



ATLANTIC FUTURE FORUM

‘The Future We Choose’

21 November 2019
on board

HMS QUEEN ELIZABETH

at anchor off the United States Naval Academy
Annapolis, MD

 @FutureAtlantic #AFF2019



Ministry
of Defence



Department for
International Trade



Foreign &
Commonwealth
Office







A very warm welcome to the Royal Navy's Fleet Flagship, HMS Queen Elizabeth, for the second Atlantic Future Forum. This year's theme is 'The Future We Choose', a title that reflects the responsibility we share for delivering this future.

Today, we recognise the special bond between the United Kingdom and the United States of America. We have a long history of friendship, collaboration and mutual support between our two nations. We also celebrate how that relationship has often shaped the world around us for the better.

In both war and peace, the partnership between the United Kingdom and United States of America has given rise to many of the innovations and scientific advances that have made the modern world. Today, we recognise the strength of this continued relationship once again as the Royal Navy's 5th-Generation aircraft carrier, HMS Queen Elizabeth, arrives at the home of the US Naval Academy in Annapolis. She has just successfully completed the latest flying trials for the world's most advanced fighter jet, the F-35. This is the perfect example of the enduring security, military, diplomatic and technological relationship between our two nations.

I hope you enjoy your visit to HMS Queen Elizabeth. There can be no better venue for us to explore the challenges of the future together. I am confident that this year's Atlantic Future Forum will not only celebrate what our nations have achieved together, but also inspire us to build upon the successes of our past and deliver an even better future.



**First Sea Lord and
Chief of the Naval Staff**

Admiral Tony Radakin CB ADC

A handwritten signature in green ink that reads "Tony Radakin". The signature is written in a cursive style and is underlined with a single green line.



We find ourselves in a turbulent and uncertain time. The rapid pace of technological advance and the coming of the fourth industrial revolution brings wonderful opportunities for our nations, but dangerous threats are never far behind.

It is clear that the character of warfare is changing. We are in unfamiliar territory: facing cyber-attacks, disinformation overload, electoral intervention and information warfare, both from state-based and extremist organisations. Our highly networked adversaries are able to reach through the cyberspace and into our communities, threatening to subvert our democratic institutions and the global order.

The Atlantic Future Forum has brought together leaders in government, military and industry from both sides of the Atlantic to address these growing challenges. Today we will explore the role our nations want to play in this new world of autonomous technology, AI, quantum computing and machine learning. How do we adapt and harness this technology for the benefit of our societies? How do we maintain our global influence and use it to counter rising threats?

I believe the world is defined by the attitudes of its biggest powers, and we need to rise to the opportunities presented by exciting new technology. Governments and nations who adapt to this technology and harness it will prosper. Those who don't will fall behind. Our relationship with the United States is, and will continue to be, a crucial pillar of our national security and our economic success. Only last month, we signed the world-first UK-US Bilateral Data Access Agreement, which will drastically enhance the ability of the United States and the United Kingdom to fight serious crime: including terrorism, transnational organised crime, and child exploitation.

We have achieved so much together. If the UK and US can foster even deeper co-operation, our world-class armed and security forces can work together to withstand the threats of today and tomorrow. Together, there is no limit to what we can achieve and our nations can be a model for collaboration and innovation going forward.

Cabinet Secretary and National Security Adviser, UK

Sir Mark Sedwill KCMG FRGS



HMS QUEEN ELIZABETH is Britain's first 5th-Generation aircraft carrier and the largest warship ever built for the Royal Navy.



HMS QUEEN ELIZABETH and her sister ship, HMS Prince of Wales, are three times larger than the previous generation of British carriers. At 65,000 tonnes, with a length of 280m and a flight deck covering four acres, she can support up to 40 fixed wing and rotary aircraft and travel at speeds exceeding 25 knots.

HMS QUEEN ELIZABETH has been designed and built around the 5th-Generation fighter jet F-35B Lightning II. The Lockheed Martin-built stealth multirole fighter will be the cornerstone of the Royal Navy's Carrier Strike capability for years to come. HMS QUEEN ELIZABETH is a strategic asset providing the UK's 'conventional deterrent' but is also a platform that can provide 'soft' power on behalf of the British Government, around the world.

She will deliver Carrier Strike effects – as a moving airfield capable of launching jets to conduct missions over land and sea, anywhere, at any time. She will also be capable of taking on Air Manoeuvre and Amphibious Assault roles, using Merlin and Chinook helicopters and will deploy the Royal Navy's CROWSNEST 'over the horizon' airborne surveillance and control. She will operate and deploy as part of a UK Carrier Strike Group, including Type 45 Destroyers, ASW Frigates and Astute class attack submarines.

