



An Interview with:

Captain Timothy Unrein Operations Intelligence, NATO MARCOM

Ahead of this year's 3rd Annual Maritime Information Warfare Conference, SMI Group caught up with Captain Timothy Unrein who is set to give a presentation on day two of the conference about '**Developing MARCOM's Information Warfare Doctrine and the Effect on the Landscape of Maritime Information Warfare**'

The presentation will cover:

- How will this new doctrine generate greater interoperability in the realm of:
 - C4I
 - ISR
 - Cyber Warfare
 - Information Exploitation
- What does this doctrine look like now and how was it developed with the best interests of NATO forces in mind
- How does MIW doctrine improve on and make specific NATO Information Operations doctrine
- The impact of this doctrine on intelligence operations

The Maritime Information Warfare Conference will commence on the 18th – 19th November 2019 in London, UK

Q1) In your brief, you will be focusing on MARCOM's emerging information warfare doctrine: why is it being developed now and (broadly) what changes will it deliver to combined operations?

"Information has become recognized as a warfare domain – where an adversary attempts to achieve objectives through the deployment or control of information, via various means, channels, and audiences. The changes for NATO are taking form almost immediately through the consolidation of information functions into single offices, where a variety of skill sets are brought to bear to understand activity in the information domain and achieve the Alliance's desired objectives through it. Information Warfare is not new, however the consolidation of disciplines into one overarching doctrine is new to NATO. While NATO is well-versed in the individual disciplines of IW, the doctrine development is forcing us to ask ourselves questions about how NATO conducts business. It's recognized that IW needs to be incorporated and is becoming a routine topic in operational discussions. Much of this comes down to effects –

what is the end game – and being able to accomplish that with IW capabilities as an integrated part of the toolbox.”

Q2) What IW interoperability challenges do the world’s navies currently face?

“Some of the key hurdles come from being able to exchange the data, have it be in formats that naval information systems can ingest and process, and be able to prioritize and condense it such that it can be reliably delivered in a contested electromagnetic environment. Bullet interoperability is pretty simple – everyone chambers their weapons for 7.62, 5.56mm, etc. – but with information there are specific data processing standards that have to be adopted and engineered into the networks and applications to make what we know on one ship or aircraft or submarine, is readily visible on another. And when your information “pipe” is constricted by a factor of 20 or more – those 15MB Powerpoint files simply will not pass – you need some kind of information prioritization hierarchy, to automatically route the information that is most critical at a given time, to a given recipient. The biggest challenges centre around how to share info and what to share. Information exchange has always been an issue, and will continue to challenge NATO operations in the short term. Progress is being made, however, to limit the hurdles. Some may suggest that NATO is at a disadvantage when potential adversaries, with autocratic governments, do not struggle with these issues.”

Q3) How has the use of information in the maritime environment changed since you began your naval career?

“The introduction of computers and networking everything has certainly increased efficiency – I can remember the day when we had to use green-screen computers to write our maintenance requirements, and in the time between hitting “enter” and just for the the time it took to advance to the next screen, the Chief Petty Officer at the terminal could pull out and take a bite or two from a candy bar. Now we have functions happening at nearly light speed, across a vast enterprise – our awareness of the battlespace and issue of orders. But this vast system of networked systems has also opened up vulnerabilities which have to be better understood and safeguarded, to prevent a hostile actor from exploiting them. While the speeds and methods have changed, the purpose remains unchanged. This biggest change, I believe, is our understanding of the power and influence available through the use of information.”

Q4) What incoming technological advancement do you foresee as being the most disruptive for information warfare in the maritime domain?

- AI
- Software Defined Radios
- Autonomous Systems and “smart” sensors

“As soon as an advancement arises, it quickly becomes obsolete by the next great advancement. The two most disruptive factors aren’t technology advancements, but rather effects on the information itself. Our reliance on technology and misinformation.”

Q5) Finally, what are you most looking forward to about SMI’s Maritime Information Warfare conference?

“Learning of other perspectives and approaches, for achieving effects in this warfare domain.