

# DAY ONE: ACCELERATING ISR INNOVATION: DRIVING CAPABILITY THROUGH PARTNERSHIP


## 24TH SEPTEMBER 2019

0800 REGISTRATION AND COFFEE

0850 WELCOME ADDRESS FROM DEFENCE IQ

 Ben McClatchie, Senior Defence Producer, **Defence IQ**

0855 CHAIRMAN'S OPENING REMARKS

 Rear Admiral (Retd.) Garry E. Hall, Former Special Assistant to the President & Senior Director, **US National Security Council (2017-2019)**

0900 OPENING KEYNOTE: TRANSFORMING NATO'S CAPABILITY TO SUPPORT MARITIME SECURITY IN EUROPE

- ▶ Delivering a multi-domain ISR capability that can support maritime superiority in an era of competition
- ▶ Establishing critical lines of effort for NATO's naval forces
- ▶ Beyond the traditional domains of operation. Integrating cyber as a core component of future maritime capability
- ▶ High-end warfighting capabilities, and the how they could be used to exploit vulnerabilities in NATO's maritime technologies and systems

 Major General Eduard Simion, SACTREPEUR, **Allied Command Transformation**

0930 HOW TIPPING AND CUEING SATELLITES COULD HELP THE MARITIME DOMAIN AWARENESS ?

SAR and Electro-Optical capacities are more and more required by the Maritime Domain Awareness stakeholders. Their common use, also called Tipping and Cueing, gives critical information to Detect, Track and Identify targets of interest. Maxar is the global leader in both technologies, and is developing a wide range of tools and analytics for Maritime Applications.

**MAXAR** Laurent Dezamy, Product Manager – Maritime Applications, **Maxar**

1000 SCENE-SETTER: 'FOOD FOR THOUGHT' ON FUTURE TECHNOLOGIES AND CONCEPTS OF MARITIME ISR AND WARFIGHTING

- ▶ The security situation in the Black Sea today and in the near-term
- ▶ What type of technologies will emerge, and how could they reshape the future of ISR and warfighting?
- ▶ What should we expect of our adversaries, and what will NATO be faced with in the future?
- ▶ Which technological developments should we expect to continue to evolve, and how fast?
- ▶ What should our long term research and investment focus on to deal with potential threats of the future?

 Dr. Gjert Dyndal, Deputy Head of the Strategic Analysis Capability Team, **NATO HQ**

1030 MORNING COFFEE AND NETWORKING

1100 HOW NEW TECHNOLOGIES IN RPA CONSTITUTE A REVOLUTION FOR ISR COLLECTION ?

- ▶ Erase the intrinsic weaknesses of employment of MALE RPA
- ▶ Offer solutions to the manning issues and manned unmanned teaming
- ▶ Multiply the benefit for ISR persistence multi int collection

Christophe Fontaine, Europe Regional Director, **General Atomic Aeronautical**



1115 NATO'S UNMANNED MARITIME SYSTEMS PROJECT

- ▶ Introduction to NATO's MUS programme
- ▶ Collaboratively delivering an unmanned capability for NATO which can combat the threat from increasingly quiet submarine platforms
- ▶ Force multiplying traditional naval assets to enhance situational awareness and support maritime superiority
- ▶ Developing common, interoperable systems that can maximise integration for NATO's ISR forces

 Commander Sean Trevethan, Fleet Robotics Officer and Navy X Programme Manager, **Royal Navy**

 Andrea Bell, Director of International Programmes, PEO Unmanned and Small Combatants, **US Naval Sea Systems Command**

1215 SMALL UNMANNED SYSTEM APPLICATIONS FOR MARITIME ISR

- ▶ Common Maritime ISR needs and Capability Gaps
- ▶ Challenges of ISR in demanding Land and Maritime environments
- ▶ SUAS technology solutions to close the gaps

 David Hendrickson, Director Business Development, **AeroVironment, Inc**

1230 NETWORKING LUNCH


1400 INDUSTRY PANEL DISCUSSION: LEVERAGING UNMANNED SYSTEMS IN THE FUTURE MARITIME OPERATING ENVIRONMENT

Current assessments of the future maritime operating environment present a number of challenges for conventional MPA platforms. The need to achieve readiness for high-tempo operations in the contested theatre - added to the longstanding difficulty of delivering MDA at scale – requires a rethink of how manned platforms can and should be deployed, as does the increasing demand for undersea surveillance. In that context, it is more important than ever that naval and naval air forces can leverage unmanned systems to maximum effect, in order to close gaps that other platforms can no longer fill.