The ship has just completed operational trials with UK F-35 Lightning jets embarking for the very first time off the East Coast of the USA. She also conducted flying trials with F-35s from the US Marine Corps, a detachment of whom will deploy with her during her first operational deployment in 2021.

HMS QUEEN ELIZABETH, the UK's flagship, is expected to remain in service for the next 50 years.



- 09:45 **Welcome:** Stephen Watson, Director, Atlantic Future Forum
- 09:50 **Opening Address:** Admiral Tony Radakin CB ADC, First Sea Lord and Chief of Naval Staff
- 10:00 **Expert Panel: The Future We Choose**
In 1962, President Kennedy laid out a bold ambition for America when he declared that: “we choose to go to the moon”. On this the fiftieth anniversary of the iconic moon landing, this panel asks what future this generation will choose. What should be our ambitions for the next ten, twenty, 100 years and how can the UK and US work together to turn them into reality?
Panel: Max Peterson, Vice President International Sales, Amazon Web Services
André Pienaar, Managing Partner and Founder, C5 Capital
Peter Warren Singer, Author and Strategist at New America
Dr Chris Demchak, Cyber and Innovation Policy Institute, US Naval War College
Steve Wadey, Chief Executive Officer, QinetiQ
- 10:50 **Coffee Break**
- 11:10 **UK Carrier Strike - Industrial Perspective**
Douglas Wilhelm, Vice President, F-35 Customer Programs, Lockheed Martin
Air Chief Marshal Sir Andrew Pulford, Senior Military Adviser, BAE Systems
- 11:25 **Expert Panel: The Future of Defence**
In the face of growing cyber threats and the rapid pace of technological change, it is crucial that the UK and US retain a competitive edge against potential adversaries. What effect will emerging technologies have on the future of warfare, and what should our two nations do to ensure these technologies are harnessed to positive effect?
Panel: Professor Dame Angela McLean, Chief Scientific Adviser, UK Ministry of Defence
Gary Aitkenhead, Chief Executive Officer, DSTL
Vice Admiral Timothy White, Commander, US Fleet Cyber Command
John C. (Chris) Inglis, Distinguished Visiting Professor, Center for Cyber Security Studies, US Naval Academy
Charles Forte, Chief Information Officer, UK Ministry of Defence
Dana Deasy, Chief Information Officer, US Department of Defense
- 12:15 **Spotlight Session: Challenges of the Future**
The pace of technological change is quickening, impacting every industry and sector. In the first of our short spotlight sessions, we will hear from those operating at the cutting edge of innovation in healthcare and energy to explore what lessons we can learn from their experiences and expectations.
Saving lives with AI and data via a transatlantic partnership
Josh Sutton, Chief Executive Officer, Agorai
Digital technology impacting the energy industry
Morag Watson, Vice President and Chief Digital Innovation Officer, BP
Digital transformation for good
Teresa Carlson, Vice President, Worldwide Public Sector, Amazon Web Services
- 12:50 **Lunch**

