A LOOK AT LAST YEAR'S
ISR & C2 BATTLE MANAGEMENT USA

NOVEMBER 6TH – 8TH 2018
CROWNE PLAZA OLD TOWN ALEXANDRIA, VA, USA

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FOREWORD: REVIEWING 2018 AND LOOKING AHEAD TO 2019

The 4th and 5th iterations of Defence IQ's ISR and C2 Battle Management conference charted the development of multi-domain command and control as a transformative concept for the US and its Five Eyes partners. In 2017, the conference looked at ISR 'today and tomorrow', conducting a forward-leaning assessment of the threats to a previously unchallenged information dominance, and identifying those disruptive technologies that had the potential to deliver decision advantage for the future warfighter. Last November, the conference moved on, refining the MDC2 concept and applying it to accelerate the development of next-generation ISR capability.

The 2019 conference will pick up where the last conference left off, engaging more explicitly with the operationalization of MDC2 and those capabilities that the concept has driven forward. As the demands of long-term strategic competition urge readiness for a peer-level fight – where adversarial capabilities match or even outstrip our own – the Five Eyes nations have accepted that there may not be time fully to develop and field those technologies which are considered intrinsic to sustaining decisive information assurance. With adversaries focused on targeting battle networks, the challenge for industry and for uniformed leaders at every level – strategic, operational and tactical – is to sustain the integrity of assured C2 even when information superiority cannot be guaranteed. The priority, in other words, is to assure the mission, no matter how contested or degraded the operational environment becomes.

With this direction in mind, ISR and C2 Battle Management USA 2019 will engage with the following key subject areas:

- Integrating cyber within the MDC2 concept, and delivering a defence information architecture which is robust enough to sustain force integration and reach back in a CDO environment
- Accelerating doctrinal transformation and updating TTPS to enable the joint warfighter to sustain and exploit decision advantage for future contested operations
- Exploring the limits of distributed command and control and supporting effective real-time decision-making at the tactical edge
- Driving the development of space - and counter-space - capabilities and embedding them within the multi-domain operational concept
- Pushing forward the application of AI, big data and machine learning to support the advanced processing and exploitation of data for the complex battlespace

"I found the conference extremely valuable for direct contact and insights from senior DoD leadership"

– A 2018 attendee, Raytheon

TABLE OF CONTENTS

PAST ATTENDEES

PREVIOUS GOVERNMENT AND MILITARY ATTENDEES INCLUDE:

- Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance
- A2, HQ USAF
- Acting Deputy Assistant Secretary of Defense (Emerging Capability& Prototyping)
- Assistant Chief of Staff C2ISR, HQ Air Command
- Assistant Deputy Under Secretary of Defense for Intelligence
- Branch Chief
- Branch Chief & Director Military Intelligence Air
- Branch Head Navy Plans & Requirements
- C2 Requirements Branch Chief
- C4 ISR Department Head
- Deputy Chief of Staff, Intelligence, G-2
- Deputy Chief, Aerospace Warning Branch
- Deputy Chief, Air Force GEOINT and Targeting Division - AF/A2CG
- Deputy Chief, ISR Collection Capabilities
- Deputy Chief, ISR Requirements Branch
- Deputy Joint IC and Coalition ISR Interoperability
- Director of Information Warfare, Director of Intelligence - HQ Air Combat Command
- Director, Advanced Space, Multi-Domain Command and Control and Nuclear Enterprise
- Director, Advanced Strategy
- Division Director, Cyber Security Division (CSD) & SVIP
- J2 Director, Intelligence, Surveillance, and Reconnaissance
- Senior Cyber Analyst - C4ISR Dept
- Under Secretary Of Defense For Intelligence

PREVIOUS INDUSTRY ATTENDEES INCLUDE:

BAE SYSTEMS · BOEING · BOMBARDIER · Booz | Allen | Hamilton

CAE · CUBIC Enabling a Safer World · DELL EMC · Deloitte. · EMBRAER

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L3 Technologies · LEONARDO · LightSpace Technologies · NORTHROP GRUMMAN · Raytheon

2018 SESSION HIGHLIGHTS

Actualizing MDC2 Technology: Priorities for Enabling Multi Domain C2 & ISR

Mr. Jack Blackhurst SES, Executive Director, **Air Force Research Laboratory**

In his 2018 presentation, Mr Blackhurst reiterated the view of the USAF Chief of Staff, General Goldfein, that modern deterrence depends on an ability to globally create multi-domain dilemmas at high-speed, and the outcome of the future fight will be decided by which side possesses an information advantage. Although we are currently conducting multi-domain operations, they are manpower intensive, not fast enough and commanders have to call and request support from other domains, to name a few challenges.