Questions for discussion will include:

- ▶ What role is there for unmanned systems in a more contested theatre of operations?
- ▶ How can unmanned systems fill the gap when manned platforms are not available or cannot be deployed?
- ▶ How should we approach the interoperability challenge? How will future unmanned systems network effectively with a multi-domain ISR enterprise?
- ▶ How can unmanned capability support undersea surveillance?
- ▶ Mitigating the limitations of scale. Feeding data back from the edge to support the operational and strategic intelligence picture?

Moderated By:

 Rear Admiral (Retd.) Garry E. Hall, Former Special Assistant to the President & Senior Director, **US National Security Council (2017-2019)**

Panelists:

Christophe Fontaine, Europe Regional Director, **General Atomic Aeronautical**



# DAY ONE: ACCELERATING ISR INNOVATION: DRIVING CAPABILITY THROUGH PARTNERSHIP 24TH SEPTEMBER 2019



## MITIGATING THE CYBER THREAT TO ENHANCE INTELLIGENCE SHARING

- ▶ What do the designers of future ISR capability need to bear in mind when they're approaching the cyber challenge?
- ▶ Maximising NATO's ability to share critical information across platforms, domains and partnerships
- ▶ Sustaining the integrity of the network when embedding new capability within the existing network
- ▶ Can we define cross-industry standards for cyber resilience?



**John Gwinnup**, Strategic Cyber Threat Intelligence Analyst,  
**NATO Intelligence Fusion Centre**

## 1500 SPACE AS AN INTEGRAL DOMAIN FOR THE FUTURE MARITIME INTELLIGENCE PROJECT

- ▶ Opportunities for leveraging space-based capability to enable persistent MDA
- ▶ Contributing to the joint intelligence picture
- ▶ Too far to be tactical? From space to the tactical edge – challenges for integration and dissemination

**Guy Thomas**, President, **C-SIGMA**

## 1530 AFTERNOON COFFEE AND NETWORKING

## 1600 INDUSTRY INNOVATORS: EXPANDING PARTNERSHIPS FOR A DISRUPTIVE FUTURE

Future ISR capability will be shaped in no small part by start ups, SMEs and other non-traditional defence companies. Recognising that reality, this section of the programme will provide a platform for those companies to explain how they can contribute to the most significant challenges facing ISR in the maritime domain. Each industry contributor will have an opportunity to deliver a short presentation, before joining a panel moderated by a number of military S&T panellists. Those panellists will be asked to weigh in with thoughts on how those solutions might be embedded as a component of future capability.

## 1610 NEAR REAL TIME, ON DEMAND, PERSISTENT SURVEILLANCE ANYWHERE ON THE PLANET – HOW CAPELLA'S CONSTELLATION WILL REVOLUTIONISE MARITIME DOMAIN AWARENESS

- ▶ Capella's 36 satellite constellation will provide sub hourly persistent surveillance anywhere on the planet, providing both imagery and data analytics
- ▶ Utilising the latest technologies, satellite tasking can be directly integrated into existing MDA systems, enabling operations centres to call in surveillance as needed. The near real time "eyes on target" capability supports decision making and provides true situational awareness.
- ▶ Imagery will be available down to 50cms resolution, any time day or night, regardless of weather conditions.



