



MEDIA ADVISORY

For Immediate Release

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MEDIA ADVISORY

WHAT: Farnborough Press Conference – UK Industry Capabilities and Contributions to the Future of MQ 9B SkyGuardian

WHEN: Tuesday, 17 July. 2 p.m. local time (GMT+1)

WHERE: Navigator Farnborough Media Center

WHO:

- **Wg Cdr Neil Towers**, Programme Manager for Reaper and Protector, Royal Air Force
- **David R. Alexander**, President, General Atomics Aeronautical Systems, Inc.
- **Alastair Morrison**, Deputy Managing Director UK, Leonardo
- **Dean Mason**, Director Business Strategy and Development, Raytheon UK
- **Jim Goodbourn**, Vice-President Sales and Business Development, Cobham
- **James Allibone**, UK Sales & Business Development Director, MBDA
- **Roeland Aarts**, Director Business Development, GKN-Fokker (tentative)

MORE INFO: Following the successful trans-Atlantic flight of MQ-9B SkyGuardian on 10-11 July 2018, General Atomics Aeronautical Systems, Inc. (GA-ASI), the Royal Air Force and our industry partners invite media to meet with the team to discuss the future requirements and capability that will be required to meet the evolving needs of the RAF and NATO allies.

The press conference is scheduled to begin at 2 p.m. GMT+1 with a 30-minute briefing by the panelists followed by a question and answer session.

For more information about MQ-9B SkyGuardian and its trans-Atlantic flight from the U.S. to RAF Fairford, please visit <http://www.ga-asi.com/trans-atlantic-flight>. For any questions, please send an email to ASI-MediaRelations@ga-asi.com.

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ABOUT GA-ASI:

General Atomics Aeronautical Systems, Inc. (GA-ASI), an affiliate of General Atomics, is the leading designer and manufacturer of proven, reliable Remotely Piloted Aircraft (RPA) systems, radars, and electro-optic and related mission systems, including the Predator® RPA series and the Lynx® Multi-mode Radar. With more than five million flight hours, GA-ASI provides long-endurance, mission-capable aircraft with integrated sensor and data link systems required to deliver persistent flight that enables situational awareness and rapid strike. The company also produces a variety of ground control stations and sensor control/image analysis software, offers pilot training and support services, and develops meta-material antennas.

Predator, Reaper, and Lynx are registered trademarks of General Atomics Aeronautical Systems, Inc.

MQ-9B PROTECTOR

Remotely Piloted Air System

Factsheet



 **ROYAL
AIR FORCE**

MQ-9B PROTECTOR

The United Kingdom is investing in MQ-9B PROTECTOR, the world's first certified Remotely Piloted Air System (RPAS) and a leap in capability compared to existing alternatives. As a 5th Generation capability, the aircraft is synonymous with the RAF as an organisation that occupies the cutting edge of technological advancement. It will be piloted utilising Beyond Line of Sight satellite communications by two front line squadrons, supported by a dedicated UK based Operational Conversion Unit (OCU), all commanded by the ISTAR Force Commander. The platform will deliver a unique range of operational effect and will additionally contribute to a broad array of Homeland defence tasks, such as Military Aid to Civil Authorities.

MQ-9B PROTECTOR is based on the General Atomics (GA-ASI) SkyGuardian aircraft, but with bespoke UK modifications. Benefiting from our special partnership with the United States, the UK is the lead customer, enacting a unique hybrid commercial sale agreement with GA-ASI and the US government. The aircraft is designed to meet NATO and UK certification standards, a requirement to fly in unsegregated airspace, and it is architecturally designed to facilitate tactical interoperability with our allies. The aircraft's design enables almost unlimited payload options, depending on requirement, and the UK lead status is anticipated to realise opportunities with other Allied nations in the future.

