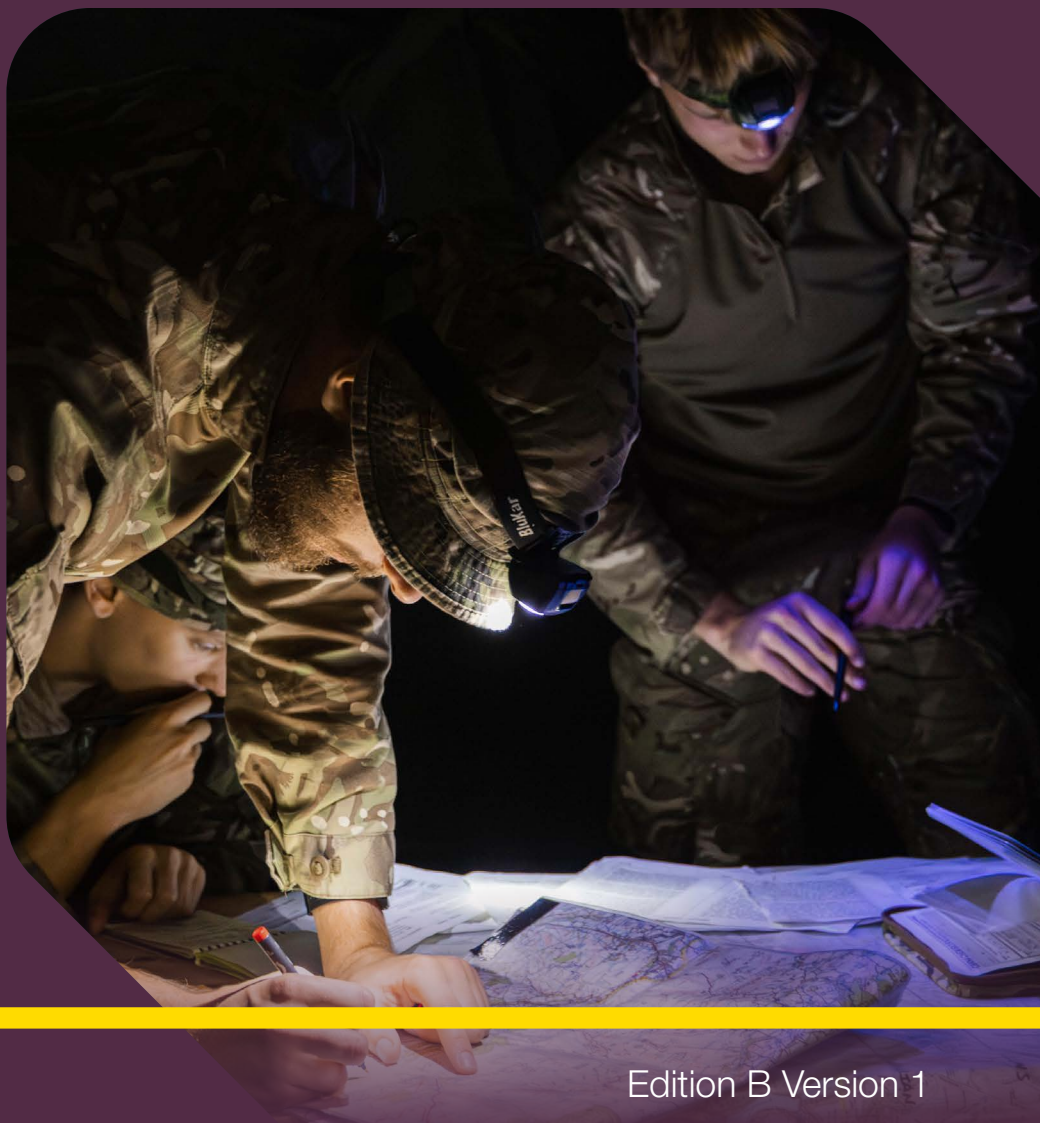
Ministry of Defence

NATO OTAN

Allied Joint Publication-5

Allied Joint Doctrine for the Planning of Operations



Edition B Version 1

NATO STANDARD

AJP-5

ALLIED JOINT DOCTRINE FOR THE PLANNING OF OPERATIONS

Edition B Version 1

with UK national elements

June 2026



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17June 2026

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Allied Joint Publication-5

Allied Joint Doctrine for the Planning of Operations

Allied Joint Publication-5 (AJP-5), Edition B, Version 1,
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UK application of NATO joint doctrine



The UK embraces a NATO first approach to joint doctrine, seeking maximum coherence, interoperability and integration with NATO Allies and partners.

Accordingly, UK joint forces use NATO Allied joint publications (AJPs) as the primary source of doctrinal guidance. NATO joint doctrine is to be used wherever appropriate in preference to producing national joint doctrine.

The UK joint doctrine architecture comprises:

- NATO AJPs used by UK forces in multinational and coalition operations;
- NATO AJPs promulgated as UK national doctrine; and
- UK joint doctrine publications produced only where no suitable NATO joint doctrine exists or where specific national requirements must be addressed.

Where an AJP is promulgated as UK national joint doctrine, the original NATO text remains unaltered. UK-specific additions may be included only where necessary to explain national policy, legal obligations, governance arrangements, terminology or other uniquely national requirements. Such additions are clearly identified with a union flag symbol and simply complement NATO joint doctrine, except where compliance with UK law or mandated national policy requires a different approach.

This process ensures that UK joint forces remain interoperable with NATO Allies while meeting national legal and policy obligations.

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Summary of changes

Record of summary of changes for Allied Joint Publication (AJP)-5(B)
• Harmonises with MC 0133 series and the NATO Response System Manual.
• Harmonises with AJP-01(F), *Allied Joint Doctrine*.
• Aligns with the NATO 2022 Strategic Concept, NATO Warfighting Capstone Concept and the Concept for the Deterrence and Defence of the Euro-Atlantic Area.
• Updates descriptions of Allied operations and their relation to NATO's core tasks and policies.
• Updates operations planning considerations.
• Introduces the Alliance's conceptual approach to multi-domain operations.
• Introduces the concept of human security.
• Develops risk management further by integrating and specifying the steps of the risk management process in each of the planning stages and ensures a linkage to AJP 3, *Allied Joint Doctrine for the Conduct of Operations* in terms of the overall process and terminology.
• Includes a new annex on doctrinal frameworks and planning.
• Includes a new annex on future planning considerations.

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References

Policy and Military Committee documents

	The North Atlantic Treaty
	NATO 2022 Strategic Concept
EAPC(C)D(2018)0019	*NATO/EAPC Policy and action plan on Women, Peace and Security*
PO(2009)0141	*NATO Strategic Communications Policy*
PO(2010)0143	*Comprehensive Approach Report*
PO(2011)0045	*Updated List of Tasks for the Implementation of the Comprehensive Approach Action Plan and the Lisbon Summit Decisions on the Comprehensive Approach*
PO(2011)0141	*Political Military Framework for Partner Involvement in NATO-Led Operations*
PO(2011)0293-AS1	*NATO Lessons Learned Policy*
PO(2015)0673	*Strategy on NATO's role in countering Hybrid Warfare*
PO(2016)0407	*NATO Policy for the Protection of Civilians*
PO(2019)0459-AS1(INV)	*NATO policy on preventing and responding to Sexual Exploitation and Abuse*
PO(2021)0336	*Action Plan for the Implementation of the NATO/EAPC Policy on Women, Peace and Security 2021-2025*
PO(2021)0190	*NATO Policy on Preventing and Responding to Conflict-Related Sexual Violence*
MC 0133 series	*NATO's Operations Planning*
MC 0324/3	*The NATO Military Command Structure*
MC 0326/4	*NATO Principles and Policies of Medical Support*
MC 0362/2	*NATO Rules of Engagement*
MC 0411/2	*NATO Military Policy on Civil-Military Cooperation (CIMIC) and Civil-Military Interaction (CMI)*
MC 0469/2	*NATO Military Principles and Policies for Environmental Protection*
MC 471/2	*NATO Targeting Policy*

MC 0586/2	*Allied Forces and their Use for Operations*
MC 0628	*NATO Military Policy on Strategic Communications*
MC 0655	*Military Concept for Projecting Stability*
MC 0668	*NATO Military Concept for the Protection of Civilians*
MCM-0041-2010	*MC Position on the Use of Effects in Operations*
MCM-0053-2019	*NATO Capstone Concept for Joint Military Operations in an Urban Environment*
MCM-0077-2000	*MC Guidance on the Relationship between NATO Policy and Military Doctrine*
MCM-0067-2020	*Concept for the Deterrence and Defence of the Euro-Atlantic Area (DDA)*
MCM-0004-2023	*Alliance Concept for Multi-Domain Operations*
MCM-0200-2020	*NATO Warfighting Capstone Concept (NWCC)*
MCM-0286-2021	*NATO New Force Model*
MCM-0082-2022	*MC Guidelines on Prevention of, and Response to, Conflict-Related Sexual Violence*
SH/SDP/SDF/DJ/10-002439 (INV)	*Joint Command and Control Concept of Operations*

Allied publications[1]

AJP-01	*Allied Joint Doctrine*
AJP-2	*Allied Joint Doctrine for Intelligence, Counter-Intelligence and Security*
AJP-3	*Allied Joint Doctrine for the Conduct of Operations*
AJP-4	*Allied Joint Doctrine for Sustainment of Operations*
AJP-6	*Allied Joint Doctrine for Communication and Information Systems*
AJP-10	*Allied Joint Doctrine for Strategic Communications*

1 Since Allied Joint Publication (AJP)-5, *Allied Joint Doctrine for the Planning of Operations* is one of the keystone NATO doctrine publications from which level-2 and -3 doctrine is derived, only the capstone and keystone doctrine publications are listed here. References to other doctrine publications are made in the text, where appropriate.

Other NATO publications

BI-SCD 040-001	*Integrating Gender Perspective into the NATO Command Structure*
BI-SCD 075-003	*Collective Training and Exercise Directive*
BI-SCD 080-006	*Lessons Learned*
BI-SCD 086-006	*Implementing Protection of Civilians in NATO Operations, Missions and Activities*
	NATO Response System Manual (NRSM) 2024
AC35-D1040 REV 6	*Supporting Document on Information and Intelligence Sharing with non-NATO Entities*
COPD	Allied Command Operations, *Comprehensive Operations Planning Directive,* Version 3.1
ACO Handbook	*Protection of Civilians*
	NATO Human Security Approach and Guiding Principles, 14 October 2022
NATOTerm	*The Official NATO Terminology Database*

Other publications

International Organization for Standardization	*Risk management – Guidelines* (ISO 31000:2018(E), 2nd Edition)

UK reference

Joint Tactics, Techniques and Procedures 3.81, *A guide to the audience-centric approach for commanders and staff,* 5th Edition

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Preface

Scope

1. Allied Joint Publication (AJP)-5, *Allied Joint Doctrine for the Planning of Operations* is the keystone NATO doctrine for planning of Allied joint operations.

Purpose

2. Although all operations are unique, their planning and conduct can be approached in the same manner. AJP-5 presents an overarching framework of the key planning principles, considerations and processes that are followed when planning operations. It describes how planning activities and processes are integrated and coordinated to support decision-making and the production of plans, orders and directives.

Application

3. AJP-5 is intended primarily as guidance for NATO commanders and their staff. However, the doctrine is instructive to the planning of operations by a coalition of NATO Allies and/or North Atlantic Council approved Nations, NATO Partners, partner nations and non-NATO actors and for national planning within the framework of collective deterrence and defence. It also provides a reference for NATO civilian and non-NATO civilian actors. AJP-5 focuses on the operational level, although it also has utility at the strategic and tactical levels.

Linkages

4. AJP-5 builds on the principles described by the capstone publication AJP 01, *Allied Joint Doctrine*. It is adjacent to other level-1 keystone publications and especially related to AJP-3, *Allied Joint Doctrine for the Conduct of Operations*. It contains overarching doctrine for level-2 and level-3 doctrine publications and provides the fundamentals for Allied Command Operations' *Comprehensive Operations Planning Directive*.

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Lexicon Lex-1


NO SMOKING
SAFETY FIRST
SMYRTOS

Chapter 1



Chapter 1 introduces the planning process and articulates the relationship between planning policy and planning doctrine. It outlines the main planning principles and introduces operational art, lessons identified and the concept of multi-domain operations.

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> Preparation is the key to success.
>
> Alexander Graham Bell

Chapter 1

Fundamentals of planning

Section 1 – Introduction to planning

1.1 The *NATO 2022 Strategic Concept* underscores that NATO continues to work towards just, inclusive and lasting peace and to remain a defender of the rules-based international order, involving diplomatic, information, military, economic instruments of power and synchronising military and non-military activities. The *Concept for Deterrence and Defence of the Euro-Atlantic Area*, supported by the new *NATO Force Mode*l, emphasises that Alliance actions focus on deterring. At the same time, the Alliance must maintain readiness to respond swiftly and firmly to crises that emerge with little warning and develop rapidly. The *NATO Warfighting Capstone Concept* contributes to strengthening the Alliance's deterrence and defence posture, further developing NATO's decisive military advantage, and continuously adapting the military instrument of power. All efforts – including the readiness and locations of the Alliance's forces, exercise cycles, engagements and communications – are aligned across all member states in a focused way that supports the Alliance's strategic aims. To enable the outcomes described, NATO prepares itself by planning for future events.

1.2 Planning for Alliance operations begins when an authority recognises the potential for military capabilities to support the achievement of NATO objectives in any of the three core tasks of the Alliance. Military planning is a sequence of activities undertaken by commanders and staff at all levels. Planning identifies the actions, effects, decisive conditions, and objectives required for mission accomplishment. It is not an end but an adaptive process for confronting changing conditions and a wilful adversary. Consequently, military planning requires active collaboration and dialogue by commanders and staff. The results of planning – plans – articulate how those actions/effects (ways) and resources (means) are employed to achieve the objectives (ends).

1.3 Planning is a continuous activity that does not end when producing a plan or an order. After completing the initial product, the commander and staff continuously revise and adjust the plan based on changing circumstances. Planning may start an iteration of the operations process.

1.4 The operational level is defined as: 'the level at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operations.' The operational level links tactical-level activities to strategic objectives.

Relationship between planning policy and planning doctrine

1.5 The Military Committee (MC) 0133 series, *NATO Operations Planning*, is the planning policy that aims to detail the system by which NATO initiates, develops, approves, executes, reviews, revises and cancels all categories of Alliance plans. The policy is prescriptive and it directs and provides a framework for developing doctrine and guidance for preparing NATO operations. Implicitly, it can create requirements for new doctrine. Doctrine is descriptive and it enhances the effectiveness of the planning process by providing standardised terminology and processes for force employment considerations.

1.6 The policy:

- describes the operations planning process from initiation, through orientation, design, plan development, and approval, as well as addressing plan review, revision and cancellation;
- identifies the various operations planning categories and outlines the crisis management procedures;
- defines the purpose of operations planning categories and describes the architecture necessary for timely, efficient, standardised and coherent plan development; and
- guides commanders and their staff on how to develop subordinate operations planning documents as well as NATO doctrine.

1.7 **The doctrine.** Allied Joint Publication (AJP)-5, *Allied Joint Doctrine for the Planning of Operations* principles and procedures are embedded within this overarching process. The doctrine describes how commanders develop specific planning products to identify activities (ways) for which the joint force employs its capabilities and resources (means) to achieve the objectives (ends). In planning operations, commanders and their staff blend operational art, operations design, and the sequence of planning activities as part of an overall process to produce the eventual plan or order for the NATO operation.

Section 2 – Doctrinal terms

Key tenets of doctrine

1.8 The successful employment of the military instrument is guided by the four key tenets of doctrine. Together these tenets guide our thinking and underpin our attitude of mind and approach to planning and operating across the continuum of competition.

a. **The behaviour-centric approach** recognises that people's attitude and behaviour are central to attaining the end state.

b. **The comprehensive approach** is defined as: 'combining all available political, military and civilian capabilities, in a concerted effort, to attain the desired end state.'

c. **The manoeuvrist approach** seeks to pit strength against vulnerabilities, mostly through indirect ways and means, targeting understanding, capability, cohesion and, ultimately, an adversary's will to contest.

d. **Mission command** involves centralised intent and decentralised execution which allows the force to take calculated and managed risks, as well as learn, anticipate and adapt quicker than unsupportive and hostile actors to exploit opportunities.

1.9 The key tenets of doctrine apply in any situation that the military is used. Together the tenets offer the prospect of achieving rapid gains or results that are disproportionately greater than the resources applied.

1.10 Supporting doctrine and concepts, such as operating environment, operational domains[2] or strategic communication, support the implementation of the key tenets. They provide the conceptual support while applying operational art.[3]

UK 1.1. The UK recognises the five operational domains as: maritime, land, air, space and cyber.

2 The five operational domains are maritime, land, air, space and cyberspace, and it is through these that military and non-military organisations integrate their capabilities. See AJP-01, *Allied Joint Doctrine* for more detail.

3 The key tenets of doctrine and the supporting doctrine and concepts are covered in more detail in AJP-01, *Allied Joint Doctrine*.

Principles of joint and multinational operations

1.11 The following mutually supporting principles guide commanders and their staff in planning and conducting campaigns and operations across the continuum of competition. Underpinned by the tenets of doctrine, they represent enduring principles; the relative importance of each may vary according to context and the means available to commanders. The commander and their staff should understand and apply these fundamental principles to approach problems coherently. The principles are explained in more detail in AJP-01, *Allied Joint Doctrine*. The twelve principles of joint and multinational operations are:

- unity of effort;
- definition of objectives;
- maintenance of morale;
- initiative;
- freedom of action;
- offensive spirit;
- concentration;
- economy of effort;
- security;
- surprise;
- flexibility; and
- sustainability.

1.12 These principles are supported by operational considerations such as consent, transparency and interoperability. The commander and their staff should incorporate these operational considerations; for further information see AJP-3, *Allied Joint Doctrine for the Conduct of Operations*.

UK 1.2. The UK refers to the principles of operations as the principles of war.

Planning principles

1.13 Planning in a complex and uncertain security environment generates particular challenges for both civilian and military actors. In order to help ensure that the Alliance is well prepared to address these challenges in the conduct of ongoing operations, or when initiating new operations, NATO's operations planning should conform to the following principles.

a. **Strategic coherence.** It is essential that the planning process be coherent internally and externally with other actors, as appropriate.

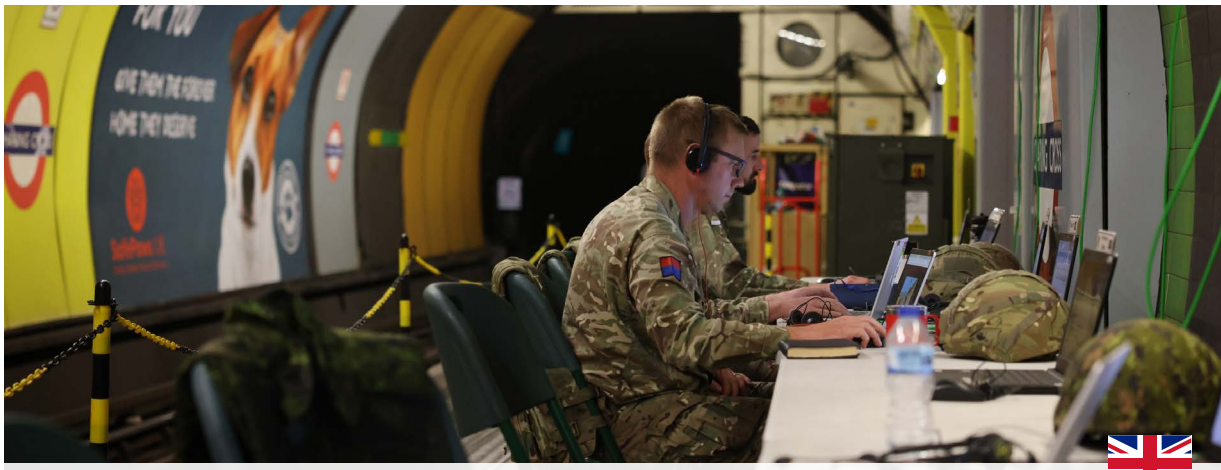
b. **Comprehensive understanding of the environment.** The planning and conduct of operations require building and fostering a shared comprehensive understanding of the environment.

c. **Mutual respect, trust, transparency and understanding.** Operations planning in support of NATO's objectives must be underpinned by a culture of mutual respect, trust, transparency and understanding. This is built through information sharing and practical cooperation.

d. **Consultation and compatible planning.** Mutually supportive, compatible, and wherever possible, concerted and harmonised planning is fundamental for success of a comprehensive approach.

e. **Efficient use of resources.** During planning, decision makers must be informed of the risk of not adequately resourcing an operation. In addition, to maximise effectiveness, planners must take into account the available military and non-military resources at the Alliance's disposal.

f. **Flexibility and adaptability.** The operating environment of a crisis is complex and continually changing. Therefore, no planning process can accurately predict the results of activity. Plans must allow flexibility and adaptability throughout execution. This will require concurrent assessment in order to achieve the desired NATO end state.



Headquarters Allied Rapid Reaction Corps provides NATO with a rapidly deployable, flexible headquarters for operations and crisis response

Doctrinal frameworks

1.14 To be successful, commanders and their staff should: develop and maintain situational awareness; balance the capabilities and resources with the objectives; determine the course of action; and orchestrate actions in all domains to achieve effects in the three dimensions.[4] Using the following conceptual frameworks aids understanding of the operating environment and design of operations. AJP-01, *Allied Joint Doctrine* covers the doctrinal frameworks conceptually in more detail while Annex A of this publication expands on how the operations, functional and geographic frameworks are used for planning, organising and synchronising the deployment and employment of forces.

a. **Analytical framework.** Considering the end state, a thorough understanding of the operating environment's system of systems including key audiences allows the commander to frame the problem, allocate appropriate resources, understand the effects of actions and anticipate potential outcomes. The understanding and assessment of the operating environment is supported by analytical frameworks such as the political, military, economic, social, infrastructure and information (PMESII)[5] elements that feed into the comprehensive understanding of the operating environment. Another key analytical framework is the centre of gravity analysis.

b. **Operations framework.** The operations framework describes tactical operations as shaping, decisive or supporting, and links them to the commander's manoeuvre plan. It sets the operating scheme and desired results. The commander uses the operations framework to synchronise their forces' activities in time and space according to the objective. It enables a clear view of relationships between the effects and objectives.

c. **Functional framework.** The functional framework expresses the plan for an operation and provides a framework for planning activities in

4 Effect dimensions are an analytical construct that translates actions in the engagement space into the physical, virtual and cognitive consequences that these actions may have.
5 The operating environment can be initially viewed through several conceptual models. The most common in NATO are the six listed PMESII elements. However, modification or other models are admitted, for example, PMESII + physical and time (PMESII-PT), geospatial + PMESII (GPMESII), PMESII + health (PMESIIH), or areas, structures, capabilities, organisations, people and events (ASCOPE) may be more suitable to describe a certain operating environment or support a planning process.

the engagement space. Actions that focus on creating desired effects that support the achievement of objectives are performed through three core functions: find, fix and strike. The need to be prepared to use the fourth core function, exploit, is always implicit. Finding and fixing targeted audiences help to shape the engagement space. Striking and exploiting can potentially be decisive.

d. **Geographic framework.** The geographic framework (deep, close and rear) describes the conduct of operations and activities to create effects in terms of space and time, where and when they occur. When used in combination with other frameworks, the geographic framework provides a powerful method to help visualise, organise and integrate activity across the operational domains, and the electromagnetic and acoustic spectra.

e. **Joint function framework.** The joint function framework assists commanders to coordinate, integrate, synchronise and prioritise actions in the five operational domains and the electromagnetic spectrum by describing the detailed capabilities of the force. The joint function framework uses a combination of manoeuvre, fires, information and civil-military cooperation to affect the audience's attitude and behaviour. It is 'informed and directed' by the joint functions of command and control (C2), and intelligence, and 'supported' by the joint functions of sustainment and force protection.[6]

UK 1.3. The UK uses the term 'outreach' in place of civil-military cooperation.

Operational art

1.15 Operational art is defined as: 'the employment of forces to achieve strategic and/or operational objectives through the design, organisation, integration and conduct of strategies, campaigns, major operations and battles.' It is the mechanism the military uses to implement strategies. Operational art combines the science of planning and the guidance from the tenets of doctrine with the skill, knowledge, experience, creativity and judgement of commanders and their staff to design and conduct strategies, campaigns and tactical operations to achieve higher strategic objectives and consequently, to contribute to the achievement of the desired end state. Operational art is the cognitive, creative effort that planners apply to problem

6 AJP-3, *Allied Joint Doctrine for the Conduct of Operations* contains further detail.

solving. It includes inputs from operations design[7] and internal staffing operations management. Operational art seeks to clarify the situation, assess opportunities and risks, foster actions that continually gain advantage, and deliver logical solutions to complex problems. It enables detailed planning to take place and for the staff to write practical orders and plans.

1.16 Operational art is the critical link between strategy and tactics and ensures that tactical actions support the strategic concept and goals through operational objectives. By integrating ends, ways and means it determines which forces conduct what actions in time and space to create effects and achieve objectives. This includes transitioning and terminating NATO's crisis management role. The commander's active participation is essential in operational art as it is a blend of science and art requiring their intuition, experience and leadership.

a. When applying operational art, commanders, supported by their staff, determine how to employ the joint force effectively. This requires the integration of Allies', Partner Nations', other nations' and agencies' resources and forces. Strategy specifies the ends, ways, and means to achieve the policy aims. It guides operational art by determining the ultimate objectives to be achieved and by allocating the necessary military and non-military resources. Strategy also defines and imposes limitations on the use of one's forces and sets conditions for tactical force employment. Commanders should evaluate their actions' results and reorient themselves, if required. Poorly applied operational art can adversely affect the achievement of objectives.

b. Operational art requires broad vision, the ability to anticipate and the skill to plan, prepare, execute and assess. The commander bears responsibility for the planning and conduct of the operation. To provide effective guidance, the commander must be able to stand back from detailed planning to frame the larger context, set objectives and priorities, identify opportunities and risks, and formulate operational ideas that maximise the effectiveness, responsiveness and flexibility of the force. Commanders are supported by their staff, who conduct detailed planning and assessments.

1.17 Operational art is therefore realised through combining a commander's skills and the staff-assisted processes of operations design and operations

7 The term 'operations design' is used throughout this publication. The term 'operational design' can be used as a synonym.

management. Operations design frames the environment and the problem, and then develops or refines options that give a comprehensive logic to the operation. Operations design expresses vision and refines plans and orders. Operations management then translates the operations design into action by integrating, coordinating, synchronising, prioritising and allocating capabilities across the joint functions. The commander and their staff use operations assessment to appraise progress. The tactical level supports operations assessment with tactical assessment input. Operations assessment findings continuously lead to the refinement of the operations design.

1.18 Based on understanding gained through applying operations design, more detailed planning takes place during the sequence of planning activities. This sequence is a logical, analytical methodology that consists of progressive actions to analyse a mission: develop, analyse and compare alternative courses of action (COAs); select the most appropriate COA; and produce a plan or order by which the joint force can achieve the objectives and accomplish its assigned mission. This links tactical activities to accomplishing operational and strategic objectives. The operations planning group aligns actions and resources in time and space to complete the plan. Operations assessment as a cornerstone of operations management is already part of all planning stages. Consideration of how to assess and what should be assessed during operations design fosters a conclusive planning, execution and assessment effort.



Operational art – United States Civil War



Robert E. Lee and 'Stonewall' Jackson have been characterised as examples of military genius. By contrast, Ulysses S. Grant's success has often been attributed to dogged persistence. The focus of Lee and Jackson was, however, on the pre-eminence of tactical activity, while it was Grant who recognised the cumulative effect of coordinated military action against the enemy's overall capability. These examples demonstrate that while operational art has objective elements, driven by the conditions of war at the time, it also has subjective aspects, derived from the character, personality and capability of individual commanders.

Multi-domain operations

1.19 The Alliance's conceptual approach to multi-domain operations (MDO)[8] is intended to enable NATO's military instrument of power to prepare, plan, orchestrate, and execute synchronised activities across all operational domains and environments,[9] at scale and speed in collaboration with other instruments of power, stakeholders and actors. This aspires to deliver tailored options, at the right time and place, that build advantage in shaping, contesting and fighting and presents dilemmas that decisively influence the attitudes and behaviours of adversaries and relevant audiences.[10]

1.20 The Concept for Deterrence and Defence of the Euro-Atlantic Area (DDA) informs NATO future force development and force design changes to realise the attributes of the concept. The objective is the employment of NATO forces in a multi-domain approach to deter and counter an adversary in all domains. Both the NATO Warfighting Capstone Concept and the DDA provide frameworks for the Alliance to develop future capabilities to fully enable MDO. The DDA through its work strands (for example, the DDA Family of Plans, new NATO Force Model and modern C2) sets the foundation for harnessing an MDO approach in operations planning and force employment.

Lessons learned

1.21 In an uncertain and continuously changing security environment, learning is an essential part of being credible, capable and adaptive in warfighting and warfare development. Lessons learned from operations and exercises have implications for conducting current operations and planning for future operations. Thus, a mature and fully functional lessons learned process is crucial to the success of ongoing and future NATO operations and leads to increased effectiveness, efficiency and sharing of best practices for the future.

1.22 The goal of the lessons learned process in Allied Command Operations is to capture lessons and best practices from operations, exercises and other activities to improve ongoing and future operations and to enhance NATO's capabilities. This goal is the responsibility of every level of command.[11]

8 See MCM-0004-2023, *Alliance Concept for Multi-Domain Operations* for detail.
9 See AJP-3, *Allied Joint Doctrine for the Conduct of Operations* Annex A for more details on operational domains, environments, effect dimensions, operating environment and engagement space.
10 See AJP-10, *Allied Joint Doctrine for Strategic Communication* for detail.
11 Bi-Strategic Command Directive 080-006, February 2018.

Key points

- Military planning is a continuous activity that does not end with the production of a plan or order.
- The successful employment of the military instrument within NATO is guided by the four key tenets of doctrine: the behaviour-centric approach, the comprehensive approach, the manoeuvrist approach and mission command. Together these tenets guide thinking and underpin our attitude and approach to planning and operating across the continuum of competition.
- Operations planning should conform to the following principles: strategic coherence; comprehensive understanding of the environment; mutual respect, trust, transparency and understanding; consultation and compatible planning; efficient use of resources; and flexibility and adaptability. Together these principles aid preparation to face complex challenges.
- Operational art is the conceptual framework underpinning the planning and conduct of operations. It is the crucial link between strategy and tactics, which is realised through combining the commander's skill and the staff-assisted process of operations design and operations management.
- NATO continues to develop the concept of multi-domain operations to enable the military instrument of power to prepare, plan, orchestrate and execute synchronised activities across all operational domains and environments. This is done at scale and speed, and in collaboration with other instruments of power, stakeholders and actors.
- The lessons process enables the Alliance to capture lessons and best practice from multiple sources and use them to enhance operational capability.



Chapter 2



Chapter 2 introduces campaign themes and establishes the relationship between the levels of operations. Categories of planning, documents and methodologies are explored, as well as operational design and its associated concepts. Chapter 2 also describes the comprehensive approach and the application of tenets, supporting concepts and frameworks during the design of operations.

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2

> If you find yourself in a fair fight, you didn't plan your mission properly.
>
> David Hackworth

Chapter 2

NATO Planning

Section 1 – The context of planning

NATO's core tasks, Alliance operations and types of activities

2.1 The North Atlantic Treaty and the *NATO 2022 Strategic Concept* establish and reflect NATO's transatlantic consensus. They are implemented through policies relating to the of fight against terrorism, projecting stability, and deterrence and defence, and the three core tasks – deterrence and defence, crisis prevention and management, and cooperative security – across the continuum of competition. These ensure the collective defence and security of all Allies. Figure 2.1 illustrates this relationship within the continuum of competition.

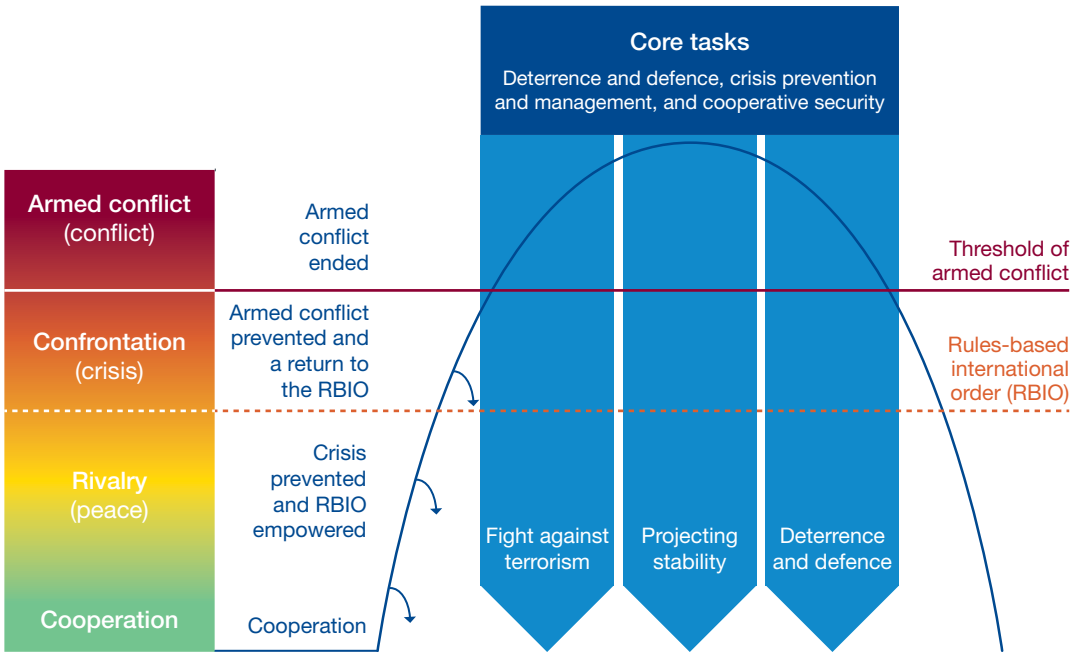


Figure 2.1 – Relationship between core tasks and policies across the continuum of competition

2.2 Competition is a fundamental aspect of international relations. The continuum of competition describes a spectrum of ongoing activities whereby nations find themselves in a mixture of cooperation, rivalry, confrontation and armed conflict with one another. Campaigning through these periods will have differing approaches. Managing competition between nations without resorting to armed conflict (including defeating military aggression) is necessary in today's strategic environment.

Peacetime vigilance

2.3 NATO's Command Structure and force structure is continuously engaged in activities supporting NATO's core tasks. Across the continuum of competition these activities are referred to as peacetime vigilance through to maximum level of effort operations. Peacetime vigilance is characterised by activities performed by standing commands and forces, supported by Allied national activities, in periods of duration from short to continuous.

2.4 Peacetime vigilance also supports military resilience and civil preparedness. The Alliance and its member states need to be resilient to resist and recover from a major shock such as a natural disaster, failure of critical infrastructure or any kind of attack.

Campaign themes

2.5 To ensure NATO is ready to respond swiftly and firmly in a period of strategic competition, the *NATO Military Strategy* and the *Concept for Deterrence and Defence of the Euro-Atlantic Area* (DDA) impart an evolution from the operation themes to campaign themes. The *NATO Military Strategy* and the DDA compel NATO to think about how it competes across the continuum of competition with a 360-degree approach throughout the area of responsibility. It envisages a campaign mindset, with an agile posture and the right capabilities in the right places, ready to converge as part of an overall NATO strategic position, rather than focusing on discrete operations. They challenge NATO to consider if, how and when it will transition between the campaign themes, with the ability to increase its tempo to manage these transitions and the burden of concurrency. The Alliance needs to balance efforts across shaping, contesting, and fighting contexts.

2.6 Campaign themes (peacetime military engagement, peace support, security and warfighting) can be linked to the continuum of competition as shown in Figure 2.2. The campaign themes use the concept of limitations

(such as: time, policy, rules of engagement (ROE) and political constraints) and the concept of intensity (the expected degree and frequency, and level of violence, of operations) to provide the framework for campaigns. The selected themes reflect the political context and strategic narrative that guides the ends, ways and means requirements. Types of operations are not fixed to a campaign theme and the composition of operations within each theme is fluid and depends on the operating environment and political appetite. For example, combat operations can be conducted to differing extents in warfighting, security and peace support campaigns. For more information on operations see Allied Joint Publication (AJP)-3, *Allied Joint Doctrine for the Conduct of Operations*.

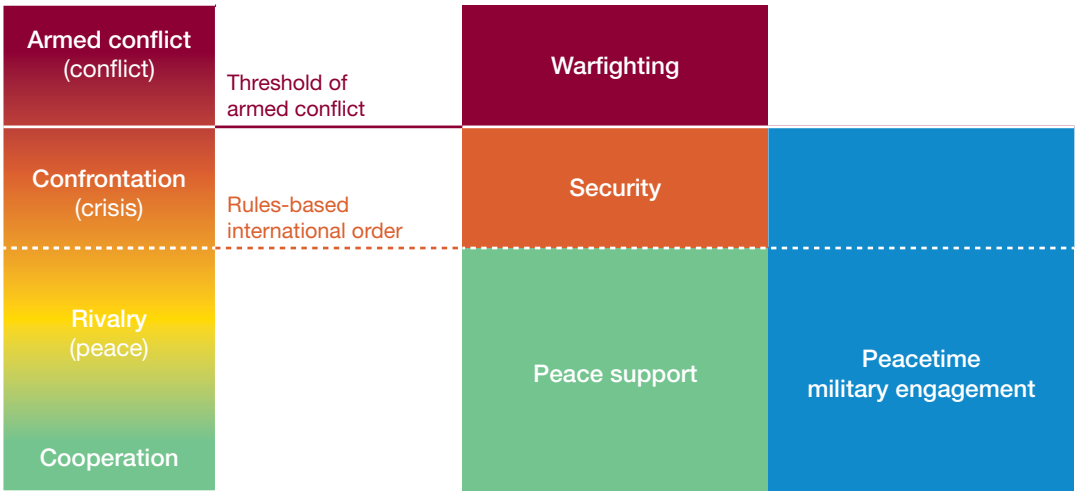


Figure 2.2 – Most common relationships between campaign themes and the continuum of competition

2.7 Campaign themes are interdependent and not linear or sequential in progression. The campaign mindset, driven by the continuum of competition, requires the Supreme Allied Commander Europe to contribute to NATO's strategic objectives by persistently delivering deliberate and contingent peacetime military engagement, peace support and security-themed campaigns. Warfighting is a contingent campaign that aims to compel an actor to change their behaviour before returning to other forms of competition. See AJP-01, *Allied Joint Doctrine* for a detailed description of the campaign themes.



Operation Barbarossa – Soviet Union 1941



The German invasion of the Soviet Union in June 1941 (Operation Barbarossa) represents a strategic failure to balance ends, ways and means. The German strategic objective was to bring about the collapse of the Soviet Union through a short, yet decisive, campaign (the ways). However, overconfidence and poor intelligence led to fundamentally miscalculating the resources (the means). There was no significant economic mobilisation and force levels, comparable to those committed to the invasion of France, were deemed adequate. The assumption that the Soviets could only deploy some 300 divisions proved flawed. In fact, they had managed to raise 600 by December 1941. At the same time, indecision as to the Soviet Union's centre of gravity (eventually agreed as Moscow) led to constant changes in the German concept of operations. As a result, despite losing nearly five million men in 1941, the Soviet Union retained the capacity to continue the war.

Relationship between the levels of operation

2.8 NATO's operations planning process (OPP) is never done in isolation. During the process each level or echelon contributes via collaboration to the strategic plan. The OPP is orchestrated by horizontal and vertical planning across each level of operation to minimise friction and set conditions to allow seamless transitions between each planning stage. Transitioning to a different OPP stage directly affects each level in NATO.[12]

2.9 The strategic plan focuses on national and multinational security objectives and resources provided by nations. The operational plan is about planning, conducting and sustaining campaigns and major operations within theatres or areas of operations.

2.10 **The military-strategic level.** The military-strategic headquarters, Supreme Headquarters Allied Powers Europe (SHAPE), is the orchestrator throughout the OPP. In this role, they provide the starting point for the OPP. The first requirement for the military-strategic-level planning is direction and guidance from the North Atlantic Council (NAC) through a series of tasks.

12 The application of the OPP at the operational level as carried out by designated joint force command headquarters or operational-level headquarters, follows the four stages of NATO Operational Planning Process as depicted in MC 0133, which are directed by the NATO Response System (NRS). The close coordination and alignment of the process between the levels of command, from NATO Headquarters, through the Supreme Headquarters Allied Powers Europe (SHAPE) to the operational-level headquarters, ensures that subordinate commands and components considerations are considered and reflected in strategic decisions and strategic conditions are established for operational success.

SHAPE assigns tasks to subordinate headquarters via orders and directives. Throughout the process, the military-strategic level validates subordinate inputs and, once approved, incorporates subordinate products into the strategic plan.

2.11 **The operational level.** The joint force commands (JFCs) conduct operational-level planning. The requirement for and composition of a joint task force (JTF) is a strategic-level decision, approved by the NAC. On receipt of orders or directives, the operational level completes the OPP. Operational-level planning products are reviewed for validity by the strategic headquarters and, once approved, are merged into the existing strategic plan. In the same way, component headquarters (at the tactical level) take the operational commander's guidance and planning products and develop the tactical plan. Operational-level planning sets the conditions for tactical-level planning, which may be done sequentially, parallel to or collaboratively with the operational-level planning. One or more theatre component commands produce subordinate plans, which are overarching operational domain/ functional plans, as well as providing the forces to execute the operational-level plans. Within the DDA, theatre component commands fulfil a role as advisors to Supreme Allied Commander Europe.

Componency

UK 2.1. Componency can be described as the subdivision of a joint force into operational domain-based or function-based component commands responsible for planning, synchronising and executing activities within their domain under the direction of the joint force commander. Components (land, maritime, air, special operations, space, cyber/electromagnetic) provide domain and environmental expertise, generate component level plans, and contribute directly to the joint operations planning group. Their outputs must nest within the joint force commander's operations design and support cross-domain integration. Further information may be found in AJP-3, *Allied Joint Doctrine for the Conduct of Operations*, Edition D, with UK national elements, paragraph UK 2.4.

2.12 **The tactical level.** Regardless of the type of operation or time limitations to plan, tactical-level planning plays an important role. Component command involvement is essential to create a comprehensive and multi-domain plan. Tactical-level plans are developed on receipt of direction and guidance from the operational-level commander. Once complete, the tactical-level course of action (COA) is submitted to the operational level for validation and approval. Once all component tactical plans are approved, the operational level combines them into one operational plan.

UK 2.2. The military strategic level within the UK is represented by the Military Strategic Headquarters (MSHQ). The MSHQ links into the operational level via the Permanent Joint Headquarters (PJHQ) and the deployable Standing Joint Force Headquarters (SJFHQ). Both PJHQ and SJFHQ have direct connection to the single Services and, where necessary, cross-government linkage.

Joint, interagency, multinational and public context

2.13 To be able to apply a comprehensive approach to operations, the joint force will require a greater ability to cooperate with a wide range of partners. It also requires the joint force to adopt a comprehensive approach to operations that is recognised by the population and the media as crucial to the success of operations. While designing this approach the joint force should understand the context (joint, interagency, multinational and public) within which the operation[13] is conducted.

2.14 **Information sharing.** To achieve a comprehensive understanding of the operating environment (CUOE) and enable synchronisation with non-military activities, it is critically important to exchange relevant information with the host nation and international military and non-military actors. Liaison arrangements and information sharing systems must respect the principles, security concerns/classifications and disclosure policies of all parties.[14] Further, commanders will need to protect Allies' national caveats while supporting overall mission and strategic objectives, including integrated information or intelligence sharing.

Legal context

2.15 NATO operations are conducted in accordance with international law, and by the policies approved by the NAC. The conduct of military operations is regulated by international law, in particular by international humanitarian law, also known as the *Law of Armed Conflict*. It is essential that planners are familiar with and apply the principles of international humanitarian law. Legal advice must be considered a key part of the planning process.

13 See AJP-3, *Allied Joint Doctrine for the Conduct of Operations* for detail.
14 For more information, see C-M(2002)49-REV1, *Security within the North Atlantic Treaty Organization*, 17 June 2002, C-M(2002)60, *The Management of Non-Classified NATO Information*, 23 July 2002, and AC35-D1040 REV 6, *Supporting Document on Information and Intelligence Sharing with non-NATO Entities*.

2.16 Each NATO member and troop-contributing nation has its own international and domestic law obligations and national policies which inform its participation in multinational operations. Also host nation legislation might have to be taken into account. To maximise military effectiveness, it is crucial that multinational forces under NATO command operate under the same ROE whenever possible. However, it must be recognised that nations may have national caveats, which place restrictions on the use of their forces in NATO operations.[15]

UK rules of engagement

UK 2.3. ROE are drafted following the issue of a Chief of the Defence Staff (CDS) directive (or similar orders). Operational planning must inform this process to ensure that the ROE meet the operational requirements. Concept of operations are developed to achieve the mission within the parameters outlined in the CDS directive, and a ROE request must accompany the concept of operations submission to highlight the permissions that are required to achieve the mission as proposed. This must be the remit of the planning staff, with input and advice from the J3/J3-5 staff and the legal adviser, to accurately capture the requirements. Following ministerial approval, the ROE profile will be issued with the activation order, as both direction and authorisation to conduct the mission. ROE for existing operations must be routinely reviewed to ensure that the permissions continue to enable rather than hinder the conduct of the operation.