**John Allan**, Business Development – Maritime, **Capella Space**

## 1625 IMPROVED SITUATION AWARENESS WITH LIGHTSPACE TECHNOLOGIES VOLUMETRIC 3D IMAGE DISPLAY TECHNOLOGY



**Ilmars Osmanis**, CEO, **Lightspace Technologies SIA**

## 1640 MARITIME DOMAIN AWARENESS MONITORING IN NEAR-REAL TIME

- ▶ Near real-time monitoring of the seas is a reality from space using satellites
- ▶ Seeing "dark vessels", with AIS turned off, is convenient day and night, all weather using a radar satellite constellation
- ▶ Spot abnormal naval activities, catch illegal fishing, detect sanction evaders, get early warning on migrant vessels, and see vessels smuggling
- ▶ Demonstration of the technology and solution in action

**ICEYE** **Chris Winquist**, Business Development, **ICEYE**

## 1710 S&T PANEL

**Moderator:**



**Rear Admiral (Retd.) Garry Hall**, Former Special Assistant to the President & Senior Director, **US NSC (2017-2019)**

## 1740 CHAIRMAN'S CLOSING REMARKS



**Rear Admiral (Retd.) Garry Hall**, Former Special Assistant to the President & Senior Director, **US NSC (2017-2019)**

## 1750 CLOSE OF DAY ONE

**'Very valuable for networking  
and market appraisal'**

Business Development Director, Meta Aerospace  
2018 Maritime ISR Global Attendee

# DAY TWO: SUPPORTING MARITIME SUPERIORITY IN AN ERA OF GREAT POWER COMPETITION

## WEDNESDAY 25TH SEPTEMBER 2019

0745 **REGISTRATION AND COFFEE**

0845 **WELCOME ADDRESS FROM DEFENCE IQ**

 **Ben McClatchie**, Senior Defence Producer,  
**Defence IQ**


0850 **CHAIRMAN'S OPENING REMARKS**

 **Rear Admiral (Retd.) Garry E. Hall**, Former  
Special Assistant to the President & Senior Director,  
**US National Security Council (2017-2019)**

### ENFORCING NATO'S MARITIME SECURITY: REGIONAL CASE STUDIES, A GLOBAL ENTERPRISE

0900 **HOST-NATION KEYNOTE ADDRESS: JOINTLY  
MEETING THREATS TO NATO'S SECURITY IN  
THE BLACK SEA**

- ▶ Assessing the threat to NATO's eastern sea borders
- ▶ Meeting the demand for a higher tempo of operation – maximising readiness for regional maritime forces
- ▶ Applying available ISR resources to support situational awareness and C2 for operations in the Black Sea

 Senior Representative, **Romanian Ministry of Defence**

0930 **CHANGING DYNAMICS OF OPERATIONAL  
LANDSCAPE IN THE INFORMATION AGE -  
THE IMPACT AND USE OF SATELLITES TO  
OPERATIONS AND INFORMATION SHARING**

- ▶ Maintaining operational advantage while on the move - enabling Networks on the Move that are responsive to the needs of decision makers
- ▶ Latest developments and changes in COMSATCOM as drivers to achieve "Mission Command" in real time;
- ▶ Leveraging the diversity of Commercial Satellite Communications to enhance resiliency – the value of multi-band and/or multi-orbit constellations

**SES<sup>▲</sup>** **John B. Munoz Atkinson**, Director, Business Development, European Defence & Security, **SES Networks, Global Government**

1000 **MAXIMISING DOMAIN AWARENESS IN THE  
BALTIC SEA**

- ▶ Delivering persistent surveillance in the Navy's AOR
- ▶ Joint approaches to MDA. Leveraging the air component to support the surface fleet
- ▶ Undersea detection in congested littoral environments


 **Rear Admiral Krzysztof Jaworski**, Commander  
Maritime Component Command, **Polish Navy**

1030 **SENIOR LEADERS Q&A: HOW WILL THE ISR  
ENTERPRISE ADAPT TO SUPPORT NATO'S  
GLOBAL MARITIME SECURITY?**



- ▶ How will the focus of the maritime ISR project evolve as NATO seeks readiness for sustained combat operations at sea? What does this mean in terms of capability, doctrine and training?
- ▶ The challenges of adopting an end-to-end approach to ISR. Ensuring that existing ISR forces are equipped to move beyond intelligence gathering and towards supporting the delivery of kinetic effect
- ▶ Overcoming limitations to interoperability in a maritime context. How can individual assets be used to force multiply the NATO force without compromising on the integrity of mission-critical data?