Mr Blackhurst shared three priorities which were the outcome of the 2017 MDC2 ECCT Technology Team:

1. The need to secure data-sharing across distributed teams

2. Generating the ability to tactically change analytic and planning tools

3. Creating assured, resilient communications

Through the SDPE Global Lightning Experiment, the Air Force is looking to lease commercial space internet services to the warfighters, in a bid to provide them with an affordable solution for high bandwidth, low latency and jam/cyber resilience. Mr Blackhurst also highlighted the Air Force's need for an LEO constellation for missions such as Communications, ISR and PNT. Live-fly testing was due to start in December 2018 and should continue through to 2022 until Operational Capability is achieved.

VIEW THE FULL PRESENTATION HERE

MR BLACKHURST WILL BE RETURNING TO THIS YEAR'S ISR & C2 BATTLE MANAGEMENT USA CONFERENCE.

To view the full speaker panel and sessions, download the agenda here.

"This conference offers valuable insight on current and future ISR challenges"

– 2018 attendee, US Navy

2018 SESSION HIGHLIGHTS

U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND
Network / C3I S&T Strategy

Michael Monteleone SES, Director of Space & Terrestrial Communications Directorate, **U.S. Army CERDEC**

The network and C3I S&T Strategy of the U.S. Army aims to respond to the following problem statement: the current network is too complex, fragile, not sufficiently mobile nor expeditionary, and will not survive against a peer adversary, especially in a contested and congested environment.

In order to fix the issue, the U.S. Army needs to find adapt and buy new solutions to improve the current network by implementing these action points:

- Halt programs that do not meet operational requirements
- Fix capabilities required to be used quickly
- Pivot towards a new modernization approach, leveraging innovations in the commercial sector and using proven joint/SOF solutions

Mr Monteleone defined the following lines of effort for U.S. Army:

- Unified network
- Common Operating Environment
- Joint/Coalition Interoperability
- Command Post Mobility and Survivability

He sees the future network as a complex set of diverse systems that are integrated and easy to operate continuously, and which will enable the U.S. Army to retain tactical advantage in a near-peer environment.

VIEW THE FULL PRESENTATION HERE

Want to know more? Join us at this year's ISR and C2 Battle Management USA conference to hear from:

Brigadier General Johnny K Davis, Commanding General, Joint Modernization Command, U.S Army will deliver a keynote presentation on modernizing the Army to enhance multi-domain Command and Control.

Vice Admiral Frank Pandolfe (Ret.), former Assistant to the Chairman, Joint Chiefs of Staff (2015-2017) will moderate a panel on delivering an agile, resilient network to enable multi-domain Command and Control.

To view the full speaker panel and sessions, download the agenda here.

2018 SESSION HIGHLIGHTS

DEFENSE INTELLIGENCE INNOVATION & THE IT ENTERPRISE

Lieutenant General Bradford Shwedo, Director, C4 / Cyber; Chief Information Officer, **Joint Staff, J6**

Lieutenant General Shwedo highlighted during his presentation the National Defense Strategy's focus on the high-end fight and the shift towards winning in all scenarios against potential adversaries that have been observed for the past 20-30 years.

He presented the following as necessary to enable global information sharing:

- Secure communications between nodes
- Global Secure Access – smart data & credentials
- Common C2 and real-time situational awareness
- DoD Foundational Services & Apps – shared applications, data and capabilities

Today's strategic environment has evolved through the proliferation of advanced technologies, conflicts involved in all domains, adversaries searching for asymmetric attack axis against the U.S. and a global demand for forces that exceeds the inventory.

VIEW THE FULL PRESENTATION HERE

"The U.S. Government, industry, and Coalition presentations were excellent. It drives the need to have a continued partnership into the future"

– 2018 attendee, U.S. Air Force

2018 SESSION HIGHLIGHTS

The U.S. Armed Forces are looking to achieve global military integration for J6, which is an iterative process to integrate planning, prioritize resources and assess progress towards strategic objectives. Its intent is to strategically integrate operations worldwide, enabling decision-making and supporting an advantage against any adversary.

Lieutenant General Shwedo defined some of the near-term targets of global integration as follows:

- Shifting the focus to the Contested Environment
- Broadening the cyber focus to incorporate a larger Information Warfare enterprise
- Enhancing communications across all services
- Implementing a partnership with the DoD CIO
- Fostering an environment of innovation

Want to know more? Join us at this year's ISR and C2 Battle Management USA conference to hear from:

Mr Kenneth Bray SES, Acting Associate Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance, Headquarters U.S. Air Force.