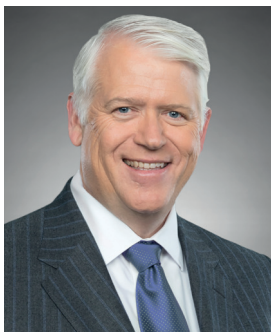
- 13:50 **Spotlight Session: Challenges of the Future**
- In the second of our short spotlight sessions, we will hear from those operating at the cutting edge of innovation in finance, climate change and big data to explore what lessons we can learn from their experiences and expectations.*
- The future of fintech*
Ashok Vaswani, Global Head of Consumer and Payments, Barclays
- Why reducing our carbon footprint is not enough and how can technology help*
Lloyd A. Treinish, Chief Scientist – Environmental Modelling, IBM
- Security: It's about time*
Kelly Herrell, Chief Executive Officer, Hazelcast
- 14:20 **Expert Panel: The Future of Security**
- 50 years ago, the US and UK collaborated to win the space race between the great powers. Today, great power competition is returning – and cyberspace is the chosen domain. At the same time, new challenges are being posed by non-state actors like terrorist groups. In this session, we explore how terrorist groups and hostile states are using new technologies to threaten our security, and ask how we can fight back.*
- Panel:** Lea Gabrielle, Special Envoy and Coordinator, Global Engagement Centre, US Department of State
Michael Chertoff, Chairman, Chertoff Group
Justin Fier, Director of Cyber Intelligence & Analytics, Darktrace
Dave King, Chief Executive Officer, Digitalis
Susie Adams, Chief Technology Officer, Microsoft Federal
- 15:15 **Coffee Break**
- 15:35 **Presentation: Introducing TEAM ARTEMIS**
- An introduction to Team Artemis, a new transatlantic team of US and UK defence personnel that has been brought together to help power the UK's space programme under the auspices of the RAF and MOD.*
- Air Vice Marshal Rochelle, Chief of Staff Capability, RAF
Dan Hart, President & Chief Executive Officer, Virgin Orbit
- 15:55 **Expert Panel: The Future of Space**
- We are living through a new age of space exploration, with public and private sector actors – as well as a plethora of different nation states – stretching the bounds of space technology like never before. How can the UK and US work together to stay ahead of the competition when it comes to space technology? What are the opportunities and threats ahead?*
- Panel:** Lt Gen David Thompson, Vice Commander, US Air Force Space Command
Air Vice Marshal Johnny Stringer, Chief of Staff, UK Joint Forces Command
Richard Ambrose, Executive Vice President, Lockheed Martin Space
Wallis Laughrey, VP, Space and Airborne Systems, Raytheon
Mark Thomas, Chief Executive Officer, Reaction Engines
David Williams, Executive Chairman, Arqit
- 16:50 **Closing Address**
- Sir Mark Sedwill, Cabinet Secretary and National Security Adviser, UK
- 17:00-18:30 **Accord Signing and Evening Reception**
- Signing of the Annapolis Accord and First Sea Lord presentation to Strategic Partners
RM Band Jazz Quartet and Evening Reception
Ships Tours
Beating Retreat and Sunset Ceremony
- From 18:30 **Guests Depart HMS QUEEN ELIZABETH**
- Boat transfers to USNA Annapolis



Susie Adams is the CTO for Microsoft Federal and oversees cloud and security initiatives. She joined Microsoft in 1999 and has held multiple leadership positions including the Director of the Reston Microsoft Technology Center. Prior to Microsoft, she spent 16 years in Government consulting in several management and leadership roles as a practice manager and software developer. A graduate of George Mason University, Adams was named as a Fed100 award winner in 2011, is a speaker at industry events on Cloud computing, AI, security and Big Data and has authored several books on the topics of software integration and web development.



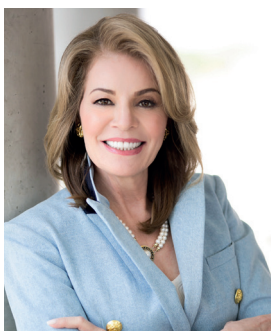
Gary Aitkenhead CEng FIET was appointed Chief Executive of Defence Science and Technology Laboratory in January 2018. He leads this government organisation of over 4000 scientists and engineers providing specialist, and in many cases world-leading expertise, across a wide-range of disciplines. Aitkenhead has a broad background in technology research & development and commercial leadership with a track record of revenue growth and business transformation. He has spent much of his career in the development and supply of mission-critical wireless communications solutions to public safety, industrial and transportation sectors. Aitkenhead held senior positions (Vice President) at Motorola Solutions and latterly Sepura plc for more than 20 years, covering sales, services, operations and product management.



Richard Ambrose is Executive Vice President of Lockheed Martin Space – a \$10 billion enterprise that employs approximately 20,000 people and provides advanced technology systems for national security, civil and commercial customers. With four decades of experience in defense and aerospace, Ambrose has led programs in support of military, commercial and national security missions. He chairs the Board of Directors for United Launch Alliance, serves on the Denver Museum of Nature & Science Board of Trustees, and is a recipient of The Aviation Week Network's Laureate Award for Space: Leadership and National Defense Industrial Association Space Division Peter B. Teets Award.



Commodore Ian Annett RN is the Assistant Chief of Staff and Chief Information Officer at the Royal Navy. His previous staff appointments include the Ministry of Defence Central Staff in the Directorate of Naval Operations and Defence Staff in Washington, DC as the Embassy's Maritime C4ISR desk officer. Following his promotion to Commodore, he returned to Navy Command with responsibility for all information capabilities, including satellite communications, networks, cyber and electronic warfare.



Teresa Carlson is the Vice President for Amazon Web Services' worldwide public sector business, where she has been responsible for operations, strategy, sales, and business development since 2010. She previously served as Vice President of Federal Government Business at Microsoft, among several other positions, and Worldwide Vice President of marketing and business development for Lexign Incorporated. Among her many honours, Carlson was inducted into the Wash100, a premier group of public and private sector leaders with expertise in the government space, and has been named one of Washingtonian Magazine's "100 Most Powerful Women."