UK 2.4. On multinational operations, UK forces will almost always operate under the ROE of the operational command authority. Where there is an agreed transfer of authority of UK forces to NATO, therefore operational command of Supreme Allied Commander Europe, they will operate under NATO ROE. National caveats to the NATO ROE will be included in the transfer of authority message. Similarly, UK personnel embedded in other nations' forces will operate under that nation's ROE, with caveats provided in their individual embed letter. Commanders must be aware of the participating nations' respective ROE constraints and tailor orders accordingly.

15 See AJP-01, *Allied Joint Doctrine* and AJP-3, *Allied Joint Doctrine for the Conduct of Operations* for further detail on the legal context.

Gender perspective

2.17 The security environment affects men, women, boys and girls in different ways, who in turn have different opportunities to influence the security environment. The gender[16] perspective is the ability to detect if and when men, women, boys and girls are being affected differently by a situation due to their gender. The systematic integration of gender perspective in all stages of the OPP allows identifying, understanding, addressing and/or leveraging these differences, to enhance decision-making, operational effectiveness and the fighting power, through the full scope of military activities, when delivering NATO's three core tasks. Gender analysis not only provides increased situational awareness and an understanding of underlying crisis and conflict factors, actors and dynamics, it can also to be used in a pro-active way, during all stages of NATO operations planning, at all levels, by all staff functions and towards all types of audiences, to help identify specific risks, threats, vulnerabilities, opportunities, requirements and imperatives.[17]

2.18 NATO recognises the distinct and disproportionate impact that instability, crisis, conflict, and post-conflict situations have on women and girls, as well as the critical roles that women play in peace and security activities. Furthermore, NATO fully recognises the link between gender equality and sustained peace and prosperity. Therefore, integrating gender perspective in operations planning is not only a values based approach, but also a strategic imperative for NATO. The requirement to integrate gender perspective and relevant women, peace and security policies and documents is included in all NAC initiating and execution directives.[18]

Cross-cutting topics and human security

2.19 **Cross-cutting topics.** Part of NATO's institutional narrative is its commitment to ensure that the entire population is minimally impacted by conflict and disaster; in particular, military and stability policing[19] personnel have the responsibility to recognise and report potential criminal offences and

16 The United States government recognizes the term 'sex' in place of 'gender'.
17 For details on the consideration of the gender perspective and the gender advisor structure see AJP-01, *Allied Joint Doctrine* Annex A and B and most recent version of the NATO policy on Women, Peace and Security.
18 Action Plan for the implementation of NATO/EAPC Policy on Women, Peace and Security 2021-2025, output 2.3.a.
19 Stability policing, primarily carried out by Gendarmerie type forces/military police, can be performed both by military and non-military actors (police forces with civil status, international organizations, non-governmental organisations and contractors).

human rights violations, as well as to know whom to refer survivors of such violations to. NATO has identified the following overarching topics to deliver consistency of actions in support of the strategic and institutional narrative: protection of civilians; children and armed conflict; cultural property protection; women, peace and security; conflict-related sexual violence; combating trafficking in human beings; sexual exploitation and abuse; and building integrity.[20]

2.20 **Human security.** NATO is committed to integrating human security[21] principles into all the Alliance's core tasks. Human security may be threatened by conflict or promoted by military intervention. In modern operations the achievement, or reinstatement, of human security may be a key contributor to mission success. Promoting human security increases stability and reduces the drivers of conflict, making human security a potentially key component of conflict resolution. The military and the stability policing contribution to human security includes: protection of civilians, combating trafficking in human beings, building integrity in operations, children and armed conflict, cultural property protection and conflict-related sexual violence.



NATO is committed to integrating human security principles into all of the Alliance's core tasks

20 See Annexes A and B to AJP-01, *Allied Joint Doctrine*, for explanation of the cross-cutting topics.

21 Human security is distinct from the concept of responsibility to protect.

2.21 For NATO, taking a human security approach means embedding considerations for the comprehensive safety and security of the population into all stages and levels of Alliance operations, with the objective of preventing and responding to risks and threats to all people, especially in conflict or crisis situations.[22] The NATO human security approach complements and reinforces NATO's women, peace and security agenda.[23]

Human security

UK 2.5. Adversaries have used civil populations to exert coercion and control, weaponising civilian harm to create strategic, operational and tactical effects. Human security must therefore be a core consideration in all that Defence does. Understanding populations' needs and vulnerabilities in relation to the operating environment will enable freedom of manoeuvre. Planners must consider human security issues during operations design. This will include considering gender and age datasets to understand how military actions might impact civilians, directly or indirectly. At this initial stage of planning, provision must be made for evaluating human security issues during the execution of the operation and, importantly, during the conclusion and transition to peacetime. UK commanders and staff must be compliant with the direction set out in Joint Service Publication 985, *Human Security in Defence*.

Casualties

2.22 Casualties are an inevitable factor in the conduct of operations. In the planning of operations, commanders and their staff have a vital duty to consider how to limit casualties. They must also assess and understand the impact of friendly casualty numbers on morale and the wider aspects of the moral component. In estimating the extent of casualties, the commander is able to understand and communicate the likely risk, and thus, the likely limit of political and public support for the conduct of operations. The casualty rate estimation is an interdisciplinary task of the joint operations planning group (JOPG) that seeks to answer the question of where, when and what type of casualties might occur. It includes battle casualty estimates as well as diseases and non-battle injury rates. Further details are included in AJP-4.2, *Allied Joint Doctrine for Medical Support*.

22 For protection of civilians-related considerations during planning see BI-SCD 086-006, *Implementing Protection of Civilians in NATO Operations, Missions and Activities*.
23 *Action Plan for the Implementation of the NATO/EAPC Policy on Women, Peace and Security 2021-2025*.

Section 2 – Planning categories and documents

Advance and response planning

2.23 To successfully deter and defend, NATO has to engage in continuous escalation management activity. NATO conducts planning in two broad contexts; in advance for an anticipated situation, or in response to a manifesting situation. The OPP is used for both the only difference is the time available for planning and the time to activation of the product on completion. Advance plans address potential threats to the Alliance when identified and before they occur. Advance plans are developed for a broad range of activities based on requirements identified by the NAC. Advance plans are periodically revised. Emerging and unexpected crises trigger response plan development based on circumstances that exist at the time planning is conducted.

Support plans

2.24 Depending on the complexity of an operations plan (OPLAN) of any category or the requirement to provide support to concurrent operations, it may be necessary to develop support plans (SUPPLANs) to the main (parent) plan. The supporting agency or commander develops the SUPPLAN, which the supported commander endorses. The initiating authority approves the SUPPLAN in concert with the supported (parent) plan. SUPPLANs are based on, and are consistent with, the parent plan. Additionally, SUPPLANs are developed in a manner that is consistent with the political guidance and authority applicable to the parent plan. Their approval and authorisation for execution automatically becomes part of the approval and authorisation process for the execution of the parent plan. Examples include SUPPLANs for deployment and redeployment, communication and information, reinforcement by forces, sustainment (including SUPPLANs for logistics, military engineering and medical support) and NATO common funded projects.



UK 2.6. Directive authority for logistics remains a national responsibility. This includes the provision of national support elements in the transition through the spectrum of conflict. Further details can be found in AJP-4, *Allied Joint Doctrine for the Sustainment of Operations* and Joint Doctrine Publication (JDP) 4-00, *Logistics for Joint Operations*.

Planning documents

2.25 Operations planning supporting documents are one of the key elements of the operations planning framework. These planning tools provide general and specific guidance and formats to planners at various levels for advance and response planning.

a. **NATO Response System.** The NATO Response System (NRS) provides the Alliance with an agile and adaptable decision-making framework that supports the implementation of the three core tasks, deterrence and defence, crisis prevention and management, and cooperative security; and the implementation of the DDA. The NRS strengthens the Alliance's preparedness to address pervasive instability challenges, strategic shocks, and other potential contingencies across the full range of potential operations, missions and activities, including non-military responses. The NRS also provides the Alliance's procedural architecture, which guides both military and non-military planning processes.

b. **Allied Command Operations' Comprehensive Operations Planning Directive.** The Comprehensive Operations Planning Directive (COPD) is the basic procedural document for planning staffs within the NATO Command Structure, NATO force structure and supporting organisations. It describes the OPP from the military-strategic level to the operational level and the interaction of both with the higher tactical-level commanders. It addresses all aspects of an OPLAN, provides further guidance on the conduct and methods of planning, as well as identifying the factors to be taken into consideration during the development of a plan. It also contains the standard structure and content of OPLANs. As such, it can be a reference for planning at tactical levels, especially for headquarters operating at the higher tactical level.

UK 2.7. The COPD is NATO's detailed planning resource, which aids the practical application of AJP-5. UK Annex F and UK Annex G provide a UK specific interpretation that allows the planning of sovereign operations using a NATO doctrinal baseline. PJHQ also uses the audience-centric approach as a standard operating procedure. Reference can be found in Joint Tactics, Techniques and Procedures 3.81, *A guide to the audience-centric approach for commanders and staff*.

c. **Functional planning guides.** Functional planning guides (FPGs) provide planning guidance in functional areas. These include specific areas of expertise and enablers such as intelligence, communication and information systems support, reinforcement by forces and sustainment, medical support, stability policing, electromagnetic spectrum support, military police support or gender in military operations. In general, the FPGs mirror the areas covered in the list of typical annexes to the main body of a plan. The purpose of FPGs is to help a planner concerned with a particular functional area orient to the OPP.

Section 3 – Planning methods

Sequential, parallel and collaborative planning

2.26 Operations planning can be conducted in a sequential, parallel or collaborative manner.

a. **In the sequential planning process**, operations planning is conducted by the higher-level commander and their staff; this is followed by planning by the subordinate headquarters. This method fits better with the advance planning category.

(1) **Advantages.** This type of planning usually produces detailed and methodical results. It also minimises the risk that subordinate headquarters may have an obsolete common operational picture and plans.

(2) **Disadvantages.** The entire OPP usually takes a relatively long time to be completed.

b. **In parallel planning**, the commanders together with their staff at various levels of command initiate the OPP staggered only by brief time lapses. The continuous information flow between the higher headquarters and its subordinate commands is the core and most significant precondition for the parallel planning process. Early, continuous and rapid information sharing enables the commanders and their staffs, to concurrently start the planning activity. This simultaneous approach is supported by issuing warning orders and planning guidance. A prerequisite for successful parallel planning is a promptly performed decision-making process. Thus, establishing effective command and (C2) control is very important.

(1) **Advantages.** This type of planning is especially suitable when the planning time is extremely limited because it enables the subordinate units to simultaneously contribute to the documents produced by the higher level and to produce their own products. Parallel planning, for instance, is particularly suitable for crisis prevention and management operations.

(2) **Disadvantages.** This type of planning can introduce risks in terms of reliability of the plan and needs increased coordination as well as assured and reliable communications between higher and subordinate commands.

c. **Collaborative planning** is a very dynamic process that requires disciplined information management. This method requires the permanent interaction between two or more command echelons involved in the OPP. It allows subordinate commanders to provide the superior commander with their assessment and advice. To be effective, collaborative planning requires information technology systems to quickly distribute and share ideas and planning products. Compared to other planning methods, collaborative planning enables the development of more coherent and harmonised plans. This method may be more appropriate for addressing contingency situations that can occur during the conduct of an operation and which require an urgent plan revision.

(1) **Advantages.** This type of planning method speeds up the planning process. Additionally, subordinate commanders may provide ideas and inputs that the senior commander and staff did not consider.

(2) **Disadvantages.** The evolution of the operating environment may quickly force changes to the original OPLAN which, in turn, could possibly result in confusion and misalignment at subordinate levels. A rising risk of groupthink and 'one level of command' oriented planning may arise. The lack of disciplined information management could lead to problems such as increased bureaucratic burden, over-information or micromanagement.

Perils of groupthink

‘Groupthink is a tendency to adopt majority decisions among group members who are similar in background and share common values.’

JDP-04, *Understanding and decision-making*

Before Operation Market Garden in 1944, British planners systematically ignored intelligence indicating that two panzer divisions were re-equipping in the Arnhem area. The desire for a British spearheaded airborne assault overwhelmed rational analysis of the chance of operational success. The result was a military disaster and the defeat of the 1st Airborne Division.

Section 4 – Operations design

Introduction

2.27 The commander and their staff develop plans and orders by applying operations design and sequencing planning activities, in particular, during the ‘mission analysis’ activity. They combine art and science to develop products that describe how (ways) the joint force employs its capabilities (means) to achieve objectives (ends) to attain the end state as well as risks that may influence (positively or negatively) the attainment of objectives and the desired end state.

2.28 Operations design is the key element of the OPP. It is a process of iterative understanding and problem framing that allows for a simple visualization of a plan, aiding commanders and their staff in their application of operational art. This helps the commander and their staff understand the operating environment and construct viable approaches to operations. With operations design, the commander expresses their vision and develops and refines ideas to provide detailed and executable plans. Operations design is underpinned by a clear understanding of the political and strategic context. Structured processes, as in the concepts and tools detailed herein, enable the operations design.

2.29 During a NATO operation where multiple joint operations areas are required, each JFC or JTF has an independent operations design in line with SHAPE guidance and the strategic framework. Supporting and subordinated commands organised under a JFC/JTF align their frameworks in support of the JFC/JTF’s operations design.

2.30 In order to avoid any misunderstanding, the commander and staff have to be aware that the level of authority (operational command, operational control, tactical command, tactical control) might be different according to the nationality of the commander or staff officer. They have to refer to NATO degrees of authority defined in AJP-01, *Allied Joint Doctrine*, Chapter 5.

Ends, ways, means and risks

2.31 Clarifying the ends, ways, means and risks is of central importance for the operations design process. The commander should be able to answer the following essential questions.

a. **The ends.** What objectives must be achieved in support of the higher commander's objectives and to attain the end state? What conditions are required to achieve the objectives? The commander considers the nature of the force and the assigned (and obtainable) objectives. A change in political objectives invariably creates a requirement to adjust the original plan or even to create a new plan.

b. **The ways.** What broad approaches will establish the conditions identified? What sequence of actions and effects is most likely to achieve these conditions? How can the instruments of power be used to create coherent effects that will establish the essential conditions? How should actions and effects be arranged in time and space to establish these conditions?

c. **The means.** What resources are required to accomplish the identified sequence of actions and effects? What capabilities and other resources are available and should be applied to produce these conditions? How are the military and non-military means integrated and synchronised to achieve these conditions?[24]

d. **The risks.** Risk is an inherent part of conflict. Risk management has undergone considerable updates, as detailed in AJP-3, *Allied Joint Doctrine for the Conduct of Operations*, and is to be considered as a major influence on both a commander's decision on which course of action (COA) to choose and how to continuously adjust the plan during execution. Risk management is defined as: 'coordinated

24 Some critical assets can be cross joint operations area capable, not dedicated to one particular operation and its allocation has to be coordinated with other joint operations area commanders/joint force commands.

activities designed to enable an organisation to balance risk cost with mission benefits.'[25] A risk is defined as: 'the effect of uncertainties on objectives.'[26] This means that if a risk materialises, it could have an impact on achieving the mission objectives and the desired end state. Hence, risk management addresses both traditional risk with a negative outcome and opportunities. It seeks a proactive approach to address both outcomes and act even before the risks (including opportunities) occur to obtain the most favourable outcome by influencing the system state as early as possible and with the fewest resources possible. The basis for this is orchestrated through the risk management process during planning and is maintained through a risk monitoring plan during execution. In this process, risks are identified in various ways. In general, a risk classification system collects risk-related information which should be of concern to the commander. This includes assumptions, constraints and restraints as well as functional risks. All of these can generally be considered as sources or causes for risks owned by the commander.



Risk management is to be considered as a major influence on a commander's decision on which course of action to choose

25 For risk management, see AJP-3, *Allied Joint Doctrine for the Conduct of Operations*, Annex D.

26 The term is a new term and definition and has been processed for NATO Agreed status via terminology tracking file 2011-0321.

Understanding the operating environment

2.32 Strategic competition necessitates changes in how the operating environment is understood. At play is a global set of complex, dynamic and interrelated factors from political, military, economic, social, infrastructure and information (PMESII) systems, each exerting pressure and influence on the others. AJP-01, *Allied Joint Doctrine* identifies the requirement for a comprehensive understanding of the operating environment (CUOE), the development of which should commence from the very beginning of the planning process. CUOE's methodology fuses operational assessments from across the functions, including from the joint intelligence preparation of the operating environment process[27] and from audience analysis provided by information environment assessment. The CUOE must include the electromagnetic environment, as freedom of manoeuvre in the electromagnetic spectrum (EMS) is critical to military operations. The CUOE process enables comprehension of relevant physical, virtual, and cognitive factors within the engagement space that can be used to create effects.

2.33 The inclusion of a gender analysis across all PMESII elements will reveal the potential ways our operations could affect and be affected by women, men, boys and girls and will contribute to building a more comprehensive understanding of the operating environment.[28] The gender analysis will be continuously updated throughout all planning stages.

2.34 Coupled with any assigned or anticipated tasks, as well as guidance and intent from higher echelons, the commander and their staff determine desired conditions that would result in a future, acceptable status of the operating environment. Understanding of the operating environment benefits from applying a comprehensive approach involving different instruments of power and different actors, including non-military actors. These actors likely contribute to, and receive the output from, mission analysis. Similarly, this information exchange informs the decisions taken by non-military leaders. To promote understanding, commanders should generally integrate non-military expertise and send civil-military liaison officers to work with non-military actors as appropriate. The level of interaction, civil-military liaison arrangements and arrangements for information sharing depends on the specific circumstances, for example, operations security or to respect the neutral, impartial and independent status of humanitarian actors necessary for their operations.

27 See also Allied Intelligence Publication (AIntP)-17 JIPOE.
28 See AJP-01, *Allied Joint Doctrine*, Annex B Gender and women, peace and security.

Understanding

UK 2.8. JDP 04, *Understanding and Decision-making*, outlines in general terms the concept of understanding and more specifically understanding the operating environment. It also outlines the conceptual frameworks for thinking, problem-solving, choosing and building the right team. Several methodologies and guides to assist with understanding the operating environment are at UK Annex 2A.

Operations design concepts

2.35 Operations design concepts help the commander and their staff think through the challenges of understanding the operating environment, analyse the strategic and operational factors, define the problem, and develop an approach, which guides planning and shapes the concept of operations. The linkages between those concepts (end state, objectives, effects, lines of operation, centres of gravity etc.) are typically illustrated in a simple visualisation such as Figure 2.3. The operations design concepts are explained in the following paragraphs. They are:

- desired end state;
- (initial ideas for) transition and termination;
- centres of gravity (CoGs);
- direct versus indirect approach;
- objectives;
- decisive conditions;
- effects and actions;
- lines of operation (LoOs);
- culmination;
- operational pause;
- sequencing and phases; and
- branches, sequels and decision points.

Notes:
- One action may create different effects.
- One effect may create different decisive conditions (DC).

Figure 2.3 – Operations design schematic

End state

2.36 The end state is defined as: 'the political-strategic statement of conditions that defines an acceptable concluding situation to be attained at the end of a strategic engagement.' Therefore, the description of the end state and the strategic objectives to enable planning at the operational level are likely to be given by the directing political entity, which is likely to be the NAC for NATO operations. Articulating the end state should happen well before military forces are committed. The end state describes conditions for a favourable, self-regulating situation within the operating environment that satisfies the overall political objective. It must be understandable and achievable because it defines the ultimate criteria for the cessation of Alliance activities in a crisis region. It may be linked to an international mandate or agreement which provides legal authority for resolving the crisis and leads to transition and activities where military operations are in a supporting role.



UK 2.9. The term 'end state' can be used by commanders at all levels, not just at the strategic, to define the situation to be attained at the end of a mission. It is sometimes referred to as the 'outcome'.

UK 2.10. In UK operations, the joint task force commander may be given their end state, or they may have to derive it themselves. Analysis helps them to appreciate the political and military strategic purpose behind their specific activity and the intended relationship with the other instruments of national power.

Transition and termination

2.37 Transition and termination are key considerations in the operations design.[29] In most cases they include achieving acceptable conditions as well as the mutual acceptance of terms and conditions to ensure a lasting settlement. It requires political action, especially when a military force has been employed, and requires a comprehensive approach to involve diplomatic, economic and information instruments of power. The process may continue beyond the cessation of hostilities and encompasses stabilisation and

29 For termination and transition see AJP-3, *Allied Joint Doctrine for the Conduct of Operations*. Termination of an operation may occur for the following, not exclusively outlined, circumstances: termination by NATO for local reasons; termination by NATO for strategic reasons; termination by host nation; or termination by transition.

reconstruction activities.[30] Termination and transition provide an essential link between Alliance operations and post-conflict activities. The commander and their staff should clearly understand the termination criteria for the operation. Appropriate and well-conceived termination criteria are key to ensure that successful operations result in conditions favourable to the Alliance. Commanders continually re-evaluate the operational conditions to determine if the original end state and termination criteria are still valid and attainable.

Hostile state activity



UK 2.11. Hostile state activity has been described as the overt or covert action orchestrated by foreign governments that undermines or threatens another state's national security, the integrity of its democracy, the functioning of the state, its public safety, reputation or economic prosperity, while staying below the thresholds that would lead to military confrontation and a decisive response. The implications on military planners are twofold: the risk of miscalculation and an escalation of the conflict; and that hostile state activities are designed to be obscure, making the UK's decision-making process and reaction more complex.

Centres of gravity

2.38 A CoG is defined as: 'the primary source of power that provides an actor its strength, freedom of action and/or will to fight.' An objective is linked to the CoG. At the political-strategic level, moral-strength and physical-strength CoGs exist; both types are physical entities in nature, but vary in purpose. At lower levels of command, only physical-strength CoGs normally exist. By affecting an actor's moral strategic CoG, the Alliance aims to influence the actor's will (make the actor accept the Alliance objectives by persuasion or coercion), while by affecting a physical strategic CoG, the Alliance influences the actor's ability to carry out its overall strategy (so the actor cannot achieve its strategic objectives). By affecting an actor's operational CoGs, the Alliance influences the actor's ability to achieve its operational objectives with its current COA.

2.39 CoG analysis is used to identify conditions and effects that need to be created to provide leverage over and influence the actor upon which CoG analysis is being conducted. To assist in finding ways to achieve this leverage

30 Security force assistance and stability policing are carried out by NATO to assist a host nation to develop a sustainable capability that should enable its security forces and law enforcement agencies to act against threats to stability and security. Transition of security responsibilities to local forces – to be understood as a progressive transfer of security functions – is an essential part of security force assistance and stability policing.

commanders and staff analyse the actor's and/or CoG's (see Annex B) ability to achieve their aims and objectives using the concepts of critical capabilities, critical requirements, and critical vulnerabilities. Critical capabilities are the abilities that the actor must possess to achieve their objectives. While previously critical capabilities have tended to relate to conventional capabilities, it is often useful to broaden them out so that all the levers of influence are considered for exploitation under critical vulnerabilities. Conventional capabilities as well as opportunity and motivational related capabilities are therefore considered within the critical capability area. Critical requirements are the specific conditions, resources, and/or means that are essential for the actor to create, sustain or employ their critical capabilities and critical vulnerabilities are those critical requirements, or components thereof, that are deficient, missing, or vulnerable to influence in a way that will contribute to the actor failing to create, sustain or employ one or more of the critical capabilities. A key element of operational art is to derive ways to affect the primary actors' CoGs sufficiently to achieve objectives, whether by strengthening and/or protecting the friendly COGs or weakening and/or destroying the adversarial CoG. This can be done by affecting the critical vulnerabilities and critical requirements. CoGs and their critical features are always contextual and therefore subject to change over time during the operation; consequently, CoG analysis is an iterative, continuous process.

2.40 While commanders and their staff focus on CoGs at their own level of command, they should be aware of higher-level CoGs and their relationship to own-level CoGs. If higher-level CoGs are not already identified, the commander should start by identifying and analysing higher-level CoGs, including both moral and physical strategic CoGs.

2.41 When conducting CoG analysis, identifying the friendly CoG (from both adversarial and our own perspectives) informs the commander of a potential adversary's COAs and assists in developing the plan.

2.42 Commanders and their staff should analyse all actors with central interests in the conflict, and establish the conditions of each actor's CoGs (strategic and operational) that must exist for NATO to achieve its objectives. Key insights from the analysis of CoGs should contribute to the development of the main ideas for the operation and should be captured in the conclusion as objectives, decisive conditions, effects, actions, ROE (to prevent undesired states and effects), commander's critical information requirements (CCIRs), etc. Annex B provides details on CoG identification and validation as well as on CoG analysis.

Direct versus indirect approach

2.43 An important point in planning an operation is to determine the best approach for dealing with the adversarial CoGs. Two alternative approaches to consider are the direct and indirect approaches. The direct approach attacks the enemy's CoG or principal strength by applying fighting power directly against it. The indirect approach typically seeks to circumnavigate, isolate or otherwise render combat ineffective rather than physically destroy the adversarial CoGs. Ideally the description of the CoG of an actor includes anchor points the commander may leverage to destabilise the CoG and move the actor into the desired position. In some cases, an indirect approach may require a series of operations against multiple critical vulnerabilities. In other cases, it may involve a single operation against a few particularly critical vulnerabilities that has the effect of creating the required condition of the CoG, but without engaging in direct battle with adversary's primary combat units. Deciding between the two approaches is a question of weighing factors such as relative strength, Alliance capabilities, the types of adversarial critical vulnerabilities, risk attitude, the required condition of the adversarial CoG, time, etc. In addition, it is possible to use the direct approach at one level of command (for example, strategic) and the indirect at another level (for example, operational), as the type of approach relates to how the CoGs at each level are dealt with.



The direct approach attacks the enemy's centre of gravity by applying fighting power directly against it

Manoeuvrist approach

UK 2.12. The manoeuvrist approach is an indirect approach to operations used by the UK and is one of the key tenets of UK and NATO doctrine. It is an approach to operations that applies strength against identified vulnerabilities, including predominately indirect ways and means of targeting the conceptual and moral components of an opponent's fighting power. Significant features are momentum, tempo and agility, which, in combination, aim to achieve shock and surprise. In the manoeuvrist approach, the aim is to shatter the adversary's overall cohesion and will to fight, rather than necessarily their materiel. However, this does not preclude the use of attrition.

Mission statements and mission command

UK 2.13. In UK doctrine, a mission statement is a clear and direct order to a subordinate and consists of an action or task verb and a unifying purpose (effect), without the requirement to say how or when the action is to be completed. This description is intrinsically linked to mission command, which is a style of command that seeks to convey understanding to subordinates about the intentions of the higher commander and their place within the plan, enabling them to carry out missions with the maximum freedom of action and appropriate resources. Ideally with clear articulation of the desired end state. For further details see JDP 0-01, *UK Defence Doctrine* and JDP 01, *UK Joint Operations Doctrine.*

Objectives

2.44 An objective is defined as: 'a clearly defined and attainable goal for a military operation, for example seizing a terrain feature, neutralising an adversary's force or capability or achieving some other desired outcome that is essential to a commander's plan and towards which the operation is directed.' Objectives lead to the desired end state and they are achieved by aggregating decisive conditions through effects and their underlying actions.

2.45 **Strategic objectives.** Strategic objectives establish the strategic purpose for all actions by the Alliance within a comprehensive approach and should be based upon desired audience change. They are laid down within the Council Planning Directive and describe the goals to attain the end state. Based on analysis of the principal actors, influencing factors and CoGs, planners at the strategic level determine the essential conditions that must be

achieved to attain the end state. The development of strategic objectives is an iterative process during which the planners have to ensure these objectives are in balance with the ways and means available. Strategic objectives are subdivided into military strategic objectives (MSOs) and non-military strategic objectives.

a. **Military strategic objectives.** MSOs define the role of military forces in the wider context of the Alliance's strategic objectives. They are a clear description of the military objectives required for mission accomplishment and describe what the military must pursue, progress and sustain. MSOs provide the focus for operational-level planning and therefore should clearly state those military conditions that contribute to achieving MSOs to attain the end state. They must be attainable given the ways and means available, the strengths and vulnerabilities of the adversary or other factors in the operating environment. MSOs should normally be couched in terms that relate to the effect that is being sought on key audiences.

b. **Non-military strategic objectives.** They define the objectives that must be delivered by the other instruments of power (diplomatic, information, economic) for NATO's end state to be reached. Military strategic effects may contribute to these but will not be the primary effects to achieve them.

2.46 **Operational objectives.** Operational objectives define the role of the joint force within the context of the MSO. They are a clear description of the military objectives at the operational level that are necessary to achieve MSOs and describe what the operational-level commander must pursue, progress and sustain. Operational objectives provide the focus for planning in supporting and subordinate elements and therefore clearly state those military conditions that contribute to their achievement. Operational objectives should normally be couched in terms that relate to the effect that is being sought on key audiences.

UK military strategic objectives

UK 2.14. The MSHQ issues strategic direction to the joint commander in two parts: a CDS planning directive initiates planning; and a CDS directive provides the authority to conduct operations.

Decisive conditions

2.47 A decisive condition is defined as: 'a combination of circumstances, effects, or a specific key event, critical factor, or function that, when achieved, allows commanders to gain a marked advantage over an opponent or contribute materially to achieving an objective.' Decisive conditions are determined from the factor and CoG analysis processes. Decisive conditions do not necessarily constitute a battle or physical engagement. They also do not need to have a geographical relevance. The application of the broader substance of decisive conditions aids the analysis of the problem and the operating environment in broader context. Decisive conditions are elements of LoOs and, like objectives and effects, have to be realisable.

Effects and actions

2.48 Effects are recognisable changes in the behavioural or physical state of a system that result from one or more actions. Based on the decisive conditions for each objective and the previous analysis of each actor's systems, the JOPG determines the changes required in a specific actor's system or system elements and identifies relevant actions across the joint functions to create the changes.

2.49 Successful integration of actions enables the commander to apply the manoeuvrist approach to gain and exploit the initiative by enhancing the opportunities for pre-emption, surprise, simultaneity, tempo and exploitation. This is achieved by enhancing a commander's ability to: identify and compensate for the weaknesses in one capability or operational domain with the strengths of another; exploit a wider array of points of influence; or concentrate actions on a single point of influence, while minimising their own exposure to risk. This dislocation and disruption generates greater freedom of manoeuvre and enhances the commander's ability to impose tactical, operational, and strategic dilemmas on adversaries through the use of kinetic and non-kinetic activities across all domains and the EMS that are synchronised in time, space, and purpose, to create physical, virtual and cognitive effects in the engagement space.

2.50 Experience has shown that this integration is not easy; commanders, with their partners, may try need to coordinate political, military and civilian capabilities that they may not control, and cohere activity from across the levels of operations and from outside their joint operations area. Furthermore, multi-domain operations require the orchestration of actions to include

electromagnetic operations (EMO), some of which can be delivered at the speed of light. Where time, space and resources are finite, prioritisation is required. This makes command and control and civil-military cooperation a pre-eminent joint function, with a heavy dependence on battlespace management to optimise the tempo of decision-making and action to achieve and maintain the initiative. Battlespace management is a method whereby boundaries and permissions within the joint operations area are arranged to enable the dynamic integration of actions and activities across the engagement space.

2.51 As opposed to what happens in kinetic domains, available cyber effects are not known in advance to the planner/commander. Cyber effects are provided via a specific mechanism called SCEPVA (Sovereign Cyber Effects Provided Voluntarily by Allies). This makes planning cyber effects quite difficult.

Lines of operation

2.52 A LoO is defined as: 'a path linking decisive conditions to achieve an objective.' Along any LoO it is necessary to determine the sequence of actions, effects and conditions required to achieve the objectives. Having determined the best overall approach to affect the key actors' CoGs and decisive conditions, the next step in the operations design is to determine primary and alternative LoOs. These are used to arrange operations in time, space and purpose to transform specific unacceptable conditions at the start of the operation to conditions required to achieve operational and strategic objectives. The conclusions of the CoG analyses provide valuable inputs to the required conditions and how to achieve them. The determination of LoOs shapes the development of the plan as well as the conduct of operations. Functionally cross-cutting LoOs, each involving more than one element of power, create a more effective system for coordination between partners during planning and execution. This type of LoO construct brings to bear the capabilities of multiple elements of power, which makes it particularly effective for achieving more complex objectives or outcomes.

2.53 Sequencing decisive conditions along each LoO (see Figure 2.3 above) is critical to the operations design to:

- ensure that progress towards the objectives is measurable;
- establish the nature and sequence of effects along each LoO;
- establish the nature and sequence of actions along each LoO;

- take into account possible links to actions and effects along other LoOs;
- synchronise and coordinate actions on and between different LoOs;
- establish and manage the priority of effort; and
- determine the force and capabilities requirements for each LoO over time.

Culmination

2.54 The culmination point is defined as: 'the point in time and the location at which a force no longer has the capability to continue an operation under current conditions.' The sequencing and phasing of operations should ensure that adversaries culminate well before they can achieve their objective while ensuring that friendly operations achieve their objectives before their own possible culmination. Therefore, operations design should determine ways to speed the adversary's culmination while precluding one's own. Culmination has both offensive and defensive applications.

a. **Offensive operations.** In offensive operations, the attacking force reaches its culminating point when it can no longer sustain its offensive action and must shift to the defence or risk counter-attack and defeat.

b. **Defensive operations.** In defensive operations, the defending force reaches its culminating point when it no longer has the capability to mount a counter offensive or defend successfully and needs to be reinforced, disengaged or withdrawn to avoid defeat.

Operational pause

2.55 An operational pause is a temporary cessation of certain activities during the course of an operation prior to achieving the objectives to avoid culmination. It enables the force to regenerate the fighting power required to proceed with the next stage of the operation. Nevertheless, the JOPG needs to ensure an integrated approach to the operations design to minimise the requirement for operational pauses. Additionally, commanders and planners need to consider the risk that the enemy can use a NATO operational pause to his advantage. For example, both NATO and the enemy use an operational pause to rest, reinforce and replenish. In the end there is no net gain, and perhaps even a disadvantage if the enemy improves his situation.

Sequencing and phases

2.56 Sequencing is the arrangement of actions in a specified order that is most likely to create the effects to generate decisive conditions. The primary aim in sequencing and phasing an operation is to maintain continuity and tempo and to avoid unnecessary operational pauses.

2.57 **Sequencing.** The JOPG should determine the best arrangement of actions and effects to achieve objectives. Although simultaneous action on multiple LoOs may be ideal, resource availability usually forces the commander to prioritise and sequence the actions. Consequently, a commander may choose to sequence the actions to reduce risks to an acceptable level. This process assists in thinking through the entire operation logically in terms of available forces, resources and time, and helps to determine different operational phases.

2.58 **Phases.** Phases represent distinct stages in the progress of the overall operation. Phases are sequential but the course of effects and actions may overlap. The actions required to create certain effects in a certain phase, may start prior to the phase in question. In some cases, the beginning of a phase may depend on successfully completing a preceding phase. Commanders should clearly recognise and address this dependency in the operations design. The arrangement of supported/supporting relationships may be a valuable instrument in phasing the operations. The commander may designate a main effort in each phase and assign the execution of the action to a subordinate commander. This subordinate commander may in turn become the designated supported commander for all mission elements. A commander may provide the supported commander with the authority for the general direction of the supporting effort.

2.59 **Synchronisation, synergy and leverage.** The JOPG should consider how to best synchronise actions to create the greatest effect with a minimal expenditure of resources.

a. **Synchronisation.** Synchronisation is defined as: 'the arrangement of military actions in time, in space and according to their purpose to produce maximum relative combat power at a decisive place and time.' The JOPG therefore integrates capabilities available to them to achieve the decisive conditions. The primary benefit from synchronised actions is the ability to produce synergy.

b. **Synergy.** Synergy is the ultimate aim of all synchronisation efforts. Synergy is the interaction or cooperation of two or more efforts to create a combined effect greater than the sum of their separate effects. Synergy is closely associated with the idea of the comprehensive approach.

c. **Leverage.** Leverage is achieved when the resulting impact of an action is proportionately more than the effort applied. Leverage can be achieved by focusing Allied joint force strengths against another actor's weaknesses when aiming at decisive conditions while using other instruments of power in a comprehensive approach.

2.60 **Simultaneity and depth.** The JOPG determines the extent to which joint forces can conduct simultaneous operations to create effects across land, maritime, air, cyber, and space domains and the EMS, achieving decisive conditions throughout the depth of the operations area. This is largely a function of the availability of military resources and their operational reach without engaging the strategic/operational/tactical reserve. The intent should always be to achieve synergy by combining the effects of simultaneous actions to overwhelm the adversary's ability to respond effectively, with so many actions occurring at one time it will conceal the direction of the main effort for as long as possible.

2.61 **Tempo.** Tempo is the rate of military action relative to the enemy. Within peace support the reference point may be different.[31] Tempo incorporates the capacity of a joint force to make the transition from one operational posture to another to gain and maintain the initiative. Commanders and their staff should anticipate adversarial actions and be prepared in advance. Commanders should develop the ability to decide and act rapidly for the right and timely concentration of military capabilities and massing effects to achieve decisive conditions. The ability to dictate the operational tempo provides freedom of action and is key to bringing an enemy to its culminating point while preventing the premature culmination of one's own operation. Tempo is linked to the multi-domain operation (MDO) guiding principle of agility which allows the force to take advantage of fleeting opportunities. It requires initiative, relative speed, prioritisation, and flexibility of thought and action. It requires the application of mission command.

31 In peace support operational tempo may be developed relative to other actors' activities or during humanitarian assistance relative to the changing humanitarian situation.

Branches, sequels and decision points

2.62 **Branches and sequels.** An essential step in the operations design is to anticipate eventualities that may occur during the course of an operation and determine alternative LoOs and sequences of action, while still achieving the objective. For every action there is a range of possible outcomes that may or may not create the desired effects or the expected changes of conditions. Outcomes that are more favourable than expected may present opportunities that can be exploited. Outcomes that are worse than expected may pose risks that can be mitigated. However, the ability to exploit opportunities and mitigate risks depends on anticipating such situations and linking them to decision points, and developing options for dealing with them. The commander and the JOPG anticipate possible outcomes and ensure that options are provided in their planning to preserve freedom of action to allow them to keep the initiative. This is achieved by developing branches and sequels derived from continuously exposing the operations design to questions, concerning situations that could possibly occur during each phase of the operation.

a. **Branches.** Branches are options within a particular phase of an operation, which are planned and conducted in response to an anticipated opportunity or reversal within that phase, to provide the commander with the flexibility to retain the initiative and ultimately achieve the original objective. Branches address the question of 'what if?'

b. **Sequels.** Sequels are options for subsequent operations within an operation or the following phase (or phases) of an operation. They are planned on the basis of the likely outcome of the current operation or phase to provide the flexibility to retain the initiative and/or enhance operational tempo. Sequels address the question of 'what's next?'

2.63 **Decision points.** Decision points are events defined in time or space on which the commander is expected to have to make a decision to ensure timely execution and synchronisation of resources. Decision points can be linked to assumptions and CCIRs (see Chapter 3, Section 3) and they lead to branches and sequels. They focus the staff's monitoring activities and help prioritise the organisation's collection efforts. To support the commander, the JOPG should consider developing a decision support matrix (see Table 2.1) to link decision points with the earliest and latest time a decision is required, the priority intelligence requirements and the friendly force information requirements. Each branch from a decision point requires different actions, and each action demands various follow-up actions, such as sequels or potential sequels.

Clearly define the ISSUE and DECISION REQUIRED in a statement or question form. *Example: when should COM JTF activate and move NATO forces and equipment to the alternate theatre logistic base (TLB)?*		
IF (Commander's critical information requirement)		**THEN** (Decision point)
PIR	**FFIR**	**DP**
Provide the needed and confirmed **indications** and warnings that are relevant to this decision	Provide the relevant confirmed **facts** required to 'be-in-place' for the COM to make a decision	Provide what **decision** the COM should make (and when if necessary)
Example • Degradation by high threat of a ground attack of primary TLB (MN-Log, NSE, Class 1-5, contracts, etc.) for over 2 weeks.	• Alternate TLB capable and ready to receive TLB forces and equipment (advanced echelon, LOC, C2/CIS, internal security, contracts, etc.); • Country 'X' host nation security force ready to provide external security at alternate TLB; • COM JTF has the authority to move forces and equipment to alternate TLB.	• Recommend to COM JTF the activation of alternate TLB and move TLB forces and incoming equipment to this location.

C2	command and control	**JTF**	joint task force
CIS	communication and information systems	**LOC**	lines of communications
COM	commander	**NSE**	national support element
DP	decision point	**PIR**	priority intelligence requirement
FFIR	friendly force information requirement	**TLB**	theatre logistic base

Table 2.1 – Decision support matrix

Challenging the orthodoxy

UK 2.15. All groups of people suffer from a degree of bias, and the close environment of a well-disciplined, highly motivated and hierarchical team can exacerbate this problem. This can lead to flawed assumptions and decision-making. As an insurance against this and other forms of faulty analysis and planning, it is useful for a commander to employ a red team to assist them, or their staff, in understanding a specific problem. Though related, this bias is different to groupthink, but their effects are similar; red teaming would counter both. This technique is not described in NATO doctrine.

a. **Red teaming.** A red team is a team that is formed under a nominated red team leader with the singular objective of subjecting an organisation's plans, programmes, ideas and assumptions to rigorous analysis and challenge. Red teaming identifies and assesses, among other things, assumptions, alternative options, vulnerabilities, limitations and risks for that organisation. Red teaming employs a toolset to provide the commander or staff with a more robust baseline for decision-making. Working in parallel with the planning team, the red team will check the planners' assumptions, identify gaps in the analysis and check their logic and deductions. The red team will identify wider factors that may affect outcomes, highlight alternatives and consider consequences. The aim is to improve understanding and decision-making by considering alternative perspectives and critical thinking. Further details of the techniques involved can be found in the Ministry of Defence, *Red Teaming Handbook*.

b. **Red cell function.** Red teaming should not be confused with the 'red cell' functions, which are normally performed by the J2 (intelligence) branch in support of the operation's planning team. Drawing on the same data as the planning team, a red cell will conduct an adversarial estimate in step with the planning team's activities. They will produce a discrete adversarial plan and will normally act as the enemy in a war game.

Comprehensive approach

2.64 The comprehensive approach, supported by the other doctrinal tenets, requires commanders and their staff to be clear about their mission and the objectives they seek to achieve, and to analyse the operating environment relevant to achieving them. Further analysis identifies the physical, virtual and cognitive effects that need to be created to influence the audience to achieve objectives. In turn, commanders and their partners can determine the most appropriate mix of political, military and civilian capabilities to create the desired effects. The following constituents of the comprehensive approach need to be understood to apply this unifying tenet of doctrine:

- collective strategy and capability generation;
- end state;
- objectives (guided by the manoeuvrist approach and behaviour-centric approach); and
- effects (guided by the manoeuvrist approach).



The comprehensive approach requires commanders and their staff to be clear about their mission and the objectives they seek to achieve

Applying key tenets, supporting concepts and frameworks during operations design

2.65 The key tenets of the behaviour-centric, manoeuvrist and comprehensive approaches form the foundation of orchestration by understanding the ends, ways and means to be applied to attain the desired end state. This forms the basis for a narrative-led approach and mission command[32] to maintain focus on the strategic end state and achieve agility in the often chaotic and demanding operating environment. The supporting doctrine, concepts and frameworks provide the conceptual support while applying operational art.

2.66 Understanding starts with analysing the operating environment, after which the commander and their staff determine the role of the military force in support of attaining the end state and achieving higher-level objectives to initiate the planning process. The next step is mission analysis, which includes identifying objectives, decisive conditions and desired effects. CoG analysis helps to identify vulnerabilities and how actor's might be influenced for NATO to achieve its objectives. The manoeuvrist approach is the primary tenet focused on CoG analysis, supported by the operations framework.

2.67 When objectives are established, decisive conditions and supporting effects can be identified through the analytical construct of effect dimensions. When the effects are identified, effective and efficient actions to resource those effects are created through multi-domain operations and the comprehensive approach.

2.68 The application of the key tenets, supporting concepts and frameworks during operations design is illustrated in Figure 2.4.