Rear Admiral Scott Bishop, Commander, Canadian Forces Intelligence Command

Lieutenant General David A. Deptula, Dean, Mitchell Institute of Aerospace Power Studies will moderate a senior leaders panel on intelligence and C2 in a multi-domain era, with the current confirmed panelists:

- Brigadier General James Cluff, Director of Remotely Piloted Aircraft and Big Wing Intelligence, Surveillance and Reconnaissance, US Air Force
- Dr Charles Perkins, Principal Deputy to the Deputy Assistant Secretary of Defense (Emerging Capability & Prototyping), Office of the Assistant Secretary of Defense for Research and Engineering (ASD(R&E))

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Raytheon Company, with 2017 sales of $25 billion and 64,000 employees, is a technology and innovation leader specializing in defense, civil government and cybersecurity solutions. With a history of innovation spanning 96 years, Raytheon provides state-of-the-art electronics, mission systems integration, C5ITM products and services, sensing, effects, and mission support for customers in more than 80 countries. Raytheon is headquartered in Waltham, Mass. Follow us on Twitter. **Website: http://www.raytheon.com**

THREE STAR PARTNER

Lockheed Martin

Lockheed Martin has a rich legacy developing transformational C4ISR systems that expedite the intelligence exchange between systems across all domains - air, space, land, sea and cyber. From developing the enterprise system that directs flying operations for all U.S. military forces to enabling the Ballistic Missile Defence System to operate as a global network, Lockheed Martin is focused on developing technologically advanced C4ISR solutions that improve the speed and efficacy of intelligence. By developing sophisticated artificial intelligence products and machine-to-machine capabilities that automate the intelligence cycle and enhance real-time situational awareness, Lockheed Martin is continually advancing ways to reduce the "data to decision cycle." **Website: http://www.lockheedmartin.com**

TWO STAR PARTNERS

Connexta

Connexta delivers tools that enable seamless information interoperability between diverse systems in a manner that permits both ease of integration and capability evolution. Leveraging a scalable and secure platform, we provide users with data and tools that overcome the burden of search and retrieval across an intelligence enterprise. From search to content management, task management, and workflow management, Connexta solutions enable users to focus on their mission rather than software roadblocks.

Honeywell

Honeywell Aerospace products and services are found on virtually every commercial, defense and space aircraft, and its turbochargers are used by nearly every automaker and truck manufacturer around the world. The Aerospace business unit develops innovative solutions for more fuel efficient automobiles and airplanes, more direct and on-time flights, safer flying and runway traffic, along with aircraft engines, cockpit and cabin electronics, wireless connectivity services, logistics and more. The business delivers safer, faster, and more efficient and comfortable transportation-related experiences worldwide. For more information, visit aerospace.honywell.com or follow us at @Honeywell_Aero. **Website: https://aerospace.honeywell.com/**

ONE STAR PARTNERS

Boeing

Boeing is the world's largest aerospace company and leading manufacturer of commercial jetliners, defense, space and security systems, and service provider of aftermarket support. As America's biggest manufacturing exporter, the company supports airlines and U.S. and allied government customers in more than 150 countries. Boeing products and tailored services include commercial and military aircraft, satellites, weapons, electronic and defense systems, launch systems, advanced information and communication systems, and performance-based logistics and training. **Website: http://www.boeing.com/boeing/**

Gulfstream

Gulfstream aircraft have been defining and redefining The World Standard® in special missions for more than 45 years. From the mid-cabin, high-speed Gulfstream G150 to the large-cabin, ultra-long-range Gulfstream G550, our fleet offers the highest performance transportation and special missions platform solutions for government and military applications worldwide. **Website: http://www.gulfstream.com**

General Dynamics Mission Systems

General Dynamics Mission Systems, a business unit of General Dynamics is a leader in solving some of our customers' toughest challenges in the intelligence, surveillance and reconnaissance (ISR), communications and platform systems and sensor markets. Our experience in building, deploying and supporting ISR solutions includes signals and information collection and processing, insider threat management and analytic solutions developed for, and currently used by, the U.S. Department of Defense and Intelligence Community.

