Command and Control in Multi-Domain Operations

Exploring Command and Control's critical role in Multi-Domain Operations.

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Introduction to MDO

1 New Approach

Fight differently, faster, more agile.

2 Integrate the new cyber and space domains and "cognitive warfare" into ground operations.

3 NATO Concept

Multi-Domain Operations Concept approved in 2023. Spain approved CJTF concept for MDO.

C2 Function's Critical Role

1 Complex & Dynamic World

Rapid technological evolution creates dynamic environment.

2 Security Challenges

Increased data volume and malign activity.

3 Emergence of MDO

Today's threats span a wide range of domains and areas.

4 Agility Key

Success depends on adapting C2 to situation.

Multi-Domain Environment Requirements

Knowledge Superiority

C2 solutions that harmonize the multiple capabilities

Improved Collaboration

Rapid information analysis and decision-making.

Coordinate military and non-military capabilities.

Address trust, interoperability, and information sharing issues.

C2 Capabilities Development Principles

Human Performance

Prioritise enhancing human capabilities.

Data-Centric Sharing

Implement data-centric information sharing approaches.

Resilience

Ensure C2 resilience against multiple threats.

Adaptability

Prepare for organizational structure and process adaptation.

C2 MDO Interoperability

1

Data Sharing

Improve data and information sharing capabilities.

2

Situational Awareness

Broaden shared situational awareness capacities.

3

Coalition Planning

Enable coherent coalition planning processes.

4

IoP

Enhance coordination with other instruments of power.

Improving C2 Interoperability

Digital Transformation

Modernise and innovate information technology.

Data-Centric Approach

Shift from network-centric to data-centric paradigm.

Federated Mission Networks

Implement NATO's FMN for enhanced information sharing.

C2 MDO desired operational outcomes

Assured information and decision advantage.

Enhanced human performance.

Integrated targeting and fires proficiency.

Effective planning competencies.

Rapid connectivity.

Force resilience.

People

Leadership	Understand complexity, manage accelerated pace
Training	Prepare for complexity, stress management
Skills	Rapid data interpretation, alternative thinking
Command Style	Decentralised C2, mission command, transformational leadership

Processes

1 — **NATO Standards**
Implement FMN processes and security policies.

2 — **Capability Integration**
Identify synergistic effects across domains.

3 — **Decision Support**
Develop systems for streamlined human intervention.

4 — **Continuous Improvement**
Conduct wargames, simulations, and exercises.

Structures

To achieve agile C2 models

1   **Tailored Structures**

Adapt C2 to mission context.

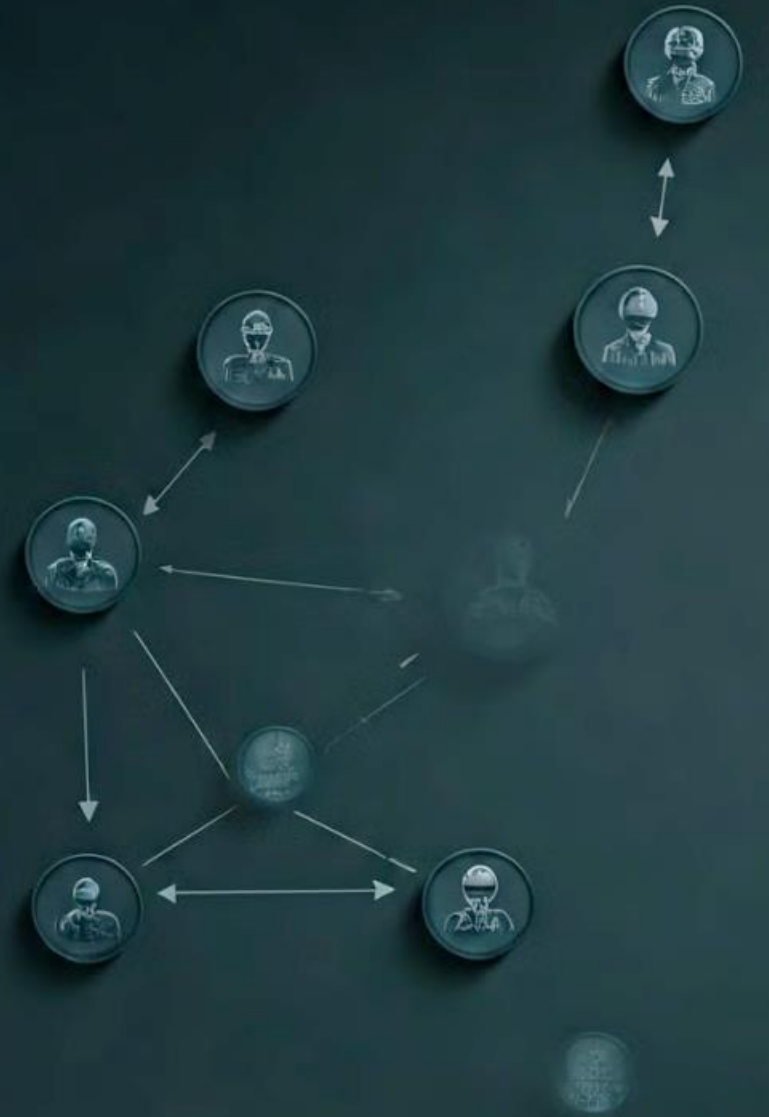**2**   **Enhanced Information Flow**

Improve speed and accuracy of data sharing.

3   **Decentralized Decision-Making**

Delegate authority for rapid responses.

4   **Horizontal Integration**

Flatten hierarchies to simplify processes.

Technology

Data-centric approach

Shift to data-centric security and Zero Trust policy.

Cloud Architecture

Implement deployable cloud architecture for enhanced performance.

AI/ML Integration

Embrace artificial intelligence and machine learning technologies.