32 For more detail on applying mission command see AJP-3, *Allied Joint Doctrine for the Conduct of Operations*.

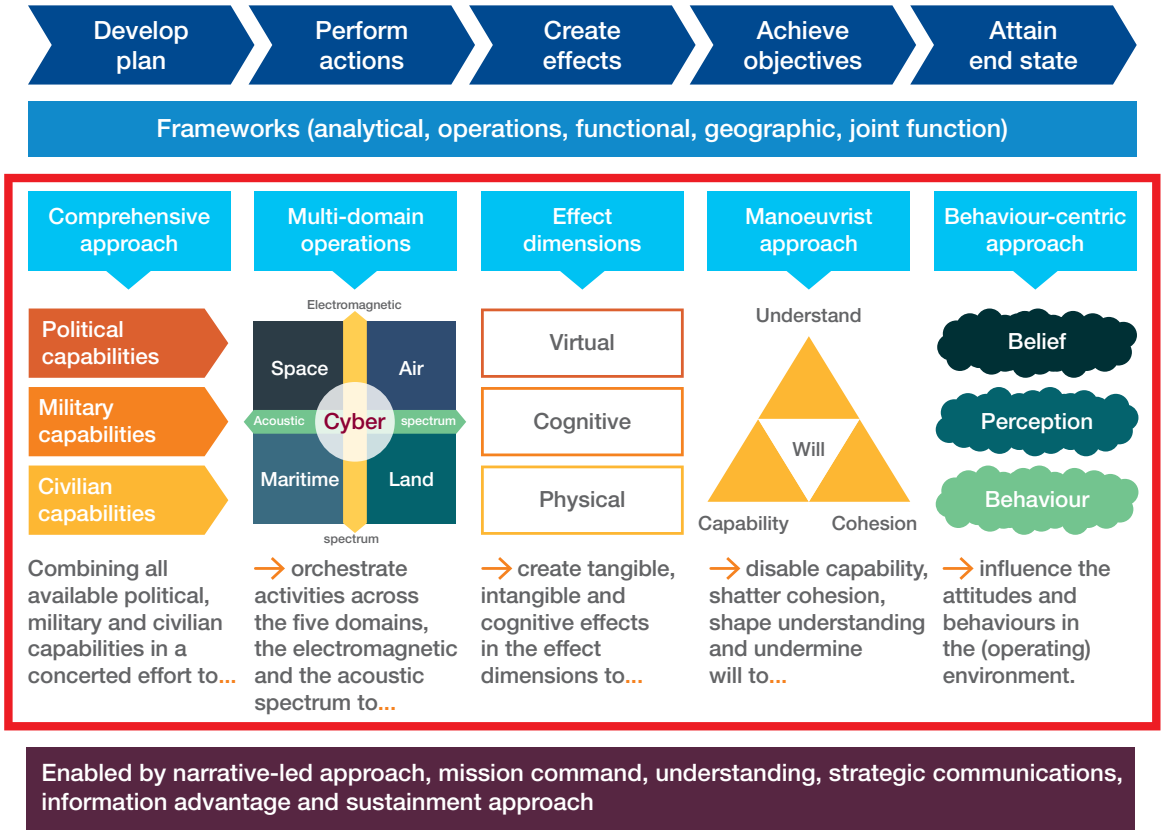


Figure 2.4 – Applying key tenets, supporting concepts and frameworks

2.69 The next step is developing COAs. Before the COAs are developed, understanding of relevant national and international actors' actions is developed. This is conducted to avoid adversely impacting their actions, or their own COA, and to enhance interaction through the comprehensive approach.

a. The COA development should illustrate the actions needed to generate the decisive conditions through: the desired effects; the engagement space's systems at which actions are directed; the joint functions required to carry out the main actions; those capabilities required by the joint force to resource the task (troop-to-task); the required complementary civilian actions; relevant legal instruments, including but not restricted to treaties, international agreements, and the domestic laws and international obligations of troop-contributing nations; and an outline of information activities.

b. Although enduring factors in all phases, effective strategic communication (StratCom), information advantage and sustainment are key drivers, and without them, the COA often will fail. So, with StratCom being a core element of planning and execution, a continuous approach to information advantage and sustainment forms an integral part of COA development. After a COA is selected, the plan development starts when the COA is implemented, supported by the joint functions and the geographical and functional frameworks, leading to the different planning products.

Key points

- NATO's operations planning process (OPP) is never done in isolation. Supreme Headquarters Allied Powers Europe is the orchestrator throughout the OPP. Operational-level planning products are reviewed for validity by the strategic headquarters and, once approved, are merged into the existing strategic plan.

- Tactical-level plans are developed on receipt of direction and guidance from the operational-level commander. Once complete, the tactical-level course of action is submitted to the operational-level staff for validation and approval.

- NATO conducts planning in two broad contexts: in advance for an anticipated situation; or in response to a manifesting situation. The OPP is used for both, the only difference is the time available for planning and the time to activation.

- Depending on the complexity of an operation plan, it may be necessary to develop support plans to the main plan.

- Operations planning supporting documents include: the NATO Response System, which provides a high-level framework; the *Comprehensive Operations Planning Directive*, which is the NATO procedural document for planning staff; and functional planning guides.

- Operations planning can be conducted in a sequential, parallel or collaborative manner.

- Operational design is a process of iterative understanding and problem framing that allows for a simple visualisation of a plan.

- A comprehensive approach requires analysis and understanding of the operating environment, plus engagement with the most appropriate political, military and civilian capabilities to create the desired effect.



UK Annex 2A

Methodologies and guides to operational analysis

UK 2A.1. Strengths, weaknesses, opportunities, threats (SWOT) analysis, frequently used in strategy formulation, helps to identify the (internal) strengths and weaknesses, and (external) opportunities and threats associated with a particular object (for example, country, group, organisation or tribe). A problem situation can thus be understood as a balance between protecting strengths, minimising weaknesses, exploiting opportunities and mitigating threats.

UK 2A.2. Stakeholder analysis is used to identify the driving and restraining forces for change in a situation. The eventual resolution of a crisis should satisfy the majority of stakeholders, or at least ensure that no powerful (and legitimate) stakeholder is left (too) dissatisfied. Stakeholder analysis can take a number of forms, but the purpose is broadly the same – to identify relevant stakeholders and the ways in which each may influence, or be influenced by, the situation. Actors and their influences can be depicted diagrammatically to illustrate formal and informal relationships – in essence, a stakeholder network.

UK 2A.3. An audience-centric approach is the understanding, planning, execution and monitoring of activities to influence the attitudes, beliefs or behaviours of an audience so as to achieve a desired outcome. the UK's approach to understanding audiences is outlined in Joint Tactics, Techniques and Procedures 3.81, *A guide to the audience-centric approach for commanders and staff*.

UK 2A.4. A cultural estimate addresses a situation from a sociological perspective. It addresses groups of actors' objectives, economic resources, political resources, means of social unification and weaknesses.

UK 2A.5. In support of these tools are several simple guides to structure the analysis. Each factor may represent either a strength or weakness of a party to the conflict, and thereby an opportunity or a threat to campaign success. The factors listed may not be amenable to direct control by a joint task force commander, but will undoubtedly impact on how a crisis develops, and the

potential effectiveness of military and other activities. These are shown in UK Figure 2A.1. ASCOPE (areas, structures, capabilities, organisation, people and events) can act as a checklist or, alternatively, can be used to further breakdown the constituent elements of the other checklists in a matrix form.

PESTLE (I)	STEEPLEM	PMESII-PT	Constituents of a nation
Political	**S**ocial	**P**olitical	Rule of law
Economic	**T**echnological	**M**ilitary	Education
Social	**E**conomic	**E**conomic	Commercial
Technological	**E**nvironmental	**S**ocial	Humanitarian
Legal	**P**olitical	**I**nfrastructure	Health
Environmental	**L**egal	**I**nformation	Information
(**I**nformation)	**E**thical	**P**hysical environment	Military
	Military	**T**ime	Economic
			Diplomacy
			Administrative
			Governance

UK Figure 2A.1 – Analysis checklist



Chapter 3



Chapter 3 explores planning activities, providing detail on sequence, initiation and mission analysis. Course of action processes are then described, covering development, analysis, validation and decision criteria. The chapter also covers development of the operation plan and planning considerations.

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3

> “It does not do to leave a live dragon out of your calculations, if you live near one.”
>
> J. R. R. Tolkien

Chapter 3

Planning activities

Section 1 – Sequence of planning activities

3.1 The sequence of planning activities is a series of logical, sequential, analytical processes designed to:

- examine a mission;
- develop, analyse, and compare alternative courses of action (COAs);
- select the best COA; and
- produce a plan or order.

The planning activities comprise seven sequential steps that are listed in Figure 3.1. The sequential steps are described in the following sections. At the beginning of each section a figure provides a condensed summary of the planning activities, inputs and outputs related to the described planning step.

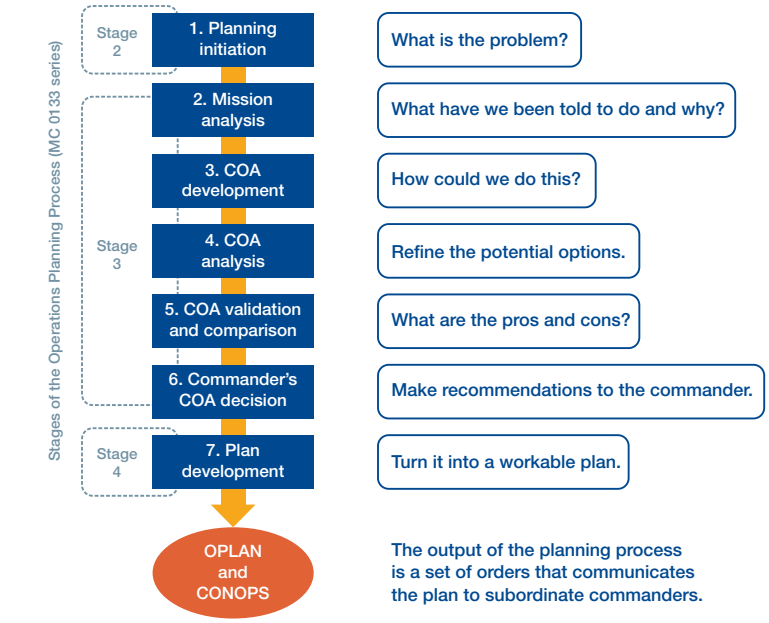


Figure 3.1 – Planning activities

3.2 Operational art (see Chapter 1) and the application of operations design (see Chapter 2) provide the conceptual basis for structuring operations. Operations should be planned at a tempo and time that maximises the effectiveness of friendly capabilities and inhibits enemies and adversaries. The sequence of planning activities provides a proven process to organise the work of the commander, staff, subordinate commanders and other partners to develop a concept of operations (CONOPS) and an operation plan (OPLAN) that appropriately address the problem to be solved. The planning activities focus on defining the military mission and developing and synchronising detailed plans to accomplish that mission.

3.3 While planning may start an iteration of the operations process, planning does not stop with the production of an order. After the completion of the initial order, the commander and their staff continuously revise the plan based on changing circumstances.

3.4 Commanders and their staff apply the principles introduced in the previous chapters to discern the mission, develop creative and adaptive COAs to accomplish the mission, and synchronise actions so that they can be executed. The planning activities[33] facilitate interaction between the commander, staff and subordinate and supporting headquarters. They also help commanders and their staffs organise their planning events, share an understanding of the mission and the commander's intent,[34] and develop effective plans and orders.

3.5 The risk management process is part of all planning activities and is an ongoing process. It includes the following elements:

- comprehensive understanding of the operating environment (CUOE) – establishing the risk context;
- mission analysis – risk identification and risk analysis to find and understand risks to achieve our own objectives and desired end state;

33 For details on activities during planning in the numerous functional areas see the corresponding publications. For example Allied Joint Publication (AJP)-6, *Allied Joint Doctrine for Communication and Information Systems* Annex A and ACO Directive 080-095, *Communication and Information Systems (CIS) Planning Directive*.
34 Commander's intent is detailed in AJP-3, *Allied Joint Doctrine for the Conduct of Operations*. Commander's intent must respect applicable law and provide a clear statement with regard to the protection of the civilian population.

- COA development – risk evaluation to determine initial likelihood and impact, identify triggers and indicators and risk rate of change; and
- plan development – risk treatment to comply with the commander's risk attitude.

Section 2 – Planning initiation

3.6 Planning for Alliance operations begins when an appropriate authority recognises the potential for military capability to be employed in support of NATO objectives or in response to a potential or actual crisis. Figure 3.2 summarises the key inputs and outputs of the operational estimate sub-stage as well as the main planning activities.

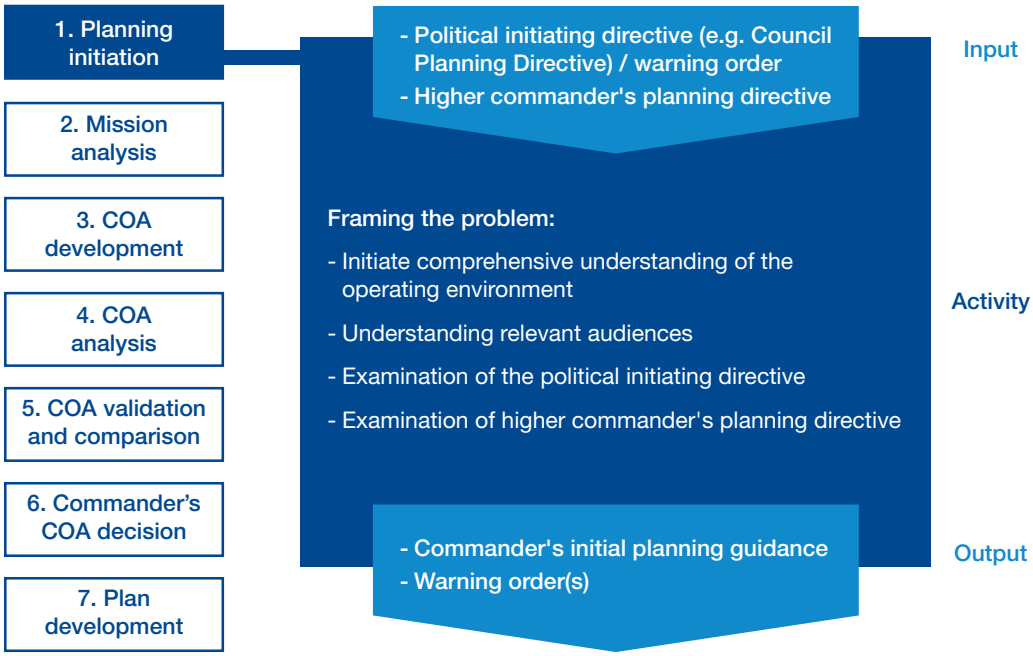


Figure 3.2 – Planning initiation

Higher directive and derived planning directive

3.7 The political strategic level initiates strategic planning by tasking the strategic commander to conduct a strategic assessment and to develop military response options. Military options are normally developed in combination with non-military options so that NATO can respond under a comprehensive approach. Such procedure is covered by the *Comprehensive Operations Planning Directive* (COPD). Once a military option is selected, operations planning is initiated.[35]

3.8 The strategic commander, subordinate and supporting commanders initiate planning when directed by the higher authority. Analysis of the operating environment during a developing or immediate crises may result in the initiation of military planning through a warning order from the strategic level to the operational level or another planning directive based on a commander's initiative (see Figure 3.2). The commander and their staff initially assess the higher directive (planning directive, such as the strategic planning directive or warning order) and the higher commander's planning directive respectively. This determines: the time available until mission execution; the CUOE, including the current status of the joint intelligence preparation of the operating environment, information environment assessment,[36] and other intelligence products and staff estimates; and other factors relevant to the specific planning situation.[37] The strategic and the operational commander typically provide initial planning guidance in addition to the higher directive based on current understanding of the operating environment, the problem and the politically directed mission. Initial planning guidance could also specify time constraints, outline initial coordination requirements, or authorise movement of key capabilities within a specific commander's authority.

3.9 While planning is continuous, once the execution stage of the operation begins, planning re-initiation during the execution stage is particularly relevant if there are significant changes to the current mission or planning assumptions or if the commander receives a mission for follow-on operations. For more detail on refining the plan during the execution see Allied Joint Publication (AJP)-3, *Allied Joint Doctrine for the Conduct of Operations*.

35 The operational level can affect the military response options development through the operational-level advice for the strategic commander. This is the only opportunity to influence the planning process from the operational level.
36 Information environment assessment includes analysis of audiences.
37 Other relevant factors include relevant doctrine, lessons identified and ongoing research and concept development.

National institutions

UK 3.1. The UK's operations planning process should be formally initiated by the Ministry of Defence, through the Military Strategic Headquarters, with the issue of a Chief of the Defence Staff (CDS) planning directive.

Framing the problem

3.10 **Strategic context review.** Normally the designated commander and their staff will have been involved in developing the strategic-level assessment of the crisis and should share a common understanding of the situation. When required, a review updates the current state of the different actors' systems that are part of the problem as well as the features of the operating environment. Additional updates that will be needed include the following.

a. **Review of superior authorities' directives.** The higher directive and higher command planning directives set the boundaries of the problem to be solved and the conditions to achieve objectives. The joint operations planning group (JOPG) studies these directives and update their own analyses as required.

b. **Collection and review of historical analysis, lessons learned and relevant doctrine.** Many situations have historical precedents that share similarities with other recent situations. Historical studies and analysis may provide instructive lessons in understanding the current strategic context and how to deal with it. Additionally, commanders and their staff can draw insights from recent lessons learned, wargaming/simulations, and ongoing concept development work.

3.11 **Appreciation and refinement of the comprehensive understanding of the operating environment.** The commander and their staff continue to develop their estimates on the operating environment as more information becomes available. This process is aimed at developing a holistic picture of the operating environment.

3.12 **Gender analysis of the context.** As part of the CUOE, a gender analysis will be conducted across all the political, military, economic, social, infrastructure and information (PMESII) elements in relation to gender roles, norms and dynamics, and how these affect and/or are affected by the emerged crisis/conflict situation. The gender analysis will then be continuously

updated throughout all planning stages, at all levels, by all staff functions and towards all types of audiences.[38]

3.13 **Evaluation of actors.** Based on the CUOE, the JOPG validates or determines the opposing and neutral actors they need to influence and friendly actor relationships needed to establish the conditions required to achieve the strategic objectives. The evaluation will include looking at the following areas.

a. **Motivations, goals and objectives of each actor.** Analysing the political goals and likely end state for each actor and assessment of likely objectives to be achieved.

b. **Primary and supporting instruments of power.** Reviewing the systems that contribute to the main instruments of power that each actor seeks to leverage to influence other actors and systems.

c. **System interaction, interdependencies, influences and vulnerabilities.** Analysing the strengths and weaknesses of the actors and systems in terms of their capacity to influence other actors and systems and to be influenced based on their vulnerabilities and interdependencies. Identifying, and focusing on, critical relationships; this includes system of systems analysis to analyse how systems are connected and how they interact to better understand the dynamics of the operating environment. Network analysis can support understanding of actors and systems in terms of interactions, interdependencies, influences and vulnerabilities.

d. **Military, security forces and other organised armed groups/ capabilities.** Assessing the strengths and weaknesses of each actor in regard to them achieving their own objectives. In particular, their capabilities and capacity to use force in time and space with relation to the current order of battle and disposition of the different actors. For additional information on assessing military and other security forces see AJP-3.16, *Allied Joint Doctrine for Security Force Assistance*.

e. **Assessment of possible activities.** Based on strategy, operational doctrine, intelligence and recent operations (the assessed strategic

38 For details on the integration of gender perspective and the gender advisory structure, see AJP-01, *Allied Joint Doctrine*, annex A and B, the most recent version of the NATO policy on Women, Peace and Security and the Bi-SCD 040-001, *Integrating Gender Perspective into the NATO Command Structure*.

motivations, objectives, aligned opportunities and the military and non-military means available), the planning staff assesses the full range of the adversaries' possible activities and evaluates them in terms of the most likely and most dangerous COA. The staff should assess the likely response of each actor to possible NATO military action, including the likelihood and the nature of any response using military force and/or other forms of violence.

Commander's initial planning guidance

3.14 A planning timeline is needed to manage planning efforts and identify key issues for consideration in the commander's initial planning guidance. In particular, the JOPG evaluates the time available for planning, including force generation, based on the worst case, and recommends adequate time for planning and preparation at lower levels of command. As a guiding proportion, when sequential planning is used, each headquarters should plan to use not more than one third of the time available to reach a commanders' decisions to leave sufficient time for subordinates to develop their plans and prepare their forces. In preparation of the commander's initial planning guidance, the JOPG also assists the commander by considering and summarising command group activities that could impact planning as well as the requirement for the commander's personal involvement in planning milestones.

3.15 The commander issues the commander's initial planning guidance and a warning order (or several warning orders). This guidance should cover:

- principal characteristics of the operation;
- issues to raise and clarify with the superior command;
- applicable legal framework and applicable policy, current or anticipated;
- any known or expected limitations (constraints or restraints);
- time-critical requirements;
- coordination and cooperation requirements;
- strategic communication guidance;

- liaison and planning team requirements (in and out);
- deployment of an operational liaison and reconnaissance team (OLRT);
- key timings;
- planning milestones; and
- warning orders to subordinate commands.

Liaison

3.16 **Operational planning and liaison element.** Liaison is of utmost importance during this early stage. As soon as the planning group is activated, the operational commander will typically be tasked by the strategic level to deploy an operational planning and liaison element to assist the strategic level with communication to and from the JOPG and to provide coordinated operational input. The composition of the operational planning and liaison element is determined by the sending headquarters. The personnel should include experienced operational-level planning staff, familiar with the planning processes of the headquarters they represent as well as the strategic planning process.

3.17 **Operational liaison and reconnaissance team.** Once authorised, the early deployment of an OLRT will ensure the required reconnaissance and coordination in the theatre is carried out to provide accurate and relevant products, in a simple manner, which will enhance situational understanding and awareness. Sending an OLRT in the initial stages, where possible, will: contribute to filling the information gaps detected during the initial stage of assessing the situation; establish the necessary coordination with local authorities; and allow them to act as the initial nucleus for an advance team and/or starting the operation. This requires the commander to designate a single authority for direction and tasking of the team, as well as to establish and maintain effective communications for the exchange of information. Accordingly, the JOPG provides prioritised coordination and collection requirements to confirm critical aspects of the mission analysis and key assumptions. Ideally, the commander and key staff should visit the theatre to conduct high-level coordination and gain first hand insights to better understand the operating environment.

Section 3 – Mission analysis

3.18 The purpose of mission analysis is to systematically assess the strategic context to establish precisely what the mission involves and where it fits in the bigger picture. This is illustrated in Figure 3.3.

3.19 The main outcomes of this activity are the initial operations design[39] and the planning guidance to the staff and to subordinate commands, both containing the commander's initial intent.[40] This enables detailed planning.

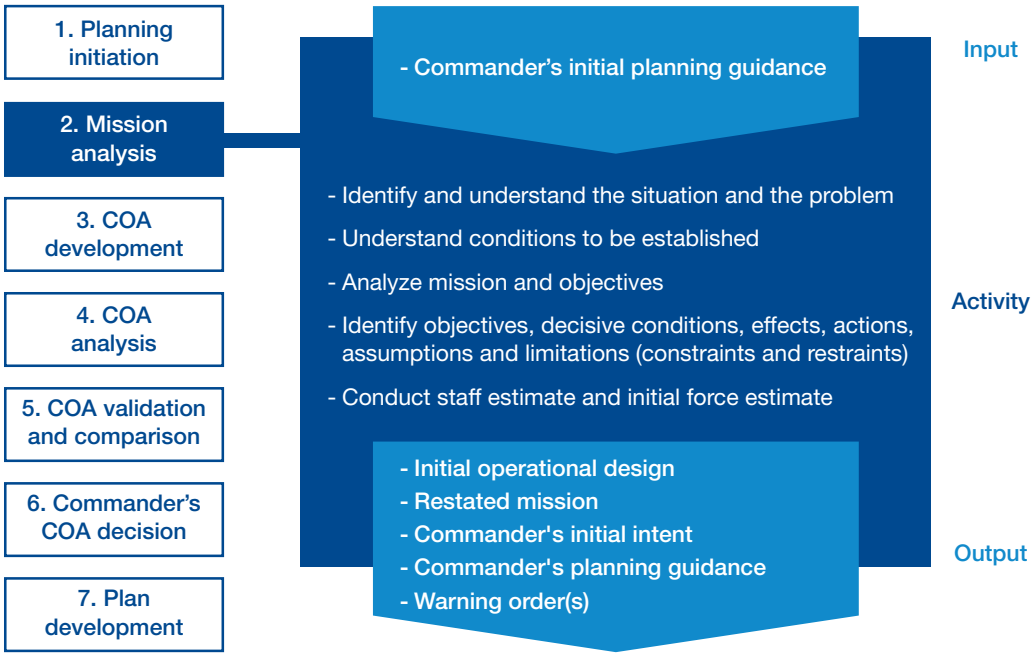


Figure 3.3 – Mission analysis

39 The COPD considers the operations design consisting of two distinct parts: the operations framework and the commander's (initial) intent.
40 The commander's intent is of initial nature first and will be refined later in the planning process, as outcome of the course of action decision activity.

Elements of the mission analysis

3.20 The mission analysis includes but is not limited to the following elements:

- assessment of the strategic context:
  - analysis of the strategic intent, NATO strategic communications (StratCom) direction and guidance, the outcomes sought and related strategic objectives;
  - identifying the role of the joint force, key objectives and conditions to reach;
  - identification of freedoms, limitations (constraints and restraints) and assumptions that will apply;
  - identifying possible changes of the situation since initiation;
  - strategic phasing and sequencing;
  - strategic planning assumptions; and
  - possible command and control (C2) arrangements.
- refining the joint intelligence preparation of the operating environment;
- refining audience analysis and identifying key audiences/actors as part of information environment assessment;
- a detailed analysis of the mission and factors that influence mission accomplishment;
- designing the commander's initial intent;
- identifying risks and opportunities;
- designing the commander's StratCom (micro) narrative;

- developing an overall operations design, including effects, lines of operation (LoOs) and decisive conditions;
- formulating the commander's planning guidance for the staff, containing the initial intent, providing view and direction for the JOPG developing COAs;[41]
- initial force estimates;
- issuing the commander's planning guidance to subordinate commanders to formally initiate parallel planning;
- forwarding requests for information, provisional rule-of-engagement requests and recommendations for the authorisation to declare response measures (RMs); and
- adapting initial commander's critical information requirements (CCIRs).



The Permanent Joint Headquarters is responsible for the planning and execution of UK-led joint, combined and multinational operations

41 The objectives and commander's intent should be worded in terms of desired effects/changes on key audiences.

Analyse the mission

3.21 The commander is personally engaged in the mission analysis and validates the results. The JOPG analyses the factors related to the strategic context and the operating environment, reviews the framing of the problem, makes deductions about mission implications and draws conclusions related to the mission requirements that have to be addressed in planning. The following aspects are normally considered.

3.22 **Comprehending and communicating the commander's intent.** Command centricity is a key feature of the planning process. The higher commander's intent is a source of guidance to be used as a reference point in planning. This idea, combined with the key tenet of mission command, requires continuous orientation towards higher and lower levels of command for the operational commander to:

- translate the higher commander's intent and contextualise it for their own level to drive the operational commander's thinking to understand, visualise, describe and direct the operation; and
- direct subordinate commanders' activities through guidance, information and coordination.

3.23 **Operational objectives and criteria of success.** Based on the mission analysis, the commander and the staff share a clear understanding of the operational conditions that must be established and sustained. The evaluation of the actors/systems and the analysis of their centres of gravity (CoGs) provide additional insight into what changes in the behaviour and capabilities of specific actors/systems may be required. The focus should be on linking the operational objectives to the strategic objectives and the end state established by the political level. The JOPG determines the criteria for success based on the objectives of the operation. The criteria for success will describe the desired system states in a measurable way. The desired effects on the system, driven by Allied action, are assessed against objective measures of effectiveness and measures of performance.

3.24 **Centre of gravity identification and analysis.** CoG identification and analysis helps commanders and their staff to focus their planning efforts to identify how actors' will and primary abilities might be influenced in order to achieve NATO objectives. Although CoG analysis is initiated in mission analysis, it is not related to a specific planning activity. Rather, it is a continuous, iterative

process that continues throughout planning and the conduct of the operation as collaborative planning carried out by multiple levels of command. Chapter 2, Section 4 introduces CoG in the context of operations design. Annex B describes how to identify CoGs, presents a CoG analysis model and offers a method for using CoG analysis in the planning process.

3.25 **Factor analysis and key factors.** As identified in the previous analysis of the operating environment and actors, the JOPG possesses a broad understanding of actors who could have operational impact. The JOPG should examine specific aspects, facts or conditions of the operating environment and the capabilities, goals, relationships and interactions between actors to determine their impact on operational success. Interactions include intents, potential capabilities, trends, tensions, strengths and weaknesses. The analysis considers the effects of the operating environment on the actors as well as on NATO forces as they interact in time, space and information. The deductions and conclusions gained from this analysis are critical to setting the boundaries and the 'realm of the possible' within which solutions are developed. An example is depicted in Table 3.1. To help complete the mission analysis and develop an operations design, the JOPG also needs to determine and analyse those key factors that have a direct bearing on what may have to be accomplished in the area of operations and under what conditions. Key factors characterise the operations (major tensions or paradoxes) and are essential to develop decisive conditions, used later in the operations design. These key factors are presented during the mission analysis brief. The staff should apply the above mentioned criteria for the selection of key factors keeping the number of factors to a minimum.

Factor	Deduction	Conclusion
A significant factual statement of information known to be true that has operational implication. *What is the current state of affairs or trends?*	The implications, issues or considerations derived from fact(s) that have operational significance. *So, what is the significance of the factor?*	The outcome or result reached that requires action in planning or further analysis. *So, what can or should be done?*
Example: • Existing seaport of debarkations (SPOD) have limited throughput capacity	• Identified ports are not adequate for rapid deployment of large heavy forces	• Pre-deployment of enabling forces to maximise/expand SPOD capacity is required (action, forces) • SPOD usage requires detailed deconfliction with host nation/military and non-military actors (operational action, liaison) • Need ready alternatives (risk, branch, commander's critical information requirements)

Table 3.1 – Factor analysis

3.26 **Developing assumptions.** There will be some gaps in knowledge and information at this point, such as the current conditions of the information environment or the reaction of actors to the involvement of NATO. In such cases, certain assumptions are made as a basis for further planning. Moreover, strategic-level assumptions provided within strategic planning guidance should be considered for operational-level planning. To be valid, an assumption has to be logical, realistic and necessary for the planning to continue. Assumptions must never deduce/eliminate critical problems, such as dealing with adversarial capabilities or assuming unrealistic friendly capabilities or successes. Each assumption may be a source or cause related to a risk, which is checked against already identified risks, or a new risk is established. If an assumption becomes false, it will lead to the requirement for branch planning.

3.27 **Determining critical operational requirements.** During the mission analysis the JOPG analyses the main CUOE products and updates available, as well as assessments and advice at hand to identify critical operational requirements across the joint functions, including the following.

a. **Critical capabilities, support and resources requirements.** These capture the military capabilities (abilities), sustainment and strategic support required to accomplish the mission and non-military capabilities.

b. **Strategic communications requirements.** NATO's approach to StratCom consists of three main elements: understanding, integrated planning and narrative-led execution. To be effective, the mission requires the JOPG to coordinate with higher-level StratCom planners, including military public affairs, information and psychological operations, to analyse and assess the information environment to develop StratCom objectives, as well as themes, focus topics and messages based on StratCom guidance. Based on a number of documents that identify audiences including the NATO Communications Strategy, Communications Campaign Guidance, StratCom frameworks, and integrated communications plans, the JOPG identifies audiences for approval by the commander.

c. **Pre-conditions for success.** Identifying any essential conditions that must be established to allow operational success but are beyond the influence of the commander.

d. **Information and intelligence requirements.** The mission analysis will highlight gaps in the critical information required for subsequent command decisions. Information concerning areas that are either critical to the success of the mission or represent a critical threat are of such importance to the commander that staffs nominate them to the commander to become a CCIR. CCIRs cover all aspects of the commander's concern. This includes the following.

(1) **Friendly forces information requirement.** A friendly forces information requirement (FFIR) is defined as: 'information that the commander and staff need about the forces available for an operation.' This enables the commander and their staff to develop plans and make informed decisions. FFIRs provide understanding of the status and capabilities of our own and supporting troops.

(2) **Essential elements of friendly information.** Essential elements of friendly information (EEFI) is defined as: 'critical information about own and friendly forces' intentions, requirements, capabilities and vulnerabilities that, if compromised, could threaten the success of operations.' It is information that needs to be protected rather than collected.

(3) **Priority intelligence requirements.** A priority intelligence requirement (PIR) is defined as: 'an intelligence requirement for which the commander has an anticipated and stated priority in their task of planning and decision-making.' PIRs are derived from the CCIRs.

FFIRs, EEFIs and PIRs can be derived from various sources as depicted in Figure 3.4. The most important ones become CCIRs which are associated to decision points triggering decisions. While the staff can recommend CCIRs, only the commander can approve them. CCIRs are continually reviewed and updated to reflect the commander's concerns and the changing situations.

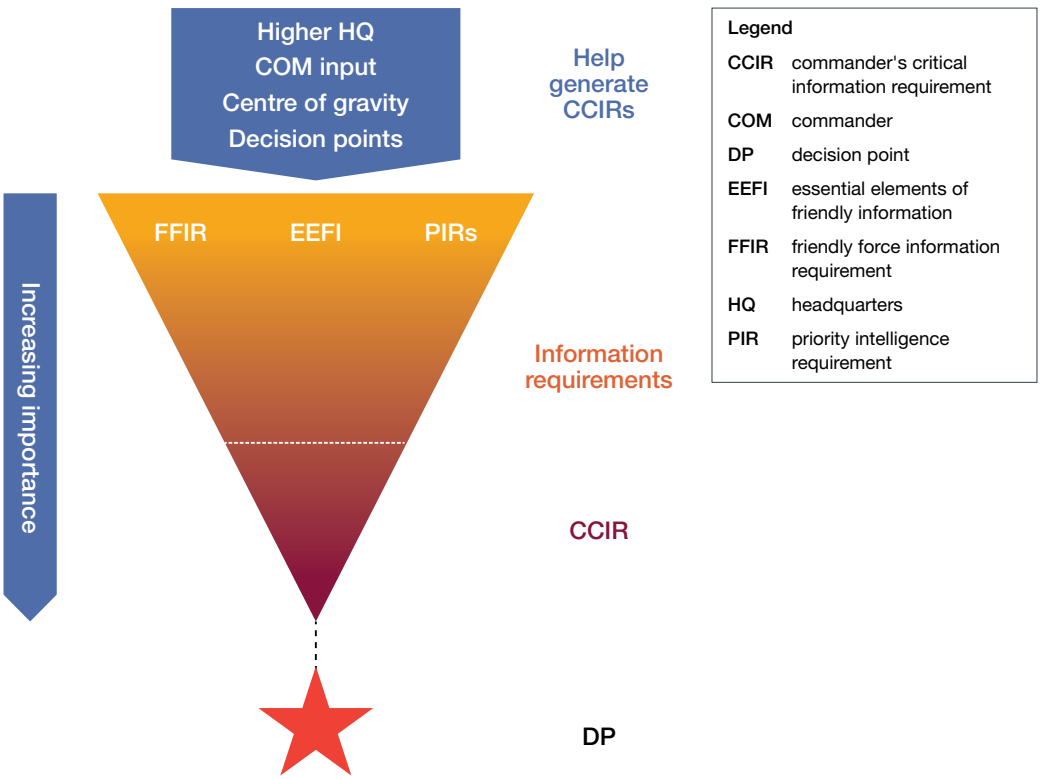


Figure 3.4 – Intelligence and information linkage

e. **Response measures.** The identified operational requirements may call for the request and implementation of RMs to ensure that necessary preparations are made and that capabilities will be ready and available. Many RMs are intended to complement operations planning, force activation and deployment procedures. The concerned RMs may range from those designed to enhance the Alliance's preparedness, including preparation, activation and deployment of forces to those initiating particular military actions (for example, 'report strategic military lift available' with the aim to identify the potential availability of military lift resources, which could be made available, where appropriate, for intra- and interregional movements).

Defence strategic communication



UK 3.2. The UK refers to Defence strategic communication rather than strategic communications. At the national strategic level, Defence strategic communication is an approach for advancing national interests by using all instruments of national power in a coordinated and synchronised manner with the intent of achieving desired behaviours in target audiences. It requires sufficient analysis of those audiences to understand how best to influence them. Defence strategic communication focuses on:

- planning Defence activities with a concentration on what they will communicate and to whom, instead of planning activities and then devising how to communicate them; and
- ensuring consistency of action, images and words so that Defence's activities send consistent messages to the intended target audience.

UK 3.3. The perceptions of the outputs of our activities will vary from audience to audience and will only create the intended effects if we sufficiently understand who the target audience is and how they communicate. A target audience analysis of the parties to a situation and an information environment analysis are essential if the appropriate activities are to be identified, the intended effects created and the desired outcome achieved. For more information see: AJP-10, *Allied Joint Doctrine for Strategic Communications*, Edition A, Version 1, with UK national elements; Joint Doctrine Publication 04, *Understanding and Decision-making*; and Joint Tactics, Techniques and Procedures 3.81, *A guide to the audience-centric approach for commanders and staff*.

3.28 **Determining requirements for complementary interaction with civilian actors.** Requirements for synchronising with civilian activities to create desired effects are captured during mission analysis and addressed with cooperating organisations during planning. This includes requirements for complementary civilian actions in support, in coordination, or at least, in de-confliction of military action.

3.29 **Limitations on operational freedom of action.** Mission analysis identifies any limitations on the commander's freedom of action in accomplishing the mission. Limitations include constraints and restraints. These may be imposed by international law, treaties or international agreements, the mandate, caveats of troop-contributing nations or by NATO political or military authorities. However, they may also be determined by operational factors that will dictate the time, space and forces to be used.

3.30 **Risk assessment.** During the mission analysis, the commander identifies risks and opportunities which may influence the achievement of objectives and the desired end state. These risks are analysed in terms of their source, cause and consequences to enable the risk evaluation once the COAs are developed in a later planning stage. Impact and likelihood cannot be determined at this stage as these elements are dependent on as yet undeveloped COAs.



Requirements for synchronising with civilian activities are captured during mission analysis and addressed with cooperating organisations during planning

Developing the initial operations design

3.31 The constituting concepts that allow the development of an operations design are detailed in Chapter 2, Section 4. The operations design provides the critical link between operational problems to be solved and the required operational outcomes. It takes the results of framing the problem, conducted during the analysis of the operating environment and the mission, and develops and refines the commander's vision. It applies operational art in transforming the unacceptable operational situation at the start of the operation by establishing decisive conditions via their constituting effects along different LoOs. These LoOs lead to the accomplishment of operational and strategic objectives and attainment of the end state. The operations design provides a conceptual overview of the entire operation and is fundamental to:

- communicating the commander's vision of the operation and the initial intent;
- providing the common basis for the development of COAs;
- integrating, synchronising, coordinating, prioritising and allocating capabilities for the operation over time;
- assessing progress of the operation;
- refining plans to deal with foreseen and unforeseen events; and
- developing initial ideas for transition and termination of the operation.

3.32 **Conditions to be established and selection of decisive conditions.** The operational objectives inform the conditions that should be achieved to attain the desired end state. These objectives are normally based upon desired adversary change. Therefore, the JOPG analyses these conditions in the context of the different actors and their interaction to determine the conditions that should be established and sustained in the area of operations. Along any LoO it is necessary to determine the sequence in which decisive conditions should be established to focus the effort to achieve the operational and strategic objectives. When specific sustainable states of the situation are determined to be critical to gain or retain freedom of action or to accomplish the objective, they may be designated as decisive conditions. The conclusions drawn from CoG analysis should highlight the effects deemed important for generating the required condition of the actors' CoGs.

3.33 **Determining the actor systems to be influenced and the effects to be created.** The JOPG examines the entire operating environment including the electromagnetic and information elements of the operating environment and identifies relevant actors to determine which of these system (or systems) elements can be influenced by military means. This set will be refined to focus on actors or groups to support the actions and effects required to achieve the desired operational conditions and objectives. It will also identify requirements for contributions by non-military means and for possible military contribution to required non-military activities.

3.34 **Determining actions to support the effects and decisive conditions.** The JOPG examines actions to be carried out by the joint force to create desired effects. The JOPG may consider single action or coordinated actions, in parallel or sequenced, against determined system elements to be influenced, involving selected joint and component capabilities.

3.35 **Evaluation of alternatives and selection of the operations design.** The JOPG discusses alternatives to the operations design with the commander and provides its recommendations. The commander decides on the LoOs as well as on the decisive conditions seen along each LoO. The commander uses LoOs to designate and shift the main effort during the course of the operation and uses decisive conditions to coordinate operations in cooperation with relevant national and international actors. Therefore, when finalising the operations design, the commander may seek advice from the subordinate commanders and representatives from cooperating relevant national and international actors.

3.36 **Commander's initial intent.** The commander's initial intent reflects the commander's vision of what the force must accomplish and the conditions that must be established. It is a succinct, written description of how the commander visualises the operation to communicate a common understanding to staff and subordinates. Although there is no specified format, the content should as a minimum:[42]

- establish the purpose of the main operational activities in terms of the conditions and objectives that the commander intends to achieve;
- indicate whether the main operational activities are being conducted concurrently or sequentially;

42 For additional detail see AJP-3, *Allied Joint Doctrine for the Conduct of Operations.*

- identify risks that are accepted or not accepted; and
- conclude by relating the commander's intent to the higher-level objectives.

Producing force estimates

3.37 Once the operations design is completed the two tasks to finalise the situation and problem analysis are:

- the estimate of the force and capability requirements; and
- establishing the commander's planning guidance.

3.38 **Initial force and capability requirements.** The mission analysis identifies critical operational capability requirements, while the development of the operations design identifies additional requirements as well as the general sequence and areas for employment. On this basis, the JOPG conducts a high-level troops-to-actions analysis to identify the major force/capabilities including assessing augmentation to meet required force readiness levels from the NATO Command Structure, NATO force structure and nations required for the operation. This process updates the estimate of required operational capabilities based on the mission analysis and compares it with the force capability requirements provided in the higher commander's directive. This enables any significant differences that may reflect an imbalance between required outcomes and the means likely to be available to be identified. Significant issues may constitute an operational risk and should be brought to the attention of the commander. The outcomes of the initial force/capability analysis are used to develop an illustrative[43] combined joint statement of requirements (CJSOR) and theatre capability statement of requirements (TCSOR) including an estimate of required elements of the reinforcement and sustainment network (RSN) identified for deployment and sustainment. Those products should be developed as early as possible since they are submitted to the strategic-level planning team to be integrated into the strategic-level CONOPS.

43 At the time of the submission, a draft product will be 'illustrative' as intended to provide stakeholders with early indications. Then the products will continue to be refined until their formal approval, therefore becoming 'provisional' and suitable for official staffing.

3.39 **Command, control, communication and information requirements.** The JOPG and the communications staff work together with the component/subordinate command liaison to establish the basic C2 requirements based on the mission analysis and operational factors to determine the following.

a. **Theatre and operations area requirements.** This is to estimate the area required to conduct and support operations and considerations should be based on the conclusions drawn from time–space–force requirements with respect to the necessary lines of communications, entry points and operating areas.

b. **Required command and control functions and locations.** This step is to assess what tasks should be accomplished, where and by what kind of forces.

c. **Geographical and functional areas of responsibility.** The commanders make preliminary estimates about their requirements to organise their C2 structure based on geographical and functional areas of responsibility.

d. **Critical liaison and coordination requirements.** The location of international and governmental authorities in the area may require a permanent high-level C2 presence that influences C2 requirements.

e. **Span of control.** While some of the structure is given to the commander and fixed, commanders need to ensure that they can conduct effective C2 of the whole force for the entire operation. This may require adjusting the C2 arrangements during the operation. A common understanding of the degrees of delegated authority to the commander is a prerequisite for military effectiveness.[44]

f. **Communication and information systems points of presence.** Depending on the theatre location and communication and information systems (CIS) infrastructure in place, the commander may have to rely on deployable CIS, with its inherent limitations, which will influence the number of deployed headquarters locations. As part of

44 Agreed definitions on the authority delegated to commanders enable a seamless assignment of units from the NATO force structure to the relevant entities within the NATO command structure. NATO definitions of delegated authority (for example: operational control) are used for the whole of the Alliance. For further detail see AJP-01, *Allied Joint Doctrine*.

CIS, tactical data links are crucial to the chain of command for data broadcasting at theatre level as well as cross component level.

g. **Communication and information systems requirements.** The management and coordination of CIS requirements will lead to a flexible, secure and resilient CIS environment to enable an effective C2.

h. **Required frequencies.** Planning and coordination of electromagnetic operations is critical to achieving electromagnetic spectrum (EMS) superiority and unity of effort across the competition continuum. Commanders need to understand the risk to their operations, as well as the opportunities presented, based on the state of the electromagnetic environment they expect to encounter. EMS requirements needed to execute electromagnetic operations are coordinated with higher headquarters, host/adjacent nations, governments, and military agencies for: EMS-use; deconfliction of electromagnetic actions; communication interoperability; and electromagnetic interference mitigation.

UK 3.4. The management and coordination of CIS must consider full information exchange requirements, which will direct the level of the services needed. This should include interoperability requirements, data classifications and the relevant security measures required.

i. **Development of requests for the higher command.** This addresses issues that require higher level action, clearly stating those conditions that should be created to enable for success of own activities, including: requests for additional RMs and rules of engagement (ROE)[45]; pre-conditions for success; recommendations on theatre and joint operations area; liaison and coordination requirements; and C2 requirements.

j. **Command and control relationships.** C2 structures may encompass joint and regionally focused aspects together with operational domain/function specific functions at the same time, thereby relying more on support command relationships rather than an actual transfer of authority.

45 See MC-0362/2, *NATO Rules of Engagement* for further detail on procedures for requesting, authorising and implementing rules of engagement.

(1) Support relationship is different from traditional C2 relationships between commanders with stated authorities expressed in command authorities. Within a support relationship, two or more equal commanders are involved in reciprocal activities within the overarching presence of a higher authority, the establishing commander, directing them. The establishing authority clearly specifies what the main effort is and the level of support required.

(2) During operations planning the operational commander shall approve support interrelationships among operational-level commanders and, when appropriate, specify the purpose, the limits and the scope of the relationship (geographical area, available means and time frame). The establishing commander may further detail the support relationship by defining priorities, geography and limited asset availability, adding complexity to the C2 structure that, therefore, should be well understood by the commanders involved.

(3) Trust and confidence between commanders are imperative in order to achieve unity of effort. Clear support relationships between joint commanders and theatre components should be established during the planning process to avoid confusion and eliminate redundancies during the execution stage.