Michael Chertoff is Founder and Chairman of The Chertoff Group, a security and risk management firm, where he provides high-level strategic counsel to corporate and government leaders on a broad range of security issues, from risk identification and prevention to preparedness, response and recovery. He is also Senior of Counsel to Covington and Burling, where he has advised clients on SEC and Department of Justice investigations, and served as independent monitor of a major national healthcare company under criminal and civil investigation. In April of 2012, Chertoff was elected as the Chairman of the Board of Directors of BAE Systems, Inc. He also sits on the board of directors or board of advisors of a number of companies and nonprofits. Previously, Chertoff served as Secretary of the Department of Homeland Security. As Secretary, he led a 218,000 person department with a budget of \$50 billion.



Dana Deasy is the Department of Defense Chief Information Officer (CIO). He is the primary advisor to the Secretary of Defense for matters including artificial intelligence, information management, information technology, information assurance, non-intelligence space systems, critical satellite communications, navigation and timing programs, electromagnetic spectrum management, and telecommunications. Deasy has more than 38 years of experience leading and delivering large scale IT strategies. He held several private sector senior leadership positions, to include Global CIO of JPMorgan Chase; CIO and Group Vice President at BP; and CIO for General Motors North America, Tyco International, and Siemens Americas.



Dr. Chris Demchak, is the US Naval War College's Grace M. Hopper Chair of Cyber Security and Senior Cyber Scholar at the Cyber and Innovation Policy Institute (CIPI) – formerly the Center for Cyber Conflict Studies (C3S) which she co-founded and directed. She holds degrees in engineering, economics, and comparative complex organization theory/political science. Her research and many publications address global cyberspace as a globally shared, complex, insecure 'substrate' underlying the critical organizations of digitized societies, creating 'cybered conflict' and a resulting, rising 'Cyber Westphalia' of sovereign competitive complex socio-technical-economic systems (STESs), and inducing an urgent survival need for a 'Cyber Operational Resilience Alliance' (CORA) among advanced democratic allies.



Justin Fier holds the position of Director for Cyber Intelligence & Analytics at Darktrace, and is one of the US's leading cyber intelligence experts. His insights on cyber security and artificial intelligence have been widely reported in leading media outlets, including the Wall Street Journal, CNN, The Washington Post, and VICELAND. With over 10 years of experience in cyber defense, Fier has supported various elements in the US intelligence community, holding mission-critical security roles with Lockheed Martin, Northrop Grumman Mission Systems and Abraxas. Fier is also a highly-skilled technical specialist, and works with Darktrace's strategic global customers on threat analysis, defensive cyber operations, protecting IoT, and machine learning.



Charles Forte was appointed Chief Information Officer for the Ministry of Defence in January 2017. He is the primary advisor to the Defence Board on Information and Digital and is responsible for strategy and policy on the operation, interoperability and protection of all MOD ICT, including cyber security and resilience; the promotion of new ways of working and information technology-enabled innovation; and the delivery of Information Systems and Services. Prior to joining the Ministry of Defence, Forte gained 36 years industry experience from leading IT globally as Deputy Group Global CIO at BP, as CEO of Global IT Services at Prudential and as Interim CIO at Thames Water.



Lea Gabrielle joined the State Department as Special Envoy and Coordinator of the Global Engagement Center in February 2019. She is a former Human Intelligence Operations Officer, Defense Foreign Liaison Officer, U.S. Navy Program Director, Navy F/A-18C Fighter Pilot, and national television news correspondent and anchor. While serving in the U.S. Intelligence Community, Gabrielle was a CIA-trained Human Intelligence Operations Officer, assigned to the Defense Intelligence Agency (DIA). She directed and conducted global clandestine strategic intelligence collection operations. Gabrielle also deployed in tactical anti-terrorist operations in hostile environments with Naval Special Warfare (SEALs), conducting independent operations in support of Tier One Forces. Gabrielle later served as Director of a U.S. Navy sensitive intelligence program.



Siobhan Gorman is a Partner in the Washington, DC, office of Brunswick Group, where she concentrates on crisis, cybersecurity, public affairs, and media relations. Gorman leads a range of cybersecurity, public affairs, litigation, and corporate reputation projects in the financial, retail, airline, and technology sectors. Prior to joining Brunswick, she had a successful 17-year career as a reporter, most recently at The Wall Street Journal where she covered a range of national security and law enforcement topics, including counterterrorism, intelligence, and cybersecurity. Prior to joining The Journal in 2007, Gorman was a Washington correspondent for The Baltimore Sun and from 1998 to 2005, was a staff correspondent for National Journal. Gorman has been nominated three times for the Pulitzer Prize and is a graduate of Dartmouth College.



