

# COALITION INTEROPERABILITY

## *Project Overview*

**WinnComm-Europe 2016**  
**Gennevilliers, France**  
**11th October 2016**

**David Renaudeau, *Chair International Tactical Radio SIG***



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# More often, not less .....



Various Types, Various actors

# Coalition : a normal use case for many nations Europe



Danish Forces will always be deployed with partners – within NATO or in another coalition.



**Interoperability**

All RNLA units need interoperability at lower tactical levels

RNLA units always operate with partners (with other equipment)



NATO and the transatlantic security community remains the cornerstone of Norwegian security and defence policy. Norway needs close relations with its allies. The defence of Norway depends on the arrival of allied reinforcements before a crisis situation develops into an armed confrontation, and on the ability to escalate defence operations seamlessly, if required. Facilitating greater allied presence in Norway is important to Norwegian security. Interoperability among allied forces and allied presence in Norway through exercises and training remain key components of our efforts to ensure credible deterrence. Host nation

«NATO and the transatlantic security community remains the cornerstone of Norwegian security and defence policy.»



# Introduction

## Wireless Innovation Forum has launched effort to issue a market report on Military Tactical Communications Interoperability

- Task Group launched in Q2 after kick-off during WinnComm-US
- TG under the lead Mark Turner, Vanguard Wireless

## WINNF has initiated this TG as follow up of the WinnComm-Europe 2015 tactical communications workshop with focus on interoperability



**Military Tactical Coalition Communications  
Interoperability Report**

*Technology and Standards Recommendations*

Document Number - TBD

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27-June-2016



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# Introduction

- **“More often, not less.” Continued growth of cooperating multinational coalition forces across the globe.**
- **Growing Diversity. Compositions are complex.**
  - – Different types of operations (from peace keeping to counter terrorism, through humanitarian intervention..)
  - – Not just military: agencies, multiple categories of first responders.
  - – Former or even current adversaries (“frenemies”)
  - – Local/regional coalitions or more international (US/Europe/NATO/EU)
- **Increasing Tempo. Traditional information sharing inefficient.**
  - – Minimal touch-points: Liaison Officers, secure fax, secure telephone, equipment loans for interoperable communications.
- **“Information sharing dichotomy.”**
  - – Relevant and timely coalition secure information sharing while simultaneously preserving sovereignty of specific national interests.

# Introduction



## International Tactical Radio Workshop 5th Edition – 7-8th October 2015 Coalition Interoperability

Enhanced interoperability among coalition partners is an essential requirement on the modern battlefield with multinational coalitions becoming the usual way for conducting military operations as experienced in majority of recent conflicts or hot spots around the world. Forces from the different nations on the battlefield need improved coordination and shared situational awareness, exchanging secure voice, data and multimedia information between deployed units.

Already various interoperable communications solutions on the battlefield have been deployed for joint operations in airborne and naval domains and also for long reach capabilities. As coalition interoperability was, up to recently, achieved at deployable command post, today the increased reliance on communication and the multiplication of smaller size of national contributions to multinational forces, requires interoperability capabilities at mobile tactical levels, typically at a battalion level or below.

Enjoy a unique exhibition place with all SDR Ecosystem actors and live demonstrations



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The workshop aims sharing among participants (MOD, international organizations and Industry) the latest trends in the area of the interoperable coalition communications solutions.

- Recent international operations experiences
- Example of already deployed interoperable solutions
- Technologies enablers to simplify development & deployment of solutions, such as SDR Standards
- Status of on-going programs

Network with SDR experts to understand the SDR Business Models,

Gaining an insight into major international SDR programmes,

Gathering views from the major stakeholders to manage Coalition Waveform Portability,

### Large Audience : 150 attendees

#### Main Defense Agencies in past events

NATO  
EDA  
OCCAR  
US JTRC  
US CERDEC  
US SPAWAR  
France DGA  
Sweden FOI  
Germany Fraunhofer  
UAE Center of Excellence  
Finland MOD  
Italy MOD  
Brazil MOD  
Canada CMC  
Singapore DSTA

#### Main Suppliers Presence

Airbus DS  
Embraer  
General Dynamics  
Harris Corporation  
Hitachi  
Indra Sistemas  
ITT  
Motorola Solutions  
Northrop Grumman  
Rafael  
Rockwell-Collins  
Rohde and Schwarz  
Selen ES  
Teledyne Racoms  
Thales  
Viasat



## Project Scope

### Project Scope

*In order to sufficiently analyze emerging tactical military coalition communications needs, a suite of representative operating scenarios will be identified as proxies for military joint tactical operations that include interagency, multinational and coalition engagements. These scenarios will be focused on communications information that needs to be exchanged between coalition partner organizations. Representative operating scenarios will be defined in terms of a set of discrete vignettes that specify various parameters such as:*

- an operational objective,
- the operating environment (i.e., desert, jungle littoral, urban),
- force type,
- capabilities and assumptions (i.e., security and sovereignty).

*The current state of the art for tactical coalition communications practices, technologies and standards will be identified and utilized as a baseline for analyzing gaps and opportunities with respect to the aforementioned operating scenarios. The resulting gaps and opportunities will be evaluated against a defined set of weighted criteria, such as: communications interoperability impact, potential scale, cost and time-to-market.*



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# Project Overview

**This report provides recommendations for improving the overall effectiveness of military mobile tactical communications for coalition operations in terms of technologies and standards.**

## Approach

- Set of Use Cases, representative of various military operating scenarios and missions where military mobile tactical communications are utilized
- List & analyse the system requirements with respect to current relevant technologies and standards
  - And Identify potential gaps & opportunities for improvements
- Proposes potential follow-on activities

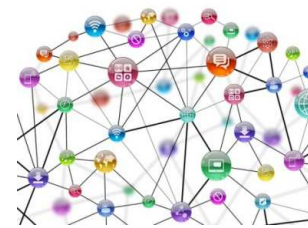
# The use cases

**Civil Support Operation**  
**Counter-Terrorism Operation**  
**Personnel Recovery Operation**  
**Peace Support Operation**  
**Counter-Drug Operation**  
**Major Combat Joint Operation**  
**Anti-Piracy Operation**

# Current relevant technologies and standards

## Different approaches, different levels of maturity

- Which services, which operational scenario
- Interoperability at **Network**
  - Could be at different operational levels
  - Wireline or Wireless
  - Gateways down to tactical
  - FMN initiative for network
- Interoperability at air interface : **Waveforms**



### US, Dutch signaleers build communications interoperability

September 21, 2015  
By 1st Lt. Natalia Bailey  
GHI 0 J'aim 11 personnes aiment ça. Inscription pour voir ce que les amis aiment.



Dutch army Sgt. 1st Class Jan Klerck, left, and U.S. Army Spc. Adams conduct secure radio interoperability validation using a tactical voice bridge radio as part of Exercise Strong Engineer in Marche-en-Famenne, Belgium, Sept. 10, 2015.

# Way Forward

- Target completion of the project at WinnComm 2017 (End March 2017 in San Diego)
- Initial stage of the report with first use case worked out (Civil Support)
- Working Group planned this week





Research.

Design.



**WinnComm '16**

Wireless Innovation Forum Conference  
on Wireless Communications Technologies  
and Software Defined Radio



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