(4) C2 relationships established during the planning process may call for specific liaison and synchronisation requirements.

Validating mission analysis and operations design

3.40 The commander validates the results of the mission and risk analysis and the operations design. The validation usually takes place during the mission analysis briefing the staff provides. Consequently, the commander takes ownership of the:

- mission;
- perception of the objectives at own level, the criteria for success, decisive conditions and effects;
- operations design in terms of LoOs and the sequence of required decisive conditions in different phases of the operation;

- most likely and most dangerous adversarial COAs with related CoG(s), in broad terms, which are to be developed as a basis for planning; and

- overall risk management.

3.41 **Restated mission.** The restated mission is a simple, concise expression of the essential tasks the joint force must accomplish and the purpose to be achieved. The mission statement states who (the joint force), what (the task), when (either the critical time or on order), where (location), and why (the purpose of the operation). The commander also confirms or adjusts their initial intent.

Commander's planning guidance

3.42 The commander issues the commander's planning guidance (e.g. Operational Planning Guidance in accordance with the COPD) to the staff and to subordinate commanders to provide them with operational output from the mission analysis and to provide the necessary direction to formally initiate planning at the tactical level. In addition, the commander issues warning orders to subordinate commanders.

3.43 **Guidance for courses of action development.** The commander provides further guidance to the JOPG to allow them to work efficiently in developing their own COAs within the time available. The level of detail in the guidance typically depends on the nature of the mission, the operational circumstances, especially the time available, and the experience of the staff. In all circumstances, the commander should:

- specify adversarial actions and estimated COAs to be considered;

- establish commander's COA selection criteria for COA development and selection;

- describe in broad terms the COAs the commander wants to develop; and

- direct the JOPG to focus its efforts on developing a single COA in case the urgency and nature of the situation requires immediate action.

Section 4 – Courses of action development

3.44 The purpose of this activity is to identify what needs to be done to achieve objectives, by developing a set of tentative COAs. All tentative COAs should enable effective mission accomplishment in accordance with the commander's initial intent and the commander's planning guidance. This activity may be a collaborative planning effort between the JOPG and planners at the higher level to produce coherent, broad COAs to preserve a common context during further development. The prerequisites are: the restated mission and initial operations design, which provide the common basis for developing COAs; and the commander's planning guidance, including the commander's initial intent and guidance for COA development and selection. COA development begins with a review of the commander's planning guidance as a basis for updating functional staff checks and analyses as required. The focus is on developing tentative COAs, starting with the adversary's COAs. Initially, COAs are described in broad terms then tested for viability. The process is illustrated in Figure 3.5.

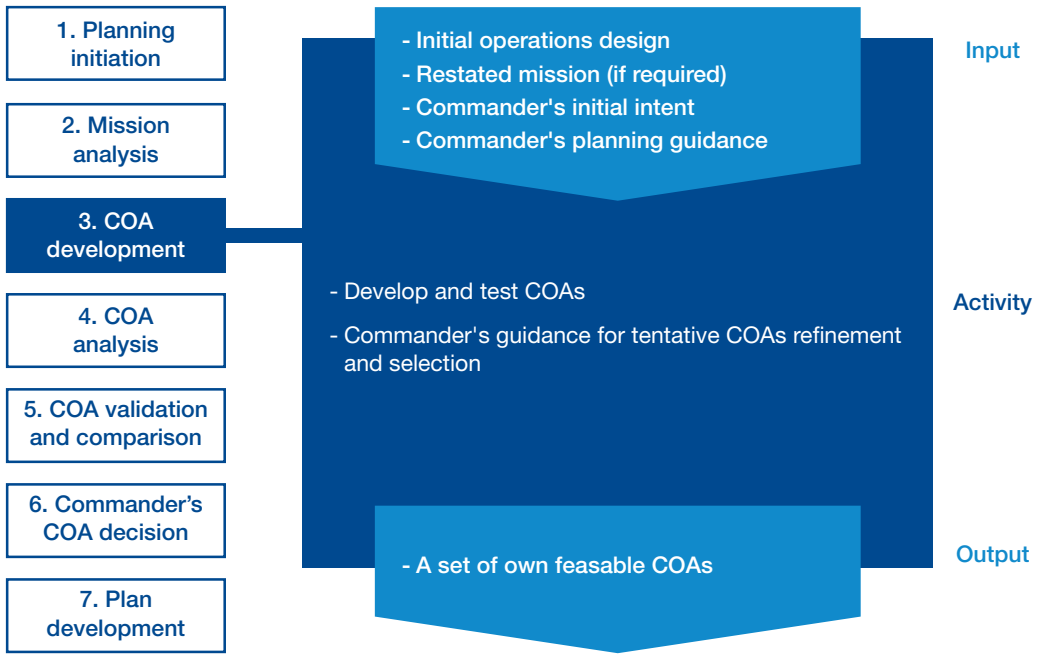


Figure 3.5 – Courses of action development

Factors affecting courses of action development

3.45 **Evaluation of adversarial courses of action.** Before developing COAs, the JOPG identifies the COAs open to the adversary. The intelligence staff refines their estimate of adversarial COAs, including the most likely and most dangerous COAs for each adversary separately and combined COAs for multiple opposing actors as appropriate. This analysis provides the JOPG with a more dynamic understanding of the adversary's capabilities, as well as the inherent risks to their own mission. The development of own COAs takes into consideration possible adversarial actions and the opportunities to influence the adversary's decision-making through military and non-military actions, including StratCom, under the following conditions:

- prior to any public announcement of NATO intervention;
- after a public announcement of NATO intervention until the initial entry of NATO forces;
- after the initial entry of NATO forces until the full build-up of forces; and
- after the full build-up of forces.

The evaluation of adversarial courses of action also provides insight into the opposing elements, including the following:

- adversary's decisive conditions;
- critical intelligence, surveillance and reconnaissance capabilities;
- adversarial forces networks, infrastructure, critical C2 nodes, EMS dependencies, key leaders, and decision-makers (including identifying the adversarial moral strategic CoG); and
- high value targets.

3.46 **Consideration/confirmation of the actions of non-adversary actors including the civilian population.** Prior to developing own COAs, the JOPG also develops a common understanding of the actions of relevant national and international actors in the theatre to avoid adversely impacting their actions or own COAs, and to enhance interaction with them. This includes identifying and

analysing their CoGs. Ideally, liaison elements of these actors represent and confirm their activities, including where coordination, cooperation and mutual support are required to create positive effects.

Developing own courses of action

3.47 A COA describes the employment of specific forces and capabilities in a sequence of actions within the assigned area, for example, the joint operations area or an area of operations. The development of COAs applies creativity in determining the realm of the possible while staying within the commander's intent and the operations design. Typically, the JOPG forms teams to produce ideas for possible COAs and to develop tentative COAs. Tentative COAs are tested for viability and selected for review with the commander, who decides which options will be further developed and evaluated through analysis and wargaming, as a basis for recommending a COA.

3.48 **Development and consolidation of tentative courses of action.** Within the parameters of the commander's guidance and the results of the mission analysis, the staff develop suitable COAs for testing. They use appropriate functional expertise like the operations framework with its joint core activities: shape, engage, exploit, protect and sustain (see AJP-3, *Allied Joint Doctrine for the Conduct of Operations* for more information). Originality and imagination are encouraged to produce the least predictable feasible COAs. Throughout this process, it is important to maintain focus on the commander's intent, the identified decisive conditions and objectives from operations design. During development, for each COA the staff should:

- consider how tasks can be organised down two levels of command;
- elaborate the likely phases and sequencing, including main and supporting efforts;
- identify initial missions for subordinate commands; and
- describe the outline command arrangements, including any supported/supporting relationships.



A course of action describes the employment of specific forces and capabilities in a sequence of actions within the assigned area

3.49 Tentative COAs should illustrate the:

- sequence and purpose of the main actions required to generate the required decisive conditions through creating desired effects;
- system/system elements at which actions are directed, including key actors' CoGs and related critical vulnerabilities;
- main forces/capabilities across the joint functions required to carry out the main actions to create the desired effects;[46]
- required complementary non-military actions; and
- outline of information activities.

3.50 Test the viability of each COA. After the tentative COAs have been developed, they should be tested for viability using the criteria listed below. Any COA that does not meet all criteria should be adjusted to meet the criteria or rejected and not be presented to the commander.

46 The primary entity/force required is the designated own CoG for that tentative COA. Initial own CoG identification and analysis will need to be updated or revised as required.

a. **Feasibility.** Is the COA possible, given the time, space and resources likely to be available and does it fit the operating environment?

b. **Acceptability.** Are the likely achievements from the COA worth the expected costs in terms of forces deployed, resources expended, casualties suffered, collateral effects, societal impact and likely media reaction?

c. **Completeness and Compliance.** Is the COA complete? Does the COA answer the questions of when, who, what, why, where and (to a limited extent) how? Does the COA conform to or implement Allied joint doctrine in an appropriate way?

d. **Exclusivity.** Is the COA sufficiently varied from other COAs to clearly differentiate its comparative advantages and disadvantages?

e. **Suitability.** Does the COA accomplish the mission and comply with the planning guidance?

Those COAs that pass the viability tests should be evaluated against identified risks in terms of likelihood and impact on all phases of the COA. This enables the commander to visualise how different COAs influence the identified risks and how this may influence the attainment of the desired end state over all phases in the operation.

3.51 **Commander's guidance for the refinement of tentative courses of action.** Before the JOPG commits to developing a set of COAs in detail, it will review proposed COAs with the commander to ensure they meet expectations. Tentative COAs along with any other relevant information and questions are briefed to the commander in a concise and logically sequenced manner. This provides an early opportunity for the commander to focus efforts and to influence further COA development by ruling out or adding any COAs or modifying elements of a COA. The commander may modify criteria for the development and selection of COAs; it is critical at this stage that the JOPG reviews these criteria and discusses them as necessary with the commander. These criteria should reflect what the commander considers to be most important based on factors such as the guidance and direction received in the higher commander's directive, LoOs and decisive conditions. Furthermore, commanders direct the risk treatment by deciding which controls are to be implemented in the plan development to accommodate the declared risk attitude.

Section 5 – Courses of action analysis

3.52 The purpose of COA analysis is to evaluate our own COAs based on the commander's guidance, reaffirm their viability and refine them before they can be validated and compared during the next planning activity. The final product of this activity is a series of COAs derived from a comprehensive, logical cross-functional evaluation and synchronisation. This series is then ready for comparison and validation in the next step. COA analysis is partly a collaborative planning effort between the operational-level and the tactical-level planners to produce coordinated COAs. The process of this stage is illustrated in Figure 3.6.

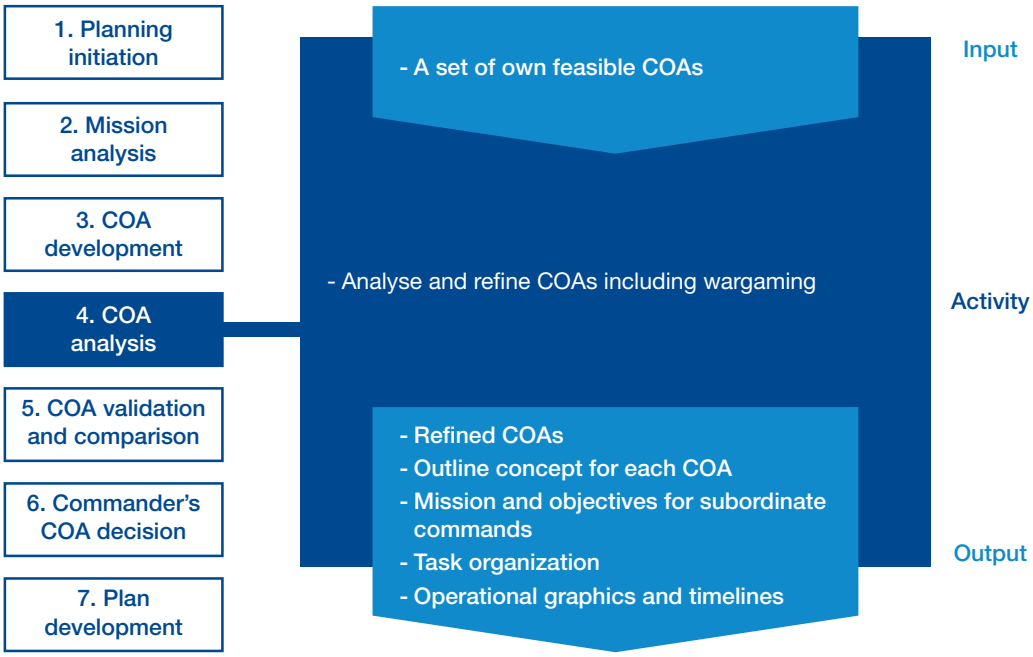


Figure 3.6 – Courses of action analysis

3.53 COA analysis begins with a review of the COAs as a basis for further refinement. The focus is on scrutinising the initial COAs in a cross-functional manner by the entire staff. These COAs are also coordinated with subordinate commands and refined through their analysis. Finally, they are evaluated by means of wargaming and synchronised. The COA analysis has four key outcomes as described below.

a. **Outline concept of operations.** It features the following attributes:

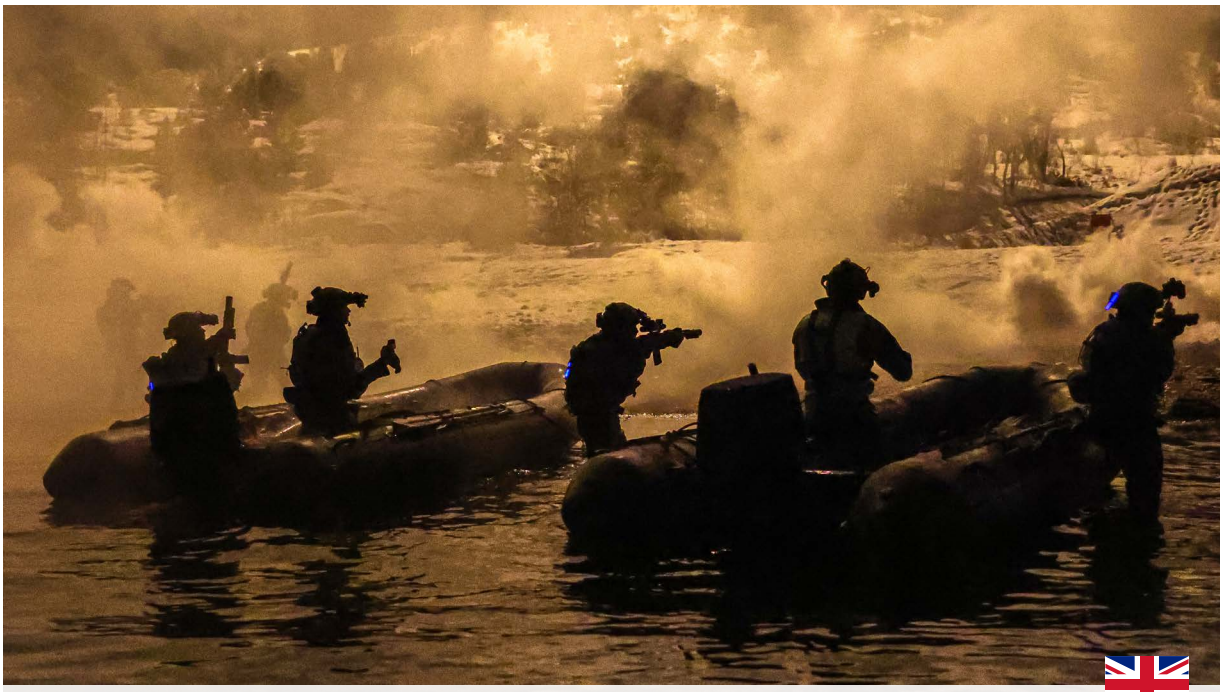
- the logical sequence and main purpose of operations to be achieved in clearly defined phases;
- when, where and in what sequence operations will be carried out to reach decisive conditions;
- the main and supporting efforts;
- effects to support decisive conditions and actions to support those effects;
- operational reserve;
- StratCom narrative; and
- required complementary non-military actions.

b. **Missions and objectives for subordinate commands.** These are developed in conjunction with subordinate commanders; the commander and the JOPG lead this collaborative process.

c. **Task organisation.** This includes:

- force/capability requirements two levels down (i.e. one level below components/subordinate commands), based on an initial troops-to-actions analysis for mission-essential tasks for each component/ subordinate command;
- supporting/supported relationships in the task organisation; and
- any significant changes in the task organisation between phases.

d. **Operational graphics and timelines.** These illustrate the spatial aspects of the COA by phase and the sequencing of key tasks by subordinates for each phase of the operation, including other key events and opposing actions.



The outline concept of operations includes details such as when, where and in what sequence operations will be carried out to achieve decisive conditions

Analysis and synchronisation of courses of action

3.54 COA analysis provides an opportunity for the JOPG to examine each COA from different functional perspectives to identify inherent advantages and disadvantages. Additionally, COA analysis allows the JOPG to determine key aspects to be evaluated in wargaming, such as high pay-off targets, decision points, and identified triggers and indicators for relevant risks and associated identified risk treatment.

3.55 **Synchronise courses of action.** During the analysis, coherence across the different forces and functions should be achieved for each of the COAs. The different force elements' actions and functions can be harmonised to create synergies. These items are plotted in a synchronisation matrix, such as the notional one in Figure 3.7, which will be refined during plan development, and later on included in the OPLAN.

Date	7 to 12 June	13 to 18 June	19 to 24 June	25 to 30 June	1 to 6 July	7 to 12 July	19 to 24 July	25 to 30 July	31 July to 5 Aug
TIMINGS	G-24 – G-19	G-18 – G-13	G-12 – G-7	G-6 – G-1	G+0 – G+6	G+7 – G+12	G+13 – G+18	G+19 – G+24	G+25 – G+30
STRATEGIC PHASING	PHASE I – DEPLOYMENT COORDINATE SUPPORT				PHASE II – DETER		PHASE III – CONTAIN		
STRATEGIC OBJECTIVES	SO 1. Cessation of hostile and destablising activities in the region.				SO 2. Local government willing and capable of maintaining security and stability.				
	SO 3. Assist international community ...				SO 4.				
JOING CONTROL MECHANISMS (Risk)				1	6		2	4	
DECISION POINTS (DP)			1			2		5	
DECISIVE CONDITIONS (DC)			2		1				3
OPERATIONAL EFFECTS (OE)			OE 2.2			OE 3.1			
					OE 1.1			OE 3.2	
					OE 1.2		OE 3.3		
	OE 2.1							OE 3.4	
JOINT ACTION (OAs specific to JTF)				coordinate flexible deterrent options					
				JTF HQs deploys		JTF HQ FOC			
OPERATIONAL RESERVE				BPT enhance deterrence activities					
LCC	deployment	FOC			support countryland forces				
		be prepared to secure SPOD/APOD							
			establish liaison with XXX						
			establish coordination mechanism with YY military						
						coordinate with UN missions and with NGOs			
MCC	deploy on ACTPRED								
		establish situational awareness and contribute to RAP							
					deter piracy and malign activities				
ACC	contribute to ISR								
				contribute to secure SLOCs with Air Power Contribution to maritime operations					
						deploy air assets on DOBs			
SOCC	deploy NLT ACTPRED								
				FOC					
					liaise with relevant actors				
JLSG	predeploy logistic elements required to prepare RSOM								
			IOC						
			deploy on ACTORD						
				establish RSOM nodes					
Other relevant enablers (e.g. STRATCOM, CBRN, CYOC, etc.)			decrease adversary cohesion						
				conduct defensive cyber operations					

Legend

ACC	air component command
ACTORD	activation order
ACTRED	activation pre-deployment
APOD	airport of debarkation
BPT	be prepared to
CBRN	chemical, biological, radiological and nuclear (defence)
CYOC	cyber operations centre
DOB	deployed operating base
FOC	full operational capability
HQ	headquarters
IOC	initial operational capability
ISR	intelligence, surveillance and reconnaissance
JLSG	joint logistic support group
JTF	joint task force
LCC	land component command
MCC	maritime component command
NLT	no later than
RAP	recognized air picture
RSOM	reception, staging and onward movement
SLOC	sea lines of communications
SO	strategic objective
SOCC	special operations component command
SPOD	seaport of debarkation
STRATCOM	strategic communications

Figure 3.7 – Notional example of synchronisation matrix

3.56 **Troops-to-actions analysis.** This analysis seeks to determine the military capabilities and capacities required to execute the COA by phase of the operation and under the conditions expected within the operating environment. It provides essential detail to the task organisation for the determination of deployment feasibility and the conduct of wargaming. Inputs are required from subordinate commands. However, the commander and the JOPG lead and coordinate the process to optimise joint force employment. A typical sequence of analysis is as follows.

a. Determine the optimum employment of joint capabilities for each action and the desired effects for each phase.

b. Establish the most effective mix of component, C2 and CIS capabilities and update of the task organisation.

c. Estimate the most effective and efficient theatre and component-level capabilities to support the joint force. NATO and nations have a collective responsibility for logistic support. However, nations have the ultimate responsibility for equipping their forces and for ensuring, individually or by collective arrangements, the provision of required logistics, resources and enabling capabilities, such as medical facilities, and EMS use agreements for an appropriate sustainment level to support the forces assigned to NATO during peace, crisis and armed conflict.

d. Prepare a draft CJSOR focusing on the required capabilities by phase.

e. Assess, in coordination with cooperating relevant national and international actors, of potential requirements for the support of relevant national and international actors, in accordance with the commander's planning guidance.

3.57 **Deployment feasibility.** Experts in the JOPG should develop an estimate of the feasible deployment of the main forces based on their assumed readiness and the (existing) capacity and capability of the available elements of the RSN to forecast their potential arrival in the theatre and assigned areas.[47] The initial endurance of the main forces should be taken into account.

47 The Allied Movements Coordination Centre at the Joint Support and Enabling Command is in charge of coordinating strategic movements of the force, taking consideration of those operational recommendations.

Wargaming

3.58 **Wargaming the courses of action.** Wargaming is an instrument designed to develop and improve COAs. It should be used, whenever time permits, to evaluate the potential of a COA to accomplish the mission against foreseen counteraction with respect to the different adversarial COAs, as well as to identify and correct deficiencies. However, the real value is its ability to permit the commander and the staff to visualise the conduct of operations and gain insight into opposing capabilities and actions, as well as conditions in the operating environment. Wargaming should also help identify necessary coordinating measures, refine risks (positive and negative) and their associated triggers and indicators as well as controls and decisive conditions (and their constituting effects) for the commander to take action. In addition, wargaming synchronises the joint elements of an operation. Ideally, each own-force COA should be wargamed against the 'most likely' and 'most dangerous' adversarial COAs. While there are benefits to wargaming, it may be cost, workforce and time intensive. Wargaming results do not validate or invalidate a COA; the takeaways should be viewed as data points to highlight risk and opportunity. The conduct of wargaming is discussed in Annex C.



Wargaming can assist with developing and improving courses of action

Section 6 – Courses of action validation and comparison

3.59 The aim of this stage is to validate and compare the COAs and recommend the COA to be selected based on the commander's selection criteria. This stage is illustrated in Figure 3.8.

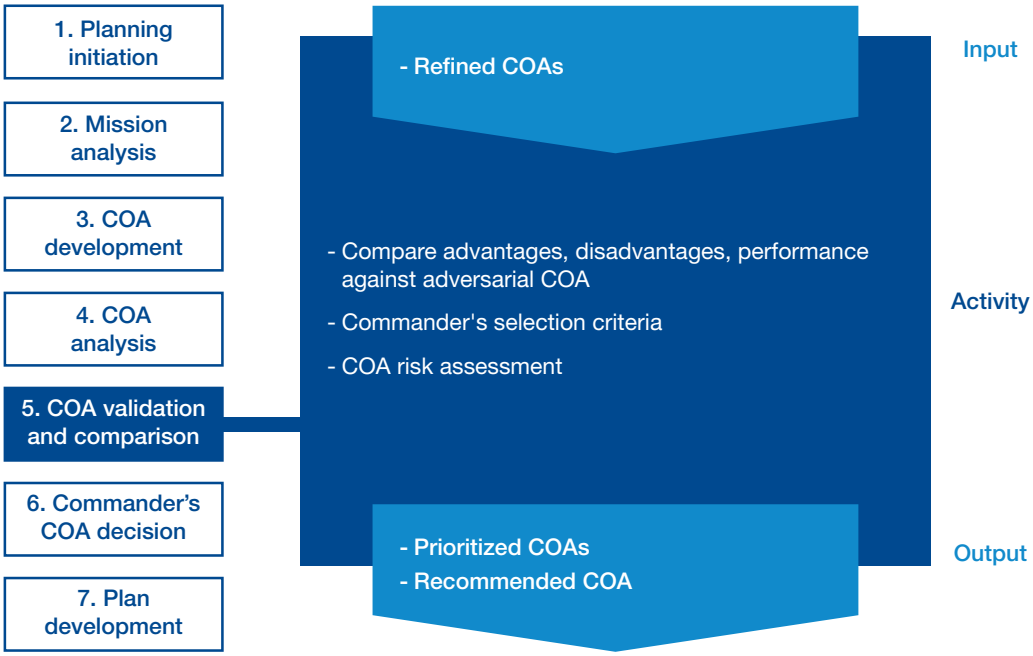


Figure 3.8 – Courses of action validation and comparison

Comparison of courses of action and risk assessment

3.60 COAs are compared in different contexts:

a. **Courses of action advantages and disadvantages.** The JOPG consolidates the advantages and disadvantages found during the initial analysis of each COA, as well as those revealed during wargaming. The process of comparing these should seek consistency by using the same set and weight of criteria across the different COAs.

b. **Courses of action against the commander's selection criteria.** The commander has guided the development of COAs by

issuing the commander's COA selection criteria. Therefore, all COAs should meet these criteria, however, they will differ depending how well they satisfy them. The JOPG compares these differences using whichever method[48] the commander prefers.

c. **Assessment of friendly courses of action against adversarial courses of action.** Based on the results of wargaming, the JOPG should rate how well each COA coped with the most likely and most dangerous adversarial COAs. They should indicate the expected effectiveness, likely costs and potential risks for each combination.

d. **Courses of action risk assessment.**[49] Following the COA comparison the risk description matrix is updated with relevant data based on the deeper understanding of the risks, newly identified triggers and indicators as well as treatment.

3.61 Based on these different comparisons, the JOPG validates the efficiency of each own COA for mission accomplishment. They will then prioritise and recommend the COA with the highest probability for mission success (success regarding the achievement of the objectives) while remaining within the constraints of the commander's risk attitude and acceptable costs (human, materiel, financial).

Section 7 – Commander's course of action decision

3.62 The purpose of this activity is to gain a commander's decision on a chosen COA and then (further) refine this COA as the future core of the CONOPS, as illustrated in Figure 3.9. The prerequisites for starting this stage are: a set of prioritised COAs; the staff recommended COA; the COA selection rationale; and the commander's personal analysis that led to the COA selection criteria. The desired outputs are: commander's COA selection; COA modifications; a refined commander's intent; and the commander's operational planning directive (OPD). These will then be inputs to the CONOPS development in the subsequent step.

48 Methods could be: narrative – using free text; one-word descriptors – like good/medium/bad; numerical rating – with an assessed cardinal number value; rank ordering – with an ordinal number, or +/0/- as qualifying attribute.
49 See AJP-3, *Allied Joint Doctrine for the Conduct of Operations*, Annex D for detail.

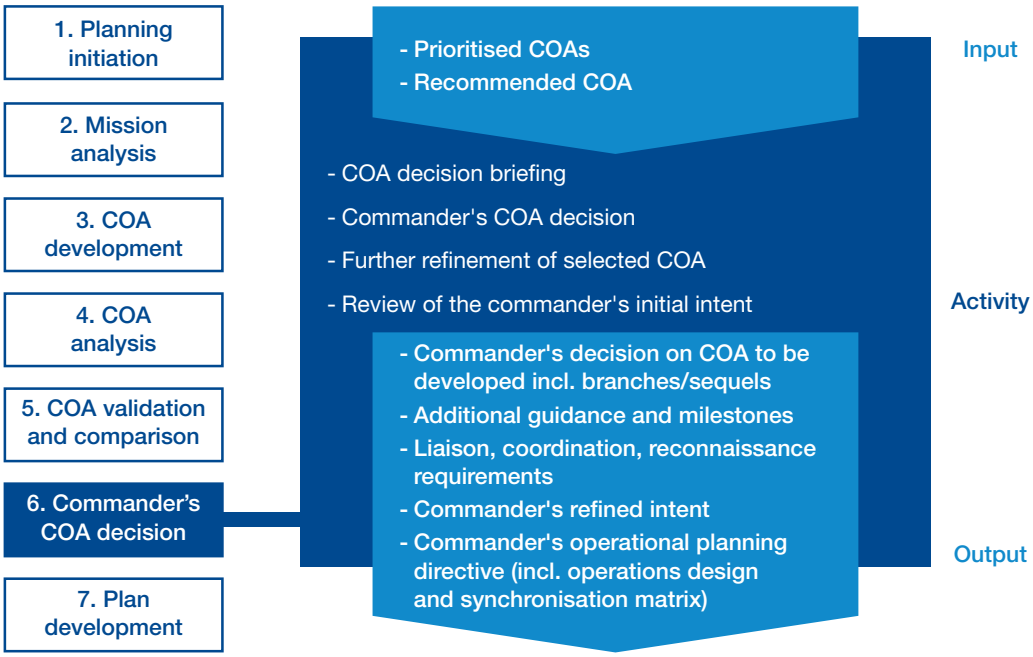


Figure 3.9 – Course of action decision

Commander's course of action decision and additional guidance

3.63 The JOPG presents COAs with a coordinated staff recommendation to the commander. This is typically accomplished by means of a decision briefing to the commander, but could also be provided in written form. The brief includes an update on the operating environment and assumptions used in the COA development. The staff normally uses the wargaming evaluation criteria to brief the commander on the COA comparison and the analysis and wargaming results, including a review of important supporting information. The presentation must ensure the commander has optimum information on which to base the decision: detailed enough to identify focal points but summarised for effectiveness and brevity. The commander coordinates with the subordinate commanders and solicits their advice, especially during time-compressed response planning.

3.64 The commander selects a COA based upon the staff recommendations and their personal estimate, experience and judgement. The commander may:

- accept a COA in full;
- accept a COA with modifications;
- decide on merging two or more COAs; or
- order the investigation/development of a new COA.

3.65 The essential results of the commander's COA decision are:

- clear direction on the COA to be refined as well as required branches and sequels;
- additional guidance and milestones for the development of the CONOPS;
- issues to be raised with the higher commander;
- priority issues requiring liaison, coordination or reconnaissance in-theatre;
- coordination required with relevant national and international actors;
- expression of the commander's refined intent; and
- guidance for the development of the commander's OPD.

Selected course of action refinement and commander's refined intent

3.66 When taking the COA decision the commander should explain the rationale for the decision, including the acceptance of risks. Once the commander has selected a COA, the staff begins the refinement process of that COA for two purposes: firstly, the COA has to be adjusted as per any final guidance from the commander; and secondly, the selected COA has to be prepared to contribute to the refined commander's intent. For the latter purpose, the staff applies a final 'acceptability' check. The staff refines the commander's COA selection in terms of:

- developing a brief statement that clearly and concisely sets forth the COA selected and provides only whatever information is necessary to develop a plan for the operation;

- describing what the force is to do as a whole, and as many of the elements of when, where, why and how as may be appropriate;
- clarifying the commander's refined intent in terms of what is to be accomplished, if possible – this will inform the plan development (CONOPS and OPLAN); and
- using simple language so the meaning is unmistakable.

Commander's operational planning directive

3.67 The main outcome of this COA decision activity is to issue the commander´s OPD to promulgate the output of the COA decision brief including the refined COA, the commander´s (refined) intent, the final operations design, a synchronisation matrix, and the missions of subordinated commanders. The OPD is the formal tasking to the components to start planning in accordance with the selected COA.

Section 8 – Operation plan development

3.68 The purpose of this activity is to produce a coherent CONOPS and an OPLAN. The CONOPS clearly and concisely expresses what the commander intends to accomplish and how it will be done using available resources. This includes access to the portions of the operating environment (e.g. airspace and EMS permissions), needed to enable operations. The CONOPS describes how the actions of the joint force components and supporting organisations are integrated, synchronised and phased to accomplish the mission, including potential branches and sequels. The OPLAN has the same structure and format as the CONOPS, but includes more detail and further particulars.[50] Prerequisites are: the commander's selected COA; and the refined commander's intent (possibly including resulting additional guidance), as illustrated in Figure 3.10.

50 For the format of CONOPS, OPLAN and list of annexes, see the COPD.

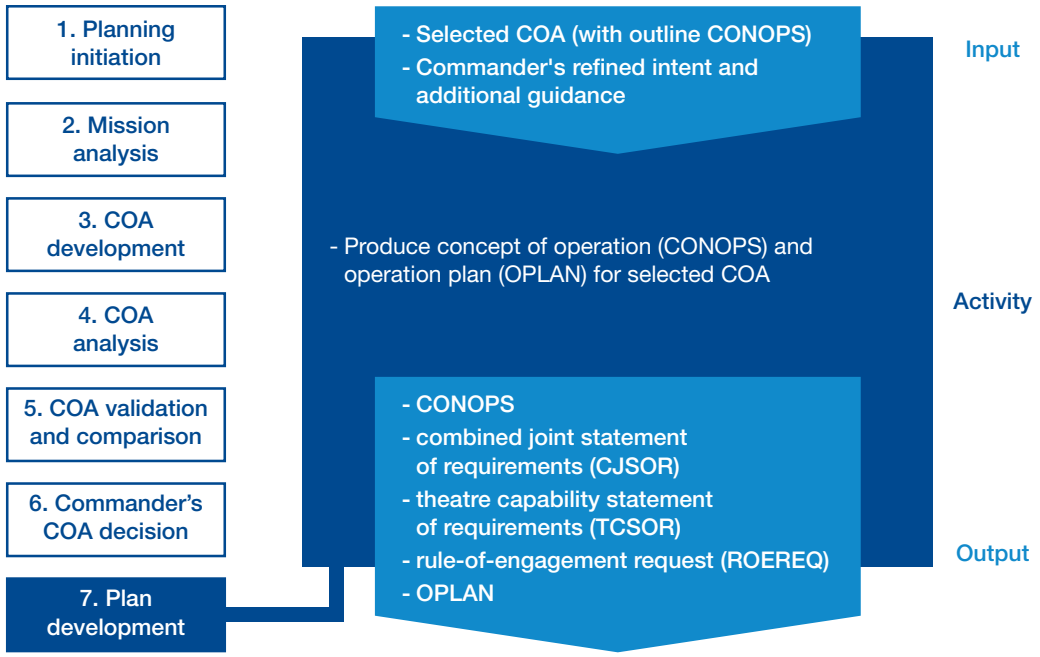


Figure 3.10 – Concept of operations and operation plan development

Desired outcome. The desired outcome of this stage is to produce a coherent CONOPS and OPLAN. The CONOPS and OPLAN development is successful when:

- the sequence of operations along clearly defined LoOs creates decisive conditions that retain freedom of action and lead to achievement of objectives that set the conditions for transition/ termination of the operation;
- capabilities across the joint functions required for the conduct and sustainment of actions are identified;
- the CONOPS includes all operational aspects of the operational factors time, space, forces and information, balanced sufficiently within acceptable risks;
- arrangements to specify the conduct of operations have been developed into an OPLAN;
- the OPLAN provides further details for planning by subordinate/ supporting commands; and

- the OPLAN is arranged for flexibility or subsequent adaptation, respectively, as required to meet eventual changes in the operating environment.

3.69 **Products.** The main outputs from this stage are:

- CONOPS;
- proposal for target categories and target sets;
- CJSOR, TCSOR, personnel/crisis establishment;
- rule-of-engagement request (ROEREQ); and
- OPLAN.

Joint functions

3.70 The joint functions are a framework that provides the commander and their staff with a means to visualise the activities of the force and to ensure all aspects of the operation are addressed. They are a point of reference, as well as a description of the capabilities of the force. The activity fields to be covered by the JOPG and appropriate subject matter experts across the staff, for the transcription of the operations design into a CONOPS and a deduced detailed OPLAN (and later employment of forces), are described by the joint functions.[51] In any operation these joint functions are to be considered, although the individual functions' contributions, significance and demands will vary. The result is called joint action,[52] which is how the joint force contributes to achieving operational objectives.

Concept of operations

3.71 The CONOPS brings together the planning output from the outset of the process to this point. It is the formal expression of the commander's intent for the conduct of operations, including the deployment, employment and sustainment of forces. It will later provide the basis for the further development of the OPLAN. The CONOPS therefore establishes the sequence and purpose of critical actions in distinct phases from initial entry to termination and transition, including the required operational outcomes in terms of objectives and the resulting decisive conditions to be achieved for each phase. The CONOPS provides the basis for assigning missions to subordinate and

51 See AJP-3, *Allied Joint Doctrine for the Conduct of Operations* for detail.
52 Joint action is defined as: 'the use of a combination of manoeuvre, fires, information and civil-military cooperation to create physical, virtual and cognitive effects.' Note: joint action is directed by command and control, informed by intelligence and supported by force protection and sustainment.

supporting commands, as well as priorities for each functional area and risk management as directed. It comprises a synchronisation matrix referred to before and detailed in planning directives. The operation is described from the perspective of the commander, encompassing the employment of forces.

Termination criteria

3.72 Termination criteria are a fundamental element of planning, especially with regard to response operations. They should be characterised by a set of conditions defined by the political-strategic level. The strategic commander uses them as a basis for planning the transition and redeployment from the theatre. Termination criteria are to be developed at the strategic level during the strategic CONOPS development, and then forwarded to the operational level via the strategic planning directive. Here, as well as at subordinate (tactical) level, they are adequately addressed in the CONOPS and the OPLAN to play their part in the commander's future periodic assessments of progress, which finally feed the strategic commander's periodic mission review process. Termination criteria are also included in the operational-level CONOPS and OPLAN to aid subordinate headquarters in their tactical operations assessment during the execution stage.

Force and capability requirements development

3.73 An illustrative CJSOR is developed in parallel with the CONOPS when planning for response operations. It is presented to the nations as the provisional CJSOR with the activation warning following approval of the strategic CONOPS and release of the Council Force Activation Directive. It includes preliminary deployment information based on the commander's required force flow into the theatre. It balances the ends and means to ensure the viability of the operation in terms of: its suitability to accomplish agreed objectives; acceptability of costs and risks; and the feasibility of deployment, employment and sustainment. Critical elements of information required by nations to determine their contributions and prepare them for deployment include:

- required force/capability and any special capabilities;
- commander's required date for the force to be available for employment;[53]

53 Troop-contributing nations must derive the time periods and required logistical capacities from the set date.

- required destination;
- priority of arrival;
- corridors and elements of the RSN to be used; and
- command authority to be transferred to the gaining NATO commander.

3.74 The provisional TCSOR identifies capability requirements to support the entire theatre and which should be in principle eligible for common funding. Based on their troops-to-actions analysis, the JOPG identifies any functional capabilities required to support the entire joint force and/or the theatre as well as the required time frame for this support. Given that meeting these requirements may take time, the JOPG should investigate interim solutions.

3.75 **Mission training and certification of headquarters, personnel and forces.** The JOPG establishes mission training and certification requirements for headquarters, personnel and forces deploying into the theatre with details included in the OPLAN. These are based on mission essential tasks and conditions in the operating environment, including force protection requirements, non-lethal weapons training requirements, cultural aspects, etc. Requirements and arrangements should be established for augmentation training, pre-deployment training support, certification of forces and in-theatre training support. Mission training and certification are important enablers for forces and staff in order to prepare them for upcoming challenges in operations.

3.76 **Personnel statement of requirements to meet crisis readiness levels.** Appropriate templates identify personnel required to meet crisis readiness levels for the activated headquarters. They are developed by personnel management staff members of the JOPG.

3.77 **Forwarding the concept of operations and the requirements to the higher commander.** The JOPG coordinates the CONOPS and the illustrative CJSOR with subordinate and supporting commands, as well as with the higher commander, to ensure that they are harmonised with the development of the higher-level CONOPS. The commander approves the CONOPS and the illustrative CJSOR and forwards them to the higher commander for approval. The higher staff will ensure that subordinate CONOPS and CJSORs are coherent with the higher commander's concept. The strategic

commander transmits simultaneously the strategic CONOPS, the illustrative CJSOR and workforce statement of requirements to the Allied Command Operations. These items are ultimately forwarded to the supporting nations through their national military representatives at NATO. This enables nations to consider the strategic CONOPS together with the capabilities required for its implementation. These items are also sent to subordinate commands as a basis for their tactical CONOPS development. Development of the operational-level OPLAN can begin with submission of the operational-level CONOPS, but cannot be finalised prior to its approval.

Developing the operation plan

3.78 **Overview.** The minimum prerequisite for starting OPLAN development is a commander-approved CONOPS, but it must address any issues resulting from the higher commander's review. Once national responses to the CJSOR in broad terms and a response to the ROEREQ are received they can be taken into consideration during OPLAN development.[54] OPLAN development is an iterative, collaborative process that focuses on synchronising and coordinating the deployment, employment, protection, support and sustainment of the force during the different phases of the operation within a single plan. Plans are prepared in accordance with instructions and formats provided by the strategic level. All planning specifics developed are to be brought into the OPLAN format and its respective annexes. Plan development concludes with final coordination, forwarding, approval and promulgation of the plan as required by the different planning categories that were introduced in Chapter 2.

a. **Timelines.** Planning products are produced in time to allow subordinates to complete required planning and preparation.

b. **Legitimate, appropriate and thorough.** The arrangements meet operational requirements including the legal and policy framework, including international humanitarian law, mandates and arrangements with host nations; force capabilities and resources; the flow of forces into the theatre; EMS authorisations; C2 arrangements, including liaison and coordination with external organisations, CIS and ROE; provisions for theatre support and sustainment; and contingency planning to cover the assessed risks.

54 National responses to the ROEREQ may include national caveats, although it is more likely that the reply to the ROEREQ will stay more generic at this stage.

3.79 **Initiation of plan development.** The JOPG reviews any issues raised in the higher commander's review of the commander's CONOPS, seeks guidance from the commander and accomplishes the following:

- establishes a schedule and timeline for the commander's plan development;
- reviews the status of strategic planning on which operational-level planning depends (force generation, preliminary deployment planning, legal arrangements with host nations, communication strategy, policy and ROE);
- plans in coordination with subordinate commands and other cooperating actors to foster integration of the joint force (this may require full information about the status of planning by these headquarters related to the status of COA and CONOPS development and coordination of supporting/supported requirements); and
- conducts additional detailed coordination/interaction with the relevant national and international actors, if authorised, in the theatre.



Sustainment of the force is one aspect requiring synchronising and coordinating during operation plan development

Section 9 – Planning considerations

Considerations for the operations and concurrent planning processes

3.80 Commanders, staffs, and subordinate headquarters employ the operations process to organise efforts, integrate the joint functions across multiple operational domains, the EMS and synchronise forces to accomplish missions. This includes integrating numerous processes and activities (such as intelligence collection, information management and joint targeting) within the headquarters and with higher, subordinate, supporting and supported units. Within given liaison and information exchange arrangements, it will also include integrating with non-NATO and non-military actors. Achieving effective day-zero integration with other actors and instruments of power is critical. Operational planning should designate clear mechanisms, such as liaison officers and interoperability standards, to facilitate this integration from the outset of any operation. A unit's battle rhythm helps to integrate and synchronise the various processes and activities that occur concurrently with the operations process.

3.81 The activities of the operations process are not discrete; they overlap and recur as circumstances demand. While planning may start an iteration of the operations process, planning does not stop with the production of an order. After the completion of the initial order, the commander and their staff continuously revise the plan based on changing circumstances. Preparation for a specific mission begins early in planning and may continue for subordinate units during execution. Execution puts a plan into action and involves adjusting the plan based on changes in the situation and the assessment of progress.

3.82 Commanders and their staff integrate the joint functions and synchronise the force to adapt to changing circumstances throughout the operations process. They use several integrating processes to do this. An integrating process consists of a series of steps that incorporate multiple disciplines to achieve a specific end. For example, during planning, the COPD integrates the commander and their staff in a series of steps to produce a plan or order. Key integrating processes that occur concurrently with the operations process include, but are not limited to:

- intelligence cycle;
- joint targeting cycle;
- information management;

- risk management; and
- engagement space management.

Reinforcement by forces and sustainment planning

3.83 Reinforcement by forces and sustainment planning allows for input of enablement expertise to all stages of the operational planning process to inform decision makers and to ensure that the plan can be supported from an enablement perspective. Enablement planners develop a support plan to ensure a timely and optimised use of the RSN and to synchronise, prioritise and de-conflict deployment of forces, flow of sustainment and redeployment of forces.

3.84 Medical support planning allows the early input of medical expertise to all stages of the operations planning process to inform decision-makers and ensure the plan can be medically supported to agreed NATO principles.[55] Medical planners develop a medical support plan for the operation to identify necessary medical resources and to ensure their optimal allocation and laydown to preserve and restore health and mitigate medical risk across all phases of an operation. Further detail can be found in AJP-4.2, *Allied Joint Doctrine for Medical Support*.