Aechelon

Aechelon Technology Inc. is a leading US provider of 3D real time visual simulation image generators, large scale geo-specific visual and sensor multi-spectral databases (Peta-byte scale) and integration services for the US Marine Corp, US Navy, US Air Force, US Army, Special Operations Command, US State Department Foreign Military Sales program and US Coast Guard. Throughout its eighteen year history, the company has maintained an unparalleled track record. The company is introducing this year a Space Resilient, GPS Denied situational awareness architecture which allows multi-sensor live radar (SAR/GMTI) and motion video (EO/IR) sensor fusion and interactive visualization and targeting against 3D synthetic databases. **Website: http://aechelon.com/**

Appareo

Appareo is a recognized leader in the custom design, development and manufacture of cutting-edge technologies utilized in aerospace and agriculture. The company's AI Systems division specializes in a variety of Machine Learning and Deep Learning techniques to bring AI capabilities to challenging environments. Appareo specializes in custom architectures and algorithms that are efficient enough to be deployed at the edge without relying on high-powered servers in the Cloud. By leveraging Appareo's expertise in off-road rugged electronics systems, the AI Systems group is able to integrate with existing systems or develop new electronics for data acquisitions or edge computing. Some areas of expertise include Image Classification and Object Recognition, Speech Recognition, Natural Language Processing, and Predictive Maintenance. Throughout its fifteen year history, Appareo has developed innovative electronics or software solutions for major OEMs as well as government agencies, including the U.S. Air Force, U.S. Army, U.S. Department of Defense, and U.S. Forest Service. Appareo is dedicated to turning acumen and ambition into tangible technology. The engineers at Appareo want to tackle the hard problems and leave a lasting mark as a group of innovative thinkers who were unafraid to take risks in order to advance technology. All Appareo products are manufactured in the USA at the company headquarters in Fargo, North Dakota. Appareo is privately held with 200 employees across three locations: Fargo, N.D., Tempe, Ariz. and Paris, France.

LightSpace Technologies

LightSpace Technologies are the global leader in development of a 3-dimensional real-time volumetric imaging display that delivers physically deep images that can be used without glasses, or helmets, and with no visual fatigue. They are truly Field of Light displays providing real-time video bandwidth, wide field of view multi-plane images with precise detail and high spatial resolution in three coordinates. LightSpace Technologies 3D image displays are developed in traditional Front View architecture with 19 to 27 inch screens to be used for workstations, as well as new Augmented Reality "Sand Box" S-series 39 to 54 inch bench top architecture. They are able to visualize of complex data states relative to geography, create easy to perceive 3D imagery. The key use areas for volumetric 3D image display technology are expected to be: Airspace Management, Command and Control systems 3D displays, Satellite orbit analysis, Underwater 3D sonar, 3D radar, Command and Control systems 3D displays, general computational graphics, scientific 3D visualization, medical data imaging (X-ray / MRI CT and ultrasonic 3D data image), gaming and augmented reality in various applications.

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FOUR STAR PARTNER

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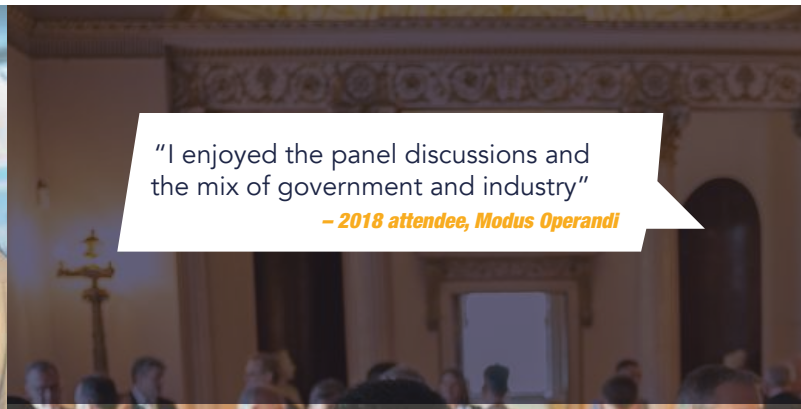

"I enjoyed the panel discussions and the mix of government and industry"

– 2018 attendee, Modus Operandi

SPONSORSHIP PACKAGES

FOUR STAR LEAD PARTNER

Pre-event:
- Seat on the Event Advisory Board
- Logo featured on homepage of the event website
- 250 word company profile on event website
- Logo featured on front page of event brochure
- Inclusion in the fully integrated marketing campaign in print, online and through email
- Strategic marketing coordinated by IQPC to invite your top prospects to the event
- Delegate list two weeks prior to the event

