quote from emails released during the investigation into Boeing. From this we can see that Boeing knew exactly how to dodge certification and as well as this, the FAA allowed Boeing to review and certify aspects of their own product.



These images show the difference in ground clearance between the Airbus A320 (top image) and the Boeing 737 (bottom image)

Source: Vox

Flight projects are multidisciplinary activities that involve many specialities; although engineers and scientists don't deliberately make their local systems more complex than necessary, it can make the overall system more complex because of the downstream complexity entailed by their local decisions.

Diane Vaughan is an American Sociologist that coined the term "normalization of deviance" which she used to explain the sociological causes of the Challenger and Colombia disasters. This is described as a phenomenon demonstrated by the gradual reduction of safety standards to a new normal after a period of absence from negative outcomes. This suggest that the absence of negative outcomes reinforces the behaviours associated with cutting corners, bypassing safety checklists and ignoring alarms.

The Patriot is an example of how the smallest mistakes in software can snowball into much more significant software bugs. The 737 MAX shows an overreliance on software can lead to a complex and unstable system fraught with issues. There are small details in each example that could have prevented these disasters but the overarching issue with both is the organisational culture. The 737 MAX is an example of downstream complexity caused by early local design issues. Meanwhile examples of the normalisation of deviance can be found in disasters from every industry: RAF Nimrod (2006), Costa Concordia (2012) and more recently the COVID-19 pandemic (2020).

Exceptionally good software will contain an error in every ten thousand lines of code. Modern systems contain more software than ever before: the F35 is believed to have 25 million lines of code and many cars today have over 100 million. With software complexity not being bound by physical constraints it is infinitely complex. All the software issues in the paper were discussed at the first software engineering conference in 1968. These disasters are only going to become more common if the culture does not change and we continue to over rely on volatile software.



Costa Concordia

Guild of Aviation Artists Annual Exhibition 2024

By Holly Ryan

On the 5 July 2024 the Guild of Aviation Artists (GAvA) held their 51st Annual Aviation Paintings of the Year Exhibition, which Leonardo Helicopters UK and the Yeovil branch of RAeS proudly support and sponsor each year. A celebration of artistic distinction, the exhibition serves as a reminder of the connections between art and aviation. This year was no different, as enthusiasts gathered to appreciate the beautiful work often resulting from this coalition.

The event itself was hosted at The Shuttleworth Collection this year, an impressive treasure trove of historic aircraft nestled within the unassuming Bedfordshire countryside. Taking place in one of six hangars, the Collection's wonderfully curated exploration of aircraft development set the tone. Throughout the six hangars, the complex world of aerospace engineering is underpinned by the important role creativity has played in advancing such feats, further amplifying the deep connections celebrated by GAvA.

In attendance was Co-Chair of the Yeovil Branch of RAeS, Alisdair Wood, who presented the Leonardo Helicopters Rotary-Winged Flight trophy and award, celebrating the best artistic depiction of a rotary-wing aircraft at the exhibition. For 2024, the accolade was awarded to Damon Poole for his Northolt Taxi, a beautiful piece featuring Hendon's Westland Gazelle HCC4. Setting itself apart from the competition, its use of vivid watercolours, light and bold strokes draws in the viewer and offers a unique perspective of the aircraft.



Yeovil Branch Co-Chair Alisdair Wood (L) presenting the Leonardo Helicopters Rotary-Winged Flight trophy to Damon Poole (R)

Upcoming RAeS Events

Yeovil Branch

Thursday 17th October, iAero: **Donald Campbell**

Thursday 21st November, iAero: **Westland Secret Projects**

Other Events

Wednesday 2nd October, RAeS Rotorcraft Specialist Group, 4 Hamilton Place London: **De la Cierva Lecture 2024: Airbus Helicopters' Racer demonstrator**

Thursday 10th October, RAeS Bristol Branch, Aerospace Bristol: **AI in Aerospace**

Stronger, Harder, Lighter: The Future of Composites in Aerospace

Speaker: Dr Andrew Limmack

As the final lecture of the 2023-24 season in June, the Branch hosted Dr Andrew Limmack, Chief Engineer of Aerospace Propulsion and Advanced Systems at the National Composite Centre, to hear about the future of composites in aerospace.

Some examples of the use of composites in aerospace currently include the Airbus A350 being composed of 53% composite by weight and Bombardier using a Resin Transfer Infusion (RTI) process with dry fabrics to produce wings for the Airbus A220. Resulting in an approximate 30% cost saving, the RTI process involves placing dry fabric into moulds, using a vacuum bag and injecting liquid resin to then apply heat and pressure to shape the dry fabric and liquid resin to the required shape. In fact, the RTI process developed by Bombardier won the Royal Academy of Engineering's 2019 MacRobert Award for Engineering Innovation.