Planning considerations for interaction with non-military actors

3.85 Military actions not only create effects against adversaries, but can also have significant impacts on neutral actors and civilians. These military actions may not just be the Alliances'. An adversary may seek to influence non-military audiences to hamper NATO's actions and to achieve their own goals. Opponents and competitors use this rationale in their hybrid strategies to exploit all aspects of political, economic and social life to undermine the stability of a nation or a region to take control. To succeed in this endeavour, decision-makers and military commanders will need to understand, select and synchronise the broadest possible range of instruments of power, which will require a whole-of government and international approach to these problem sets.

3.86 A common feature of military activities and operations is the diversity of non-military actors sharing the operating environment. A commander is required to work with non-military actors and should retain a high level

55 Details are outlined in MC 326/4, *NATO Principles and Policies of Medical Support*.

of flexibility when it comes to interacting with those non-military actors during different phases of a campaign. Non-military actors have their own motivations, legal status, mandates, missions, principles, processes and policies. It is essential to understand the origin, ownership, principles and goals of non-military actors, and how their activities affect the military and vice versa.[56] To promote unity of purpose, commanders have to invest in building trust and relationships with friendly and neutral non-military actors, including through cultural and gender awareness, attempting to find common goals, and being open and consistent with their communication.

Planning considerations for gender perspective integration

3.87 The integration of gender perspective in the planning of military operations is the commander's responsibility which requires a systemic approach by all staff functions, at all levels. A gender advisory structure facilitates the effective and relevant integration of gender perspective by providing advice, support and analysis capacity.[57]

3.88 Integrating gender perspective has a force multiplier effect across all three components of NATO fighting power. The collection of data disaggregated by sex and age, the gender analysis process and the integration of gender perspective through the entire planning process will reveal specific and potential ways our operations could affect and be affected by audiences (actors, stakeholders and public, and from friendly to hostile attitudes/ behaviours).

Planning considerations for human security

3.89 NATO's human security approach is a multi-sectoral approach to security that identifies and addresses widespread and cross-cutting challenges to the survival, livelihood and dignity of people.

3.90 Human security principles will be integrated into all core tasks. To achieve this, NATO is committed to the safety and security of the populations during all stages of Alliance operations, missions and activities. This has the objective of preventing and responding to risks and threats to all people, especially in conflict or crisis situations.

56 See AJP-3.19, *Allied Joint Doctrine for Civil-Military Cooperation* for detail.
57 For details see Bi-SCD 040-001, *Integrating Gender Perspective into the NATO Command Structure*.

3.91 NATO's human security approach is guided by the following principles.

a. Be people-centred, actively integrate gender perspectives, and address the differentiated impacts of conflict and crisis on different people in the population, especially individuals in situations of vulnerability or marginalisation.

b. Be prevention and protection oriented.

c. Take into account local customs and social norms in the communities coming into contact with NATO in Alliance operations, missions and activities, while respecting the common values and principles of the Alliance.

d. Comply with international law.

e. Respect and provide space for the neutral, independent and impartial work of humanitarian actors, whose operational viability and safety is essential during armed conflict and other situations of violence.

f. Be in full respect of the sovereignty and territorial integrity of states.

g. Pursue two-way staff-level engagement on human security related issues with relevant actors, such as the United Nations, the European Union, the Organization for Security and Co-operation in Europe, the African Union, host nations, partners and civil society, as appropriate.

Planning considerations for multi-domain operations

3.92 The joint functions will continue to provide a useful planning framework but the scope of these planning functions will need to be broadened to more effectively recognise and enable multi-domain operations (MDO) delivery, including the increased ability to collaborate with non-military capability providers (see Annex D for further planning considerations). For MDO, military commanders will need to orchestrate the operational domain activities under their authority by changing the weight of effort or relative advantage in one operational domain (for example, through a change in operational tempo or providing additional capabilities), while shaping and contesting in other operational domains. The increased prominence of space, the EMS and cyberspace sets a new context for operations that requires changes to traditional thinking regarding force organisation and operating areas. The

following four guiding principles,[58] as introduced in Table 3.2, are deemed as foundational to the successful delivery of MDO.

Principle	Description
Unity	Allows coordinated action of all capabilities towards a common objective. Requires collaboration, transparency and trust to enable the harmonised planning and execution of MDO.
Interconnectivity	Enhances shared understanding across all instruments of power, Partners and stakeholders, and enables warfighting interoperability between force elements. It must be resilient and requires standardised data to support user requirements.
Creativity	Stimulates the development of boundless opportunities that can be tailored to offer surprise and multiple dilemmas.
Agility	Allows the force to take advantage of fleeting opportunities. It requires initiative, relative speed, prioritisation, and flexibility of thought and action. It requires the application of mission command.

Table 3.2 – Guiding principles of multi-domain operations

3.93 Consequently, structures and processes of operations planning must be designed in such a way that effects can be created at speed and scale. Commanders and their respective staffs must therefore ensure that any process steps or feedback loops that slow down planning are resolved as quickly as possible.

58 See MCM-0004-2023, *Alliance Concept for Multi-Domain Operations*.

Key points

- The commander will initiate planning when directed by the higher authority. Initial tasks will include building a comprehensive understanding of the operating environment, evaluating the actors involved, and the guidance given relevant to the task.

- Mission analysis involves identifying and understanding the situation and task required, its challenges and opportunities.

- Analysis of the mission will lead to the development of courses of action. These will be subject to detailed analysis, validation and comparison before being presented to the commander for decision. This process will form the basis of the operation plan development.

- Additional planning considerations should include: information, intelligence and targeting requirements; interaction with non-military actors and human security aspects; and risk management. Lead times for cyber operations should also form a consideration. Risk management is part of all planning activities and should be regarded as an ongoing process.

- The scope of traditional planning functions should be expanded to embrace a multi-domain operations approach. This will include consideration and employment of the principles of unity, interconnectivity, creativity and agility.

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Annex A

Doctrinal frameworks and planning

Section 1 – Introduction

A.1 The application of fighting power requires military (and non-military) activity to be harmonised in time and space to influence a target audience and exploit opportunity in the physical, virtual and cognitive dimensions of the engagement space. The effects of these activities are either decisive, shaping or sustaining for changing the behaviour of a target audience. Hence a commander must be able to answer the following questions.

a. What effects do I want to create by employing my capabilities and how do these effects relate and achieve the objective(s)?

b. How do these activities relate and create the desired effects?

c. Where (and when) should I deploy these activities?

d. How can I coordinate, deconflict and affiliate with other actors, in order to achieve unity of effort?

A.2 Analytical frameworks are available to help with answering these questions. These frameworks are used for planning, organising and synchronising the deployment and employment of forces. They provide commanders with a conceptual picture of the use of assets so that these assets can be deployed and employed as effectively and efficiently as possible. The importance of the different frameworks can vary with each operation or activity, but it is only in association that they help to answer all questions. Three commonly used frameworks are the operations framework, the functional framework and the geographic framework, which are detailed in this annex.

A.3 Frameworks support the commander. They are a tool, not a purpose. If the commonly used frameworks are not usable in a given situation, other frameworks may be developed and used. In this case it is the obligation of the

commanders to ensure that everybody understands the framework. Some examples of less common frameworks are:

- understand, shape, engage, consolidate and transform; and
- clear, hold and build.

A.4 Commanders may choose one framework or a combination of frameworks to develop, visualise and describe the concept of operations (CONOPS). It depends on which tool best suits the operations design and their command style. Nevertheless, all questions need to be answered to develop an adequate and complete CONOPS.

Section 2 – Operations framework

General

A.5 Commanders use the operations framework as a tool for synchronising their forces' activities in time and space according to purpose, thereby enabling them to obtain a clear view of the relationship between the effects in their engagement space. The operations framework also provides an opportunity to develop activities and to label them according to purpose.

A.6 By applying the operations framework, commanders and their staff ensure a balanced CONOPS and a clear and unambiguous main effort.

Shaping, decisive and sustaining actions

A.7 Each operation has just one purpose, which is either to shape, to decide or to sustain. Commanders define and express their intent in the CONOPS as shaping, decisive and sustaining actions. Through the synchronisation and cohesion with operations by the higher or lower level of command, the operations framework shows forces the relationship between their orders and tasks and those of other units.

Shaping actions

A.8 Shaping actions are actions that create favourable conditions among a target audience and in the engagement space for the decisive action. These actions make an adversary vulnerable to attack or other decisive actions

and help to form the time and space factors for this decisive action. Shaping actions may occur in any domain at any levels. Shaping actions can be conducted in phases before or at the same time as the decisive action. The success of a shaping action is determined on the basis of specific, desired effects, which create the conditions for sustained deterrence or, if necessary, for the decisive action. It may take some time before the effects of shaping actions are felt, particularly if they involve information activities and cognitive effects.

A.9 In combat, those conditions are most likely to be achieved by establishing defensive positions or wearing down the enemy's fighting power, impairing their command and control capability and sustainability and, in doing so, breaking their will to continue their operation.

A.10 Although shaping precedes any decisive action so that the best conditions are set, it may not be a single time-limited action, but a continuous effort in support of ongoing decisive actions.

A.11 Information activities can make a key contribution in support of shaping the engagement space. Information activities often target the attitude of the adversary, parties to the conflict, and the local population.

A.12 Electromagnetic activities can make a key contribution in support of shaping the engagement space as they can prevent an adversary from using specific parts of the electromagnetic spectrum (EMS) to support their missions while ensuring the EMS allotments required for NATO operations follow commanders' directives.

Decisive actions

A.13 Decisive actions are essential to accomplish the mission; without them, the mission is unlikely to succeed. There may be a single, short decisive action, or a series of events over a protracted period. In stabilisation, it is rare that an individual activity can be identified as the decisive action. Instead, a collection of measures that keep a situation largely stable may be decisive for the overall success.

Sustaining actions

A.14 Sustaining actions ensure that capabilities remain available for decisive action and subsequent operations. They include personnel and medical

support, logistics, military engineering, finance and contracts, force protection and assisting in the protection of civilians, infrastructure (with priority on dual use infrastructure) and civilian organisations. Sustainment may be extended to include the preservation of support for, and the legitimacy of, the campaign.

Integrating shaping, decisive and sustaining actions

A.15 Shaping, decisive and sustaining actions may be conducted concurrently in a harmonised and complementary fashion. Not only does each influence the other, but adversaries are best defeated by engaging them simultaneously from multiple directions. For maximum effect, actions should occur simultaneously and in harmony whether they create physical, cognitive, virtual effects, or a combination.

A.16 Since the operations framework aids commanders in their visualisation and description of actions to their subordinates, the particular framework used by one commander is not necessarily identical to that of the commander's subordinate or superior. For example, an action that is decisive for a commander's mission might be a shaping task within the superior commander's CONOPS.

A.17 In many cases, where the geographic framework is suitable, 'deep, close and rear' will correspond with the purpose of 'shaping, decisive and sustaining'. However, there is no standard association. To this end, the operations framework adds to the commander's flexibility in describing the commander's CONOPS.

Section 3 – Geographic framework

General

A.18 In the geographic framework, the construct of deep, close and rear applies. Every commander visualises the engagement space in its geography and formulates a plan. The geographic framework supports commanders intending to fight different and independent enemy echelons, most likely in parallel, which are spatially separated. The framework describes the conduct of operations and activities to create effects in terms of space and time, where and when they occur in the engagement space.

A.19 The geographic framework distinguishes between the following three different operations:

- deep operations;
- close operations; and
- rear operations.

Deep, close and rear operations can be executed either sequentially or simultaneously and should be complementary to one another and to the overall plan. The conduct of operations in depth or to the rear requires specific forces and staff capabilities. Therefore, deep and rear operations apply to headquarters that have the staff capacity to synchronise and the resources to conduct deep, close and rear operations simultaneously.

Deep operations

A.20 A deep operation is an operation conducted against forces or resources not located in close operations areas, and in fact quite well beyond them. Deep operations are coordinated activities with the aim of shaping the engagement space for close operations. They can be shaping actions to the benefit of close operations but also decisive actions to the benefice of the overall campaign. Whatever they are, regardless of their execution, they create physical and cognitive effects.

A.21 Deep operations make it difficult for the enemy to concentrate forces without suffering loss and diminish the coherence and tempo of the enemy's operation. Deep operations might aim to disrupt the enemy's fighting network, including operational reserves.

A.22 Deep operations are conducted at long range and over a protracted timescale. Hence they are typically focused on not yet committed adversary forces. In specific environments like urban or mountainous, depth may be relative because of the density and complexity of the terrain. Although deep operations may be decisive, they are generally considered to be shaping actions to set the conditions for success in the close area.

A.23 The limit of deep operations is – in addition to imposed constraints by the higher headquarters – dependent upon the commander's means of acquiring information and engaging targets.

A.24 The conduct of deep operations will depend on the CONOPS, capabilities, the situation, the stage of the operation and most importantly, the higher-level operation plan. Deep operations require a balancing of the commitment of resources to shape the adversary (and other actors) before they become decisively engaged in the close area, but also ensuring that sufficient resources are still available to win the close battle.

A.25 Successful deep operations are likely to reduce the intensity of the close battle, whereas a failure to significantly strike the enemy in the deep area is likely to result in an increased demand for resources in support of the close operation. This in turn will erode tempo and risk early culmination.

A.26 Deep and close operations may also relate to a phase in time, with regards to planning and execution. In operations geared toward creating cognitive effects, the concepts of time, space and objective need to be broadened and deepened. Deep operations such as these can last months or even years before becoming close operations, if they ever do. Examples of deep operations are those designed to enhance the education or judiciary system. These may lead directly to support for the campaign, but will take years to bring about cultural and social change.

A.27 Operations conducted against the enemy in which combat contact is only established after 48 hours, are regarded as deep operations. Operations conducted against the enemy in which combat contact is established within 48 hours, are referred to as close operations.

Close operations

A.28 Close operations are those conducted by the main body of a force, often in direct contact with the enemy and within an immediate timescale. The means and methods used are, for example, physical neutralisation by weapons systems or capturing personnel, equipment or infrastructure. Close operations could be shaping, decisive and/or sustaining actions. Close operations typically create physical effects, although separate or associated close operations may also create cognitive effects. Close operations are dependent on the sustaining aspect of rear operations, the shaping of adversary forces and the effects created by deep operations to generate the conditions for success.

A.29 Close operations can be expected to be both intense and complex due to the violence of combat and the density of forces working in close proximity.

It is not sufficient to simply resource the subordinate level for close operations. As close operations have the potential to absorb resources, a balance must be maintained to keep a focus on deep operations and the next planning horizon, in order to be effective in shaping close operations and maintaining the initiative.

Rear operations

A.30 The purpose of rear operations is to enable forces to maintain their freedom of action to conduct deep and close operations. Rear operations aim to protect the force, sustain operations and ensure freedom of movement. Rear operations include many administrative and logistic functions, protection of critical assets or infrastructure and real estate management.

A.31 In operations where no identifiable rear area exists, rear operations are conducted along the lines of communications (LOC) and where the sustainment elements of the force are concentrated.

A.32 Rear operations require effective and reliable command and control to avoid conflicting priorities. The command organisation is determined during planning, and must take account of, but is not limited to: the nature of the mission; the adversary; geographical areas; own forces and the time available; the civil factors of the operating environment; and the structure of the headquarters. Commanders can either:

- choose to retain command of the overall operation including rear operations;
- designate a rear area coordinator to act on their behalf; or
- nominate a rear area commander, such as the deputy commander.

A.33 Military operations in the rear area will always be conducted in close coordination with the host nation. Extensive liaison, cooperation and collaboration are required with the relevant authorities, both military and non-military, to ensure that all activities are coordinated or at least deconflicted. The level at which host nation engagement needs to take place will be determined by the size and scale of the operations. However, even when operating at the lower levels of command, host nation engagement at a local level is essential.

A.34 During warfighting, formations require a considerable amount of materiel; for this, secure LOC are essential. A non-linear construct is difficult to sustain and vulnerable to a capable adversary who will seek to cut-off the LOC. A linear arrangement that can be secured is ideal and requires rear operations to generate freedom of action for those operating in the close and deep areas.

A.35 As far as LOC are concerned, it is rarely possible to provide complete protection across them. Convoy security along LOC is ensured by integral capabilities and, when necessary, additional escort forces. Alternatively, or even additionally, security forces may be involved to contribute to secure particularly threatened sections of LOC.

Section 4 – Functional framework

General

A.36 While formations are likely to use the operations or geographic framework to visualise the scheme of manoeuvre, forces may more usually use the functional framework for operations, which is more object oriented. The functional framework supports the integration of the different core functions. The core functions are:

- find;
- fix;
- strike; and
- exploit.

The functional framework expresses the plan for an operation and provides a framework for planning activities in the engagement space.

Core functions

A.37 Activities that focus on attacking the cohesion or the will of an adversary are performed through three of the core functions: find, fix and strike. Always implicit is the need to be prepared for the fourth core function: exploit. The finding and fixing of an adversary (or other target audience) helps to shape the engagement space. Striking and exploiting can potentially be decisive. The core function of fixing is not merely confined to the task of fixing. Offensive or defensive activities stemming from the core function ‘fix’ can be

enabling for offensive activities of the core function 'strike'. For instance, the ability of an adversary to influence the local population could be targeted by fixing, by such activities as psychological operations and military public affairs. Operational experience has shown that finding, fixing, striking and exploiting should all take place in association with each other.

A.38 The core functions are used across the continuum of competition. In a security campaign, civilian and paramilitary adversaries can be identified through the activities of friendly intelligence services, as well as through the use of the overt and covert capacity of the military apparatus and other government agencies. Identifiable elements of military units and police, combined with diplomatic efforts, fix insurgents and their influence on the population by using a combination of activities with physical or cognitive effects. Local forces can perform a finding and fixing role against an adversary. Special forces, military units, police and the criminal justice system may form part of the strike against an insurgent. Information activities may focus on the legitimacy of insurgents and thus also be part of the strike. Exploiting means taking advantage of an unfolding situation, in accordance with the higher commander's intent. Exploiting success may mean increasing the freedom of movement of the civil police, government officials and relief workers to better enable the achievement of long-term economic and political objectives.

Find

A.39 During an operation, the core function of finding is constantly re-employed and re-evaluated. It involves locating, identifying, tracking and assessing target audiences (adversary or others). Forces may be specifically designated to obtain information about a target audience, particularly in the initial phase of an operation.

A.40 Commanders cannot know everything. Their information systems and collection boards may generate so much information that the commander and their staff may be at risk of being overloaded. It can end up with cognitive complexity or even cognitive overload paralysis. These problems can be dealt with by clear intelligence requirements and clear prioritisation issued by commanders.

A.41 Finding requires more physical and intellectual effort than merely locating an adversary. Successful finding is enhanced if an adversary's organisation, location, strength, intentions, operating methods and possible responses to one's own actions are known. It is also important to know where

a threat is not coming from or what the unlikely responses are. This information may serve as a basic ingredient for surprise and exploitation.

A.42 The core function 'find' also makes it possible to acquire information about, and to analyse, target audiences (other than the adversary in the operating environment) that could influence the situation and play a role in bringing a campaign to a successful conclusion. Examples are key officials, key figures, social groups, religious/political leaders and groups, all of whom need to be targeted/influenced in the pursuit of lasting campaign results. To support the campaign, the analysis within the find function should indicate the role of all these target audiences, including the possibilities for exerting influence.

A.43 Although technological assets offer a great deal of support in locating and assessing an adversary or other target audience, analysis by experienced personnel will still be necessary to assess the possible intentions of the adversary or other target audiences. Military and other personnel in direct contact with an adversary or local population are also important and offer accurate sources of information. It is therefore extremely important that they are aware of the priority intelligence requirements.

Fix

A.44 The core function of fixing is to deprive target audiences of their freedom of action. This can be achieved by denying target audiences their goals, distracting them from their objective or denying them information that is vital to them to achieve their goals. Patrols could, for instance, fix the adversary's operations to a limited area, while electromagnetic warfare assets could block the adversary's communications and, at the same time, allow the media to broadcast information to the population, thus restricting the freedom of action of the adversary and forcing them to react. In this example, the adversary's capabilities are limited and they are denied the opportunity of influencing the population.

A.45 Fixing in physical terms usually relates to employing forces to deny area access, fix an adversary with fire and/or movement or retain possession of vital areas. By physically fixing an adversary, the adversary's freedom of action will be restricted and own freedom of action will be increased. The adversary can be fixed by a combination of deception and conditioning of areas essential for the adversary's scheme of manoeuvre. It can be supported by conducting patrols, by searching an area and by creating chokepoints. Fixing adversaries

can be enhanced by confronting them with additional actions that will distract them from their main objectives.

A.46 Deception and surprise are key aspects in fixing the adversary's forces. By denying adversaries the opportunity to achieve their goals and by putting them in a reactive mindset, own freedom of action will be increased. This can ultimately lead to deceiving the adversary through a combination of confusion, lure and surprise. If adversaries are deceived, they will think they know how to react, but that response will prove wrong in practice. When lured, adversaries are inclined to undertake activities which will make them vulnerable. If they are surprised, they will be unsure how to react to the available information until it is too late. The uncertainty created can force adversaries to cover multiple possibilities and to dissipate their capacity. They will thus be distracted from their purpose and they will be fixed.

A.47 Fixing adversaries in the cognitive layers of the engagement space involves, for example, disrupting or preventing their opportunities to influence the understanding and will of the various elements (population and leaders). The objective is to restrict the adversary in creating cognitive effects (in other words, influencing the perception, understanding and will of others). This will be achieved mainly through information activities, such as timely external communications before adversaries issue undermining propaganda.

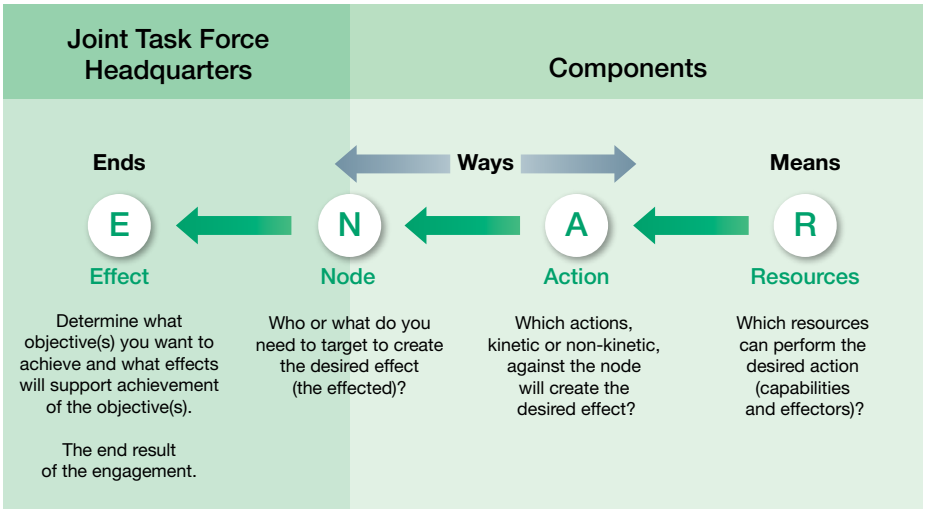
A.48 Physical activities may also have indirect effects that fix a target audience in the cognitive layers. One example is jamming or the neutralising a radio station, thus depriving an adversary of the opportunity to influence the local population.

A.49 Fixing a target audience can soon restrict our own capabilities. Capacity that is required for fixing should not, therefore, needlessly take up capacity required for striking.

Targeting and influence

UK A.1. The targeting process has a key role to play in identifying the most suitable ways to employ the means available most efficiently and effectively. Targeting is more than a precursor to employing military assets with intended destructive outputs. The diversity of cognitive effects that need to be created should be considered and a range of targets identified to be the focus of commanders' plans and activities. The targeting process should guard against defaulting to munitions-based options and instead consider the full spectrum of solutions that will deliver those outputs most likely to create the appropriate cognitive effects.

UK A.2. Targeting must be outcome focused (ends). This allows deduction of what action is required (ways) to achieve the desired outcomes and the resources (means) to do this, as shown in UK Figure A.1. The delivery of UK joint targeting and the role information operations plays are addressed in Joint Service Publication 900, *UK Full Spectrum Targeting Policy*.



UK Figure A.1 – The effect-node-action-resources model

Strike

A.50 The core function of striking is achieved by conducting offensive activities that create both physical and cognitive effects on a target group. Striking can be either shaping or decisive.

A.51 Striking with the intent to create physical effects, involves: attacking an enemy by area denial; destroying equipment and neutralising vital objects/ installations or key personnel; or gaining a favourable position. The purpose is to manoeuvre forces and concentrate and employ fires to put pressure on an enemy. Success may lead to indirect cognitive effects on the adversary, such as diminished morale and reduced cohesion. Striking should therefore focus primarily on the weak aspects of adversaries to gain a favourable position and undermine their morale and confidence.

A.52 Striking to create cognitive effects means attacking/influencing perception, understanding and will. This form of striking will usually be conducted with activities designed to influence a target audience. Striking a target audience with the intent to create cognitive effects requires timely, accurate, detailed and predictive intelligence, thorough analysis, specialised advice and meticulous coordination.

A.53 Ideally, complementary activities will be conducted cohesively to create physical and cognitive effects. Activities will involve selective attacks on the vital capabilities of adversaries, their understanding, their morale and their legitimacy within the engagement space. Striking therefore combines the joint functions fires, manoeuvre, information and civil-military cooperation to create complementary effects that will bring about the desired result. Some potential complementary effects are that adversaries are deprived of their core capacities, their position is outmanoeuvred and becomes untenable, their command and control and sustainment capabilities are reduced and their ability to influence other elements in the engagement space (including leaders and the population) is neutralised.

A.54 These complementary effects should be considered in the integrated planning and targeting processes. If the planning and targeting of complementary effects have not been carefully executed, physical effects could undermine cognitive effects.

Exploit

A.55 The core function of exploiting concerns seizing an opportunity to achieve an objective, or part of a higher commander's intent, more quickly than planned or without delay. Using a situation for exploitation requires actions that go beyond the assigned mission. To realise the higher intent, it might therefore be necessary to replace the tasks allocated in the operation order. Opportunities for exploitation can arise at any moment during finding, fixing and striking.

A.56 To build success into a greater achievement, nerve and resolve are required to grasp what are often fleeting opportunities. Exploitation is based on offensive action, surprise and flexibility, together with the initiative from commanders and their understanding of their higher commander's intent. Exploitation should be encouraged in the CONOPS and is underpinned by the philosophy of mission command.

A.57 Constant and wide availability of timely, accurate and predictive intelligence is essential for finding opportunities to exploit. If there is not enough intelligence or forces available to strike, then they should at least fix the enemies by restricting their freedom of action and create the conditions to strike with other capabilities.

A.58 Exploitation requires insight into the higher commander's intent. When exploiting a situation, a commander must not lose sight of the strategic and operational objectives. Opportunities in the short-term should be ignored or delayed if this is necessary to preserve an operational objective. It may, for example, be necessary to allow a fleeing enemy to escape in order to protect an area or population and to provide security, prevent lawlessness or protect vital installations.

A.59 As in the other core functions, exploitation can also be achieved by creating cognitive effects. This requires careful planning to ensure that long-term support for the campaign is not undermined.

Combining the core functions

A.60 In a conflict or confrontation, there is constant interaction between finding, fixing, striking and exploiting. Separately, they only have a limited impact. To maximise that impact, core functions should always be coordinated by commanders. Although the available capacities may vary, the core

functions can be used at all levels of operations. Ultimately, these core functions can also be performed by organisations other than military forces. Other security organisations can find, fix, strike and exploit adversaries and their capacities, as well as factors and aspects that motivate adversaries or enable them to influence others. Security organisations could, for example, physically fix the capacity of adversaries, while the adversary's grip on the population through social and economic improvements in respect of the core grievances, is neutralised.

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Annex B

Centres of gravity

Section 1 – Introduction

B.1 This annex first presents detail on the nature of centres of gravity (CoG), before offering a centre of gravity analysis method that assists in determining, or validating, the CoG. Section 5 then describes a method for how CoG analysis is linked to the planning process within a NATO construct at the strategic and operational levels.

Centre of gravity analysis key outputs

B.2 CoG analysis produces two key outputs: determination and/or validation of CoGs; and the determination of the critical vulnerabilities that can be exploited or protected (if the analysis is centred on an Ally's or the Alliance's CoG) in order to change adversary attitudes, beliefs and/or behaviours, which may include defeating, neutralising or influencing the identified CoGs.

Utility of centre of gravity analysis in complex operating environments

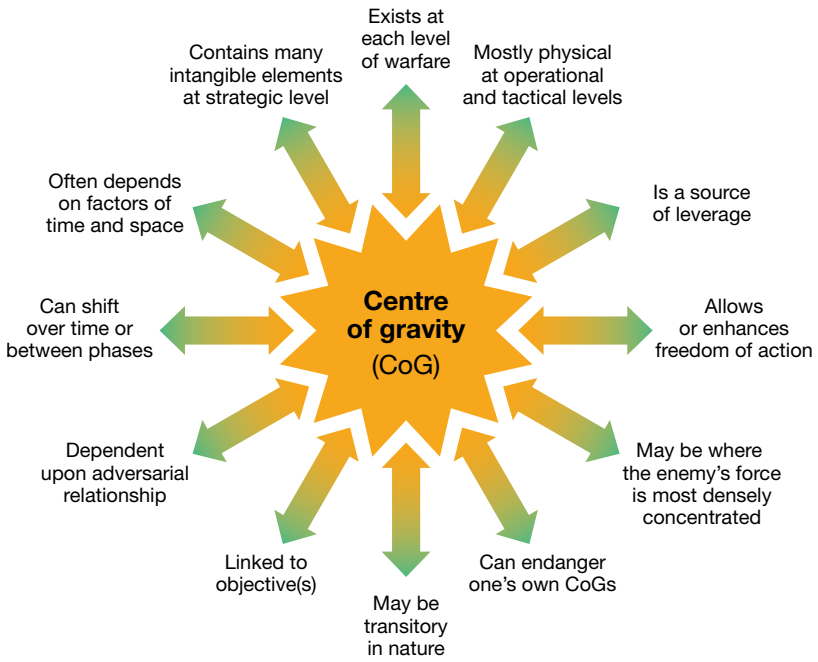
B.3 CoG analysis has utility across all operating environments. Indeed, it is difficult to imagine NATO operating in an environment that is not complex, given rapid technological advancements and the ever-changing nature of threats and adversary, and potential adversary activities. The CoG taxonomy holds true for operations (and activities) above and below the threshold of conflict – as relevant in support of planning for multi-domain operations (MDO) as it is in support of planning for enduring campaigns. The broadening out of critical capabilities detailed in this annex (see critical capabilities section later) enhances the utility of CoG analysis in support of all operations where effects are sought on adversaries, potential adversaries, and on other audiences, and where it may be necessary to protect Alliance vulnerabilities across the continuum of conflict. CoG analysis can, and should be, conducted on all actors that influence or have the potential to influence achievement of the Alliance's aims and objectives. As a minimum this includes: adversaries, Allies and the Alliance, but it could also include neutral actors, whose support or opposition might significantly impact upon the achievement of Alliance objectives.

Section 2 – The nature of centres of gravity

B.4 A CoG is the primary source of power that provides an actor their strength, freedom of action, or will to fight. At the political-strategic level, moral strength as well as physical strength CoGs exist. At lower levels of command, CoGs are more frequently (but not exclusively) based around physical (rather than moral) strengths. By affecting an actor's moral strategic CoG, the Alliance aims to influence the actor's will (make the actor accept the Alliance objectives), while by affecting a physical strategic CoG, the Alliance influences the actor's ability to carry out their overall strategy (so the actor cannot achieve their strategic objectives). By affecting an actor's operational CoG, the Alliance influences the actor's ability to achieve their operational objectives.

Example characteristics of a centre of gravity

UK B.1. An example of an approach to describe the characteristics that may be associated with a CoG is shown in UK Figure B.1. This is taken from the United States Joint Publication 5-0, *Joint Planning*, 01 July 2025, page III-25.



UK Figure B.1 – Characteristics of centres of gravity

Strategic centres of gravity representing a moral strength

B.5 An actor's moral strategic CoG is the primary source of power that inherently possesses most of the following critical capabilities: determines (and can alter) policy and strategy; commands the resources and means required to achieve the strategic objectives; and inspires and provides moral cohesion and will to fight. In short, it is the actor's political-strategic decision-making entity. Examples of moral strategic CoGs include: a strong political leader; a religious leader or organisation wielding decisive political power; a ruling elite; and a strong-willed population (or a segment of it) determined to prevail. Elements such as ethnic nationalism or ideology should not normally viewed as CoGs as they are not entities; rather, they can be a critical requirement for the political leadership (the real moral CoG) to be able to inspire and provide moral cohesion and the will to fight. Since the will to fight ultimately decides the beginning and end of a conflict, determining desired as well as undesired conditions of the primary actors' moral strategic CoG and affecting them accordingly is central for achieving Alliance strategic-political objectives.

Centres of gravity representing a physical strength

B.6 CoGs representing a physical strength exist in principle at each level of command. Thus, it is the entity representing the primary physical strength an actor primarily depends upon to carry out its (assumed) intent and achieve its (assumed) objectives at a given level of command. At the political-strategic level, they are called physical strategic CoGs; examples include a coalition or alliance military task force, a particularly strong element of national military power, a national security force, a political group's military arm, or even a strong non-military entity in case the main strategic effort is not a military one. At the joint force command level, they are called operational CoGs; examples include an armoured corps, air component forces, a maritime task force, a national police force, a regional network of insurgent cells or even a specific information operations capability. Operational CoGs are normally central elements or constituent parts of the physical strategic CoG; for example, they should be nested within the strategic CoG. As an example, the national police force (operational CoG) is a constituent part of the national security force (physical strategic CoG). The physical strategic CoG is not necessarily nested within the moral strategic CoG, but it is often chosen and controlled by it.

The contextual nature of physical centres of gravity

B.7 Normally, objectives can be achieved in various ways that potentially use different primary physical strengths (i.e. physical CoGs); consequently, identifying the various ways an actor can achieve its objectives is a critical step in identifying an actor's potential physical CoGs. Defeating or influencing an actor's physical CoG at a given level defeats or limits the actor's current strategy/Course of action (COA) at that level. This forces the actor to change to another strategy/COA (that depends on another CoG) if one exists, and it might force the actor to change its objectives (at that level) as well. Accordingly, an actor's CoG might change if the actor changes the primary physical strength used to achieve its objectives. As such, operational CoGs might change from phase to phase of an operation, and consequently, several operational CoGs might exist for an operation, but normally not simultaneously. It is important, given the utility and application of the CoG model outside of conventional warfighting, to consider desired effects over physical (and moral) CoGs to be more than just 'defeat'. Dependent upon the nature of the environment and the objectives sought, the effects could include 'deter, persuade, neutralise' as but three examples, and these effects may well be achieved through the application of a range of Joint Functional Framework levers that impact not just the physical properties of the CoG, but also the opportunities and motivations to employ them.



Operation Desert Storm 1991 – an example of a physical centre of gravity



Operation Desert Storm lasted just 42 days, comprising a 38-day, three-phase air campaign and a ground operation of around 100 hours. The Iraqis had 1,127 aircraft and a ground force of 900,000 soldiers in 63 divisions, eight of which were of the Republican Guard; 42 divisions were in the theatre of operations. The joint commander was tasked to undertake operations to seek the complete withdrawal of Iraqi forces from Kuwait. The commander identified the Republican Guard as the Iraqis' centre of gravity.

'The Republican Guard is another centre of gravity of Iraq's army. While you're running your phase-one campaign over Iraq ... I want the Republican Guard bombed the very first day, and I want them bombed every day after that. They're the heart and soul of his army and therefore they will pay the price.'

General H. N. Schwarzkopf, on planning the air campaign,
It Doesn't Take a Hero, 1992

Section 3 – Centre of gravity selection

B.8 There are two broad approaches to CoG selection. The first is to intuitively propose a CoG based upon the comprehensive understanding of the operating environment (CUOE) and the commander and staffs' understanding of the actor's (assumed) objectives and how they believe the actor will try and achieve these (assumed) objectives (their COAs). Set criteria are then used to determine if the prosed CoG is valid. If it meets the criteria, CoG analysis models can then be used (such as the CoG analysis matrix detailed later in this annex) to determine how to influence the CoG. The second approach, still informed by the CUOE, uses CoG analysis models – such as the CoG analysis matrix - to analyse the actor's (assumed) objectives and related factors (such as critical capabilities, requirements and vulnerabilities) and to assist in the determination of the CoG. Set criteria are then used to validate (rather than identify) the CoG. The criteria for determination and/or validation (dependent upon which of the two approaches is adopted) normally differ between moral and physical CoGs.

Moral strategic centres of gravity selection criteria

B.9 To assist in determining and/or validating an actor's moral strategic CoG, the following criteria can be considered, using information derived from the CUOE:

a. Does the actor have a political leader that possesses all the critical capabilities listed in the moral strategic CoG description? If yes, then this leader is the moral strategic CoG.

b. If some of the critical capabilities listed are weak or missing for the actor's political leader, one of the following situations might exist:

(1) The leader is clearly the entity that possesses most of the critical capabilities and is therefore the moral strategic CoG, but support from the primary entity(s) that possesses the weak/missing one(s) must be captured as a critical requirement.

(2) The identified leader is a puppet (possesses few or none of the critical capabilities) for the real moral strategic CoG and, instead, the real CoG will be the entity that actually possesses most of the critical capabilities.

(3) The leader shares the critical capabilities listed above with one or more persons, who then, as a group are the moral strategic CoG (provided (a) or (b) does not define the situation better).

(4) Is the strength of will of an actor's population such that it does not matter who the leader is? If the population (or a large proportion of it) feels so strongly about a policy that their leader(s) cannot thwart, deflect or dilute their will then population itself is the actor's moral strategic CoG.

Physical centres of gravity selection criteria

B.10 Identifying and validating physical CoGs at a given level of command requires the commander to identify the actor's (assumed) objectives at that level and the actor's (assumed) strategy/COA for achieving those objectives. Then, the following questions can be used to identify and validate physical CoG candidates; all must be answered yes:

a. Is the CoG candidate the primary entity (assumed) used by the actor to achieve its (assumed) objectives at the analysed level of command? If it is an important or even essential entity, but not the primary entity used by the actor to achieve its objectives, then it must be captured as a critical requirement. If it is not an entity but rather an important condition that must be present for the actor to achieve its objectives, then it is likewise it must be captured as a critical requirement.

b. Does the CoG candidate enable (or possess) the most critical capabilities (abilities) required to achieve the actor's objectives at the analysed level of command? If some critical capabilities are missing, then support from the entities possessing them must be captured as critical requirements.

c. If the CoG candidate is defeated, does this defeat the actor's (assumed) COA at that level of command? If not, the candidate might be a CoG for another possible COA for the actor.

Section 4 – Centre of gravity analysis model

B.11 The CoG analysis model is used to analyse an actor as a system in order to identify conditions and effects that need to be established to provide leverage over and influence the actor's behaviours and/or beliefs. To assist in finding ways to achieve this leverage commanders and staff analyse the actor's ability to achieve their aims and objectives using the concepts of critical capabilities, critical requirements, and critical vulnerabilities. Some analysts prefer first to identify the critical capabilities (abilities) the actor requires to achieve its (assumed) objectives, and then identify the primary entity that enables most of those critical capabilities, whilst others might identify the CoG first, as part of the process that determines how the actor will achieve its objectives. If the CoG is identified first, then subsequent analysis tends to focus almost entirely upon the CoG's critical capabilities, requirements and vulnerabilities. Whereas if the analysis is used to assist in identifying the CoG, considerations tend to be broader and focus on the critical capabilities (and subsequent requirements and vulnerabilities) that the actor must employ in order to achieve their objectives. The latter approach is recommended, particularly for less experienced commanders and staff, as it reduces the risk of inaccurate CoG selection and broadens out the critical vulnerabilities beyond those related purely to the CoG to include other critical capabilities and critical vulnerabilities that might not be delivered by the selected CoG (but which can still be used to apply leverage over an actor).

B.12 **Critical capabilities** – are the capabilities that the actor must possess to achieve their objectives at the given level in the context of a given environment. Critical capabilities should be expressed as 'the ability to do something' (so 'the ability to defend area A' for example). Previously critical capabilities have tended to relate to conventional capabilities (the ability to hold ground, counter-attack etc), however, NATO's adoption of the behaviour centric approach suggests that this category should be broadened out so that all the levers of influence are considered for exploitation under critical vulnerabilities. Conventional capabilities as well as opportunity and motivational related capabilities are therefore now considered within the critical capability area.[59]

59 Expanding critical capabilities to encompass those capabilities that enable the generation and/or exploitation of critical opportunities and those that the actor needs to feed their motivations is in line with actor behaviour assessment methodology detailed in AJP10.1. The methodology is based upon the widely accepted, and used, COM-B model for behaviour change that sees Capability, Opportunity and Motivation as being the 3 key levers to effect audience behavioural change.

Examples of motivation related capabilities might be: the ability to generate wealth; the ability to enhance regional power; and the ability to reduce the Alliance's influence in a specific region. Similarly, opportunity related capabilities might include: the ability to enhance (or exploit) tension between Alliance members, the ability to exploit limited mobility over certain climatic periods and the ability to exploit local or national election periods. These types of capabilities provide a broader base for influence and leverage once the associated critical vulnerabilities are reviewed (later). While they are intuitively more applicable at the strategic level, they have relevance (if tending to be less numerous) at the operational level. Best practice is then to review all of the critical capabilities detailed and, where possible to do so, condense them into capability related themes that are then taken into the critical requirements section.

B.13 **Critical requirements** – are specific conditions, resources, and/or means that are essential for the actor to perform their critical capabilities. It is useful to express requirements in terms of 'needs….' and they are normally nouns. If critical capabilities were identified as 'defend area A against Alliance forces and counterattack and cut off Alliance forces' the critical requirements might be needs a command and control (C2) system, needs armoured land forces, or needs offensive air forces. If motivational related critical capabilities are identified such as the 'the ability to generate wealth', the critical requirements might be needs external financial backers, needs access to international banks, needs oil tankers to export oil. Examples of conditions that could be critical requirements are air superiority, electromagnetic spectrum (EMS) superiority, operational energy superiority, good weather, high tide, secure lines of communication, local popular support, approval for the use of the EMS and terrain and infrastructure that favour defence as well as counterattack. Each of the critical capabilities is considered in relation to what the critical requirements are for the actor to perform it. There will normally be an overlap of requirements to perform the various critical capabilities, but it is useful noting to which critical capability each requirement relates. The critical requirement that enables the greatest number of critical capabilities, or the most important of the capabilities, is often identified as the CoG assuming that the CoG has not already been identified prior to commencing CoG analysis. It is sometimes useful to group requirements together in determining the CoG. For example, coalition armoured forces, coalition air defence and coalition maritime force elements might be articulated as separate requirements, but it might be that it is the coalition joint task force that is the CoG, rather than one of the constituent elements of it. If the CoG is identified in advance of CoG analysis, then the critical requirements can be used to validate CoG selection.

B.14 **Critical vulnerabilities** – are those critical requirements, or components thereof, that are deficient, missing, or vulnerable to influence in a way that will contribute to the actor failing to perform one or more of the critical capabilities. The lesser the risk and cost, the better. If a military task force is identified as the CoG, the ability to defend a certain area is identified as one of its critical capabilities, and an effective C2 system is identified as one of the critical requirements to do so, then if the C2 system (or components of it) is vulnerable to jamming, cyberattack and physical destruction, it could be a critical vulnerability. Equally, the motivations of the C2 operators themselves may be vulnerable to influence and/or the opportunities for the actor to employ the C2 system could be exploited (for example through effecting the satellites upon which the system is dependent or through convincing the actor and operators that if they employ the C2 system it will be destroyed). If such a critical vulnerability is exploited, the actor (and the CoG) will be weakened or will cease to function, in general or at a specific time and/or space. Consequently, critical vulnerabilities represent risks associated with the analysed actor's (assumed) course of action, whether obvious to the actor or not. Each critical requirement is analysed for vulnerabilities. While some requirements might be deficient or missing already, others need to be affected to become so. For these to be actual critical vulnerabilities, other actors must have the ability to influence them sufficiently to weaken one or more of the critical capabilities. Some critical requirements might only be vulnerable at a specific time and/or space. Similarly, there might be critical requirements that are potentially vulnerable, but the available or allocated means might not be sufficient to exploit the weakness, or the political will to do so might be lacking. Such potential vulnerabilities should be noted, along with potential events that could alter their degree of vulnerability. While most of the critical vulnerabilities identified will relate to the CoG, some – those that correspond with requirements and capabilities that the identified CoG does not possess – will not. But these should still be analysed and taken forward as they have the ability to be exploited and influence actor behaviour.

B.15 **The centre of gravity analysis matrix.** The table below provides one method for using the CoG analysis model at a generic level of command, noting that other methods may also be used. In this example the CoG has not been identified in advance and the analysis assists in CoG identification. This is likely to result in a broader identification of critical vulnerabilities over and above those that can be exploited to effect the condition of the identified CoG.

<table>
<tr><td colspan="2">Assessed objectives and potential COAs (note actor and level of command).
The actor's (assumed) main objectives (normally expressed in terms of the effects they are trying to achieve on specific audiences) and potential COAs for achieving them, at the analysed level. For an adversary, assess as a minimum most likely and most dangerous COAs which requires to conduct the analysis in this matrix twice.</td></tr>
<tr><td>Centre of gravity
Identify the CoG for each COA (as they may be different for each one).

Determine the desired condition of the CoG as well as the conditions that must be avoided in order to achieve NATO objectives at the analysed level of command. Example: entity destroyed vs entity isolated (post-war combat effective entity needed for stabilisation).

