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# ELECTRONIC WARFARE

2<sup>nd</sup> – 3<sup>rd</sup> February 2016, Rome, Italy

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*Contingent threats have led to a resurgence in the development of Electronic Warfare (EW) strategies, technology and equipment to help dominate the Electromagnetic Spectrum (EMS). Whether at land, sea or air, militaries are looking to focus their efforts on effective management and exploitation of the EMS by utilising a joint service approach.*

*Recent operations have required little testing of EW capabilities, but this looks set to change as militaries seek assured command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) to protect their forces. EW 2016 will host an international audience looking to reinvigorate their EW tactics, techniques and procedures to discuss methods of wresting the initiative away from the enemy.*

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## CONFERENCE DAY ONE – 2<sup>nd</sup> FEBRUARY 2016

*Threat analysis and applications for defence*

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0800 – Registration and Welcome Coffee

0855 – Chairman's opening remarks

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### THE CHANGING NATURE OF EW

*The EW market is experiencing a resurgence due to the rising use of EW by both state and non-state actors; Contingent threats have been assessed as likely to include EW capabilities. This area will look to address some of those key concerns and set the tone for EW 2016.*

#### 0900 – Furthering EW beyond degraded capability status

- Key drivers for EW as a means of successful operations
- Decision superiority in an EW environment
- Preparing war fighters for operations in a contested EMS environment.

#### 0930 – Optimal management of the spectrum

- How EW Surveillance operations improve ISTAR capabilities
- Management of the Spectrum
- Emerging EW threats and solutions under consideration for neutralisation

#### 1000 – EW's role in the modern battlefield

- Italian Army's EW capabilities and activities
- EW's effect in modern day warfare
- Developing current systems to incorporate next generation EW Threats

 **Colonel Aldo Ferrara**, Commander of the 33<sup>rd</sup> EW Regiment, Italian Army ISTAR-EW Brigade

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1030 – Morning Coffee and Networking

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## EW IN THE MARITIME DOMAIN

*Successful management of the spectrum in the maritime domain can make a crucial difference in gaining the advantage over your enemy. As threats evolve, it is essential the maritime sector is able to adapt to these. This focus area will analyse the key issues and solutions.*

### 1115 – Avoiding detection and other unique naval EW challenges

- Canadian Navy's strategic role in supporting joint EW operations
- Counter measures as the key to successful EW protection
- The future of collection, interpretation and dissemination of intelligence data



**Lieutenant Commander Daniel Thompson**, Above Water Warfare 4-2, Director Naval Requirements, **Royal Canadian Navy**

### 1145 – Safeguarding free use of the EMS

- Active and passive hostile attempts to restrict free use of the EMS
- Appropriate exploitation of intelligence
- Ensuring effective spectrum management to avoid friendly interference

### 1215 – Operational overview from the Italian Navy

- Current EW capabilities and operations
- Detect and Avoid as a means of protection
- Future areas of improvement and technical aspirations



**Commander Massimo Gardini**, Head of Electronic Warfare Office, 7th Department Ship Design and Combat Systems, **Italian Navy**

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1245 – Lunch and Networking

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## EW IN LAND OPERATIONS

*The threats faced in recent conflicts have resulted in a degraded land EW capability. This is likely to change and land based EW must address a wide range of challenges and provide a versatile capability in modern warfare. The next section will discuss EW in the land domain and the process of moving on from the demands of recent conflicts to more advanced opposition.*

### 1415 – Challenges of Tactical COMINT in modern land based or Littoral operations

- Tactical COMINT and its role in improving joint operations
- The growing importance of EW in the land domain
- Future drive: making portable systems multi-operable



**Major Thomas Frost**, Army Intelligence Center, Study & Development EW, **Danish Army**

### 1445 – The effectiveness and accessibility of land domain EW

- Making land EW systems lighter and mobile
- Degrading enemy capabilities through directed energy weapons
- Ensuring an effective ground based intelligence picture for an appropriate response

### 1515 – EW protection for all land platforms during contingency operations

- Communication jamming and its strategic implications
- Lessons learned for improving land operations post-Gulf conflicts
- Moving beyond the threat of RCEID's to more conventional opposition



**Major Erik Bamford**, Senior Officer EW, **Norwegian Armed Forces**

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1545 – Afternoon Tea and Networking

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## AVIATION SPECTRUM WARFARE