**Moderator:**

 **Rear Admiral (Retd.) Garry E. Hall**, Former  
Special Assistant to the President & Senior Director,  
**US National Security Council (2017-2019)**

**Invited Panellists:**

 **Major General Eduard Simion**, SACTREPEUR,  
**Allied Command Transformation**

 **Rear Admiral Krzysztof Jaworski**, Commander  
Maritime Component Command, **Polish Navy**

 **Captain Thomas Schütze**, Chief of Staff,  
**German Navy Marine Forces & Baltic Maritime  
Component Command**

1100 **MORNING COFFEE AND NETWORKING**


1130 **INDUSTRY LEADERS PANEL: HOW DO  
WE DELIVER INTEGRATION AS A CORE  
COMPONENT OF FUTURE MARITIME ISR?**




Delivering integration as a designed-for concept for future ISR forces requires partnerships across industry. Systems integrators are uniquely placed to develop those partnerships, and must demonstrate, both to their defence customers and their industry colleagues, a vision for a truly multi-domain ISR project. This panel will invite those integrators to address questions including:

- ▶ How should the requirement for joint maritime ISR be defined and designed?
- ▶ What opportunities are there for non-conventional solution-providers to provide critical operational capability?
- ▶ How can conventional limitations to integration across platform and across domain be overcome?

**Moderator:**

 **Rear Admiral (Retd.) Garry E. Hall**, Former  
Special Assistant to the President & Senior Director,  
**US National Security Council (2017-2019)**

**Panellists:**

 **Marco Valcarengi**, Electronics Division, **Leonardo**  
**SES<sup>▲</sup>** **Gerard Donelan**, Vice President Defence & Security,  
**SES Satellites**

**MAXAR** **Laurent Dezamy**, Product Manager – Maritime  
Applications, **Maxar**

1200 **SUPPORTING NATO'S CAPACITY TO ACT IN A NEW EUROPEAN SECURITY ENVIRONMENT**

- ▶ Establishing the multinational Baltic Maritime Component Command. Preparing for new theatres of operation
- ▶ Moving away from low-intensity operations and towards traditional naval warfare preparedness
- ▶ Delivering the capabilities to meet the threat. Complex operations in confined and shallow waters



**Captain Thomas Schütze**, Chief of Staff, **German Navy Marine Forces & Baltic Maritime Component Command**

1230 **LEONARDO COMPANY AND HELICOPTERS AS A MARITIME ISR DELIVERY PLATFORM**

- ▶ Leonardo Company overview and Divisional construct
- ▶ Helicopters as an ISR Delivery Platform and the importance of information-led operations
- ▶ The potential of Manned and Unmanned Teaming across the Spectrum of Maritime Operations



**Louis Wilson-Chalon**, Helicopter Division, **Leonardo**

1300 **A COMBINED APPROACH TO NATO'S MARITIME SECURITY**

- ▶ Sharing the burden of Black Sea security among NATO's members and partners
- ▶ Articulating a combined response to maritime security in a congested littoral environment
- ▶ The role of the defence intelligence enterprise in supporting NATO's approach to regional deterrence
- ▶ Building capability and interoperability – drawing on a whole force approach to defend NATO's eastern sea borders



**Captain Haruna Isa**, Deputy J2, **United States European Command** (Or Assistant J2)

1330 **NETWORKING LUNCH**

**REFINING THE JOINT OPERATIONAL CONCEPT: INFORMATION SHARING, MISSION ASSURANCE**

1430 **REFINING ISR CONCEPTS OF OPERATION FOR THE CONTESTED MARITIME THEATRE**

- ▶ Defining an operational concept for maritime ISR that takes account of the contested theatre. Guaranteeing information assurance and sustaining the war fighter's edge
- ▶ Beyond domain awareness and towards supporting kinetic effect – preparing the ISR force to enable combat operations in a joint maritime environment
- ▶ Distributed lethality as a realistic operational concept. What does the war fighter need to make effective decisions at the operational edge, and how can tactical intelligence be fed in to the strategic approach to joint ISR?