The desired condition should be reflected in own objectives. Conditions to be avoided should be reflected in rules of engagement and other permissions or constraints.</td><td>Critical capabilities
Identifying the critical capabilities that the actor must employ to achieve their objectives. Normally expressed as the verb 'the ability to...?
Critical capabilities include consideration of conventional capabilities as well as those required to meet the actor's motivational needs and those it needs to exploit or generate key opportunities. Examples are: ability to hold ground (conventional), ability to generate wealth (motivational) and ability to create tension between Alliance members (opportunistic). Once all the critical requirements have been identified, they are then reviewed and, where possible to do so, grouped into thematic capability areas before being considered within the critical requirements section.
This reduces the number of capabilities being taken forward and supports a higher-level approach, helping to avoid analysts dropping down into tactical weeds.</td></tr>
<tr><td>Critical vulnerabilities
For every critical vulnerability (CV) identified assess the impact on each critical capability and relate it to either the desired condition of the CoG or, if the vulnerability is wider than the identified CoG, to the Alliance's (at the level of command being analysed) objectives.
For opposing CoGs. For each CV determine the potential effects that expresses how the CV can be exploited in order to achieve the desired condition of the CoG and/or own level of command's objectives. Is NATO able to achieve each potential effect – with what combination(s) of actions? What are the risks associated? Are there undesired effects? What combination(s) of effects can achieve the required condition of the CoG/own objectives? Those effects deemed decisive for achieving the required condition/objectives are designated decisive conditions. Different COAs might select different combinations of effects and thus decisive conditions.
For friendly CoGs: How can an opponent cause and exploit a vulnerability (effects and actions)? Which effect(s) achieved by NATO could protect/prevent the vulnerability in order to satisfy the critical requirement (to maintain/achieve the required condition of the CoG/own objectives) – with what combination of actions?</td><td>Critical requirements
Each of the critical capabilities is reviewed and the critical requirements (conditions, resources and/or means) essential for performing the capability identified. There will normally be an overlap of requirements to perform the various critical capabilities, but it is useful to note which critical capability each requirement relates to.
The critical requirement that enables the greatest number of critical capabilities, or the most important of the capabilities, is identified as the CoG (assuming that the CoG has not already been identified prior to commencing CoG analysis).
It is also possible, and often useful, to group requirements together in determining the CoG. For example, coalition armoured forces, coalition air defence and coalition maritime force elements might be articulated as separate requirements, but it might be that it is the coalition joint task force (the collective for the three requirements) that is the CoG, rather than one of the constituent element of it.</td></tr>
<tr><td colspan="2">Conclusions
The deductions should be formulated as elements for further planning, e.g. objectives, decisive conditions, effects, actions, rules of engagement, commander's critical information requirements, etc.</td></tr>
</table>

Table B.1 – The centre of gravity analysis matrix

Conclusion

B.16 In sum, key insights from CoG analysis contribute to the development of the main ideas for operations design and should be captured as key deductions and formulated as elements for further planning, e.g. objectives, decisive conditions, effects, actions, rules of engagement (ROE; to prevent undesired states and effects), commander's critical information requirements (CCIR), etc.

Section 5 – Applying centre of gravity analysis in the planning process

B.17 The following describes a method for how CoG analysis can be used in the planning process; other methods may be used. Although CoG analysis is initiated in mission analysis, it is not related (limited) to a specific planning activity. Rather, it is a continuous, iterative process that must continue throughout planning and conduct of the operation, as collaborative planning by multiple levels of command. For simplification purposes, only two actors are included: NATO and a single adversary. In addition, to illustrate the two methods of conducting CoG analysis the strategic example is based on the up front CoG determination and the operational example on the use of the analysis and the matrix.

Applying strategic centre of gravity analysis in the planning process

B.18 If higher-level CoGs are not already identified, the commander should start with identifying and analysing higher level CoGs, including both moral and physical strategic CoGs. Already identified CoGs should still be validated and the analyses refined, since CoGs and their critical capabilities, requirements and vulnerabilities may change as the situation changes. The following describes a method that uses CoG analysis to ensure a logical linkage between the Alliance political-strategic objectives and the military strategic objectives. As such, the method can be used at the political-strategic level to develop the military strategic objectives, and it can be used at lower levels to validate the military strategic objectives; other methods may be used.

a. Step 1 – Identify the NATO moral strategic CoG (the strategic decision-making entity in the current strategic context) and analyse it using the CoG analysis model.

b. Step 2 – Identify the adversary's moral strategic CoG. Identify likely successors and assess the potential influence on the NATO mission for each one to replace the current leadership.

c. Step 3 – Analyse the adversary's moral strategic CoG using the CoG analysis model. Missing information must be provided through the CCIR process (valid for all steps).

d. Step 4 – Identify the adversary's (assumed) political-strategic objectives and the motives driving them.

e. Step 5 – Determine the adversary's policy change(s) required to attain the end state and the Alliance strategic-political objectives, like 'no longer supports insurgents financially' or 'withdraws its forces and accepts NATO peace terms.

f. Step 6 – Determine NATO's required condition of the adversary's moral strategic CoG and its critical capabilities; the condition must support the desired policy change and should be reflected in the Alliance strategic-political objectives. If the Alliance objectives do not reflect such considerations, they should be revised (by the Alliance political leadership). An example could be 'country X has a stable, representative government.' Conditions to be avoided should be determined as well; these must be reflected in ROE and other permissions or constraints (for all diplomatic, information, military, economic (DIME) instruments of power). A condition to be avoided could be a leadership change to someone undesired by NATO.

g. Step 7 – Determine possible combinations of strategic effects in the CoG's critical vulnerabilities that could lead to the required condition of the adversary's moral strategic CoG, as well as central undesired effects that could lead to the conditions to be avoided (ROE and other restraints).

h. Step 8 – Determine possible strategic actions of the DIME instruments of power that could lead to each identified strategic effect. One action can in principle support several effects.

i. Step 9 – Identify the various ways the adversary can achieve its political-strategic objectives, using its available means. The primary entity used to achieve the objectives in each potential strategy is the physical strategic CoG. CoGs should be identified as a minimum for the adversary's assumed most likely as well as the most dangerous strategic COA (as seen through the eyes of the adversary); the CoGs could be the same for several COAs. The adversary's strategic COAs should aim at affecting NATO strategic CoGs and their critical vulnerabilities, which means this step must be revisited once NATO CoGs are identified (and every time they are refined or changed). See also step 1 above and 14 below.

j. Step 10 – Establish NATO's required condition of the identified adversary physical strategic CoGs and their critical capabilities (related to each adversary strategic COA); each condition must directly support the Alliance strategic-political objectives. If the Alliance objectives do not reflect such considerations, they should be revised (by the Alliance political leadership). An example could be 'The weapons of mass destruction are destroyed.' Conditions to be avoided should be determined as well; these must be reflected in ROE and other restraints (as in step 5). An example could be 'The army's armour and artillery units must not be reduced by more than 50°% (for post-conflict regional stability purposes)'.

k. Step 11 – Determine possible strategic effects in each CoG's critical vulnerabilities that could lead to the required condition(s) of the adversary's physical strategic CoG(s), as well as undesired effects that could lead to the conditions to be avoided (like step 7).

l. Step 12 – Determine possible combinations of strategic actions of the DIME instruments of power that could lead to each identified strategic effect (like step 8).

m. Step 13 – The different combinations of strategic effects and actions determined above are core elements of NATO strategic design. Different combinations form the core ingredients of different potential strategic options (along with strategic effects and actions identified elsewhere in the planning process). Each strategic option must be able to attain the end state and the required DIME means to realise the strategy must be available. This might lead to a requirement for revising the end state and the Alliance political-strategic objectives.

n. Step 14 – For each NATO strategic option, validate and refine the strategic CoG as required (the primary entity used in the strategy) and analyse it using the CoG analysis model. Determine strategic effects and associated actions required to protect the critical vulnerabilities. Do this as well for the NATO moral strategic CoG analysed in step 1. Incorporate this in the NATO strategic options and use it to update step 9 (adversary's COAs). The CoG analyses of the NATO physical strategic CoGs (related to different strategy candidates) will contribute to strategic option development and selection by highlighting critical vulnerabilities and thus central risks associated with each strategy candidate. This is also an illustration of the continuous, iterative nature of CoG analysis.

o. Step 15 – From the effects in the selected NATO strategic option, objectives for the DIME instruments of power are developed, including military strategic objectives.

p. Step 16 – From the military strategic objectives, operational objectives are developed; normally, the military-strategic effects form the basis for the formulation of the operational objectives. If the only means available to the military-strategic command is a single operational level command, the operational objectives should closely reflect the military-strategic objectives deduced in step 15 above. If more means are available (e.g. more than one subordinate command), the same method as described below can be used for military-strategic level planning to insure a logical linkage between the military strategic objectives and the operational objectives.

Applying centre of gravity analysis for operational-level planning

B.19 The following describes a method for using CoG analysis for operational-level planning; other methods may be used. For simplicity, the following assumes that the operational objectives closely reflect the military strategic objectives deduced in step 15 above. Overall, the logic is the same as the political-strategic level method described above, but in this example CoG analysis is used to assist in the determination of the operational level CoG.

a. Step 1 – Identify the adversary's (assumed) operational objectives. For simplicity, the following assumes the adversary's operational objectives are the same as its military strategic objectives (the adversary's military strategic and operational level merged); these can

be deduced from the adversary's strategic COAs (step 9 above). Quite possibly, each identified adversary strategic COA (with associated adversary effects and actions) leads to a different set of the adversary's operational objectives (but likely overlapping). For simplicity, the following assumes the same set of the adversary's operational objectives of most likely and most dangerous adversary's strategic COA.

b. Step 2 – Identify the various ways the adversary can achieve its operational objectives, using its available operational means. The adversary's operational COAs should be assumed to exploit critical vulnerabilities of NATO operational CoGs, which means this step must be revisited every time NATO operational CoG(s) are refined or changed. This step (first performed in mission analysis) initially uses an interim NATO operational CoG, based on commander's initial planning guidance. See also step 10 below.

c. Step 3 – For each adversary COA, identify the critical capabilities required to achieve their objectives – remembering to broaden out from purely conventional capabilities to those required to deliver motivational needs and create/exploit critical opportunities. Once all critical capabilities have been identified, they are reviewed and, where possible, condensed into higher level critical capability themes, the requirements for which are reviewed under critical requirements. It is likely that there will be more conventional critical capabilities identified than motivational or opportunity related capabilities, but consideration is nonetheless key in order to broaden the nature of the levers that might be used to achieve operational level objectives.

d. Step 4 – Critical requirements are then identified for each of the capability areas. These requirements are normally expressed in terms of nouns. The adversary's operational CoG is then determined by identifying which of the critical requirements delivers the most critical capabilities in quantity and/or in impact terms. The CoG can either be a critical requirement (for example, a mean) for the adversary's physical strategic CoG or be able to achieve a critical requirement (for example, a condition); if it is not, the physical strategic CoG analysis should be refined to ensure the operational CoG is nested in the strategic CoG. CoGs should be identified as a minimum for the adversary's assumed most likely as well as the most dangerous operational COA (as seen through the eyes of the adversary); the CoG could be the same for several COA.

e. Step 5 – Establish the commander's required condition for each of the adversary's operational CoG. Each condition must directly support the commander's operational objectives. If the operational objectives do not reflect such considerations, they should be revised. Conditions to be avoided should be determined as well; these must be reflected in ROE and other restraints.

f. Step 6 – Review each of the critical requirements and identify critical vulnerabilities – specifically how they might be attacked, manipulated or exploited in order to achieve the desired condition of the CoG and/or own level of command's objectives (where the vulnerabilities relate to a critical capability that the CoG does not possess, but is nevertheless still considered critical).

g. Step 7 – Determine possible effects in each of the critical vulnerabilities that could lead to the required condition(s) of the adversary's operational CoG(s) and/or achievement of the Alliance's own wider objectives, as well as undesired effects that could lead to the conditions to be avoided (to be reflected in ROE and other restraints). Those effects that are deemed decisive for achieving the required condition of the related CoG and/or achievement of the Alliance's wider operational objectives are designated decisive conditions (see step 9 below).

h. Step 8 – Determine possible combinations of actions across the joint functions that could lead to each identified effect. One action can in principle support several effects. The effects and associated combinations of actions must be developed through collaborative planning with the components to ensure they are creatable.

i. Step 9 – The different combinations of effects and related combinations of actions determined above are core elements of the operations design. Different combinations form the core ingredients of different potential NATO operational COAs (along with decisive conditions, effects, and actions identified elsewhere in the planning process); those effects in the adversary's critical vulnerabilities, which are selected for a specific COA and are deemed decisive are designated decisive conditions in that COA. Each COA must be able to achieve the operational objectives and the required joint means to carry out the COA must be available. This might lead to a requirement for revising the operational objectives and possibly also the Alliance strategic-political objectives and the end state, in dialogue with higher headquarters.

j. Step 10 – For each NATO operational COA, validate and refine the NATO operational CoG as required using the CoG analysis model. Determine effects and associated actions required to protect the critical vulnerabilities; decisive conditions are designated as in step 9 above. Incorporate this in the NATO operational COAs, and use it to update step 2 (adversary's operational COAs). The CoG analyses of the NATO operational COAs will contribute to COA development and selection by highlighting critical vulnerabilities and thus central risks associated with the COA candidate. This is also an illustration of the continuous, iterative nature of CoG identification and analysis.

k. Step 11 – From the decisive conditions and effects in the selected operational COA, objectives for the components are defined (i.e. the subordinate commands). This happens through collaborative planning with the components to ensure the related actions are realistic and the objectives are achievable. Component-level planning will refine and revise as required, just as described here for operational-level planning.

l. Step 12 – For each branch and sequel developed, each step must be revisited, as yet another illustration of the continuous, iterative nature of CoG identification and analysis.

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Annex C

Wargaming

C.1 Wargames are representations of armed conflict in a safe-to-fail environment, in which people make decisions and respond to the consequences of those decisions. In the context of operations planning, wargaming is an instrument designed to develop and improve courses of actions (COAs).

UK C.1. The Ministry of Defence's *Wargaming Handbook* and *Influence Wargaming Handbook* provide additional context and guidance for wargaming.

C.2 **General preconditions.** Some preconditions have to be met, without which wargaming will fail or only achieve biased results.

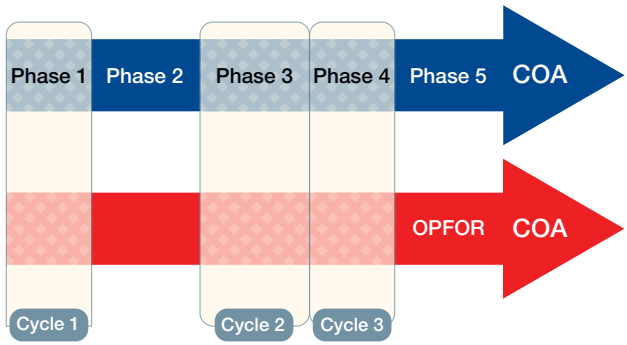
a. **Prepared staff.** Well prepared staff must be available. Special wargaming personnel should be appointed, for example, a wargaming director and a wargaming coordinator. They are responsible for the preparation and the conduct in terms of contents and organisation.

b. **Constraints and restraints.** Both have to be identified for the own conduct of operations as well as for the adversarial forces' assumed COAs.

c. **Operational analysis.** Operational analysis is not a mandatory precondition for conducting wargaming, but it is described here for completeness. Operational analysis includes not only the development and application of mathematical models, statistical analyses and simulations but also the application of expertise and experience to determine quantitative factors for our own and adversarial COAs. The results indicate trends and tendencies, and as such are only one factor to be considered. The quality of these trends and tendencies depends on the quality of the initial factors. These models simplify reality, which is especially true for asymmetrical scenarios. The scope of operational analysis has to be agreed upon between the coordinator, the head of the operations planning group (JOPG), and the operational analysis experts. If JOPG and time available, wargaming can benefit from operational analysis support from the very beginning, whether it is conducted in a computer-based or manual manner.

C.3 **Wargaming options.** The coordinator, with the approval of the head of the JOPG, decides which method is applied. There are three basic wargaming options: wargaming by phases; wargaming to set decisive conditions; and wargaming in segments of the operating environment. These are illustrated in Figures C.1, C.2 and C.3 respectively.

Purpose: play out critical activities by phase against the desired outcomes of each phase.	
Advantages	• method corresponds to human thought patterns; • suitability for proving critical phases.
Disadvantage	• less operations design oriented.
Risks	• distraction by tactical discussions; • focus only on one phase; • reduced view on the operations design.

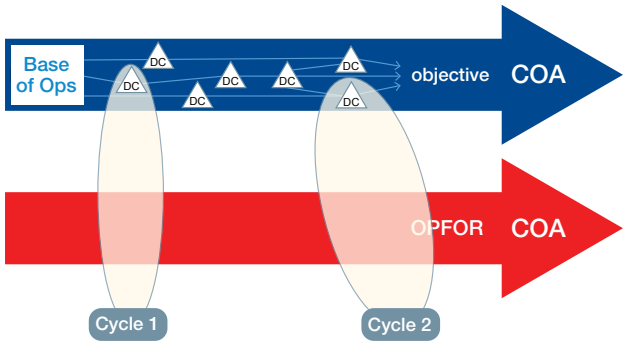


COA course of action
OPFOR opposing forces

Figure C.1 – Wargaming by phases

C

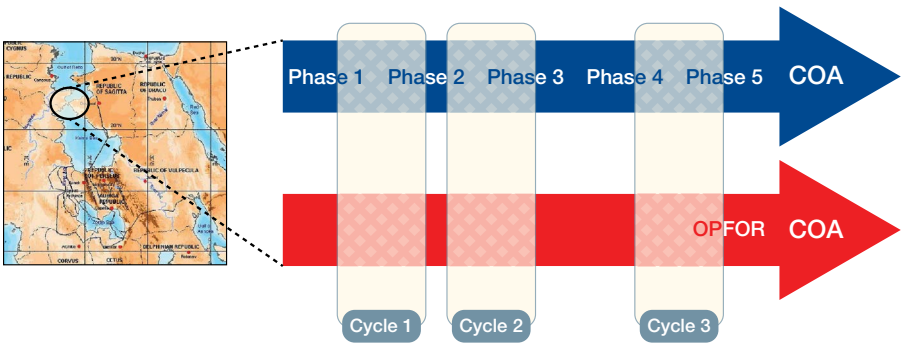
Purpose: play out critical activities for setting decisive conditions (DCs).	
Advantages	• test of the operations design and the synchronisation matrix; • method supports the identification of branches and sequels (decision points); • less time-consuming; • measurable outcomes.
Disadvantage	• less linear and logical; • high intellectual investment required.
Risk	• neglect of the most likely/most dangerous course of action (COA).



COA	course of action
DC	decisive condition
OPFOR	opposing forces

Figure C.2 – Wargaming to set decisive conditions

Purpose: play out critical activities in specific areas.	
Advantage	• good suitability for large areas.
Disadvantages	• time-consuming; • lack of interactivity between area portions.
Risks	• neglect of joint approach; • reduced view on the operations design.



COA course of action
OPFOR opposing forces

Figure C.3 – Wargaming in segments of the operating environment

C.4 **Preparing and conducting wargaming.** This involves determining: the desired outcome; the method and scope of the game; and the players and supporting functional participants of the game. The operational situation should be prepared, tools for manual or computer-assisted simulation and analysis available to use, and rules need to be established. The conduct of wargaming is determined largely by the desired outcomes, selected method and the scope. Wargaming includes the following.

a. **Setting conditions.** An introduction to set the conditions (the aspects of the operating environment) affecting the operation.

b. **Wargaming moves.** A series of 'game cycles' will take place. Each game cycle considers the effects of the action/reaction/counter-action. Each cycle starts with the friendly forces action, based on a situation in which the adversary has the initiative. A cognition phase follows, to provide an assessment of the event. A simplified depiction is given in Figure C.4 and complementary Figure C.5.

c. **Required products.** To conduct wargaming, a complete COA should be developed. Therefore, the following products, including force and capabilities, should be prepared: phase chart (including description of phase, decisive conditions to be achieved, effects and actions, decision points, operational critical requirement, priority of effort, start and end), draft risk monitoring plan, synchronisation matrix, initial operations design, commander's selection criteria, and the operational timeline.

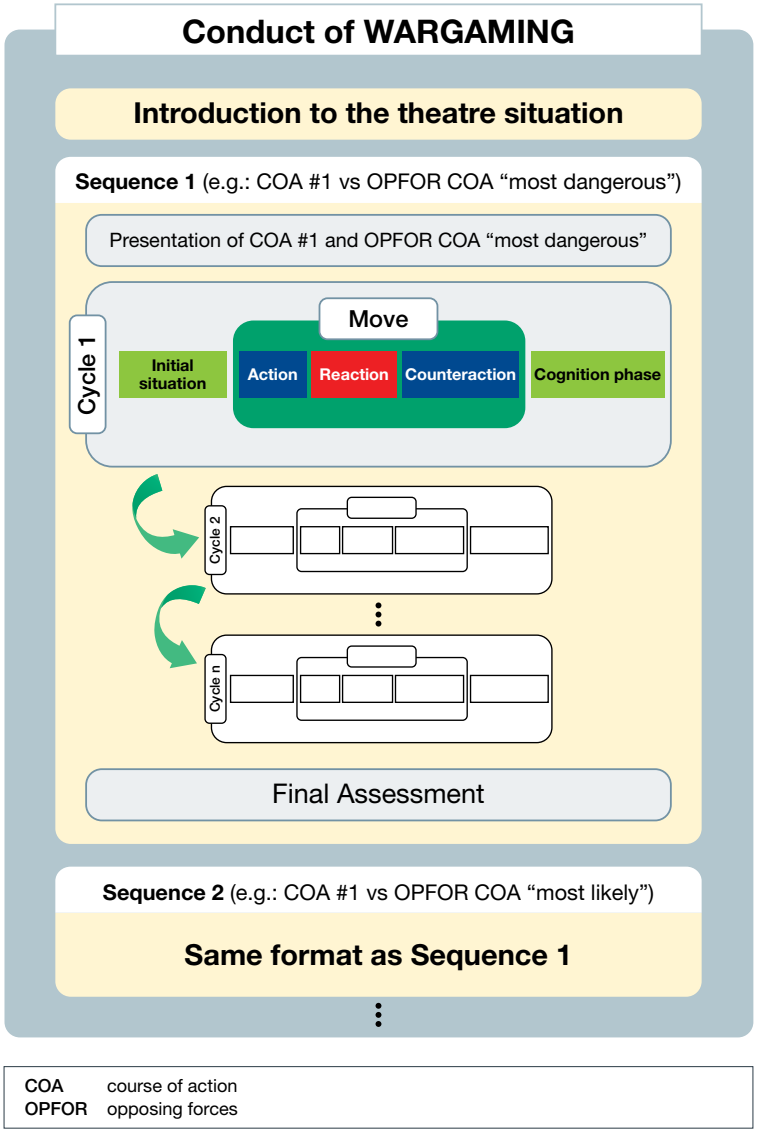


Figure C.4 – Conduct of wargaming

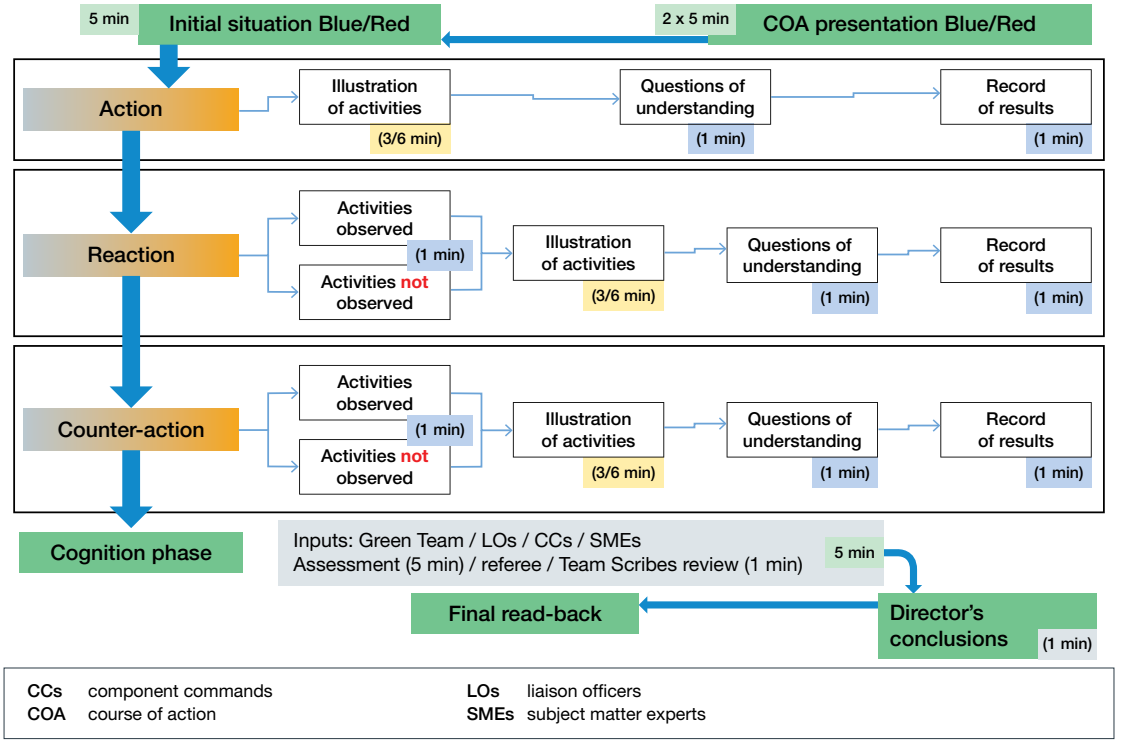


Figure C.5 – Illustration of a cycle within wargaming moves

C.5 **Assessment and recording of overall results.** An assessment of the probable results of any action – reaction – counter-action typically follows each game cycle within a cognition phase and is used to set conditions for succeeding game cycles. The cognition phase includes, for example, the provision of a final contribution to the wargaming cycle by components' liaison officers and functional subject matter experts; provision of an overview by operations assessment experts on effects or decisive conditions achieved or not; determination of the resulting conclusions by the wargaming referee; revision of the conclusions (i.e. opportunities and risks identified, any treatment required leading to adjustments of the COA, branch plans, sequels, decision points or commander's critical information requirements (CCIRs) by each team-scribe); conclusion of the wargaming cycle by wargaming director. An illustration is given in Figure C.6. Observations and conclusions drawn are recorded in line with the purpose. Typically, these include:

- refinements to the COA and correction of deficiencies;
- additional force/capability requirements/resources;
- casualty estimation;

- synchronisation requirements;
- Identification of new risks, trigger and/or indicators and possible needs for implementing controls;
- decision points, branches and sequels required;
- decisive conditions and supporting CCIRs;
- updates/revisions of the centre of gravity (CoG) analyses of key actors, and related inputs to required conditions of CoGs, decisive conditions, CCIRs, rules of engagement, etc.;
- other lessons identified; and
- refinement of actions/measures of performance and effects/measures of effectiveness wording by assessment staff.

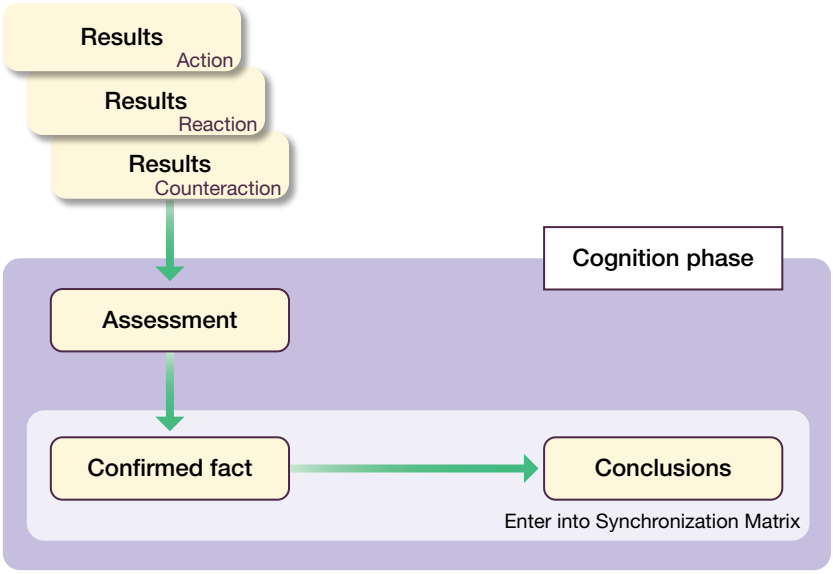


Figure C.6 – Move results, assessment, conclusions

C.6 These overall results have to be integrated into the next planning activity 'COA validation and comparison'. If findings can be confirmed during the evaluation as factual conclusions, i.e. confirmed facts, they can be entered into a synchronisation matrix.

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Annex D

Future planning considerations

Section 1 – Introduction

D.1 Joint warfighting requires commanders to work through multiple subordinate and supporting headquarters to orchestrate military activities across the operational domains and to avoid organising and planning the domains in isolation. In addition, commanders are required to synchronise military and non-military activities within their sphere of influence. This Annex focuses on the new domains of space and cyberspace in multi-domain operations (MDO) and how MDO planning affects the joint functions and other important factors.[60]

Section 2 – Domains

General

D.2 As described in the main publication, there are five domains: maritime, land, air, space and cyberspace. Whilst commanders are familiar with maritime, land and air, the development of the space and cyberspace domains requires additional thought and planning. The following paragraphs describe the planning characteristics of these new domains.

UK D.1. The UK recognises the five operational domains as: maritime, land, air, space and cyber.

Cyberspace

D.3 Cyberspace operations planners incorporate information on the adversaries' disposition in cyberspace. Disposition includes capabilities, targets and the physical environment including cyber-personal networks

60 While the MCM-0004-2023, *Alliance Concept for Multi-Domain Operations* is endorsed by the MC, this annex regards the operationalisation of MDO still as contingent.

as well as maritime, land, air and space capabilities. Commanders rely on planners to consider the following.

a. Adversary operations in cyberspace that may affect commanders' ability to command and control their operations.

b. Profiles of system users, administrators, and their relationships. Organic and non-organic assets, locations and detailed capabilities.

c. Lead times for interagency coordination, de-confliction and synchronisation.

d. Identification of multinational automated systems weaknesses to cyberspace attacks, which include data poisoning and electromagnetic attacks.

e. Requirements for coordination, deconfliction and synchronisation with cyber effects that are provided through sovereign cyber effects provided voluntarily by Allies (SCEPVA).

D.4 Cyberspace is not geographically bound and offers commanders more creative options against NATO's adversaries. Therefore, further development of offensive cyberspace operations (provided through SCEPVA) enable NATO to be more effective during shaping-contesting-fighting. However, as Nations currently retain operational control of offensive cyberspace capabilities, NATO's role is very limited to requesting SCEPVA, synchronisation and de-confliction. This creates a challenge for NATO commanders when trying to integrate cyber effects and activities into multi-domain planning.

UK D.2. The centrality of the cyber domain forms a key planning factor. This includes knowledge and situational awareness of national networks, and those networks upon which there is dependency, especially for command, control and the maintenance of communication and information systems. Establishing resilience, robust security and effective cyber defence measures are considered critical, as is system redundancy and fallback capabilities. These in turn must be underpinned by a comprehensive risk management process.

Space

D.5 Space planners provide NATO commanders with estimates on the ways and means to integrate space capabilities into operations, missions and activities, as well as how to plan for effects and actions affecting the space domain. While minimising risk and generating opportunities, planners and staff require an understanding of threats across all adversary space capabilities. Planners estimate the support required from space capabilities to NATO operations. Commanders rely on planners to consider the following for the integration of space effects and activities into multi-domain planning.

a. Adversary factors that may pose a risk or hazard to friendly space capabilities. These risks can exist in orbital, link, user and terrestrial segments.

b. Identification and location of adversary space capabilities to target with reversible or non-reversible effects in support of operations.

c. Environmental factors when developing primary, alternative and contingent communication plans. Space planners should synchronise the military need with commercial space capabilities by determining the level and type of integration and augmentation required to support operations.

D.6 Finally, these considerations include the operational requirements of maintaining a robust recognised space picture, knowledge of space systems limitations, liaison requirements with national and commercial partners and legal constraints. The comprehension of effects and actions pertaining to the space domain is essential in order to inform commanders and their staff in terms of MDO planning and execution.

Section 3 – Joint Functions

General

D.7 In accordance with AJP-01, *Allied Joint Doctrine*, there are eight joint functions. The relationship between them is described in Figure D.1 below. The section describes how multi-domain planning considerations should be taken into account within the joint functions.

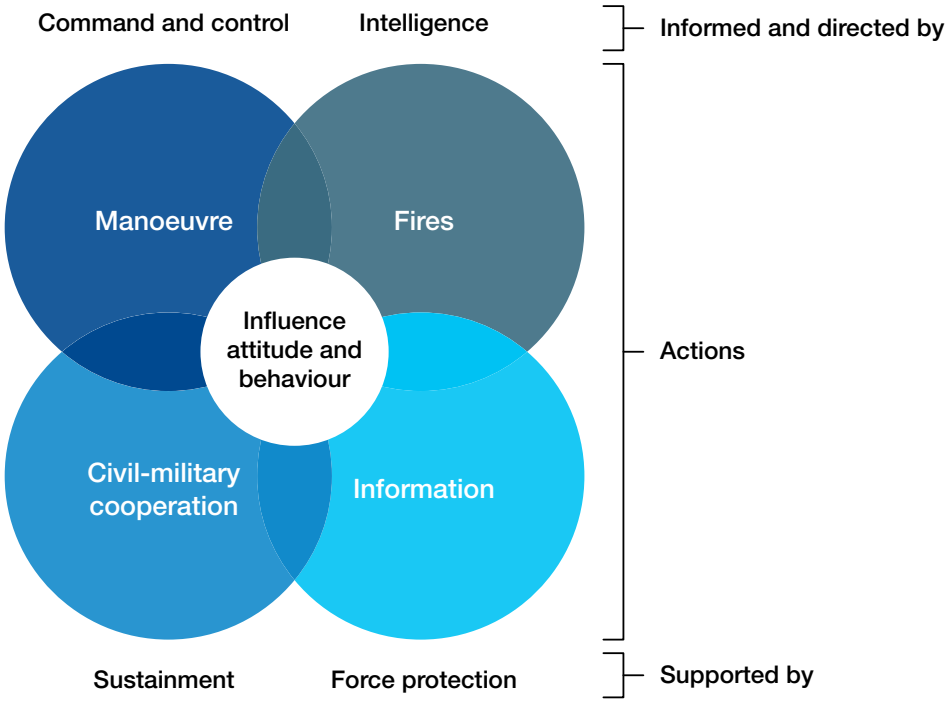


Figure D.1 – The joint function framework

Manoeuvre

D.8 The scheme of manoeuvre is a function of a thorough understanding of the adversary's course of action and their available capabilities relative to the commander's mission. After comprehending the challenges and opportunities for specific mission objectives, commanders develop their schemes of manoeuvre, fires, and logistics. Commanders govern the development of supporting plans or annexes and articulate how they visualise accomplishing the mission. For a multi-domain scheme of manoeuvre, commanders evaluate

all forms of manoeuvre, e.g. envelopment, turning movement, infiltration, penetration, and frontal attack while considering the implications on the other instruments of power. Manoeuvre requires dominance in the electromagnetic spectrum (EMS) to achieve superiority.

Fires

D.9 Fires planners develop the scheme of fires, concurrently with scheme of manoeuvre, to generate outcomes for the commander's plans. These plans should consider capabilities across the operational domains. Fire planners should consider the following.

a. Maximise cross-domain solutions with adjacent friendly forces.

b. Converge lethal and non-lethal effects from all the operational domains.

c. Evaluate all available fires from within the joint task force and the Alliance; recognising the planning and lead times to incorporate fires from their origins to targets.

d. For time sensitive targets implement only the fires that are available during periods of hostile acts, influence, or surprise.

Information

D.10 Planners provide NATO commanders with estimates on the ways and means they can leverage information into operations. With this understanding, commanders utilise information to disrupt adversary systems and processes. The commander's approach to MDO uses all available informational capabilities to accomplish tactical missions. Commanders rely on information planners to consider the following areas for MDO planning.

a. The degree, areas, and focus of artificial intelligence and machine learning for data informed decision-making.

b. Methods, movements, and transmissions of adversary and neutral actor information. This includes understanding how enemies and neutral actors transfer information and manipulate relevant actor perceptions, beliefs, attitudes, and behaviours.

Civil-military cooperation

D.11 The operations objectives may require practical cooperation and harmonisation of efforts with non-military actors to ensure military activities are enabled/enhanced. A collaborative approach would optimise the delivery of converging effects in support of military objectives. The military has collaborated with non-military actors in the maritime, land and air domains in the past to develop a situational understanding, to protect civilians and enable military capabilities, especially in the sustainment functions, maritime security and generation of the recognised air picture. In all domains – including space and cyberspace – the collaborative use of non-military/commercial capabilities can reduce risk and improve the probability of mission success. However, the synchronisation of military and non-military activities is a challenge for the commander as there is no command relationship between the military and non-military actors.



UK D.3. The UK uses the term 'outreach' instead of civil-military cooperation, on the assumption that Defence activity will be part of a broader cross-government approach, which could include stabilisation, support to governance, capacity building and regional/local Defence engagement.

Sustainment

D.12 Sustainment planners develop the sustainment plans concurrently with the scheme of manoeuvre and scheme of fires. Sustainment planners account for the available planning and execution time with considerations for time sensitive targets, levels of risk, and maximised opportunities. This allows sustainment planners to account for available sustainment capabilities and capacities from military and non-military sources.

Command and control

D.13 Commanders develop their operations plans, organise their forces, assign responsibilities and unity of actions in pursuit of specific objectives. Planners analyse the mission, assess the environment to include the electromagnetic environment, comprehend the adversary's likely actions, identify high payoff targets and describe the effects in relation to the mission objectives. Commanders direct the command and control to integrate and orchestrate diverse but mutually supporting forces across the operational domains with appropriate coordination to establish command relationships. In

short, multi-domain operations are conducted at all levels but the nature of the military action depends on the level of command and control.

D.14 Synchronisation across the domains is a defining feature of multi-domain execution which commanders will apply differently for each operation because of the adversary's situation, delegated authorities, permissions and approved direct authorisations. There may be times when one subordinate command has priority for electromagnetic operations, space, intelligence, surveillance and reconnaissance and counter air whilst other subordinates accept risk. Commanders and staff across the levels will have varying roles in MDO planning, orchestration and execution; therefore, the alignment of multi-domain activities will be complex. However, effective use of MDO can produce shock and temporary advantages against enemy commanders and their forces. Commanders can then employ parallel or subsequent multi-domain operations to pursue and exploit those results.

Command and control for multi-domain operations

UK D.4. Modern NATO warfighting requires a command and control model that enables rapid, coherent and synchronised multi-domain activity. Mission command remains foundational; however, operational-level command and control must also support distributed decision-making, delegated authorities and integrated cross-domain effects. The joint task force commander should establish clear supported and supporting relationships, designate component responsibilities for decisive conditions, and employ multi-domain coordination mechanisms. Command and control arrangements must be resilient, distributed and digitally enabled. Command and control for multi-domain operations continues to evolve, with the NATO Command and Control Centre of Excellence acting as a focal point for this work within the Alliance.

Intelligence

D.15 Intelligence and collection planners provide NATO commanders with estimates on the ways and means they can address intelligence requirements. This allows NATO commanders to visualise, describe, and direct operations. During MDO planning, commanders rely on intelligence planners to consider many factors, including but not limited to the following.

a. **The enemy command and control architecture's operational weaknesses.** Commanders examine those gaps and seams that will

complicate enemy decision-making, disrupt leadership structures, and interfere with horizontal and vertical integration. Planners examine the enemy's speed of decision-making that drives tempo, outpaces opponent actions and dictates the course of combat.

b. **Disruption of links and nodes.** Commanders plan to disrupt the links and nodes that facilitate enemy command, support and supporting relationships. This disruption may allow commanders to generate temporal gaps and exploit seams. Commanders can take advantage of these with delays, disruptions, deceptions, and surprises.

c. **Enemy dependence on space capabilities and radar detection.** These dependencies include capabilities that enhance intelligence, surveillance and reconnaissance. Commanders recognise the adversary uses space-based systems and seek to deny their opponents the use of space. Planners account for the adversaries offensive space operations with defensive space operation efforts.

Force protection

D.16 Force protection planners provide NATO commanders with estimates on methods to preserve the Allied force's fighting potential through active and passive security and defensive measures, emergency management, and response. The protected assets can vary from the physical objects and personnel to the protection of information and other intangible, but valuable items.[61] Commanders direct the degree of asset protection in relation to the enemy capability to target them. Allied functions, operational processes, physical capabilities, and information systems all require protection to survive and accomplish the mission. Commanders rely on planners to consider the following areas for multi-domain planning.

a. The degree to which integration of enemy weapons, sensors, and networks can affect the commander's plans. Planners catalogue actions that disrupt, slow, or limit one or more of the enemy's weapons,

61 Environmental protection planning is a process to ensure appropriate environmental protection. By early consideration of the potential negative environmental impacts, commanders will become aware of the environmental effects of mission accomplishment while alternatives still exist. Environmental damage may be an inevitable consequence of operations. The accidentally pollution or contamination of air, soil or water can lead to a risk to human health and safety which can lead to a negative impact to own troops or the local population. This could negatively affect the operation, directly or indirectly.

sensors, or network capabilities. These actions provide improved protection and survivability profiles.

b. Planners identify limitations in enemy intelligence, surveillance and reconnaissance systems. Commanders can direct actions to identify and exploit those limitations combined with 'hiding in plain sight.' The impact can reduce risk to mission and forces.

Section 4 – Other important factors

General

D.17 Highest payoff targets can be found across all domains in the operating environment. Of particular importance in the context of MDO are threat capabilities in space, cyberspace, the EMS and the information environment. Disrupting, degrading, or destroying these targets maximises an operation's likelihood of success. The following paragraphs describe the planning context for the EMS and strategic communications as well as for two other important factors: targeting and military deception.

Electromagnetic spectrum

D.18 Freedom of manoeuvre and action within the electromagnetic environment is essential to Allied operations. Allied electromagnetic operations (EMO) planners provide commanders with estimates on the ways and means they can employ the EMS in EMO. Commanders provide subordinate and component commanders guidance to determine EMS activities and capabilities that guide their planning. The commander's EMS planners also submit EMS-related information requests and ensure plans adhere to the rules of engagement. Commanders rely on planners to consider the following for multi-domain planning.

- the integration of the EMS to exploit, attack, protect, and manage the electromagnetic environment; and
- electromagnetic warfare, EMS management, intelligence, space, and cyberspace mission areas to prioritise, integrate, synchronise, and deconflict EMS.

Strategic communications

D.19 Strategic communications planners provide NATO commanders with estimates on the ways and means they can leverage information into operations. With this understanding, commanders utilise information to disrupt adversary systems and processes. The commander's approach to MDO uses all available informational capabilities to accomplish missions. Commanders rely on planners to consider the following areas for MDO planning.

a. The degree, areas, and focus of artificial intelligence and machine learning for data informed decision-making.

b. Methods, movements, and transmissions of information. This includes understanding how enemies and neutral actors transfer information and manipulate relevant actor perceptions, beliefs, attitudes, and behaviours.

Defence strategic communication



UK D.5. The UK refers to Defence strategic communication rather than strategic communications. The UK's definition for Defence strategic communication is: 'advancing national interests by using Defence as a means of communication to influence the attitudes, beliefs and behaviours of audiences.' For more information, see Allied Joint Publication-10, *Allied Joint Doctrine for Strategic Communications*, Edition A, Version 1, with UK national elements.

Targeting

D.20 Commanders select targets that include known enemy strengths, critical capabilities and requirements, and critical vulnerabilities. Commanders consider global capabilities to achieve objectives and accomplish the mission. Commanders rely on planners to provide the following considerations for targeting:

- how best to converge fires across domains, the information environment, and the EMS;
- assessment of the previous multi-domain operations;

- prioritising, integrating, and synchronising fires for the targets that provide the highest payoff; and
- integrating digital backbone derived AI-targeting support solutions.

Military deception

D.21 Planners provide estimates on the ways and means they can decipher enemy beliefs and preferences, identify how to exploit those preferences, establish desired perceptions, and focus deception events. Planners determine Allied force weaknesses from enemy denial and deception. For this reason, planners focus on the enemy's efforts to deny and deceive intelligence collection efforts. Commanders rely on planners to consider, identify, and develop the following for planning:

- deception target(s) and their associated opportunities;
- deception stories that are more likely to deceive the enemy; and
- deception types, techniques, and tactics.

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UK Annex E

Schematics, tables and matrices

UK E.1. There are several tools and techniques that can be used to present aspects of a course of action or plan to ensure the clear communication of a commander's intent and scheme of manoeuvre. These tools and techniques are not prescriptive, but the tools should be selected and adapted according to the context. They can be used both during and after the planning process.