Dan Hart is the CEO of Virgin Orbit. Over the course of his career, Hart has served in senior leadership roles across a wide range of aerospace programs, spanning human spaceflight, satellite development, launch, and missile defense and running through all phases of the aerospace product life cycle, from research and development through design, production, and space-flight operations. Hart currently serves as President and CEO for Virgin Orbit, Richard Branson's pioneering commercial space firm, launching small satellites into space from a rocket carried under the wing of a modified Boeing 747. It is Virgin's contribution to the massive transformation going on in space technology, and has the clear goal of opening access to space to improve life on earth.



Kelly Herrell is the CEO at Hazelcast. In his career, Herrell has led the growth of four innovative companies from early stage to market-leading entities, covering a broad span of compute and networking. At Hazelcast, Herrell brings his unique experience of driving high-value innovation, including open source models, into the infrastructure of the world's largest customers. Prior to joining Hazelcast, he was SVP & GM of the Software Business Unit at Brocade Communications, the result of Brocade's acquisition of Herrell's former company, Vyatta, which pioneered software-defined networking and delivered the most widely used software networking operating system in the world.



John C. (Chris) Inglis is a former Deputy Director of the National Security Agency. He is a 1976 graduate of the U.S. Air Force Academy and 30 year veteran of Air Force active and reserve service from which he retired as Brigadier General in 2006. He is currently a member of the U.S. Cyberspace Solarium Commission, the Defense Science Board, and the Strategic Advisory Groups for the United States Strategic Command, the Director of National Intelligence and the National Intelligence University. He is a Managing Director at Paladin Capital Group, and serves on the Boards of Directors for FedEx and Huntington Bank.



Antony Jenkins is the Founder & Executive Chair of 10x Future Technologies Group. As the Founder & Executive Chair, Jenkins's vision is to make banking 10x better. His focus on driving innovation in the digital economy also extends to his role as Group Chairman of Currencies Direct, the leading UK nonbank provider of foreign exchange and international payment services; and his role as a board member of Blockchain, the world's leading software platform for digital assets. Jenkins is a Board Director of Fannie Mae, sitting on the US mortgage lender's Strategic Initiatives and Technology Committee as Vice Chair, the Audit Committee and the Risk Policy and Capital Committee. He was previously the Group CEO of Barclays plc for three years until July 2015.



Dave King is the founder of Digitalis, a digital risk and online reputation firm that specialises in online narrative management, reputation risk and mitigation for individuals, corporations and governments. His recent work with Tony Blair on countering terrorist recruitment online has been well received by governments around the world, and he recently led a wide-ranging piece of research into foreign state propaganda and disinformation for the British Government. King is a source of expert comment for the BBC, CNN, Sky and various broadsheets, and often speaks publicly on the areas of digital reputational risk, cyber security and 'fake news'.



Wallis Laughrey is vice president of Space Systems, a mission area within Raytheon's Space and Airborne Systems. A member of the SAS leadership team, he oversees all Space Systems programs, developing the organization's vision, strategy and plans. Prior to his role at Space Systems, Laughrey was SAS vice president and deputy, Advanced Concepts and Technology. He continues to collaborate with ACT in the development and implementation of new and emerging system concepts, products and strategic technologies that position SAS for future programs, and architected a \$12B future resilient MILSATCOM enterprise architecture. Prior to Raytheon, Laughrey was Director, Strike Systems Advanced Development, Northrop Grumman Aerospace Systems.



Professor Dame Angela McLean DBE FRS is the Chief Scientific Adviser at the MOD. She is the most senior Science and Technology (S&T) Adviser and provides strategic leadership for S&T in MOD, sets strategic direction for S&T in Defence and oversees more than £350m of annual research. A major focus of her work is engagement with international partners and allies on S&T matters and she works closely with industry and academia to access the full range of innovative S&T. She holds a Chair in Mathematical Biology in the Department of Zoology at the University of Oxford and is a Fellow of All Souls College.



Max R. Peterson II, is the Vice President of International Sales in the Worldwide Public Sector at Amazon Web Services. In his role with AWS, Peterson supports public sector organizations as they leverage the unique advantages of commercial cloud and helps drive innovation among government, educational institutions and nonprofits around the world. Peterson is a public sector industry veteran with thirty years of experience. He is responsible for all AWS Public Sector sales, business operations and strategy across Europe, Middle East, Africa, Latin America and Canada. Peterson joined AWS in February 2012. Prior to that, he spent almost five years with Dell Inc., where he served as Vice President and General Manager for Dell Federal Civilian and Intelligence Agencies.