**Captain Daniele Martinuzzi**, Operations Directorate, **European Union Military Staff**

1500 **DELIVERING A MULTI-SOURCE MARITIME ISR SYSTEM**

- ▶ Enhancing interagency cooperation and

interoperability

- ▶ Supporting full spectrum maritime security from space
- ▶ Delivering situational awareness and vessel classification in realtime



**Piotr Malinowski**, Head of EUROSUR and Copernicus Sector, **European Border and Coast Guard Agency**

1530 **BRINGING MARITIME INTERDICTION AND ISR TRAINING IN-LINE WITH DOCTRINE AND CAPABILITY**

- ▶ Delivering a live and simulated training framework which can support NATO and its partners as they execute surface, sub-surface and aerial surveillance
- ▶ Updating tactical maritime doctrine and training in readiness for future operations
- ▶ Delivering an interoperable training enterprise for NATO's maritime forces
- ▶ Training for mission assurance without information assurance, what to do when the intelligence picture falls short



**Commodore Stelios Kostalas**, Commandant, **NATO Maritime Interdiction Operational Training Centre**

1600 **AFTERNOON COFFEE AND NETWORKING**

1630 **MAXIMISING INFORMATION SHARING FOR MULTINATIONAL MARITIME SECURITY OPERATIONS**

- ▶ Overcoming existing barriers to sharing and fusing maritime information and intelligence
- ▶ Assuring the mission when information flow is compromised
- ▶ Pooling multinational resources to force multiply existing capability



**Rear Admiral Enrico Credendino**, Operation Commander, EUNAVFOR Mediterranean, **Op SOPHIA**

1700 **STRIKING A BALANCE: THE STATE ACTION AT SEA PRINCIPLE AS AN EXAMPLE OF MARITIME COLLABORATION**

- ▶ Delivering a cross-government maritime strategy which can balance the Navy's need to sustain combat readiness with the broader demands of maritime security enforcement
- ▶ Sharing assets, information and training to improve maritime domain awareness
- ▶ Improving the exchange and quality of maritime surveillance data to strengthen the combined response to threats at sea



**Colonel Pascal Cheylan**, Maritime Security Policy, Office of the Prime Minister, **French General Secretariat of the Sea**

1730 **CHAIRMAN'S CLOSING REMARKS**

**Rear Admiral (Retd.) Garry E. Hall**, Former Special Assistant to the President & Senior Director, **US National Security Council (2017-2019)**

1740 **CLOSE OF DAY ONE**

# DAY THREE: SUPPORTING MARITIME SUPERIORITY IN AN ERA OF GREAT POWER COMPETITION

## THURSDAY 26TH SEPTEMBER 2019

0800 REGISTRATION AND COFFEE

0900 CHAIRMAN'S OPENING REMARKS



**Rear Admiral (Retd.) Garry E. Hall**, Former Special Assistant to the President & Senior Director, **US National Security Council (2017-2019)**

### FROM DOMAIN AWARENESS TO DECISION ADVANTAGE

0910 THE P-8A's ROLE IN SUPPORTING AN INTEGRATED APPROACH TO MARITIME ISR

- ▶ Integrating the P-8A within the existing force structure to enhance MDA and to support readiness for future operations
- ▶ Supporting end-to-end mission intelligence – beyond surveillance and towards readiness for supporting the delivery of kinetic effect from the air
- ▶ The future of the manned patrol aircraft on complex operations