There are certainly challenges to achieving sustainability and net zero within aerospace with some solutions including new technologies, zero carbon fuels and improved aircraft operations. Considering the entire aircraft lifecycle is crucial, particularly with how we might repair composites or reuse composites at the end of their life.

With predictions of nearly forty thousand new passenger and freight aircraft required by 2041, there is much excitement and expectation that composites will play a large part in meeting this high demand, as well as meeting the sustainability goals for the industry.

Name the Aircraft—The Answer: Westland WG33



The Westland WG33 project was a two-seat observation helicopter designed in the late 1970s due to a demand for simpler aircraft that could be produced in quantity at low cost—the target price was under £30,000.

The WG33 was a scaling up of the much smaller WG25 remotely-piloted helicopter programme with the intended use being aerial reconnaissance without the need for a skilled pilot.

Designed with a coaxial contra-rotating rotor, fly-by-wire controls and an automatic flight control system, the structure was built around a central spline and a light woven-fibre outer shell. The maximum speed was 157 km/hr with a range of 111 km and an empty weight of 271 kg.

The project was abandoned in 1979. A full-scale mock-up was made which can be seen at the Helicopter Museum in Weston-super-Mare.

Source:

<https://www.helimum.com/heli.php?ident=wg33>

Should you wish to receive emails from the Yeovil Branch, including lecture reminders and a copy of the Newsletter, please subscribe here: <https://www.aerosociety.com/get-involved/branches-divisions/yeovil/> and clicking on the link 'Sign up to join the RAeS Yeovil Branch mailing list'

Blast from the Past

As part of an ongoing series looking at the history of Leonardo, we are reprinting articles from the Westland Helicopters Communication Bulletin. In this edition we look at the September-October 2001 edition, 23 years ago, celebrating the award of the EH101 Denmark contract.

**Canadian
Cormorants drop
in at Yeovil before
crossing the
Atlantic
PAGE 6**



news

**More than 120 WHL employees
have received long service awards
for combined service totalling
more than 3,400 years**

PAGE 15

**The annual WASA
Awards presentation
took place in
September – the
culmination of an
outstanding year's
fund-raising**



SEE CENTRE PAGES



EH101 for Denmark

DENMARK has selected the EH101 to meet its multi-role search and rescue and troop transport requirements subject to satisfactory contract negotiations. **Contract signature is scheduled for the end of November. The order for 14 EH101s is valued at £230m with all the aircraft to be built at Yeovil.**

EH101 was selected in a straight competition with the Sikorsky S-92 and NH Industries NH90 to replace its long-serving fleet of Sikorsky S-61s.

The contract was secured after tough competition, including four

separate practical evaluations. Denmark will use the EH101 to undertake its future search and rescue (SAR) and tactical troop transport (TTT) helicopter operations.

The rear-ramped, hoist-equipped

Danish Multi-Role helicopters (DMRHs) will be delivered to Denmark between 2004 and 2006.

All DMRHs will have the ability to be missionised for either SAR or TTT operations.

The SAR EH101s will replace the eight Sikorsky S61s operated for the past 35 years by the Royal Danish Air Force's 722 Squadron.

The squadron's role will also be expanded to include the TTT capability in support of the Danish International Brigade's commitment for support to humanitarian operations.

Benefits

An important element within the contract negotiations with Denmark will be the level of benefits accruing to Danish industry through industrial co-operation.

In October 2000, EH Industries signed Teaming Agreements with TERMA and Danish Aerotech to collaborate and further develop their existing business relationships. These were established as part of EH Industries' long-term commitments in Denmark supporting the Danish fleet of Lynx helicopters.

£50,000 boost for Hospice Appeal



THE YEOVIL Hospice Appeal received a £50,000 boost as the Bulletin went to press.

The donation was made by Westland and presented to Tim Chappell MBE, Chairman of the

Yeovil Hospice Appeal Fund-Raising Committee by Alan Johnston, Managing Director of WHL.

Also pictured are members of the Fund-Raising Committee

and Westland's Tony Webster and Richard Rendall (represent the trade unions) Sarah Cook, John Falconer, David Edwards and Julie-Ann Soul.

The Appeal now stands at £2.41m

Turn to page 2

eh101



From front page

As part of its commitment to Danish industry, EHI has already placed a number of contracts with Danish industry for the supply of a range of EH101 components including avionic floors and a recently placed contract for composite nose cap manufacture. These contracts cover the requirements under current contractual obligations with the UK, Italian and Canadian Governments.

One of the key roles that the Danish multi-role EH101 will conduct will be the deployment of the Danish International Brigade in support of humanitarian operations.