André Pienaar is the Managing Partner and Founder of C5, a specialist venture capital firm focused on cyber security, artificial intelligence, cloud computing and space, with offices in London, Washington, D.C., and Luxembourg. Pienaar serves on the boards of several cyber security companies, including IronNet Cybersecurity, ITC Secure, ShapeSecurity and 4iQ. Pienaar is also a board member of Haven Cyber Technologies, a technology investment firm with focus on high growth cyber security companies. Pienaar is a lawyer and an expert on cyber law and cybercrime.



Air Chief Marshal Sir Andrew Pulford GCB CBE DL is a former Chief of the Air Staff and a Senior Military Adviser at BAE Systems. Sir Andrew joined the Royal Air Force in 1977 as a Support Helicopter pilot, accumulating over 5,000 hours on both Wessex and Chinook helicopters. He has enjoyed a wide range of appointments, including Assistant Chief of the Defence Staff (Operations) and Deputy Commander Capability at Air Command. Sir Andrew was appointed Chief of the Air Staff in 2013, serving three years in post, overseeing the RAF's contribution to operations in Afghanistan, Iraq and Syria, and leading the successful Air input to the SDSR in 2015.



Air Vice Marshal S P Rochelle OBE DFC MA RAF is Chief of Staff Capability responsible for the development and delivery of all Royal Air Force capability programmes. A Tornado Navigator and Qualified Weapons Instructor with extensive operational experience he was awarded a Distinguished Flying Cross for operations during the Kosovo Campaign. A graduate of the Higher Command and Staff Course he has held senior appointments in capability development and delivery, leading Complex Weapons programmes, Carrier Enabled Power Projection and future programmes in Headquarters Air Command. He now leads capability development to deliver the Next Generation Air Force.



Sir Mark Sedwill KCMG FRGS was appointed Cabinet Secretary in 2018. He is also Head of the Civil Service and National Security Adviser. Prior to this, Sir Mark was the Permanent Secretary at the Home Office (2013-17), FCO Political Director (2012-13), NATO Senior Civilian Representative in Afghanistan (2010-11), HM Ambassador to Afghanistan (2009-10) and Director of UK visas (2006-8). He joined the Foreign & Commonwealth Office in 1989, serving in Egypt, Iraq, Cyprus and Pakistan. Sir Mark was educated at the University of St Andrews and the University of Oxford. He is a Fellow of the Royal Geographical Society, a Fellow of the Institute of Directors and President of the Special Forces Club. He is married with one daughter.



Peter Warren Singer is Strategist at New America. He has been named by the Smithsonian as one of the nation's 100 leading innovators, by Defense News as one of the 100 most influential people in defense issues, by Foreign Policy to their Top 100 Global Thinkers List, and as an official "Mad Scientist" for the U.S. Army's Training and Doctrine Command. Peter's award winning books include *Corporate Warriors: The Rise of the Privatized Military Industry*, *Children at War*, *Wired for War: The Robotics Revolution and Conflict in the 21st Century*; and *Cybersecurity and Cyberwar: What Everyone Needs to Know* and *Ghost Fleet: A Novel of the Next World War*, a technothriller crossed with nonfiction research.



Air Vice Marshal Johnny Stringer is Chief of Staff Joint Forces Command. After training, Stringer joined the Jaguar Force in 1993, he flew operationally over the Former Yugoslavia. From 2007 to 2009, he commanded 29 Squadron, at RAF Coningsby; he then spent 2 years as DACOS Jt Effects PJHQ before returning to New College as a visiting Fellow at Oxford in 2011. 2012-2014: Stringer commanded RAF Coningsby supporting national and overseas Typhoon operations. He was posted as ACOS Ops to Air Command in 2015 before commanding No.83 Expeditionary Air Group as the UK Air Component Commander between 2016/17, in charge of all national air operations in the fight against Daesh (Op SHADER).



Josh Sutton is the Chief Executive of Agorai, a firm that helps companies accelerate commercial returns from AI solutions and data assets. Sutton frequently speaks on how AI can be leveraged to transform business models and has been quoted in leading publications, such as Harvard Business Review, Forbes, CNBC, and Venture Beat. He also serves on the board of directors of NPower, a non-profit that provides military veterans with pathways to economic prosperity by providing them with the skills to launch digital careers. Prior to Agorai, Sutton held positions at Publicis Sapient and AI Capital.



