

NATO C2COE Conference 2024

NATO MDO Synchronisation

C2 Implications

19-21
NOVEMBER 2024
THE HAGUE



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In NATO's AJP-01 (DEC22) the 'continuum of competition' is used as a model depicting how attitudes and behaviours shape international relations, with complex and dynamic boundaries between cooperation, rivalry and confrontation, and the threshold between confrontation and armed conflict. Preparation, deterrence and resilience are key terms referring to the prevention of unwanted escalation and the aim to maintain a steady state well below the threshold of armed conflict.

Depending on the actual domain (Cyber, Space, Air, Land, Maritime) within multi-domain operations (MDO), one could argue we are already in a crisis or even in the middle of an outright conflict. We encounter situations that are not exclusively created nor managed by governments using military means on (virtual) battlefields, affecting all in their day-to-day life and impacting social and economic safety and stability.

Synchronizing military activities, orchestrated across all five domains, through collaboration with various non-military stakeholders, from e.g. government, industry, society and academia, will create tailored options that deliver desired converging effects in virtual, cognitive and physical dimensions. International law & financing, global trade, research & education or social influencing (media) are all well-proven means to generate desired effects. Combined, directed and supported by a convincing military posture, these converging effects should be sufficient to deter any adversary from entering a crisis or conflict in any domain, but the synchronised actions should also include clear options to return to co-existence or even get to cooperation.

In order to create a first understanding of the expected implications of MDO Synchronisation on Command & Control (C2), the NATO C2COE conference, prepared on close cooperation with the Canadian Joint Warfare Centre, will focus on converging effects from four perspectives: military, government, industry and academia.



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DAY 0 TUESDAY 19 NOVEMBER 2024

RECENT TECHNOLOGICAL DEVELOPMENTS, MILITARY DESIGN THINKING AND AI.

With the official opening of the conference on Wednesday 20NOV, the preprogramme on Tuesday 19NOV focuses on recent technological developments in support of C2. These include presentations on the future of operational decision-making, dealing with automation and the role of autonomous systems (Mazal) and how AI can support the operational planning process (Calitoiu). In addition, an elaborate introduction will be given on a recently developed C2 Sandbox for Wargaming (Robb). During the various coffee, tea and lunch breaks over the course of the conference, this C2 Sandbox will be available for participants to interact with.

In a parallel programme on Tuesday 19NOV, a selected group of participants with different backgrounds will be engaged in applying Military Design Thinking to MDO Synchronisation (Hornstra & Hoogenboezem). What could non-military (Government, Industry, Academia) expect from military MDO synchronisation and can identified gaps between these entities be bridged? The intent of this parallel programme is to shape a specific training course for NATO officers to be well prepared for interacting with non-military entities on this important issue.

Starting also on Tuesday 19NOV, an invited group of military cadets and civilian students will be engaged in discussions and assessments on their understanding of C2, Synchronisation and the relevance of these concepts to NATO (Calitoiu & Hekking). On Thursday 21NOV a second round will be held, to assess their learning curve and future perspectives.

An Icebreaker event is organised on Tuesday evening at the Dutch MoD, for all participants to meet and mingle in a relaxed atmosphere, preparing for the days to come.



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TIME

1230 - 1700 Walk-In registration

1300 - 1715

PARALLEL PROGRAMMES	
AUDITORIUM	PRAGUE ROOM
Opening speeches <i>COL Mietta Groeneveld (C2COE)</i> <i>COL Yannick Michaud (CJWC)</i>	Military Design Thinking (on invitation), part 1 <i>MAJ Steven Hornstra (C2COE)</i> <i>LTC Jaap Hoogenboezem (Maastricht University)</i>
The Future of Operational Decision-Making: Automation and the role of autonomous systems. <i>COL Jan Mazal (Brno University)</i>	
Artificial Intelligence for operational planning: Limitations of current approaches and proposals for overcoming them. <i>Dr Dragos Calitoiu (CJWC)</i>	
1445 - 1515 Break	
Introduction to CJWC's developed C2 Sandbox for Wargaming. <i>LTC Anthony Robb (CJWC)</i>	Military Design Thinking (on invitation), part 2 <i>MAJ Steven Hornstra (C2COE)</i> <i>LTC Jaap Hoogenboezem (Maastricht University)</i>
Panel discussion <i>Moderated by LCol Alastair Luft (CJWC)</i>	
Closing remarks <i>COL Mietta Groeneveld (NATO C2COE)</i> <i>COL Yannick Michaud (CJWC)</i>	

1545 - 1645

Student Assessment Classroom
Mr Jos Hekking (C2COE)
Dr Dragos Calitoiu (CJWC)

1845 - 2100 Icebreaker

Plein-Kalvermarktcomplex, MOD



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DAY 1 WEDNESDAY 20 NOVEMBER 2024

HOW C2 IS CURRENTLY BEING APPLIED AND WHY SYNCHRONISATION IS NEEDED.