The UK modifications include enhanced datalinks and a variety of precision weapons. These act as a commitment to sovereign capability and unlock the ability to act independently in support of UK defence policy at home and abroad. The open system architecture presents opportunities to integrate current and future UK weapons and sensors and enables a 50% payload increase over Reaper. Fitted with a class-leading multi-spectrum high definition camera combined with world beating intelligence gathering capability, the aircraft will carry next-generation, low collateral, precision strike weapons. The RPAS includes a variety of innovative capabilities, including Automatic Take-off and Landing. This will vastly increase operational flexibility and response time, and will enhance safety through providing a greater range of emergency or weather diversion options. It is ready to be integrated with Detect and Avoid technology, which will widen the class of airspace in which the aircraft can operate. The aircraft has a 40-hour endurance in an Intelligence Surveillance and Reconnaissance (ISR) role, and can provide persistent ISR over fixed points on the ground.

The aircraft will be operated by a Mission Crew of three, comprising one Pilot, one Sensor Operator and one Mission Intelligence Coordinator, and will be supported by UK Process Exploitation and Dissemination teams. The first crews will be trained in the USA by GA-ASI before transferring to the UK based OCU to train independently. The MQ-9B PROTECTOR initiative will be supported by over 500 personnel to provide the UK's most advanced long range / long endurance Remotely Piloted Air System.

The pioneering MQ-9B PROTECTOR capability, will provide unrivalled multirole capabilities, enabling the UK to face ever evolving threats.

MQ-9B PROTECTOR in Focus

MQ-9B PROTECTOR is designed to deliver a UK capability for Deep and Persistent Armed ISTAR out to the late 2030s, which will encompass the long range, persistent wide area surveillance and precision strike capabilities currently provided by the Reaper fleet.

ISR, Synthetic Aperture Radar (SAR) and Ground Moving Target Identification (GMTI)

The aircraft payload comprises a complex suite of sensors, including a High-Definition Electro-Optical, Infra-Red (IR) camera, which, combined with endurance, provides a sensational persistent reconnaissance capability across the electro-magnetic spectrum. SAR can generate high-resolution remote sensing imagery for exploitation and dissemination by UK intelligence agencies. Change detection analysis is possible with SAR, and GMTI enables moving target detection, providing cross-cue capability to the on-board sensors.

Persist and Attack

MQ-9B PROTECTOR takes the ubiquitous distinctiveness of RPAS to the next level. The unique architectural design enables the aircraft to perform a plethora of strategic tasks, ranging from disaster relief to close air support. The on-board sensors combined with the ability to carry up to 18 precision strike missiles and two low-collateral precision guided bombs, yield military ruthlessness under compressed circumstances.

The Future

The RAF aspires to fit Detect and Avoid technology at the earliest opportunity to integrate the aircraft into unsegregated airspace. A maritime capability is also being considered which would complement the P8 programme and our NATO commitments. Other spiral upgrades will include software, sensor and weapons capabilities.



MQ-9B PROTECTOR Test Programme is Under Way



Proposed MQ-9B PROTECTOR Ground Control Station

16 will be
DELIVERED*

Expected to
enter service with the
RAF in the early 20's

Planned Weapons

Brimstone Precision
guided missile



Paveway IV 500lb
Precision guided munition



Long Range and Persistent armed ISTAR, which can be
fitted with **Revolutionary Detect and Avoid system**

Fitted with **Raytheon's** Multi-Spectrum High-Definition
Targeting System



37.5 ft (11.43 m)

MQ-9B PROTECTOR aircraft can
stay in the air for up to 40 hours

Crew (3)



Pilot



Sensor Operator



Mission Intelligence
Coordinator



79 ft (24 m)

* The MOD may choose to purchase more aircraft at a later date.



DAVID R. ALEXANDER
President, Aircraft Systems
General Atomics Aeronautical Systems, Inc.

David Alexander is currently President of the Aircraft Systems business unit of General Atomics Aeronautical Systems, Inc. (GA-ASI). The unit manufactures, supports, and operates a variety of proven, reliable, Remotely Piloted Aircraft (RPA) systems for military and commercial applications worldwide.