Mark Thomas has been Chief Executive Officer of Reaction Engines Limited since May 2015. He is driving the growth of Reaction Engines and setting the future direction of the business. He leads the Executive Leadership Team and sits on the Main Board. As CEO, he is leading development of the SABRE engine concept, a new class of aerospace propulsion system for hypersonic and space access applications, and building a sustainable technology business. Thomas has grown the Company from 65 to close to 200 employees, secured significant investments from Strategic, Financial and Government Investors and expanded operations in the UK and US.



Lt Gen David Thompson is Vice Commander, Air Force Space Command, Washington, D.C. He is responsible to the commander of Air Force Space Command in carrying out Air Force space missions and integrating space policy, guidance, coordination and synchronization of space-related activities, and issue resolution for Air Force Space Command and the Department of the Air Force. Air Force Space Command organizes, trains, equips and maintains mission-ready space forces and provides missile warning, positioning, navigation and timing, and communications for North American Aerospace Defense Command, U.S. Strategic Command and the other functional and geographic combatant commands.



Melissa Thorpe is the Head of Engagement for Spaceport Cornwall, the UK's first horizontal launch site, and the main liaison for industry, military, Government, media, public, and schools. Together with launch partner, Virgin Orbit, this ambitious project will offer dedicated and responsive access to space by 2021, from an existing civilian airport. Thorpe works across the launch environment to efficiently secure investment and support, whilst communicating the space story to a wider demographic. Originally from Canada, Thorpe moved to the UK to attend the London School of Economics in 2010. Since then, she has worked on several aerospace development projects, and has been part of the Spaceport Cornwall team since its inception in 2014.



Lloyd A Treinish is an environmental scientist, helping to lead IBM's research and development in that field, as well as a Distinguished Engineer based at the IBM Thomas J. Watson Research Center in Yorktown Heights, NY. He is a pioneer of scientifically-based services for environmentally-sensitive business operations, including issues related to weather, water, energy, climate and sustainability. He also works on scientific visualization and data models. He joined IBM Research in 1990 after doing related work for over twelve years at NASA. He has authored over 70 scientific papers. He has won several awards from IBM and NASA for his contributions.



Ashok Vaswani is the Global Head of Consumer Banking and Payments at Barclays, overseeing the execution of plans for the Group's consumer banking, private banking and payments businesses in the UK and internationally. Prior to this Vaswani was the CEO for Barclays Bank UK, covering Retail Banking, Wealth, Business Banking and Barclaycard UK. Vaswani joined Barclays in 2010, managing the credit card business across the UK, Europe and the Nordics, becoming chairman of Entercard. He went on to manage Barclays in Africa, Barclays Retail Business Bank globally and Barclays Personal and Corporate Banking.



Steve Wadey joined QinetiQ, a global technology business with over 6,000 employees, as the Chief Executive Officer in April 2015. QinetiQ's scientists and engineers enable mission critical capability in both the defence and commercial markets. In March 2016, Wadey was appointed as the Chair of the United Kingdom's Trade and Investment Defence and Security Organisation (UKTI DSO) Industry Liaison Board. As industry and government work more closely together through the Defence Growth Partnership, the Board plays a crucial role in identifying export opportunities and maximising UK export success.



Morag Watson is the VP and Chief Digital Innovation Officer for BP's digital innovation organization (DIO) team. Watson and team make sure BP is adopting game-changing digital technology to speed up our transition to a low carbon future – from cognitive computing, to blockchain and robotics. As well as spotting opportunities, a key part of Watson's work looks out for emerging technologies that might one day pose a threat. After nearly 30 years at BP, Watson has helped put digital innovation at the heart of the entire group's strategy. Before stepping into her role as Chief Digital Innovation Officer, Watson led the America's IT operations and infrastructure. She has held a leadership role in BP's alternative energy business, looking at disruptive technology in renewables - from biofuels to solar power.



Stephen Watson is Director of The Atlantic Future Forum and project lead for AFF'19. He serves as an Honorary Commodore in the Royal Navy and helped conceive the Atlantic Future Forum, first staged on board HMS Queen Elizabeth in New York Harbour in 2018. Watson is Chief Executive of the UK based CTN Group, an independent media and communications agency working with global businesses, governments and international organisations. He is a former journalist and BBC News producer and has been a communications advisor to 10 Downing Street. Watson is a partner in Agorai, the Artificial Intelligence specialists.