These require high mobility both in the movement of troops or emergency personnel and the evacuation of threatened civilians.

Evacuees

The large cabin area of EH101 is optimised for the movement of such personnel and supplies. It can carry in excess of 55 evacuees over the widest areas of operations, and large quantities of equipment and relief cargo can be carried either internally or externally.

The proven all weather capability of the EH101 with its clearance to operate in icing conditions provides an added capability.

Search and rescue demands a helicopter that can search accurately for long periods at very long ranges from its base.

It must also be capable of operating in hostile climatic conditions as well as in harsh environments and be able to find, rescue and accommodate at least twenty survivors. Its large cabin makes it ideally suited to search and rescue and medical transportation with room and height for patient treatment en route.

EH101 has consistently proved itself to be the ideal platform for the Danish requirement to rescue survivors in conditions ranging from calm in-shore waters to open sea environments.

The Royal Danish Air Force conducted the most thorough

Westland beats off fierce competition to secure £230 million Danish order



Business Group Director Ron Jones (right) and Tim Brookman (Head of Region, Northern Europe) celebrate the Danish order with Maj Gen Jens Christian Frandfen, Head of the Danish Army Materiel Command

evaluation of EH101 of any of the Nordic countries. The team were located in both Italy and UK where a number of activities took place. These included:

- Demonstration of over 30 ground and maintenance related activities using production aircraft and the extensive EH101 Customer Training facilities.
 - Demonstration of over 200 specific technical requirements within the cabin.
 - Over 20 flights to satisfy detailed assessment criteria with the pilots and flight test teams to satisfy over 39 operational flying hours.
 - Static demonstrations on Canadian Cormorant CSH01, Royal Navy Merlin HM Mk1 and RAF Merlin HC Mk3.
 - A visit to No 28 Squadron and CAE at RAF Benson to have training, maintenance and operational discussions.
 - Total flying hours - 39 (35 by day, 4 by night).
- Danish airborne assessments included:
- Highly detailed stability, control, handling and performance testing of a civil utility EH101 at

Maximum All Up Weight of 14600 kg and at the Operational Overload weight of 15600 kg.

- A critical examination of the civil utility EH101 was conducted during all possible failure modes in flight, including engine failures at the Operational Overload weight of 15600 kg.
- A detailed Tactical Transport assessment, including load lifting using a 2500 kg netted load, high speed low level flight at 150 kts with aggressive evasive manoeuvring, Nap of Earth (NOE) flight below 30 ft and concealed approaches to confined area sites on Salisbury Plain Training Area.
- Search and Rescue qualities of the aircraft were evaluated in co-operation with the RAF Chivenor SAR Squadron, making use of their practice vessel and the Clovelly inshore lifeboat and in Portland harbour for winch transfers of personnel between the Merlin Mk1 and the decks of each of the boats. Danish personnel operated the aircraft - pilot, winchman, survivor - with

Westland and RAF crews acting merely as safety numbers. Live pick-ups of a swimmer were also carried out with ease from the water, making use of the automatic hover trim capability in varied wind conditions including very light winds below 5 knots.

- The SAR testing was then repeated at night, including the use of automatic search patterns and SAR approaches to hoist on board an illuminated floating target. The automated navigation capability was evaluated using the hands-off steering capability from way point to way point, culminating in a fully coupled ILS approach to go around from decision height.

First two Canadian SAR Cormorants delivered – see pages 6 and 7

Committee Members and Roles

Joint Chairs	Jeremy Graham & Alisdair Wood
Branch Secretary	David McCallum
Treasurer	Chris Moore
Deputy Treasurer	Jack Allen
Lecture Secretary	Cliff Keating
MoD Liaison & Yeovilton Representative	Lt Cdr Luke Elston
Archivist	Eddie Wilson-Chalon
Publicity	Daniel Young
Branches Committee	Bianca Erwee
Young Persons Network Representatives	Robert Akhurst, Freya Woollett
Newsletter Editor	Isobel Owens
Lecture Coordinator	Afaq Awais

Contact Us

We welcome and value your feedback.

If you have any suggestions for future lectures or have an article to submit please email us at:

Joint Chairs	Jeremy Graham	Jeremy_Graham@btinternet.com
	Alisdair Wood	Alisdair.Wood@leonardo.com
Branch Secretary	David McCallum	David.McCallum@leonardo.com
Publicity	Daniel Young	Daniel.Young@leonardo.com
Newsletter Editor	Isobel Owens	Isobel.Owens@leonardo.com
Branch Committee	General Mailbox	Yeovil@aerosociety.com

To become a member or learn more about the society please visit:

www.aerosociety.com