Prior to assuming the role of President, Mr. Alexander served as Senior Vice President of Engineering, Aircraft Systems, where he was responsible for the hands-on management of programs, technical activities, planning, budgeting, and proposal definition/preparation activities for the company's RPA and ground control systems. In addition, he directed all product development, system analysis, mechanical engineering, electro/mechanical engineering, software design, technical data, user training, and drafting.

Mr. Alexander began his career with GA-ASI in 1996 as Manager of Mechanical, Specialty Engineering, and Configuration Management, where his first task was to productionize the company's Predator® RPA. Following that, his duties grew to encompass all disciplines of engineering, with both production and pre-production engineering under one roof. He also served as lead investigator on company-critical production problems and flight mishaps.

Among his achievements, Mr. Alexander has led all six block upgrades on Predator and initiated five different (fielded) weaponization programs. He has developed nine different aircraft models for series production, including Predator, Predator B turbo prop, Predator C Avenger® turbofan, and Gray Eagle with heavy-fuel engine. He also has led the development and successful deployment of the company's first auto takeoff and landing system. In addition, he developed and implemented GA-ASI's first engineering operations procedures and manuals, as well as established a company-wide configuration management system. He successfully qualified Design Control to ISO 9100, and more recently to CMMI Level 5 certification.

Prior to GA-ASI, Mr. Alexander spent 16 years at Brunswick Defense. In his final role as Manager of Engineering he was responsible for all design and development of the company's unmanned air launched targets and decoys, including Tactical Air Launched Decoy, Improved Tactical Air Launched Decoy, and AQM-37 high-speed high-altitude target.

Mr. Alexander is a strong proponent of supporting college student interest in things that fly given the decreasing engineering work force in the RPA/aerospace industry. He is actively involved with several universities in preparing the industry's next generation of engineers through American Institute of Aeronautics & Astronautics (AIAA) Design/Build/ Fly competitions, aerospace course teams, and technical paper presentations. A Professional Engineer, he holds a Bachelor's degree in Mechanical Engineering from California State Polytechnic University, Pomona.



About GA-ASI



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GA-ASI is headquartered in Poway, California and spans multiple facilities in the San Diego area and in the Mojave Desert, as well as adjacent to various customer locations around the U.S.

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JAMES ALLIBONE
UK Sales & Business Development Director
MBDA

James Allibone graduated with a Masters in Electronic Engineering from Downing College, Cambridge University in 1996. Before his university career James spent a short time with the Royal Navy passing out from BRNC Dartmouth as a Midshipman RN. Leaving the Navy life he joined British Aerospace (Systems & Equipment) in Plymouth in 1996 where he worked with a small research team developing solid state silicon gyroscope technology.

In late 1997 he was selected to follow the BAE SYSTEMS fast track engineering graduate scheme SIGMA. During this programme he worked in various engineering roles across different parts of the UK and European business units. Throughout this programme he also completed a MSc in Engineering Business Management from Warwick University.

On completion of this course in 2000 he joined MBDA (then MatraBAe Dynamics). From 2000 to 2004 he held posts within the Programmes directorate as Head of Avionics on the cruise missile Storm Shadow, responsible for taking all the avionics systems through their qualification; and as Head of Sea Viper Vertical Launch System in Rome, responsible for its delivery to both the UK T45 Destroyer and the Franco-Italian Horizon Frigate.

From 2004 until 2010 James worked within the Future Systems area of MBDA, starting by running the Novel Systems department researching Directed Energy systems. Subsequent to this he managed several of the Team Complex Weapons start-up contracts, notably the SPEAR CAP3 and the FLAADS concept phases. In his final role he established the MBDA 'Spark Works' facility, to drive rapid innovation and novel concepts within the Future Systems area.