Vice Admiral Timothy White assumed command of U.S. Fleet Cyber Command/U.S. 10th Fleet in June 2018. He has served on the staff of the Chief of Naval Operations as the Joint Military Intelligence Program and Tactical Intelligence and Related Activities (now Military Intelligence Program) program resources director, as the deputy director of intelligence and chief of staff, Joint Functional Component Command–Network Warfare, U.S. Strategic Command, and as the director, Commander’s Action Group at U.S. Cyber Command. His command tours include Naval Security Group Activity Bahrain and Navy Information Operations Command Maryland. As a flag officer, he has served as deputy director, Tailored Access Operations, NSA and as director for intelligence, J2, U.S. Pacific Command. White’s last tour was as Commander, Cyber National Mission Force, USCYBERCOM.



Douglas Wilhelm, is Vice President F-35 Customer Programs for Lockheed Martin Aeronautics Company. In this capacity, he is responsible for setting the strategic direction for all F-35 U.S. Services, Partner countries, and FMS customer relationships and leading international program teams in the delivery of an integrated set of F-35 capabilities across the product lifecycle. Previously, Wilhelm was Director, International Programs, for Lockheed Martin Corporation’s Mission Systems and Training (MST) business from 2009 until 2015. In that role, he was responsible for leading an organization that successfully implemented Aegis combat system programs in Japan, Korea, Spain, Norway, and Australia, as well as numerous international surface naval business pursuits.



David Williams is Executive Chairman of Arqit, the quantum encryption company. He served as Founder Chairman of the Advisory Board of Seraphim Space Ventures, a \$100m high technology venture capital firm. Williams was the co-founder and CEO of Avanti, which raised US\$1 billion to deploy a fleet of four high throughput telecom satellites serving EMEA. The company won contracts with telcos like BT, EE, Vodafone, Orange, Telkom and counted the British Government as its largest customer, for very high resilience high security communications services. Prior to this Williams was an investment banker with CIBC and Chase Manhattan, financing international telecoms businesses.



The Atlantic Future Forum wishes to thank the following companies for their advice and generous support in staging the Atlantic Future Forum 2019.



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For over 13 years, Amazon Web Services (AWS) has been the world's most comprehensive and broadly adopted cloud platform. Today, AWS powers hundreds of thousands of businesses in 190 countries around the world. AWS offers over 165 fully featured services for compute, storage, databases, networking, analytics, machine learning and artificial intelligence, Internet of Things, mobile, security, hybrid, virtual and augmented reality, media, and application development, deployment, and management. AWS services are trusted by millions of active customers—including more than 4,000 government agencies, 9,000 academic institutions and 27,000 nonprofits—to power their infrastructure, make them more agile, and lower costs.



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C5 Capital is a transatlantic specialist Venture Capital Firm focused on cyber security, artificial intelligence, cloud computing and space technology. C5 recognises the critical role these technologies play in our global security and seeks to create an advanced ecosystem of technologies, talent, and capital, to enable the best solutions to solve the most challenging problems. C5 combines multiple verticals in its cyber investment strategy putting it in a differentiated class as the premier global firm with this mission-driven purpose. C5 creates its global reach from its London headquarters to offices in Washington DC and Luxembourg.



Lockheed Martin

Lockheed Martin is a global security and aerospace company that employs approximately 105,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. Lockheed Martin UK is the Corporation's UK-based arm with 16 key sites across the UK employing approximately 1,700 people. LMUK is a strategic partner to the UK Government, spending approximately £1 billion annually and supporting 1,000 companies in its supply chain. Across the world, our customers tackle the hardest missions and every one of them, no matter how big or small, is our mission too.



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The Annapolis Accord 21 November 2019

The Atlantic Future Forum exists to celebrate the unique space, defence, security and technology relationship between the United Kingdom and the United States of America, and to champion collaboration between the public and private sectors in both countries.

We believe that, by working together, our two nations can harness the power of the fourth industrial revolution for good: combining human ingenuity and technological mastery to defend the values we share and to enhance our collective prosperity and security.

As founding members of the Atlantic Future Forum, we affirm this belief; commit ourselves to using the Forum to further this essential dialogue; and challenge ourselves to collaborate more effectively with public and private sector partners on both sides of the Atlantic to advance the interests of the nations, communities and populations we serve.





Thank you for attending today. We hope to see you in 2020.

The organisers would like to thank the following for their assistance and advice in staging the Atlantic Future Forum 2019.

HMS QUEEN ELIZABETH and her Ship's Company

Commodore Steve Moorhouse OBE RN, Commanding Officer

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