**Air Commodore Barbara Courtney**, Incoming Commander Surveillance and Response Group, **Royal Australian Air Force**

0950 INTEGRATED AND INNOVATIVE SOLUTIONS FOR MANNED AND UNMANNED ISR AIR SYSTEMS

- ▶ Integrated Systems within Multi-Asset and Multi-Domain environment and data as key within a complex scenario
- ▶ Innovative Solution designed in support to a reactive decision making process
- ▶ From Product to a fully-managed information-superiority service



**Marco Valcarengi**, Electronics Division, **Leonardo**

1020 UNDERSEA ISR IN A MULTI-DOMAIN THEATRE OF OPERATIONS

- ▶ Conducting undersea detection and warfare in the Baltic Sea
- ▶ Overcoming technical limitations to detection in congested littoral environments
- ▶ Adapting in readiness for multi-domain contested operations. Sustaining persistent ISR in spite of threats in the cyber and EM domains



**Captain Frederik Palmquist**, Commander 4th Naval Warfare Flotilla, **Swedish Navy**

1100 MORNING COFFEE AND NETWORKING

1140 AIRBORNE MARITIME PATROL IN THE COMPLEX OPERATING ENVIRONMENT



**Lieutenant Commander Joseph Karaffa**, Operations Officer, CTF-67, **US Naval Forces Europe-Africa**

1200 DELIVERING A MULTI-ROLE MARITIME PATROL CAPABILITY FOR AN EXTENDED THEATRE OF OPERATIONS

- ▶ Supporting and sustaining a mixed-fleet maritime patrol force
- ▶ Delivering enhanced MDA over a vast area of responsibility
- ▶ Integrating the naval force with the air component to force multiply existing ISR capability



**Brigadier General Rozainy bin Ahmad Rapiee Ahmad Rofie**, Base Commander, **Royal Malaysian Air Force**

1240 NETWORKING LUNCH

1400 SUPPORTING A JOINT FORCE APPROACH TO MARITIME DOMAIN AWARENESS

- ▶ Generating a Common Maritime Picture to enable maritime operations in the joint setting
- ▶ Leveraging multiple ISR assets and multiple data sources to support the MDA project, and fusing the data feeds to generate a coherent overall picture
- ▶ Mitigating the specific challenges of connectivity and surveillance to sustain a high level of MDA in northern waters



**Lieutenant Commander Mike Bielby**, Continental Surveillance & Control, **Canadian Joint Operations Command**

1440 SURVEILLANCE OF SEA SURFACE ACTIVITIES IN CANADA

- ▶ Delivering an airborne ISR capability which can provide a comprehensive surface picture
- ▶ Using aircraft to meet a full-spectrum detection requirement
- ▶ Providing intelligence support to government and coast guard operations



**Mr Louis Armstrong**, Chief, Intelligence, Surveillance and Reconnaissance (ISR), Aircraft Services Directorate, **Transport Canada**

1520 AFTERNOON COFFEE AND NETWORKING

1550 BEYOND THE EUROPEAN THEATRE: MARITIME DOMAIN AWARENESS IN THE HIGH NORTH

- ▶ Multi-domain approaches to MDA in extreme geophysical environments
- ▶ Overcoming limitations to integration and enhancing communications
- ▶ Detection under frozen waters



**Major General (Retd.) Church Kee**, Executive Director, **US Arctic Domain Awareness Center**

1630 INSTANTANEOUS EXPLOITATION: CHALLENGES FOR THE MILITARY DECISION-MAKER

- ▶ Overcoming the challenges of range to put the war fighter in a position where they can take rapid decisions-based on reliable intelligence
- ▶ Getting data back to point of need – how to speed up the decision loop when data is fused beyond the theatre of operations
- ▶ Ensuring that every node can contribute, even at high tempo, to the strategic effort



Senior Representative, **Romanian Navy**

1710 CHAIRMAN'S CLOSING REMARKS



**Rear Admiral (Retd.) Garry E. Hall**, Former Special Assistant to the President & Senior Director, **US National Security Council (2017-2019)**

1720 CLOSE OF CONFERENCE