At the beginning of 2011 James moved back to Programmes to run the Storm Shadow/SCALP EG sector, responsible for the in service support of this weapon system with the UK, French, Italian and Export customers. **This was a tense and busy time due to the weapon's operational deployment in Libya.**

In 2013 James left MBDA to work as the Sales & Business Development Director for TMD technologies, an SME in Hayes specialising in the design and manufacture of high power, high frequency power supplies primarily for RADAR systems. The company exported virtually all its products, with key markets being USA and South Korea.

In 2015 James returned to MBDA to take up a secondment post in the Defence Growth Partnership as the Executive Director Strategy within the UK Defence Solutions Centre. In this role James was responsible for devising and implementing a roadmapping methodology for developing UK capability to be better aligned to the predicted future export needs.

James has recently taken up the post of UK Sales & Business Development Director, responsible for dealing with the UK customer across all domains.

James is married to Rachel and has three sons, he enjoys cycling, squash and sailing, as well as working on his classic Landrover Series 3.



Customer Success Is Our Mission

Dean Mason

Raytheon Systems Limited

Director Strategy and Business Development

Dean Mason joined Raytheon UK Ltd in April 2015 as Director of Strategy and Business Development and is based at Raytheon's facility in Harlow.

Dean graduated in Law from Bristol University in 1980. He then served as an RAF Tornado GR1 navigator, where he saw operational service in Germany and the Gulf. In 1991 he was awarded the MBE for his role in the RAF planning for Gulf War One and is a graduate of the RAF's Advanced Staff Course. Dean retired from the RAF as a Wing Commander with over 2000 hours flying experience. Dean also spent a short period working as a civilian in the Ministry of Defence supporting high-level operational analysis of future operational requirements.

Dean has worked for Raytheon twice in his career. He was employed in a number of business winning roles with Raytheon Systems Ltd (RSL) culminating in his appointment as RSL's Business Development and Strategy Director in 2003 which incorporated RSL Board membership.

In 2006 Dean joined Thales as the Business Development, Sales & Marketing Director for Land & Joint Systems Division and in 2009 was appointed as the Vice President Business Development, Sales and Marketing for Thales UK responsible for the co-ordination of all business capture activity with particular responsibility for business development in the defence, security, transport and aerospace sectors, as well as securing export sales from the UK.

Dean re-joined Raytheon UK in April 2015 responsible for Raytheon UK's business strategy as well as coordinating relationships with both UK and overseas customers.

Dean is married with two daughters and his interests include current affairs, travel, taking part in charity cycling events and football.



Jim Goodbourn MA BSc(Hons)

Vice President of Sales & Business Development
Cobham Aviation Services (UK)

Jim Goodbourn joined the Royal Air Force as a University Cadet in 1978 and following officer training qualified as a helicopter pilot. He then completed two operational tours on 202 Squadron as a Search and Rescue Sea King Pilot before joining the Special Operations flight of 7 Squadron. He then became a flight commander on 7 Squadron and following active service in the first Gulf War became the Head of Tactical and Trials Flight for the Support Helicopter Force. Following this, he attended the Army Staff Course and then re-joined Special Forces as a Branch Head at the Special Operations Directorate in London working closely with the security services. Following this, he re-joined the RAF Search and Rescue Force as a Squadron Commander after which he was posted to the Joint Services Command and Staff College as Directing Staff. This led to promotion to Group Captain and appointment as Head of Media and Communications for the RAF subsequently followed by command of RAF St Mawgan as Station Commander and as Head of the UK SAR Force. Jim retired from the RAF in 2006 with his move into industry with Bristow Helicopters.

Jim joined Bristow Helicopters as the Technical Director for UK SAR. He subsequently joined the Bristow business development strategy team and also led business development for the Bristow SAR global business. During this time, he completed the Institute of Directors Certificate in Company Direction.