Tools and techniques

UK E.2. This annex contains seven sections, which explore the following areas.

a. **Section 1 – Decisive condition/effect tables.** Analysis of decisive conditions leads to the effects necessary to create them. Decisive condition/effect tables, an example of which is at Section 1, provide a useful means of depicting these relationships and visualising the contribution required, by both the joint force and other non-military organisations.

b. **Section 2 – Effects schematics.** Effects are an important part of the planning process and developing courses of action (COAs); they also form the foundation of a joint task force's synchronisation of forces and functions (scheme of manoeuvre) included within operation plans (OPLANs) and operation orders (OPORDs). One or more effects schematics are a useful technique to describe, by time and/or space, the intended effects.

c. **Section 3 – Integration tables.** A vital yet complex part of the planning process is identifying activities that will support the creation of each effect; the use of integration tables can be used to support this. It also stimulates alternative activities and is key to the early identification of risk.

d. **Section 4 – Operations planning concepts symbols.** A common set of planning concept symbols, for use in schematics.

e. **Section 5 – Schematics.** Various options for drawing up schematics, describing the COA (or plan) through a series of decisive conditions that will achieve the objectives (and hence the end state).

f. **Section 6 – Effects schematics.** The clarification of intended activities is aided by using effects schematics to describe aspects of the COA (or OPLAN/OPORD).

g. **Section 7 – Synchronisation matrix.** This section shows an example of a synchronisation matrix.

Section 1 – Decisive condition/effects tables

Option 1 – summarised tables

DC 1 'X' C2 neutralised	**E 1.1** 'X' air defence neutralised	**E 1.2** Key 'X' communication nodes destroyed	**E 1.3** 'X' radar/early warning nodes destroyed	**E 1.4** 'X' operational-level C2 nodes destroyed	
DC 2 Air superiority gained	**E 2.1** 'X' airfields denied	**E 2.2** 'X' air defence neutralised	**E 2.3** Air policing established	**E 2.4** Own airfields protected	
DC 3 Seas denied	**E 3.1** 'X' ports blockaded	**E 3.2** Sea control established	**E 3.3** Own SLOC potected		
DC 4 'X' land forces defeated	**E 4.1** 'X' ISR detroyed	**E 4.2** 'X' light brigade contained	**E 4.3** 'Y' capital city seized	**E 4.4** Amphibious assault 'Y' capital port	**E 4.5** Interdict 'X' LOC
DC 6 'X' land forces repatriated	**E 6.1** 'X' land forces disarmed	**E 6.2** 'X' land forces redeployed		Effects related to concept plan	
DC 7 Potable water provided	**E 7.1** Sufficient water sourced	**E 7.2** Filtration systems established	**E 7.3** Water storage established	**E 7.4** Water distribution system established	
DC 10 'Y' governing authority reinstated	**E 10.1** 'Y' ministries empowered	**E 10.2** 'Y' presidency empowered	**E 10.3** 'Y' democratic process re-established	**E 10.4** International community re-engaged	

Joint force only | Joint force supported/ OGD supporting | OGD only | OGD supported/ Joint force supporting

C2	command and control	**ISR**	intelligence, surveillance and reconnaissance	**OGD**	other government department
DC	decisive condition	**LOC**	lines of communications	**SLOC**	sea lines of communications
E	effect				

UK Figure E.1 – Option 1: summarised tables

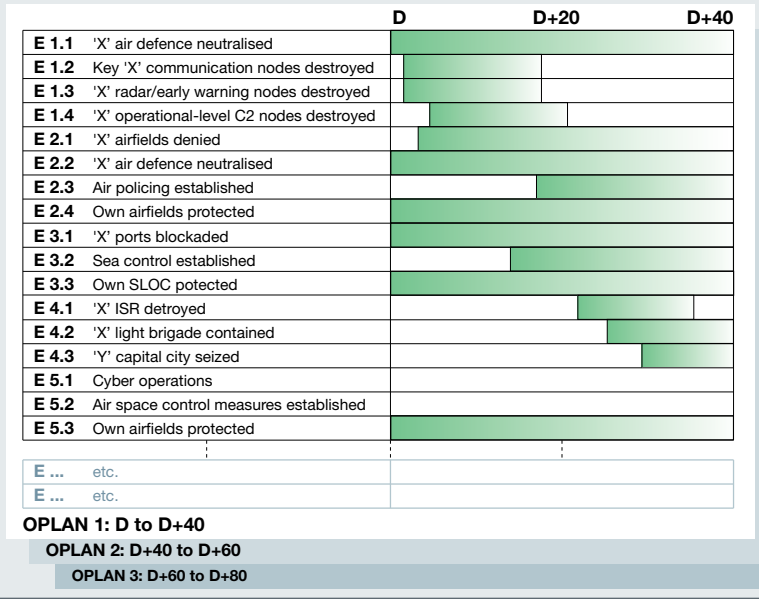
Option 2 – effects sequenced over phases

Decisive condition	Effects	Phase 1 – shape	Phase 2 – attack	Phase 3 – transition
DC 1 'X' C2 neutralised	**E 1.1** 'X' air defence neutralised			
	E 1.2 Key 'X' communication nodes destroyed			
	E 1.3 'X' radar/early warning nodes destroyed			
	E 1.4 'X' operational-level C2 nodes destroyed			
DC 2 Air superiority gained	**E 2.1** 'X' airfields denied			
	E 2.2 'X' air defence neutralised			
	E 2.3 Air policing established			
	E 2.4 Own airfields protected			
DC 3 Seas denied	**E 3.1** 'X' ports blockaded			
	E 3.2 Sea control established			
	E 3.3 Own SLOC potected			
DC 4 'X' land forces defeated	**E 4.1** 'X' ISR detroyed			
	E 4.2 'X' light brigade contained			
	E 4.3 'Y' capital city seized			
DC 6 'X' land forces repatriated	**E 6.1** 'X' land forces disarmed			
	E 6.2 'X' land forces redeployed			
DC 7 Potable water provided	**E 7.1** Sufficient water sourced			
	E 7.2 Filtration systems established			
	E 7.3 Water storage established			
	E 7.4 Water distribution system established			
DC 10 'Y' governing authority reinstated	**E 10.1** 'Y' ministries empowered			
	E 10.2 'Y' presidency empowered			
	E 10.3 'Y' democratic process re-established			
	E 10.4 International community re-engaged			

C2 command and control **DC** decisive condition **E** effect **ISR** intelligence, surveillance and reconnaissance **SLOC** sea lines of communications

UK Figure E.2 – Option 2: Effects sequenced over phases

Option 3 – supporting effects synchronised over time



C2 command and control **E** effect **ISR** intelligence, surveillance and reconnaissance **OPLAN** operation plan **SLOC** sea lines of communications

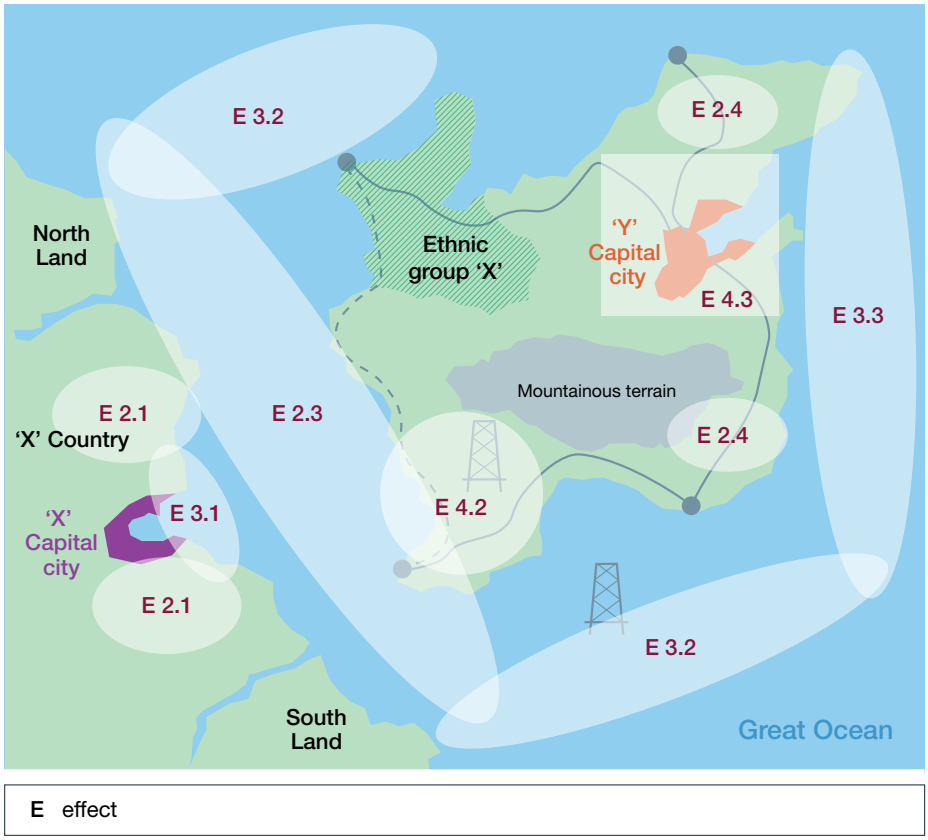
UK Figure E.3 – Option 3: Supporting effects synchronised over time

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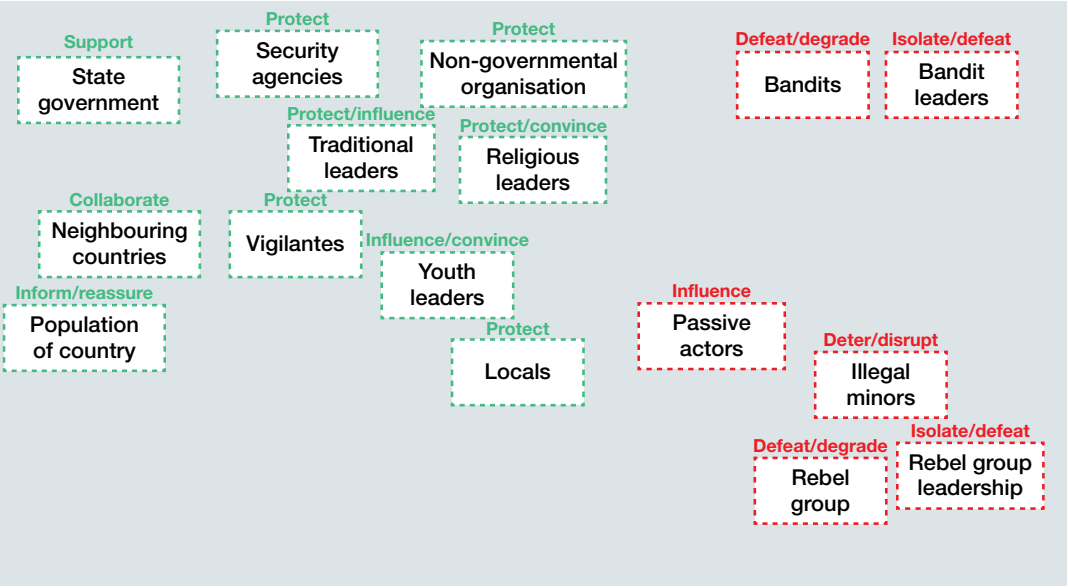
Section 2 – Effects schematics

UK E.3. Effects schematics provide a useful means to visualise and communicate the scheme of manoeuvre, or at least one aspect, by time or space. They can be generated throughout the planning process for developing, evaluating and selecting COAs. They can also be included within OPLANs and OPORDs to aid understanding.

UK E.4. The effects included on schematics need not be confined to those from the physical dimension. A schematic is enriched by including effects to be created in the virtual and cognitive dimensions.



UK Figure E.4 – Effects schematic based on geography



UK Figure E.5 – Effects schematic based on audience

Section 3 – Integration tables

UK E.5. A partially completed integration table is shown to demonstrate the tool and reinforce the relationship between decisive conditions, effects and actions. It also shows the importance behind establishing supported/ supporting command interrelationships.

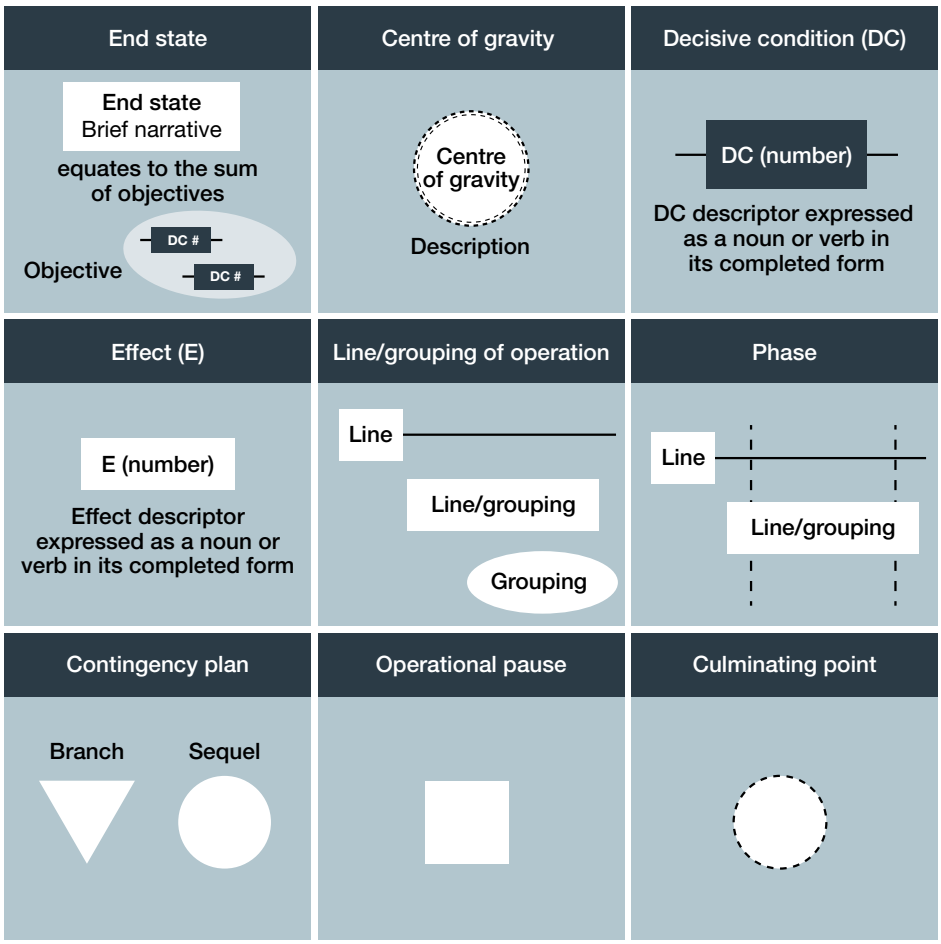
Decisive condition	Effect	Fires	Manoeuvre	Information	Outreach	Partners across government	Allies and partners	Supported	Supporting
DC 1 'X' C2 neutralised	**E 1.1** 'X' air defence neutralised							JFAC	JFMC
	E 1.2 Key 'X' communication nodes destroyed								
	E 1.3 'X' radar/early warning nodes destroyed								
	E 1.4 'X' operational-level C2 nodes destroyed								
DC 2 Air superiority gained	**E 2.1** 'X' airfields denied **E 2.2** 'X' air defence neutralised								
	E 2.3 Air policing established								
	E 2.4 Own airfields protected								
DC 4 'X' land forces defeated	**E 4.1** 'X' ISR detroyed								
	E 4.2 'X' light brigade contained								
	E 4.3 'Y' capital city seized			Reassure indiginous population				JFLC	JFAC

C2	command and control	**E**	effect	**JFAC**	joint force air component
DC	decisive condition	**ISR**	intelligence, surveillance and reconnaissance	**JFLC**	joint force land component
				JFMC	joint force maritime component

UK Table E.1 – Integration table

UK E

Section 4 – Operations planning concept symbols



UK Figure E.6 – Operations planning concept symbols

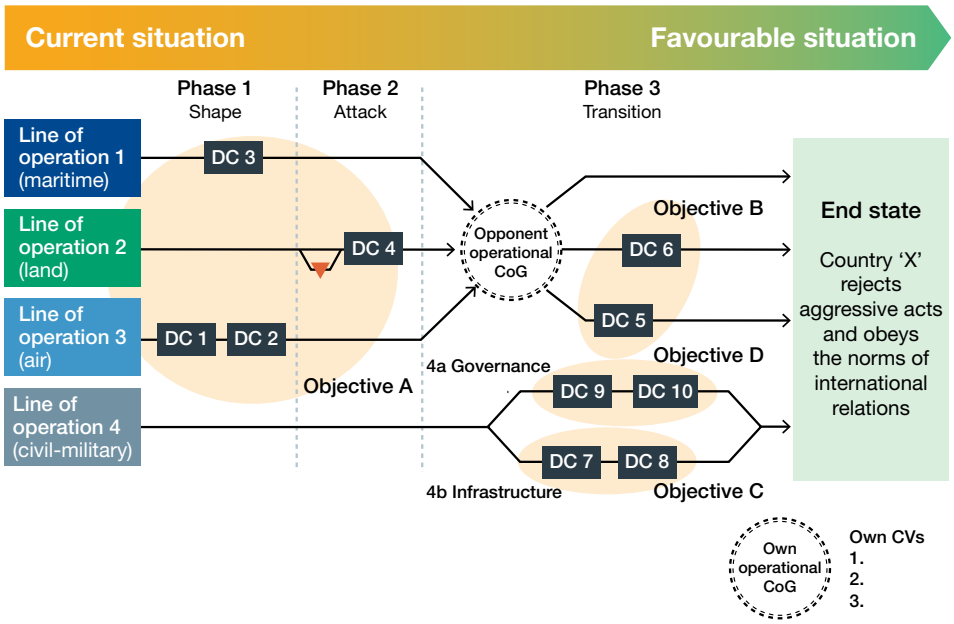
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Section 5 – Schematics

UK E.6. A schematic is used to aid understanding in planning and executing an operation. It is of use to a commander in developing and expressing their theory of change. It is also of use to the staff in transforming ideas into viable COAs. Finally, it is of use in monitoring and reviewing progress. Hence, its utility extends across operational design and operations management.

UK E.7. Creativity in the use of schematics is encouraged and variations will emerge dependent on the nature of the crisis and the personal preferences of key commanders and staff. This section provides several examples of operations schematics. They serve to offer alternative options and to stimulate the development of schematics best suited to the context.

- Schematic option 1 – Lines of operation/bipolar centre of gravity (CoG).
- Schematic option 2 – Groupings of operation/bipolar CoG.
- Schematic option 3 – Lines of operation/focal CoG.
- Schematic option 4 – Lines/groupings of operation/focal CoG.
- Schematic option 5 – Groupings of operation/focal CoG.



End state
Country 'X' rejects aggressive acts and obeys the norms of international relations

Objective A	Objective B	Objective C	Objective D
Defeat 'X' conventional forces	Secure 'X' withdrawal	Restore essential services	Re-established HN ('Y') authority
DC 1 'X' C2 neutralised **DC 2** Air superiority gained **DC 3** Seas denied **DC 4** 'X' land forces defeated	**DC 5** Air control established **DC 6** 'X' land forces repatriated	**DC 7** Potable water provided **DC 8** Electric power restored	**DC 9** 'Y' Armed forces and police reasserted **DC 10** 'Y' Governing authority reinstated

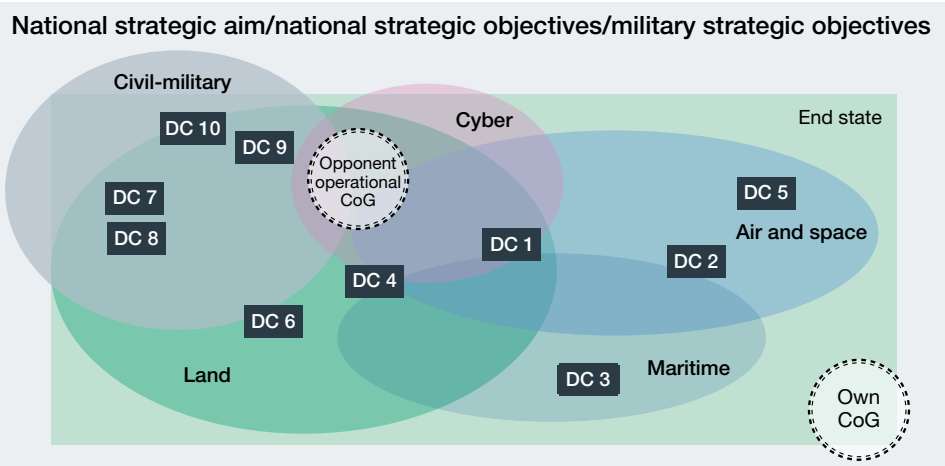
▼	branch	**CV**	critical vulnerability
C2	command and control	**DC**	decisive condition
CoG	centre of gravity	**HN**	host nation

UK Figure E.7 – Option 1: Lines of operation/bipolar centre of gravity

Notes

1) Bipolar CoG are where two sides are engaged in a bipolar conflict and attack and protect respectively their enemy's and their own CoG.

2) The domains shown against the lines of operation above are illustrative. Other lines of operation may also be included such as those within the cyber domain.

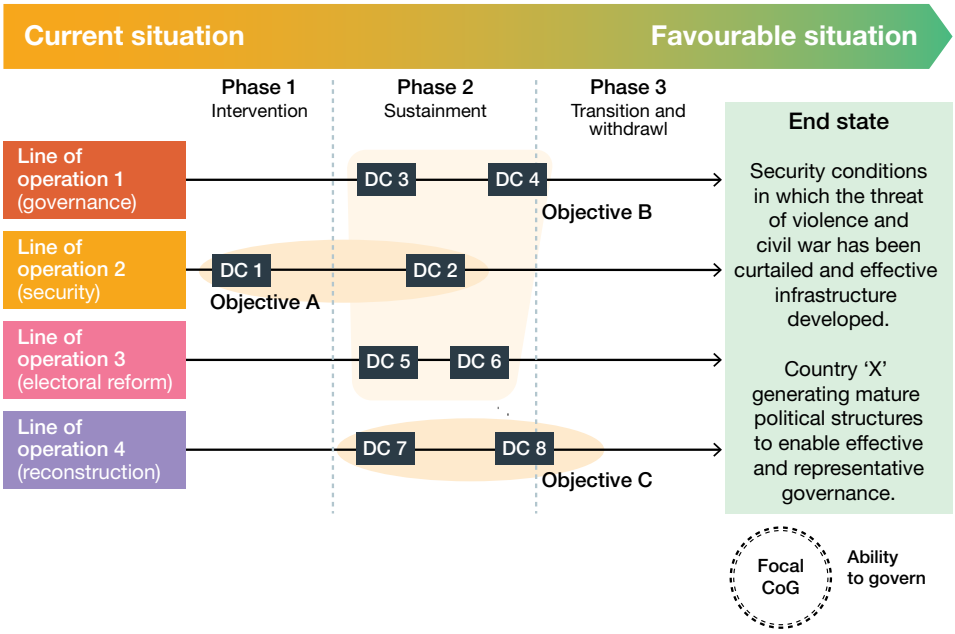


End state
Country 'X' rejects aggressive acts and obeys the norms of international relations

Objective A	Objective B	Objective C	Objective D
Defeat 'X' conventional forces	Secure 'X' withdrawal	Restore essential services	Re-established HN ('Y') authority
DC 1 'X' C2 neutralised **DC 2** Air superiority gained **DC 3** Seas denied **DC 4** 'X' land forces defeated	**DC 5** Air control established **DC 6** 'X' land forces repatriated	**DC 7** Potable water provided **DC 8** Electric power restored	**DC 9** 'Y' Armed forces and police reasserted **DC 10** 'Y' Governing authority reinstated

C2	command and control	**DC**	decisive condition
CoG	centre of gravity	**HN**	host nation

UK Figure E.8 – Option 2: Groupings of operation/bipolar centre of gravity



End state

Security conditions in which the threat of violence and civil war has been curtailed and effective infrastructure developed. Country 'X' generating mature political structures to enable effective and representative governance.

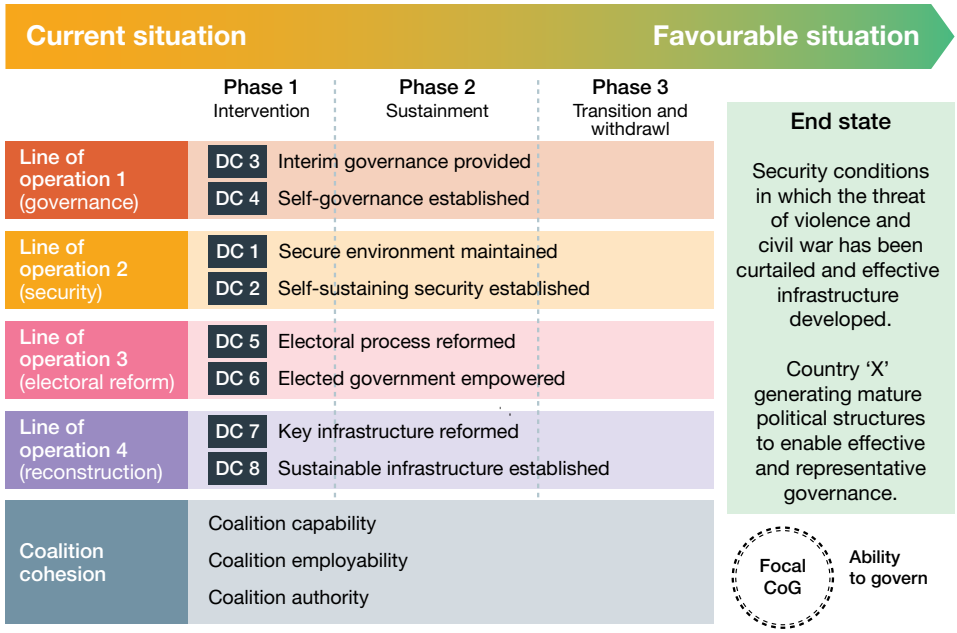
Objective A	Objective B	Objective C
Provide security across Country 'X'	Establish governance across Country 'X'	Restore Country 'X' infrastructure
DC 1 Secure environment maintained	**DC 3** Interim governance provided	**DC 7** Key infrastructure restored
DC 2 Self-sustaining security established	**DC 4** Self-governance established	**DC 8** Key infrastructure restored
	DC 5 Electoral process reformed	
	DC 6 Elected government empowered	

CoG centre of gravity **DC** decisive condition

UK Figure E.9 – Option 3: Lines of operation/focal centre of gravity

Notes

1) Focal CoG may be applicable in particularly complex situations involving a multitude of actors. In such cases a focal CoG may be selected, which is either the most significant factor preventing them from attaining their end state, or a factor that appears predominant amongst (or common to all) other participants in promoting their own contrasting aims.



End state

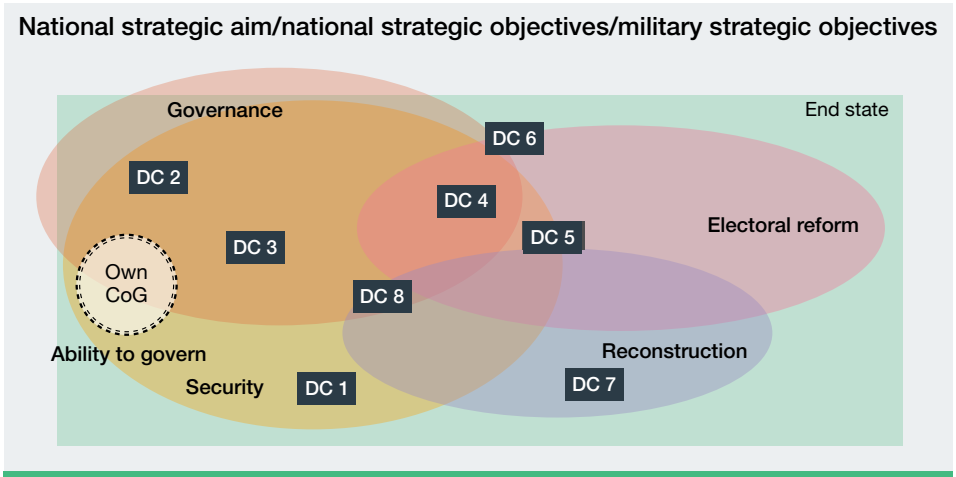
Security conditions in which the threat of violence and civil war has been curtailed and effective infrastructure developed. Country 'X' generating mature political structures to enable effective and representative governance.

Objective A	Objective B	Objective C
Provide security across Country 'X'	Establish governance across Country 'X'	Restore Country 'X' infrastructure
DC 1 Secure environment maintained **DC 2** Self-sustaining security established	**DC 3** Interim governance provided **DC 4** Self-governance established **DC 5** Electoral process reformed **DC 6** Elected government empowered	**DC 7** Key infrastructure restored **DC 8** Key infrastructure restored

CoG centre of gravity **DC** decisive condition

UK Figure E.10 – Option 4: Lines/groupings of operation – focal centre of gravity

UK E



End state

Security conditions in which the threat of violence and civil war has been curtailed and effective infrastructure developed. Country 'X' generating mature political structures to enable effective and representative governance.

Objective A	Objective B	Objective C
Provide security across Country 'X'	Establish governance across Country 'X'	Restore Country 'X' infrastructure
DC 1 Secure environment maintained	**DC 3** Interim governance provided	**DC 7** Key infrastructure restored
DC 2 Self-sustaining security established	**DC 4** Self-governance established	**DC 8** Key infrastructure restored
	DC 5 Electoral process reformed	
	DC 6 Elected government empowered	

CoG centre of gravity **DC** decisive condition

UK Figure E.11 – Option 5: Groupings of operation/focal centre of gravity

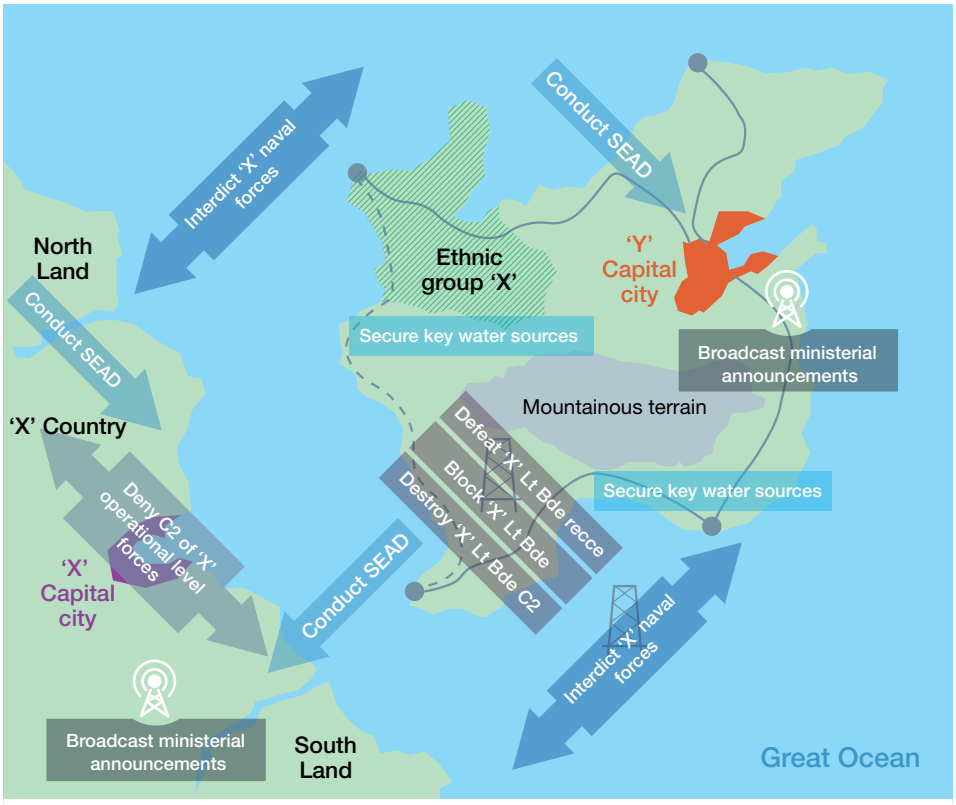
Section 6 – Effects schematics

UK E.8. Commanders use effects schematics as a framework with which to plan, coordinate and synchronise activities to create effects. They should use the full range of available military and non-military capabilities, including joint and multinational, and orchestrate fires, information, outreach and manoeuvre to optimise their coherent impact. They should consider those multi-agency activities which, while not under their control, might be coordinated with their own actions. Commanders may establish supported/supporting

UK E

interrelationships between their component commanders for each effect, while delegating the maximum freedom of action as to how these effects are created.

UK E.9. Effects schematics are a useful means to describe and communicate plans. It is unlikely that a single schematic could depict the entirety of an operation. More likely is that respective operation orders (and supporting plans) will use effects schematics to depict the key actions involved in a phase.



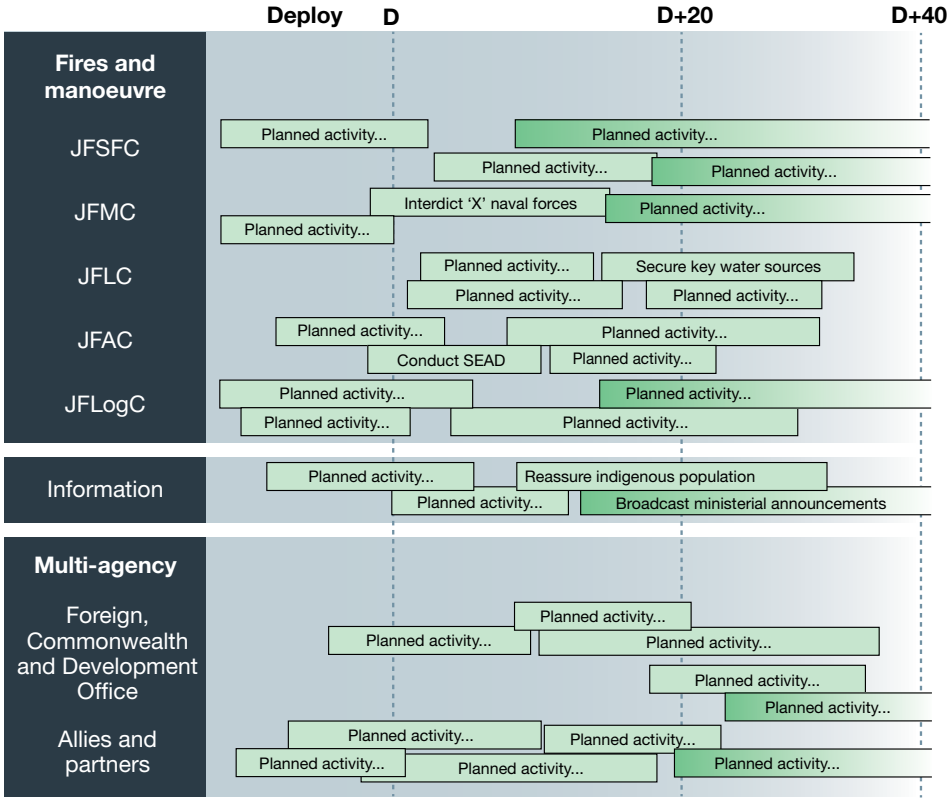
C2	command and control
Lt Bde	light brigade
SEAD	suppression of enemy air defences

UK Figure E.12 – Effects schematic

UK E

Section 7 – Synchronisation matrix

UK E.10. An example of a partially complete synchronisation matrix is shown below, using those limited actions derived in previous schematics, to demonstrate the tool. The activity within other operational domains should also be included, for example, space and cyber.



JFAC joint force air component
JFLC joint force land component
JFLogC joint force logistic component
JFMC joint force maritime component
JFSFC joint force special forces component
SEAD suppression of enemy air defences

UK Figure E.13 – Synchronisation matrix

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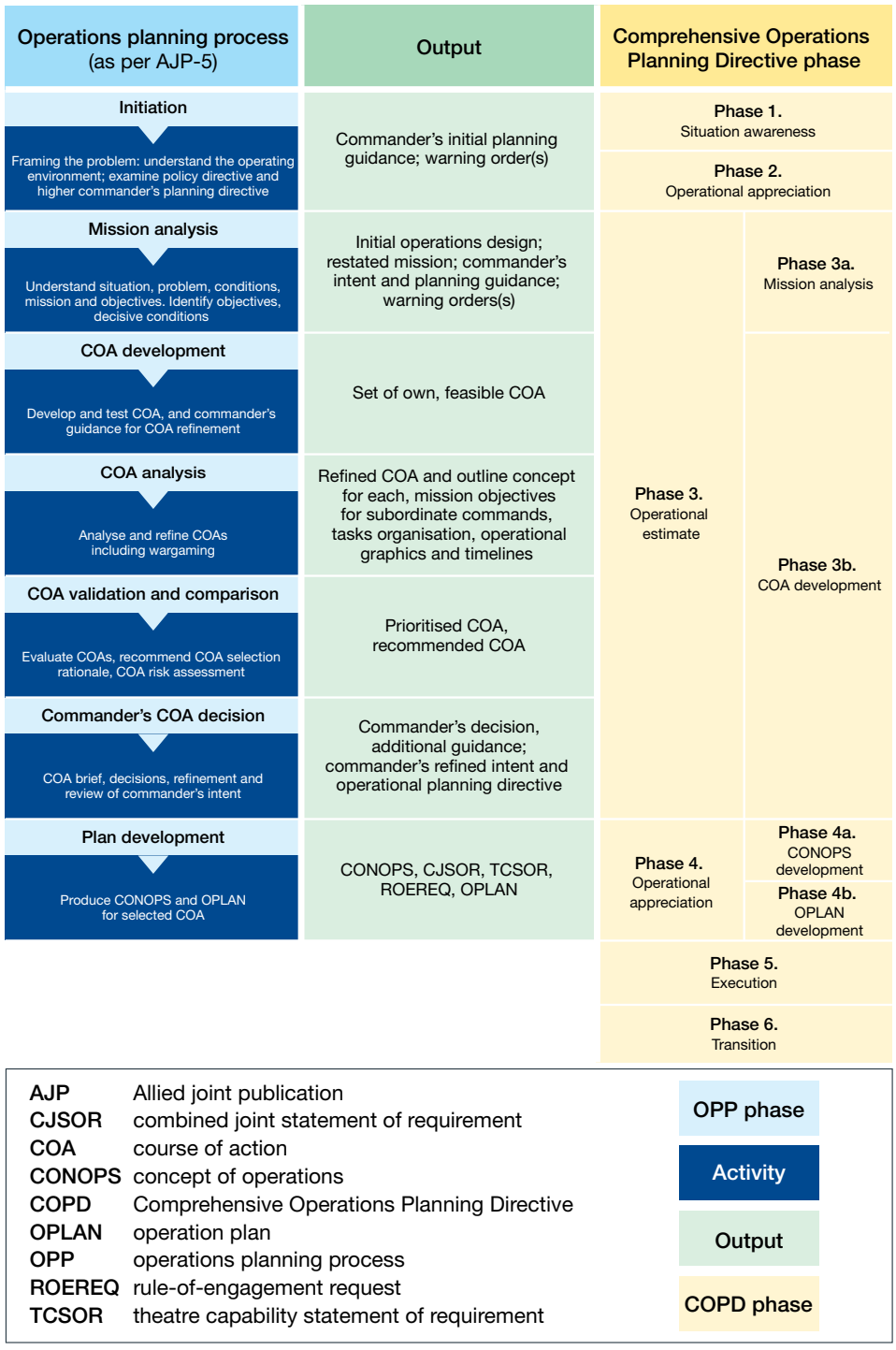
UK Annex F

An overview of the operations planning process

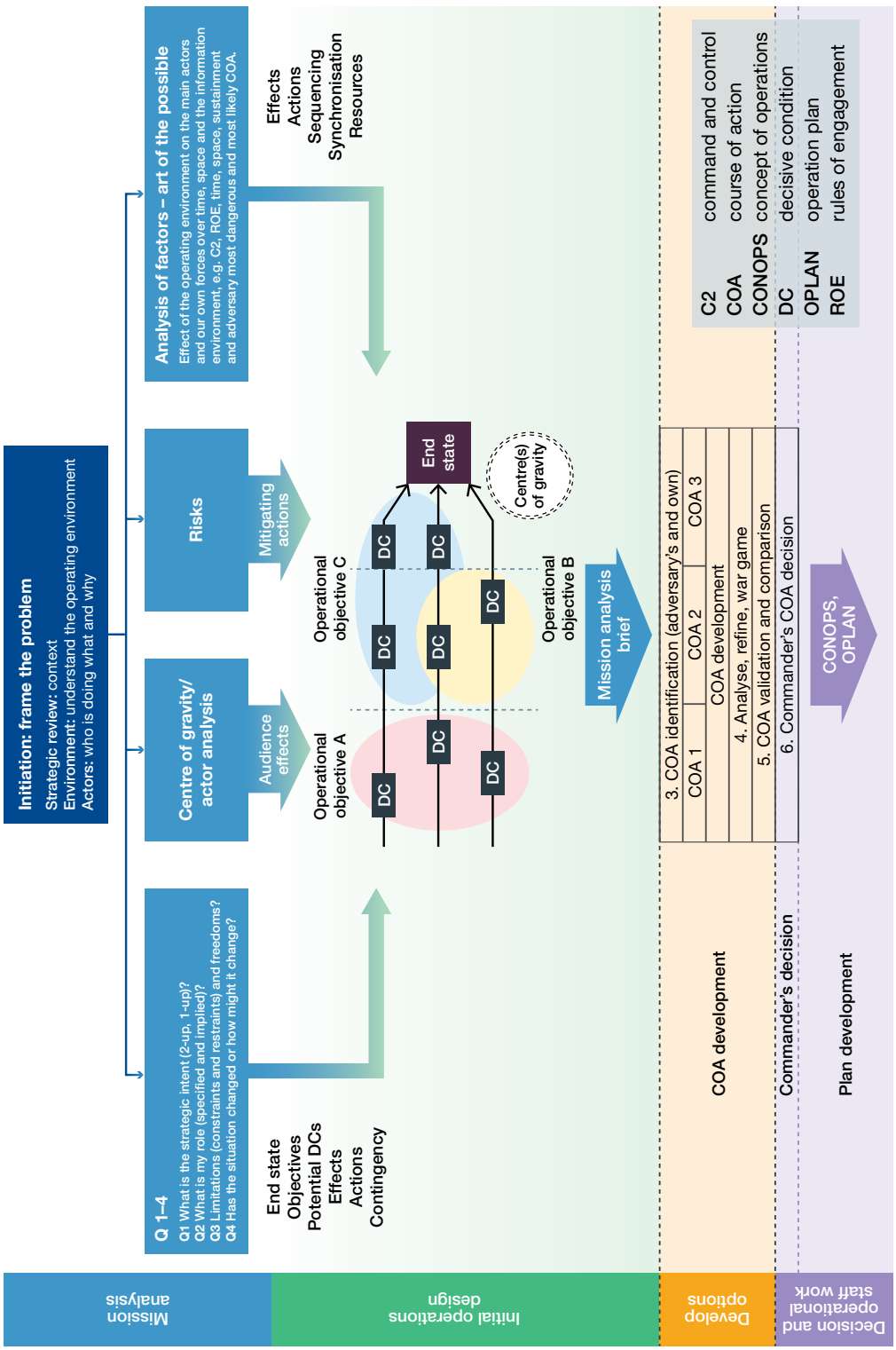
UK F.1. UK Annex F contains two figures to aid understanding of the operations planning process (OPP) in relation to the *Comprehensive Operations Planning Directive* (COPD). The COPD is Supreme Allied Commander Europe's directive on how planning should be conducted by the NATO Command Structure but with some differences to Allied Joint Publication (AJP)-5, *Allied Joint Doctrine for the Planning of Operations*.

- UK Figure F.1 shows the stages and outcomes of the OPP described in Chapter 3, in relation to the COPD. While operations assessment is shown as part of the OPP in the figure, it is described separately in AJP-3 and not in AJP-5.

- UK Figure F.2 provides an overview of the OPP adding the requirement for challenge and red teaming throughout the process.



UK Figure F.1 – The stages and outcomes of the operations planning process in relation to the *Comprehensive Operations Planning Directive*



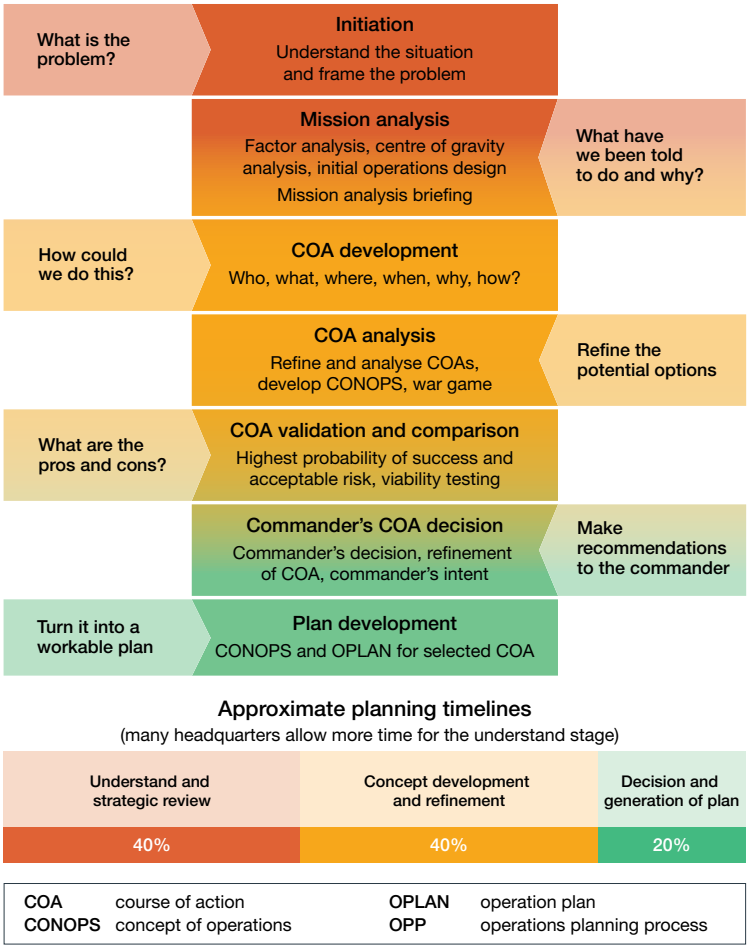
UK Figure F.2 – Overview of the operations planning process

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UK Annex G

Operations planning process

UK G.1. The operations planning process (OPP) is a sequence of planning activities to examine a mission, develop, analyse and compare alternative courses of action (COAs) and select the best COA. The process is founded on NATO Planning Doctrine. Individual headquarters will have their own planning standard operating instructions for describing the conduct of the process within their organisations. The output of the OPP is a set of orders that communicates the plan to subordinate commanders. The OPP is illustrated in UK Figure G.1.