*With air forces offering a variety of EW capabilities and supporting operations across the services, it is crucial that the platforms used can respond to threats across the spectrum. In this area, we will discuss how multifunctional capabilities can ensure successful application of EW from the air.*

### 1630 – Current applications of EW for air operations

- EW and its strategic importance: The US Air Force perspective
- Successfully managing aircraft requirements
- Modifying training for future demands and operations



**Lieutenant Colonel Joseph Kleeman, Det 3/Warrior Prep Centre/ Polygone EW Range Commander, USAFE**

### 1700 – Ensuring multi-use platforms are EW mission capable across the services

- Methods of deception and neutralisation through a combined maritime and air response
- Ensuring force protection through fully interoperable EW suites
- Maintaining capabilities in a restricted budgetary environment

### 1730 – The importance of multi-functional capabilities in air operations

- The implications of different threat scenarios to air craft capabilities
- Ex RAMSTEIN GUARD and its targeted areas of improvement
- Methods of deception and neutralisation through a combined maritime and air response

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1800 – *Chairman's Summary*

1805 – *Networking Drinks Reception in Exhibition Room*

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## CONFERENCE DAY TWO- 3<sup>rd</sup> FEBRUARY 2016

*The future of EW: Enabling a joint approach*

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0800 – *Registration and Welcome Coffee*

0855 – *Chairman's opening remarks*

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## CROSS SERVICE INTEGRATION

*National militaries are striving to ensure EW compatibility across their armed services. Managing the different requirements and methods of each service to harmonise joint operations is a huge challenge but it must be addressed before militaries can unlock an international approach to EW.*

### 0900- EW as a tri-service capability

- Joint operations and the implications on EW systems
- Management of a variety of capabilities in a single high activity area
- Working together to improve EW operations in the littoral

### 0930 – Combined approach to the management of data

- Clarification of the battle space via a collective approach
- Merging multiple source data into a usable viewpoint of the battlefield
- From strategic to tactical: keeping sub-units abreast of intelligence developments



#### 1000 – Creating a joint EW environment using JEWCS capabilities

- Collaborating EW systems to achieve joint objectives
- The implications of enabling understanding of shared data and information
- Blending the capabilities of all forces in future international collaborated efforts



**Lieutenant Colonel Theodoros Gkoutzourelas, J3 Branch Head, NATO JEWCS**

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#### 1030 – Morning Coffee and Networking

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### MITIGATION OF SPECTRUM FRATRICIDE

*The side that controls the electromagnetic spectrum has a significant advantage in the battle for information. Overcoming spectrum fratricide is a key step in gaining the advantage. Maintaining and protecting friendly communications can ensure a commander has a clear interpretation of the situation, and this section will explore how communications can be protected whilst there is high activity.*

#### 1115 – Scandinavian research into mitigating spectrum fratricide

- Protection to ensure unimpeded use of the spectrum
- Managing the impact friendly countermeasures have on communications
- Findings and evaluation of Scandinavian research



**Major Erik Bamford, Staff Officer EW, Norwegian Armed Forces**

#### 1145 – Protecting communications from enemy interception and interference

- Electromagnetic hardening to protect facilities and personnel
- Creating a safe environment by controlling the spectrum
- Collaborating to successfully counter enemy interference

#### 1215 – Maintaining friendly communications in a high activity area

- Exploiting the spectrum to guarantee secure communications
- Reducing the threat of jamming through detection
- Future recommendations for achieving greater control of the spectrum



**Commander Luciano Dini, Italian Directorate of Naval Armaments-EWS Officer, Italian Navy**

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#### 1245 – Lunch and Networking

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### SETTING THE CONDITIONS FOR SUCCESS IN FUTURE EW OPERATIONS

*With new emerging threats vying for control of the electromagnetic spectrum, it has become crucial that capabilities are improved to meet the ever changing demands. The conference will conclude with a discussion on the likely next challenges and potential solutions.*

#### 1345 – Versatile approaches to emerging threats

- Developing current systems to incorporate next generation EW Threats
- Addressing the threats posed by non-state actors and non-conventional militaries
- An analysis of future technological advancements



**Major Kristof Malinowski, Project Assurance Specialist, Ministry of Defence Poland: Inspectorate for Implementation of Innovative Defence Technologies**

#### 1415 – Panel Discussion: Achieving mission success via 21<sup>st</sup> Century EW

- The means to achieving effective integration
- Managing the spectrum to achieve battlefield perspective
- EW's role and possible impact on the future of asymmetric warfare

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#### 1515 – Chairman's Summary and close of conference

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