In 2009, Jim moved to FB Heliservices Ltd and joined their Board as their Overseas Business Development Director. In 2010, his responsibilities were widened to include all FB Heliservices business and strategy development driving the further identification of new business in the UK but also with a continuing focus on overseas business development. He moved into a similar role as the Director of Business Development of Cobham Helicopter Services following the takeover of FB Heliservices by Cobham in 2013. In Feb 2016, Jim was appointed by Cobham into a more senior role at divisional level and was the Vice President of Strategic Campaigns for Cobham Aviation Services. In May of 2018, Jim moved to his current post as Vice President Sales & Business Development with the new Cobham Aviation Services UK Business Unit.

Jim is married to Anne, a primary school teacher, and has two grown up sons, Matthew who works in the City having graduated from Durham University this year and Thomas who is currently at Durham University. Jim is a keen dinghy and yacht sailor, a very average alpine skier and a terrible golfer.



Alastair Morrison
Senior Vice President Radar & Advanced Targeting
Deputy Managing Director UK, ASSD

Background

After receiving a Degree in Law from Edinburgh University, Alastair took up his first role within the Company in 1982, working in the Central Commercial Department.

Over the past thirty years, Alastair has played a key role in the negotiation of some of our most significant contracts on platforms such as Tornado and Typhoon.

Alastair has a deep knowledge of the business, coupled with extensive management experience and in 2018, he was appointed Deputy Managing Director UK, ASSD.

Responsibility

As Deputy Managing Director UK, ASSD, Alastair is responsible for overseeing Radar and Advanced Targeting Systems, Electronic Warfare, Support & Service Solutions UK, as well as the UK activities and resources of the Major Air Programmes Unit.

In his role as Senior Vice President of the Radar and Advanced Targeting (RATs) Line of Business, Alastair is also responsible for some of the Company's most high profile international projects such as: surveillance systems for the US Coast Guard; lasers on the Apache helicopter; DIRCM in cooperation with Northrop Grumman Corporation; and Radar on the Eurofighter Typhoon.

Within the Radar and Advanced Targeting line of business, the Typhoon business includes the largest single programme undertaken at the Edinburgh site - Eurofighter Radar. Our Company is the Euroradar consortium lead for the Eurofighter Radar (Captor) programme which spans four nations (UK, Spain, Italy and Germany).

The LoB is also home to the Airborne AESA Radar business which comprises a product portfolio of E-Scan surveillance radar systems including the Raven, Gripen, Vixen, Seaspray and Osprey radars, which are scaled to suit customers' capability requirements. The Airborne AESA business is currently delivering into North and South America as well as Western Europe, with numerous opportunities for future sales across all five continents.

The RATS Advanced Targeting business area also addresses an exciting array of laser products which deliver performance, speed and accuracy advantages to a diverse range of systems drawing from the research and development of a broad range of engineering disciplines. It also embraces our future and current DIRCM activities.

Focus

Alastair is focused on the international growth of UK ASSD Division and the expansion of the Radar and Advanced Targeting LoB's Merchant Supply export business.



Roeland Aarts
Director Business Development Defense
Fokker Technologies Holding

Since January 2011 Roeland Aarts has been working for Fokker as Marketing & Sales and Business Development Manager Defense and subsequently per June 1st 2016 he has accepted the role as Director Business Development Defense for (GKN) Fokker Technologies Holding B.V. In his current role he is reporting to the Vice President Business Development Defense of Fokker Technologies Holding B.V.

After he graduated at the Aerospace Maintenance School he majored in Mechanic and Assistance Technician Aeronautical plus Assistance Technician and Technician Industrial Electronics (Similar to a B.S.E.E.). He finalized his Business and Administration in the fields of marketing management, business economics, marketing psychology and sociology, marketing research, statistics, decisions and evaluations (NIMA).

Since over 25 years he has had the opportunity to develop himself within GKN/Fokker and contributed to the success of GKN/Fokker, with great achievements on several levels within the organization.

Within these years, of which 13 years in the US, he was responsible for the total process from the design phase to the initial and high volume production, involving Manufacturing Engineering, Program Management, the Procurement process and all related/supported processes such as Quality, Finance and Logistics. The experience in these fields enables Roeland to work with the Customer and internal team(s), defining the most optimum business solutions.