In order to trigger all participants to truly feel, understand and experience what synchronisation means when put into practice, the participants will be treated to an unexpected opening act, that will set the tone for conference. The programme of Wednesday 20NOV will include a mix of presentations and discussions to address the current situation and concrete challenges for MDO Synchronisation.

On behalf of the NATO Senior Mentors (DiMarco), the importance and relevance of this conference will be outlined, with further details provided on the challenges to have the MDO concept implemented by 2030, including the Cross Domain Command (CDC) concept and Synchronisation. The conceptual side of CDC C2 will be presented as a separate update (Larsen).

Our adversaries present a concerted, sustained, and damaging challenge to the rules-based international order upon which the nation's security and prosperity depend. The Pan-Domain Force Employment Concept (PFEC) outlines the current strategic and operational context faced by the Canadian Armed Forces (CAF), emphasizing the need to adapt to a world where adversaries like Russia and China do not distinguish between peace and war. It highlights the importance of deterrence, defence, and countering sub-threshold actions, stressing the necessity for the CAF to be agile, integrated, and capable of rapid adaptation. The Pan-Domain Force Employment Concept (PFEC) will be presented by MGen Simon Bernard, as a guiding framework, focusing on collaboration with allies, multi-domain integration, and the use of artificial intelligence to enhance military power. The document underscores the persistent and global nature of the competition, the need for a coordinated whole-of-government approach, and the imperative for the CAF to evolve to meet these challenges.

Of great relevance and impact will be a presentation by a Ukrainian representative to describe their needs, requirements and successes in applying C2 and synchronisation between military and non-military actors after the Russian invasion. This presentation will most likely stress the importance of close cooperation between all actors and how the speed of the developments on the ground influences or, stronger stated, dictates the tempo in which agreements are made, products developed, approved and put into operational use. For NATO this too is a new situation to learn from how to adapt to remain well prepared.

A dedicated break-out session into smaller groups, all with their own moderator, will address and discuss selected relevant topics in support of MDO synchronisation and how this could affect C2 at the strategic, operational and tactical level. The outcome of these discussions will help to identify and structure potential C2 solutions in relation to



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DAY 1 WEDNESDAY 20 NOVEMBER 2024

HOW C2 IS CURRENTLY BEING APPLIED AND WHY SYNCHRONISATION IS NEEDED.

TIME	ACTIVITY	HOSTED BY
0800 - 0900	Walk-In registration	
0900 - 1025	Opening	Dr Peter Roberts (Aurelius Lab) LTC (ret) Jos Pommer (NLDAF O)
1025 - 1050	Tea/Coffee Interactive workshop on CJWC's developed C2 Sandbox for Wargaming	LTC (ret.) Anthony Robb (CJWC) LTC Alastair Luft (CJWC)
1050 -1215	Welcome Keynote: Senior Mentors Programme Keynote: Pan-Domain Force Employment Concept Keynote: ACT, Update Cross Domain Command <i>Question and Answer moderated by Dr. Peter Roberts</i>	COL Mietta Groeneveld (C2COE) COL Yannick Michaud (CJWC) LTGEN (ret) Leonardo di Marco MGEN Simon Bernard (CJOC) LTC Timm Larsen (ACT)
1215 - 1230	Photo moment	
1230 - 1330	Lunch Interactive workshop on CJWC's developed C2 Sandbox for Wargaming	LTC (ret.) Anthony Robb (CJWC) LTC Alastair Luft (CJWC)
1330 - 1525	Panel discussion on the current challenges in MDO synchronization <i>moderated by Dr Peter Roberts</i> Keynote: VTC Ukraine Keynote: Microsoft support role in Ukraine	MGEN Simon Bernard (CJOC) COL Cedric Aspirault (CFA) LTC Timm Larsen (ACT) TBA Mr Taras Kloba (Microsoft)
1525 - 1545	Tea/Coffee Interactive workshop on CJWC's developed C2 Sandbox for Wargaming	LTC (ret.) Anthony Robb (CJWC) LTC Alastair Luft (CJWC)
1545 - 1645	Break-out sessions <i>Participants in groups, with moderator</i>	
1645 - 1715	Wrap-up	COL Mietta Groeneveld (C2COE) COL Yannick Michaud (CJWC)
1830 - 2230	Hosted Network Event at Nieuwe of Littéraire Sociëteit De Witte	



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DAY 2 THURSDAY 21 NOVEMBER 2024

HOW TO DEVELOP OUR C2 TO MAKE IT READY FOR THE FUTURE.