At event:
- Four Star Lead opening remarks
- Plenary speaking position in the main conference programme
- Second speaking position on focus day
- Seat on the Global Industry Leaders Panel
- 2 VIP speaker passes
- 6 delegate passes
- 6 x 4 metre exhibition space
- Private meeting room
- Inclusion on event signage as Four Star Lead Partner
- Logo will be included on event documentation
- Exclusive hosting of the VIP Military Speaker's Dinner

Post event:
- You will receive a copy of the final delegate list

Investment Level:
- **Price on application**

THREE STAR PARTNER

Pre-event:
- Seat on the Event Advisory Board
- Logo featured on homepage of the event website
- 250 word company profile on event website
- Logo featured on front page of event brochure
- Inclusion in the fully integrated marketing campaign in print, online and through email
- Strategic marketing coordinated by IQPC to invite your top prospects to the event
- Delegate list two weeks prior to the event

At event:
- Plenary speaking position in the main conference programme
- Seat on the Global Industry Leaders Panel
- 1 VIP speaker pass
- 4 delegate passes
- 6 x 4 metre exhibition space
- Private meeting room
- Inclusion on event signage as Three Star Partner
- Logo will be included on event documentation
- Exclusive host of one of the key networking events – drink reception/lunch/coffee break

Post event:
- You will receive a copy of the final delegate list

Investment Level:
- **Price on application**

TWO STAR PARTNER

Pre-event:
- Logo featured on homepage of the event website
- 250 word company profile on event website
- Logo featured on front page of event brochure
- Inclusion in the fully integrated marketing campaign in print, online and through email
- Delegate list two weeks prior to the event

At event:
- Speaking position in a conference stream or focus day
- 1 VIP speaker pass
- 2 delegate passes
- 3 x 2 metre exhibition space
- Inclusion on event signage as Two Star Partner
- Logo will be included in onsite event documentation

Post event:
- You will receive a copy of the final delegate list

Investment Level:
- **Price on application**

ONE STAR PARTNER

Pre-event:
- Logo featured on homepage of the event website
- 250 word company profile on event website
- Logo featured on front page of event brochure
- Inclusion in the fully integrated marketing campaign in print, online and through email
- Delegate list two weeks prior to the event

At event:
- 2 delegate passes
- 3 x 2 metre exhibition space
- Inclusion on event signage as One Star Partner
- Logo will be included in onsite event documentation

Post event:
- You will receive a copy of the final delegate list

Investment Level:
- **Price on application**

To learn more about the opportunities available at this year's Maritime ISR Global conference contact:
Richard Brookes, ISR Portfolio Sales Director, T: +44 (0)20 7368 9300 E: sponsorship@iqpc.co.uk

JOIN US THIS YEAR

NOVEMBER 5TH – 7TH 2019
HILTON CRYSTAL CITY, WASHINGTON DC

OPERATIONALIZING MULTI-DOMAIN C2 IN READINESS FOR THE PEER FIGHT

2019 speakers:

Mr Kenneth Bray SES, Acting Associate Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance, Headquarters **US Air Force**

Rear Admiral Scott Bishop, Commander, **Canadian Forces Intelligence Command**

Randall G. Walden SES, Director and Program Executive Officer, Rapid Capabilities Office, **US Air Force**

Brigadier General James Cluff, Director of Remotely Piloted Aircraft and Big Wing Intelligence, Surveillance and Reconnaissance, **US Air Force**

Brigadier General Johnny K Davis, Commanding General, Joint Modernization Command, **US Army**

Dr Charles Perkins, Principal Deputy to the Deputy Assistant Secretary of Defense (Emerging Capability & Prototyping), **Office of the Assistant Secretary of Defense for Research and Engineering (ASD(R&E))**

Jack Blackhurst SES, Executive Director, **Air Force Research Laboratory**

Mr Rob Murray, Head of Section, Intelligence, Land and Maritime, Defence Investment Division, **NATO**

Mr Patrick J O'Neill, Director, C5ISR Center, **US Army Combat Capabilities Development Command**

Mr. Thomas "Shotgun" Browning, Director, Adaptive Capabilities Office (ACO), **DARPA**

Captain Matthew Frauenzimmer, Chief Information and Technology Officer, Patrol and Reconnaissance Group, **US Navy**

Colonel Mike McGinley, Defence Engagement Team Lead, Defense Innovation Unit, **US Department of Defense**

Colonel Max Pearson, Commander, 480th Wing, **US Air Force**

Dr Todd Lowery, Associate Deputy Director For S&T, **CIA**

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