The last day of the NATO C2COE conference, Thursday 21NOV, will focus on the requirements for MDO synchronisation and how this will affect C2. What is required in terms of processes, legislation and techniques? (Philips) How can we move from a 'need to share' to a 'willingness to share' information between military and non-military actors, where platform-centric security is replaced by data-centric security? This paradigm shift will require a new level of understanding and collaboration between all actors and more flexibility in timelines to keep up with the changes in operational pace, all in order to achieve the intended MDO synchronisation.

A special 'fireside chat' will be held between General (ret) John Allen and Dr Peter Roberts, elaborating on these requirements to enable MDO synchronisation.

Representatives from the European Union (Cederlöf), and industry (amongst others, SAAB, S2ix, Microsoft, Helsing, CNK Global) will share their views on this enablement, also taking into account their position as a prime defence developer, or as a multinational with dual-purpose (military-civil) products. In addition, they will also be engaged in various moderated panel discussions to allow for a good interaction with the conference participants.

A final panel discussion moderated by Dr Peter Roberts, will include, amongst others, MGen (ret) Roger Lane and LTC Dr Jaap Hoogenboezem. Their focus will be on leadership requirements and specific training for the next generation of NATO officers & NCOs, government officials, academics and industry representatives, to effectively work together from a comprehensive C2 perspective, enabling NATO MDO synchronisation.



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HOW TO DEVELOP OUR C2 TO MAKE IT READY FOR THE FUTURE.

TIME	ACTIVITY	HOSTED BY
0800 - 0900	Walk-In registration	
0900 - 1040	Opening Keynote: From Need to Know to Need to Share - What is required? Keynote: C2 Capability Lifecycle Governance Keynote: European Enablement of MDO Synchronization: Opportunities and Challenges. Panel discussion <i>moderated by Dr Peter Roberts</i>	Dr Peter Roberts (Aurelius Lab) MGEN John Philips (US EUCOM) MAJ Ralph Dekker (C2COE) Mr Jonas Cederlöf (EU) MGEN John Philips (US EUCOM) Mr Jonas Cederlöf (EU) Ms Pauline Malek (NCSC-NL)
1040- 1100	Tea/Coffee Interactive workshop on CJWC's developed C2 Sandbox for Wargaming	LTC (ret.) Anthony Robb (CJWC) LTC Alastair Luft (CJWC)
1100 - 1230	Fireside chat: Panel discussion <i>moderated by Dr Peter Roberts</i>	GEN (ret.) John Allen Dr Peter Roberts (Aurelius Lab) GEN (ret.) John Allen Mr Ben Crampton (Microsoft) Bart Groothuis (EU) BG Rejanne Eimers-van Nes (IGNC)
1230 - 1330	Lunch Interactive workshop on CJWC's developed C2 Sandbox for Wargaming	
1330 - 1500	Keynote: Cognitive Functions of OPSA in the context of MDO and its C2 implications Keynote: Reframing IT Challenges to Operator-Focused Outcomes Keynote: Infodas Panel discussion <i>moderated by Dr Peter Roberts</i>	COL (ret.) Mehmet Morkaya Mr Nathan Pearce (S2IX) Mr Paolo Pezzola (Infodas) COL (ret.) Mehmet Morkaya Mr. Nathan Pearce (S2IX) Mr Paolo Pezzola (Infodas)
1500 - 1530	Tea/Coffee Interactive workshop on CJWC's developed C2 Sandbox for Wargaming	LCol (ret.) Anthony Robb (CJWC) LCol Alastair Luft (CJWC)
1530 - 1630	Panel discussion <i>moderated by Dr Peter Roberts</i>	MGEN (ret) Roger Lane LTC Jaap Hoogenboezem (Maastricht University) Aletta Eikelboom (TNO)
1630 - 1700	Wrap-up	COL Mietta Groeneveld (C2COE) COL Yannick Michaud (CJWC)