UK Figure G.1 – The operations planning process

Preparation for the operations planning process – plan to plan

UK G.2. 'Plan the planning' is a vital function to ensure the process is successful. Key considerations include the following.

a. **Context.** Is the planning event to be conducted to deal with an emerging crisis or to develop contingency plans? A crisis is likely to have a Chief of the Defence Staff/Chief of Joint Operations directive (verbal, draft or signed) to instigate planning. A contingency plan may have no strategic direction. This will have an impact on the conduct of the initiation and mission analysis described below.

b. **When.** J5 analyse the time available for planning and identify key milestones at the start, such as the mission analysis briefing and COA decision brief, which is best illustrated on a planning timeline. Headquarters planning and delivering orders should take no more than one third of the time available, leaving two thirds for subordinate headquarters' planning.

c. **Who.** Establish the size and composition of the joint operations planning group (JOPG). Ensure you have representation from all key stakeholders (subordinate commanders, other government departments, allies and partners, and so on).

d. **How.** Record keeping and information management is crucial, especially to capture requests for information, assumptions and risks, for example, from the start. The process typically produces a mass of data and seeking to try and generate everything electronically is often not the best answer. Traditional methods (for example, using whiteboards, flip charts and paper) can aid planning group dynamics and ensure they are most productive, especially when under significant time pressure. The rapid advance of technology will allow organisations to adapt and accelerate the planning process.

e. **What.** This should account for what products will be required. Planning and operational timelines should be developed (being cognisant of the existing battle rhythm), showing who owes what to whom and when (inputs and outputs of each stage). Be ruthless with allocating the time available and enforce time management.

Other products include an initial task and requests for information tracker, record of assumptions and a risk matrix.

Receipt of orders brief

UK G.3. The receipt of orders brief is an internal trigger event within an operational headquarters to start a planning process. This step is not explicitly defined in operational-level doctrine but is critical to conduct successful planning and will be context dependent. It is usually delivered to staff by the command group and may contain the following.

1. Alert staff, key advisers and liaison officers (cross-government, allies and partners) of the requirement to plan and inform them of the mission/likely mission.

2. Ensure the headquarters understands:

   - what the headquarters is being asked to do;
   - the context in which it is being asked to do it; and
   - what the output of the planning process will be.

3. Assign planning teams and provide any preliminary direction or higher-level context.

4. Align staff with the strategic narrative.

5. Review doctrine relevant to the forthcoming operation.

6. Ensure commonality of planning language amongst the headquarters.

7. Review lessons from previous similar operations, or if they are not immediately available draw them down from wider Defence lessons organisations.

8. Outline initial operational and planning timelines, which will be further refined during planning.

9. Initiate the planning guidance and information management processes.

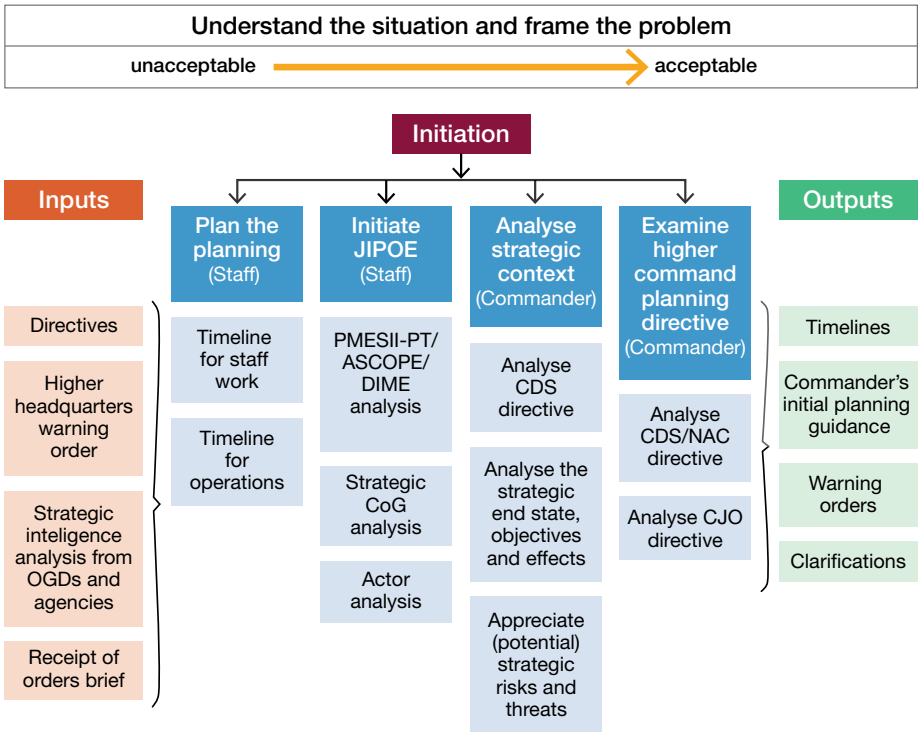
10. Branch leads will then be granted the opportunity to comment on initial key deductions.

Section 1 – Initiation

UK G.4. The two key outcomes of initiation are to understand:

- why are we where we are (why are we looking at this problem); and
- who is doing what and why in the operating environment.

UK Figure G.2 summaries the key inputs and outputs of the initiation stage, as well as the main planning activity that takes place within the headquarters.



ASCOPE	area, structure, capabilities, organisation, people, events
CDS	Chief of the Defence Staff
CJO	Chief of Joint Operations
CoG	centre of gravity
DIME	diplomatic, information, military, economic
JIPOE	joint intelligence preparation of the operating environment
NAC	North Atlantic Council
OGD	other government department
PMESII-PT	political, military, economic, social, infrastructure, information-physical environment and time

UK Figure G.2 – Inputs, outputs and staff activity during initiation

UK G.5. Operational and planning timelines will be refined from the receipt of orders brief. To frame the problem correctly, you will need to understand the current, or predicted, situation (where we are) by initiating the joint intelligence preparation of the operating environment, and analysing the strategic context, the operating environment and the actors involved to understand who is doing what and why. Additionally, to frame correctly, you need to understand what the desired situation (where we want to be) looks like (analysis of higher commander's intent, military strategic objectives, strategic/military strategic centres of gravity (CoGs) and so on). This will also ensure the military plan nests within the comprehensive approach, across all the levers of power, and across all operational domains. There are many different tools available to support this analysis and some of the common ones are listed below.

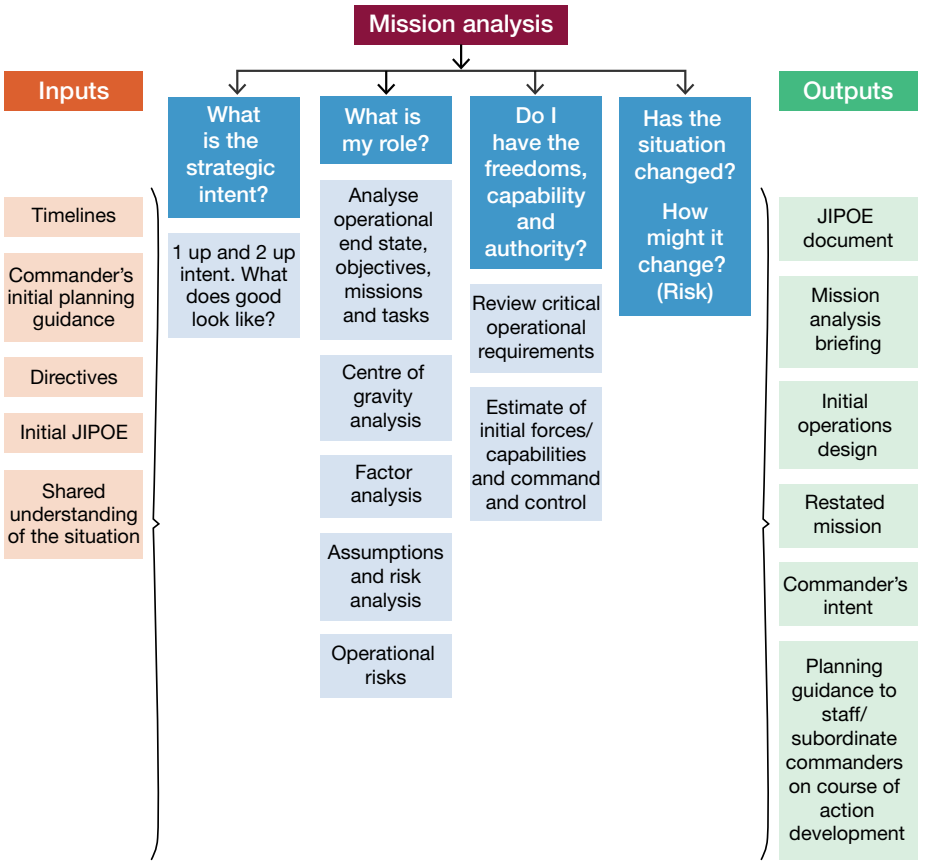
- PMESII-PT: political, military, economic, social, infrastructure, information, physical environment, time.
- PESTLE (I): political, economic, social, technological, legal, environmental, (information).
- Constituents of a state: rule of law, education, commercial, humanitarian, health, information, military, economic, diplomacy, administration, governance.
- STEEPLEM: social, technological, economic, environmental, political, legal, ethical, military.
- ASCOPE: area, structure, capabilities, organisation, people, events. This is a useful way of analysing the output from the tools above.

A number of other recognised tools and techniques include the following.

- Human terrain/operational domain analysis.
- Multi-perspective diagrams.
- Context diagrams.
- Concept maps and network analysis.
- Diplomatic, information, military, economic, financial and legal (DIME-FL) analysis.

Section 2 – Mission analysis

UK G.6. During mission analysis the planning staff will consider the question 'what have I been told to do and why?', which will involve analysing the strategic context, effects and conditions to produce an initial operations design. UK Figure G.3 summaries the key inputs and outputs of the mission analysis stage as well as the main planning activity that takes place within the headquarters.



JIPOE	joint intelligence preparation of the operating environment

UK Figure G.3 – Inputs, outputs and staff activity during mission analysis

UK G

Mission analysis – four questions

UK G.7. **Question 1 – what is the strategic intent?** Analyse the superior authorities' directives to understand their end state and objectives. (For example, in the UK this would be Chief of the Defence Staff and Chief of Joint Operations directives, in NATO, this would be a North Atlantic Council Initiating Directive and Supreme Allied Commander Europe's Strategic Planning Directive). These will set the boundaries of the problem.

UK G.8. **Question 2 – what is my role?** What are the future desired operational end state and objectives? What conditions, effects and activities are required to contribute to the realisation of my superior commander's intent? You will need to analyse:

- the DIME-FL to understand my part in the strategic context;
- operational end state;
- operational objectives;
- my mission;
- my specified and implied tasks, leading to decisive conditions, operational effects and operational actions; and
- potential operational-level CoGs; adversaries', other actors' and own.

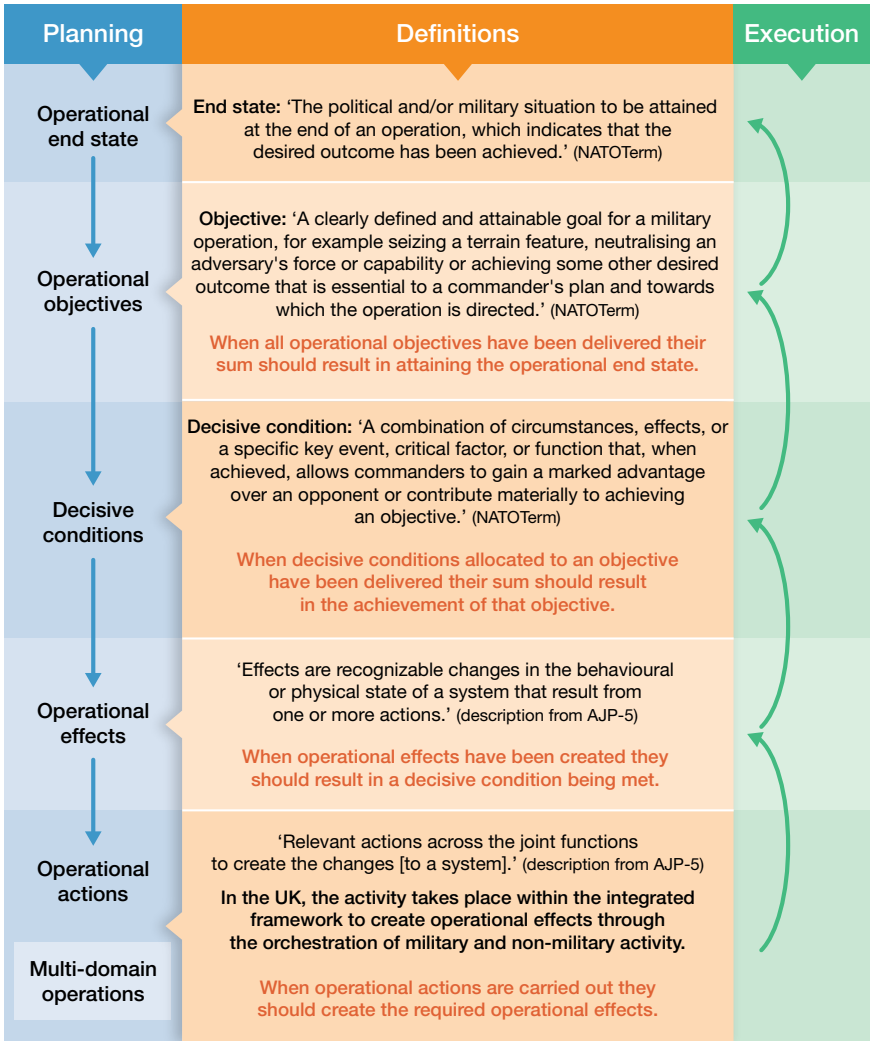
These taken together should deliver the outcomes determined in Question 1.

UK G.9. **Question 3 – do I have the freedoms, resources and authority required to attain my operational end state?** Consider this in terms of time and space and narrative. How is the problem bounded? You will need to analyse:

- freedoms;
- limitations;
- constraints (something you must do);
- restraints (something you must not do); and
- resources.

UK G.10. **Question 4 – Has the situation changed or how might it change?** If the situation has changed, has this affected the overall outcomes sought, or how could it (risk)? Can I make any provision now for how the situation might change in the future? This should provide the basis for contingency plans (CONPLANs).

UK G.11. The outputs from the four questions create the operational-level planning building blocks. This is a circular process breaking down the problem through the planning on the left hand side, then building back up through the execution/outcomes on the right hand side, as illustrated at UK Figure G.4.

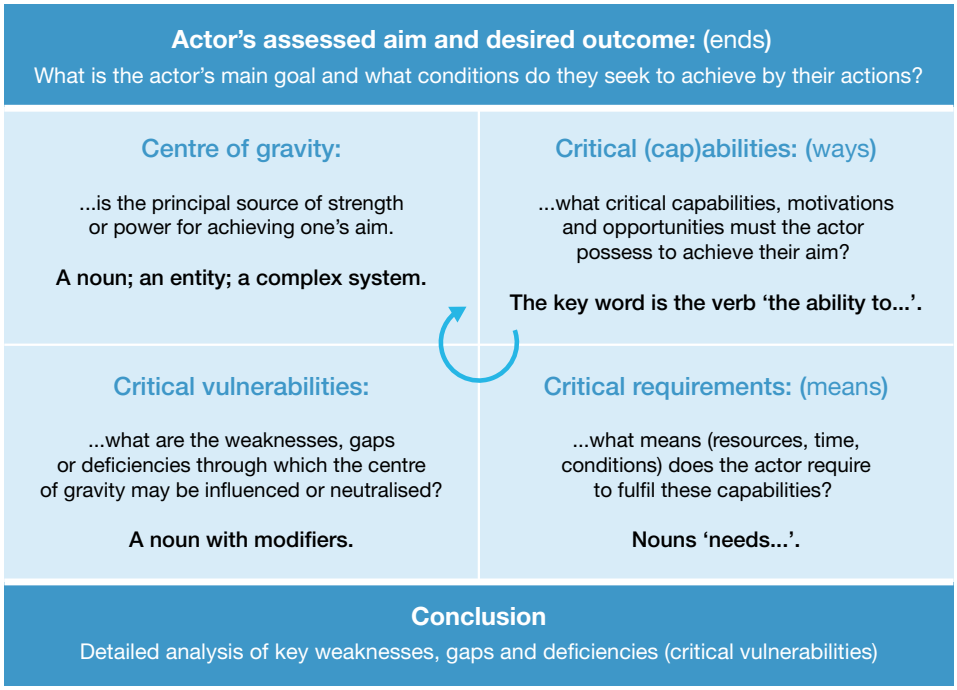


AJP	Allied joint publication
NATO	North Atlantic Treaty Organization

UK Figure G.4 – Operations design concepts

Centre of gravity analysis

UK G.12. CoG analysis helps to determine the focus of the planning and the tasks that need to be carried out to attain your end state. CoG analysis is illustrated in UK Figure G.5.



UK Figure G.5 – Centre of gravity analysis

UK G.13. The CoG analysis produces two key outputs. These are: critical vulnerabilities and the CoG itself.

a. Critical vulnerabilities. Critical vulnerabilities to be attacked, defended or manipulated.

b. The centre of gravity. What primary entity, selected from the critical requirements, provides an organisation with its critical ability to achieve its aim. What is it that needs to be weakened in an adversary, defended in ourselves or allies/partners or manipulated in other actors?

UK G.14. **Critical vulnerabilities.** The process for deducing the critical vulnerabilities is as follows.

a. Identify the aim/intent of the actor being analysed (the 'ends'). This should be drawn from the analysis carried out in the initiation phase. If time allows, a CoG analysis should be done to address the aim in the 'most likely' or 'most dangerous' COA of a particular actor. Thus, there could be more than one CoG analysis for each actor. This aim should be bounded in time and space if possible.

b. Identify the critical capabilities that an actor must possess to be able to achieve that aim (the 'ways'). Each of these should be started with the words: 'the ability to' ….

c. Identify the critical requirements of each of those capabilities (the 'means'). Each of these should be started with the words: 'needs' ….

d. Identify the critical vulnerabilities within the critical requirements that can be exploited across all operational domains. These should be phrased in terms of the effect required.

e. The critical vulnerabilities may be further analysed (perhaps by three-column format) to determine the best ways to exploit them. This is an excellent opportunity to think across the spectrum of military and civilian capabilities.

UK G.15. **Centre of gravity.** A deduced CoG can be derived by selecting the primary entity from the list of critical requirements and asking which of the requirements has the inherent capability to perform the 'ways'? If there are multiple candidates, they will need to be prioritised to select the primary one. The 'real' CoG is supported; it is the 'doer'. Other candidates are supporting. The CoG is inherently capable of achieving the purpose or objective and executes the primary action(s) that achieves it. It uses or consumes supporting resources to achieve the objective. If something is 'used' or consumed to execute the primary action, it is a requirement. If it contributes to, but does not actually perform, the action, it serves a supporting function and is a requirement. Ultimately does the deduced CoG give the actor the ability to fulfil the 'ways' (critical capabilities)? In this construct, there are no 'moral' CoGs, only physical ones. Intangibles, such as moral strength, public opinion, or a righteous cause, are not CoGs because they have no inherent capability for

action. However, they are not without value and they can be requirements. A tangible physical agent must perform the action.

Factor analysis

UK G.16. All key factors that have a bearing on the mission and activities in the joint operations area should be analysed most often using the three-column tabular format, as illustrated in UK Figure G.6, and the key outputs presented at the mission analysis briefing. As a minimum, the following topics and issues need to be covered in the factor analysis.

- Outputs from theatre recce and host nation coordination.
- Inputs from staff branch functional estimates, for example:
  - outputs from the initiation phase;
  - time;
  - space;
  - forces (own, adversary and in the wider joint operations area);
  - information;
  - J4 logistic estimate;
  - engineer/infrastructure estimate;
  - command and control estimate;
  - J6 estimate;
  - medical estimate;
  - G9 policy and legal issues; and
  - Defence strategic communication/public affairs/media.

Factor (What)	**Deduction** (Now what)	**Conclusion** (Now what)	**Planning output**
A significant factual statement of information, known to be true, that has operational implications. **What is the current state of affairs or trends?**	The implications, issues or considerations, derived from the fact(s) that have operational significance. **So what is the significance of the factor?**	The outcome or result that requires action in the planning or further analysis. **So what can or should be done?**	Planning outputs (see below)
Example: 1. Existing medical support in host nation is limited.	1.1. There is a need to establish a R3, R2 and R1 medical structure.	1.1.1. Determine number and readiness states of R3, R2 and R1 medical capabilities across the joint force. 1.1.2. Identify locations for medical facilities (in priority order and by role).	Information requirement Planning guidance (J4 Medical)

UK Figure G.6 – Three-column factor analysis format

Risk

UK G.17. Operational risk is identified during mission analysis and throughout COA development; the risk is evaluated by the likelihood of its occurrence and the gravity of its impact on operations, forces or mission critical assets. In addition, every planning assumption will have an associated risk and, therefore, could be supported by a CONPLAN. A plan is developed acknowledging that risks will occur and it provides the commander with options to counter or exploit the risks by developing branch plans and identifying potential decision points that may be required during the execution of the plan. The risk is managed by continually re-evaluating it, monitoring changes and implementing mitigation in the form of new CONPLANs as required.

Risk register

UK G.18. The risk register is used to track the risks and the implementation of the mitigation throughout planning and execution. The risk matrix provides a visual representation of the risks and their trend; it is useful to display the key risks on one matrix to provide a better understanding of the cumulative risk to the operation, as shown in UK Figure G.7

Risk: #6 – (Illegal fishing) Economic resources diverted from the economy of Country 'X'					
Risk owner	Who owns the risk?	**Risk action plan owner**	Who manages the plan to mitigate the risk?	Risk category	Operational outcome
Inherent likelihood	E.g. very high, high, medium, low	Describe the metric, e.g. 125 in 500, happens daily			
Inherent impact	Critical	What is the impact on the operation?			
Cause – as a result of	**Effect – the following could occur:**	**Consequence**	**Mitigations**		**Residual**
E.g. illegal fishing	E.g. increased food insecurity	E.g. Country 'X' will continue to lose revenue, increase food insecurity, contribute to fishing disputes and encourage others to exploit resources in TTW and EEZ	E.g. 1. Increase prosecutions 2. Conduct information campaign 3. Engage regional allies 4. Request assistance from allies		
Lack of maritime surveillance capability	Uncontrolled TTW and EEZ, increased exploitation	Inefficient use of limited maritime patrol craft	1. Invest in maritime patrol aircraft capability		
Limited maritime patrol capability	Inability to conduct long range and 24/7 patrols	Cannot patrol EEZ	1. Joint operations with partners 2. Invest in offshore patrol vessel/ other longer duration maritime craft		
Recommended response	**TREAT**	Agree response			

EEZ economic exclusion zones **TTW** territorial waters

UK Figure G.7 – Risk matrix example

Operations design

UK G.19. Operations design provides the critical link between operational problems to be solved and the required operational outcomes. It takes the results of framing the problem (from initiation and mission analysis) and develops and refines the commander's vision. The commander's vision is the expression of operational art and the commander's intent is their personal vision for the conduct of the operation. The operations design translates this vision into a conceptual overview of the entire operations by establishing decisive conditions along different lines of operation, leading to the achieving the operational objectives and attaining the desired end state (the expression of operational science).

Writing an intent UK

UK G.20. The commander's intent describes the overall outcome of what you want to achieve and why. It is constructed in the following way.

- Describe the objectives and the effects using time or space to group them, with concurrent or sequential activity (method) – do not put troops to task yet.
- A statement of the key risks that may impact the operation.
- Summarise what success looks like and indicate what next (the end state), identify exit strategy/exit criteria.
- An intent should explain what the commander wants to achieve and why – the change required in a given situation to be delivered by the operation; it binds the forces together and sets the tone for what is to follow.

Initial operations design

UK G.21. The initial operations design is a schematic developed by the joint operations planning group, drawing together the results of the mission analysis. Developing the initial operations design is an iterative process and it will be further developed and refined during COA development. Its purpose is to communicate the commander's vision of the operation, provide a common basis for the development of COAs, be used as a tool to integrate, synchronise, coordinate, prioritise and allocate capabilities for the operation over time, assess the progress of the operation, refine plans to deal with foreseen and unforeseen events and develop initial ideas for the transition and termination of the operation. Developing the initial operations design includes the following steps.

- Extract potential decisive conditions from the analysis to form a list of proposed decisive conditions.
- Determine the sequence in which specific decisive conditions must be established.
- Group decisive conditions into types of activity which will form potential lines of operations to focus the effort required to achieve one or more operational objectives.

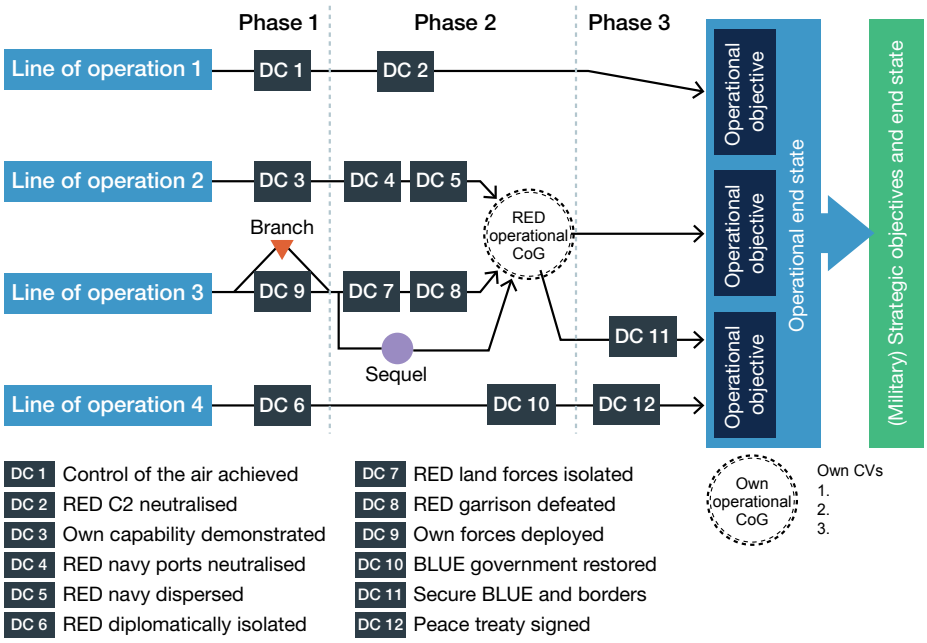
- Add operational effects that achieve the decisive conditions; draft effect measurement mechanisms.

- Add any identified operational actions that create the operational effects; draft measures of performance (operational actions will be developed much further in COA development).

- Sequence and phase the decisive conditions, effects and actions. This helps maintain the operational continuity and tempo, and avoids unnecessary operational pauses.

- Determine branches and sequels – the joint operations planning group may identity decision points that lead to the requirement for branches, sequels and potential CONPLANs.

An example operations design schematic is shown in UK Figure G.8.



C2	command and control	**CV**	critical vulnerability
CoG	centre of gravity	**DC**	decisive condition

UK Figure G.8 – An example operations designs schematic

UK G.22. **Mission analysis briefing.** The mission analysis briefing is a fulcrum moment that pulls together all the analysis to date that allows the commander to develop COAs. Its purpose is to validate the mission analysis, including confirming the mission and its operational objectives, and the initial operations design. It is also a forum where the entire staff and subordinate command liaison officers can be present to ensure a unified vision in preparation for developing operational COAs. The commander can confirm an initial intent and guidance for developing COAs and for the orientation of subordinate headquarters. The commander must eventually take ownership of the following.

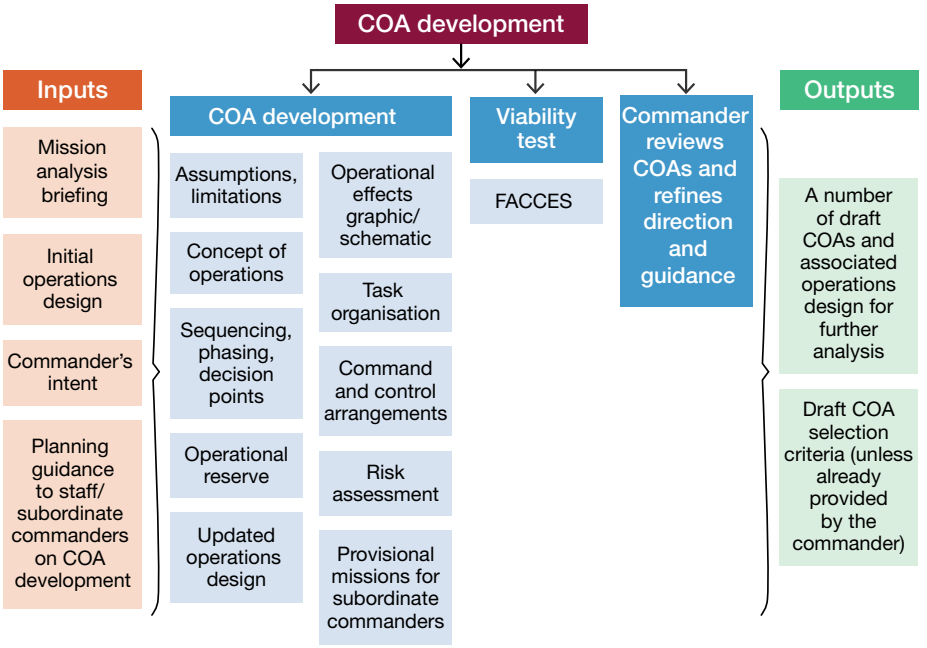
- The assigned mission, including operational objectives, and any recommendations for change from those provided by the superior commander in their directive.
- The initial operations design, including lines of operations, and the sequence of required decisive conditions in different phases of the operation.
- Decisive conditions and operational effects.
- Operational actions.
- Assumptions and risks
- Confirming the commander's intent.
- Provisional missions to subordinate commanders.
- The different COAs, in broad terms, to be developed as a basis for further planning.

Section 3 – Course of action development

Purpose of course of action development

UK G.23. The purpose of COA development is to develop a set of draft COAs in accordance with the commander's intent. This process is illustrated in UK Figure G.9. Using outputs from analysis carried out thus far, the outline COAs are developed by the staff for the commander's review prior to them being developed, refined and analysed. This gives the commander a chance to ensure COAs meet expectations at an early stage, rule out or alter COAs and give further direction and guidance. The COAs should answer the following questions about the operations design.

- Who will conduct each operational action to create operational effects to achieve decisive conditions?
- What operational actions are being considered?
- When does each action begin and by when must it be complete?
- Where will the actions be performed?
- Why is each action being performed (link to operational effects and decisive conditions)?
- How will the actions be conducted?



COA	course of action
FACCES	feasibility, acceptability, completeness, compliance, exclusivity and suitability

UK Figure G.9 – Inputs, outputs and staff activity during course of action development

UK G.24. **Developing courses of action.** The headquarters reconfigures into cross-function COA development teams who will conduct the following.

- Begin by discussing ways to accomplish the tasks associated with the mission – the staff should think, in an integrated context, two levels down and plan one level down.
- The J2 team will develop the key actors' most likely COA and most dangerous COA for the staff to plan against.
- COAs must draw forward from the mission analysis all operational effects and operational actions to achieve decisive conditions.
- Identify possible phases of the COA by roughly sequencing the decisive conditions, operational effects and operational actions.

Work out who will conduct each action – considering military forces and cross-government capabilities (phase lines will often be aligned with the transition of supported versus supporting components).

- Where will the actions be performed and effects be created? At what vulnerabilities are the actions being directed?

Deception

UK G.25. Deception should be included and resourced from early in the planning process. The following questions should be considered.

- What does the adversary expect me to do?
- How are their actions relevant to my COAs?
- How can I use deception to my advantage?

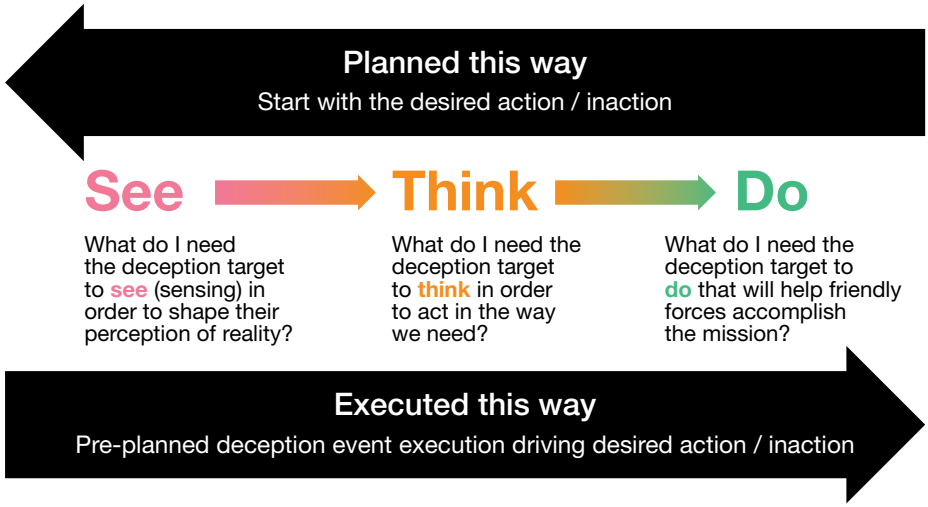
UK G.26. Doctrinally the acronym STOP is used. This steps are shown below.

- **Story:** 'What do you want the deception target to believe?'
- **Target:** 'Whose sensors (see), cognitions (think) and behaviour (do) are you trying to deceive?'
- **Objective:** 'What behaviour do you want the deception target to do (action) or not do (inaction)?'
- **Plan:** 'How you plan and execute the deception, as part of the overall plan and its objectives?'

UK G.27. In addition to STOP, the 'see–think–do' model can assist deception planning. The steps are shown below.

- **See** – the deceptive information, intelligence and activities the deception target needs to see (sensing).
- **Think** – how the deception target thinks about what they see (sense), via their cognitive processes (memories, assumptions, expectations, beliefs, perceptions and attitudes).
- **Do** – the behaviours the deception target is required to perform, expressed as either action (do something) or inaction (do nothing).

The model is used forwards to sell the deception to the deception target (see–think–do), but it is planned backwards (do–think–see), which is to say, for the deception target to undertake the desired behaviour they need to think about the situation; and to make the deception target think about the situation they need to see (sense) information, intelligence and activities. UK Figure G.10 summarises this process.



UK Figure G.10 – The see–think–do model

UK G.28. **Viability test.** Each COA will be tested for its viability using the feasibility, acceptability, completeness, compliance, exclusivity and suitability (FACCES) test.

- **Feasibility –** is the COA possible within the operating environment and given time, space and resources?
- **Acceptability –** do the COA benefits outweigh the costs? (consider casualties, collateral effects, media and public reaction).
- **Completeness –** is the COA complete? (when, who, what, why and how?)
- **Compliance –** is the COA compliant with NATO doctrine, policy and legal guidance?

- **Exclusivity –** is the COA sufficiently different from other COAs to clearly differentiate competitive advantages and disadvantages?

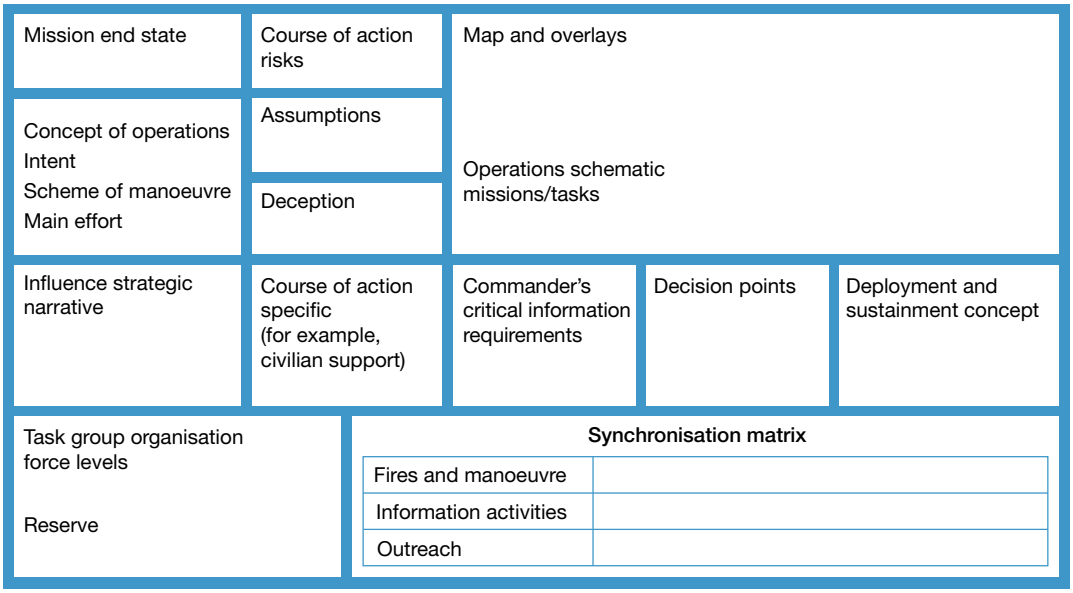
- **Suitability –** will the COA accomplish the mission and does it comply with the commander's planning guidance?

Example course of action briefing format

UK G.29. Visual storyboards are a very effective way of displaying COA concepts. An example format is illustrated in UK Figure G.11; whilst the exact format may vary between headquarters, each COA should use the same format for ease of comparison.

- The COAs will not be complete by the end of this stage. Only enough detail is required to satisfy the validity test and commander's review. Development and refinement will continue through the next stages.

- The commander may choose to narrow or expand the range of COAs and determine selection criteria.

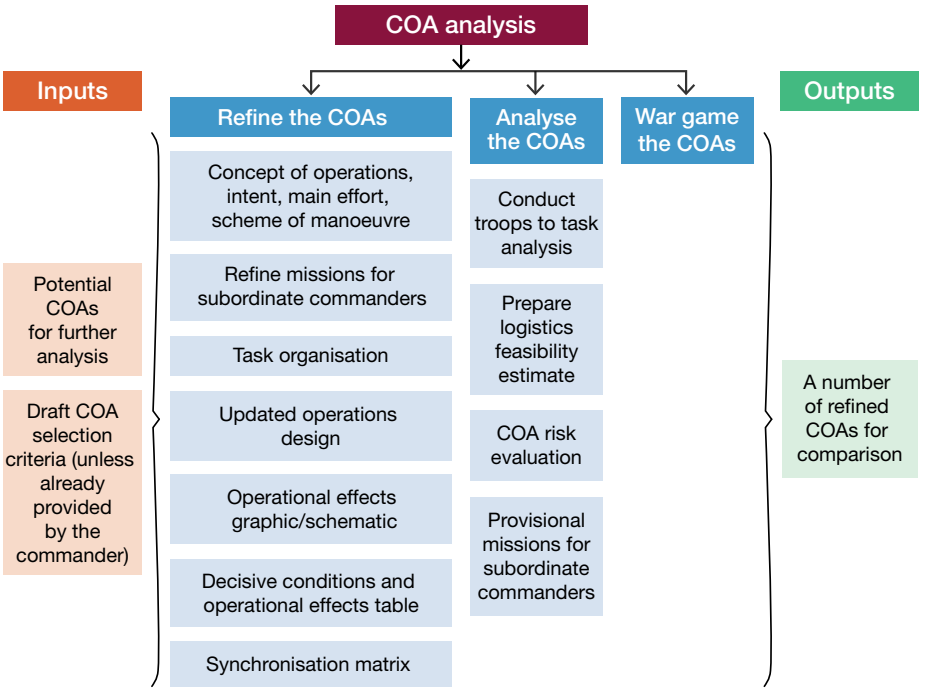


UK Figure G.11 – An example course of action briefing format

UK G

Section 4 – Course of action analysis

UK G.30. The aim of this stage is to refine and analyse the COAs in preparation for validation and comparison. This stage is illustrated in UK Figure G.12.



UK Figure G.12 – Inputs, outputs and staff activity during course of action analysis

UK G.31. This stage is about synchonising effects and actions and turning them into missions and tasks for subordinate commanders. A range of planning tools will be used to illustrate the timelines, sequencing and troops to task and this will be captured in the synchronisation matrix. The synchronisation process is an important part of coordinating the actions across all operational domains to create maximum effect in a given time or space. Once the COA has been refined and analysed it will be war gamed to test the plan, or elements of the plan, against the actor's most likely or most dangerous COA. The key outputs of this stage are listed below.

- Refined effects schematic and tables.
- Decisive conditions and operational effects tables (including measurement of effect).
- Integration tables.
- Synchronisation matrices.
- Examples and further explanation of these products can be found at UK Annex E.

Additional analysis tools

UK G.32. The COAs will describe complex plans. These can be further refined using the following analysis tools.

a. **Wargaming.** Wargaming is a flexible instrument designed to develop, compare and improve COAs. It can be used at any time during COA development as a way of testing elements of the plan against the key actors' most likely COA and most dangerous COA.

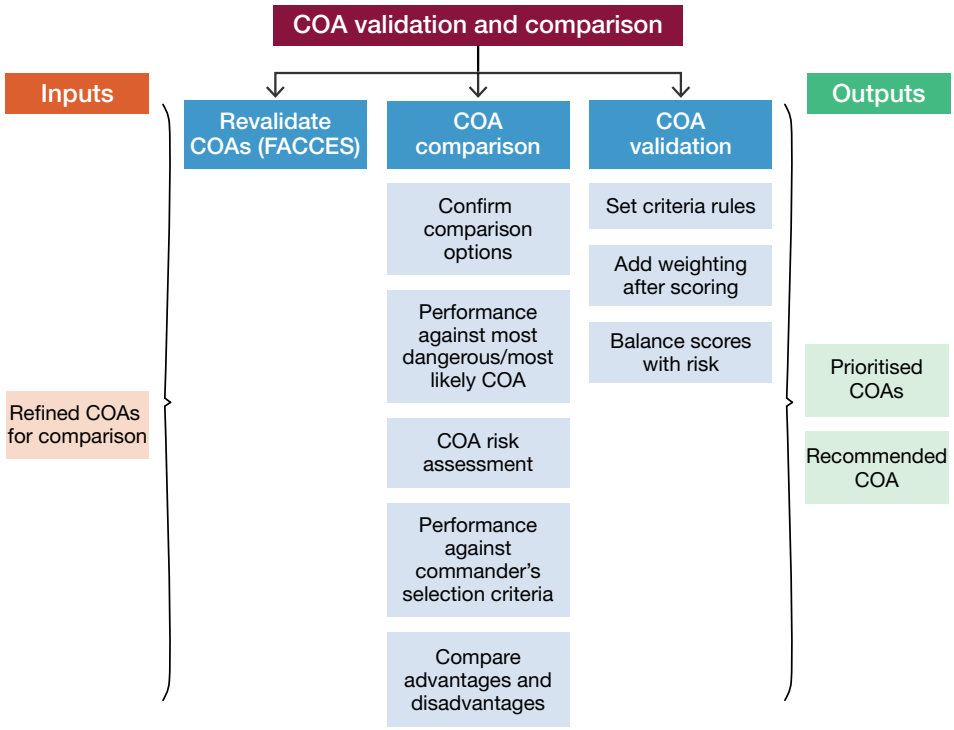
b. **Red teaming.** Red teaming must be embedded in the planning process from the start. The team should scrutinise and challenge all aspects of the plan, test assumptions and consider the perspective of the adversary to highlight threats and consequences of each COA.

c. **Premortem.** This comes before a plan is implemented so that the plan can be improved before execution, rather than autopsied after failure. The premortem assumes the plan was executed and failed, then asks the question: 'what went wrong?' The team is then tasked to think of all the plausible reasons for the plan's failure.

Section 5 – Course of action validation and comparison

UK G.33. **Purpose of course of action validation and comparison.** The aim of this stage is to use validation and comparison of the COAs to determine, and develop a justification for, a single COA to be recommended for selection. This stage is illustrated in UK Figure G.13. COAs should be considered independently of each other and evaluated against the set of criteria established by the staff and/or the commander. The comparison process is always subjective. The planners should recommend the COA with:

highest probability of success + acceptable level of risk



COA	course of action
FACCES	feasibility, acceptability, completeness, compliance, exclusivity and suitability

UK Figure G.13 – Inputs, outputs and staff activity during course of action validation and comparison

UK G.34. **Comparison of course of action methods.** There are a number of different methods and criteria for making the comparison. The COA evaluation criteria should be drafted by the planners, presented to the commander, refined and rated according to direction and then used in the COA comparison process. Examples include:

- descriptive comparison – inherent advantages/disadvantages;
- performance against commander's selection criteria (weighting applied afterwards);
- performance against key actors' most dangerous COA and most likely COA; and
- COA risk assessment – risk versus benefit balance.

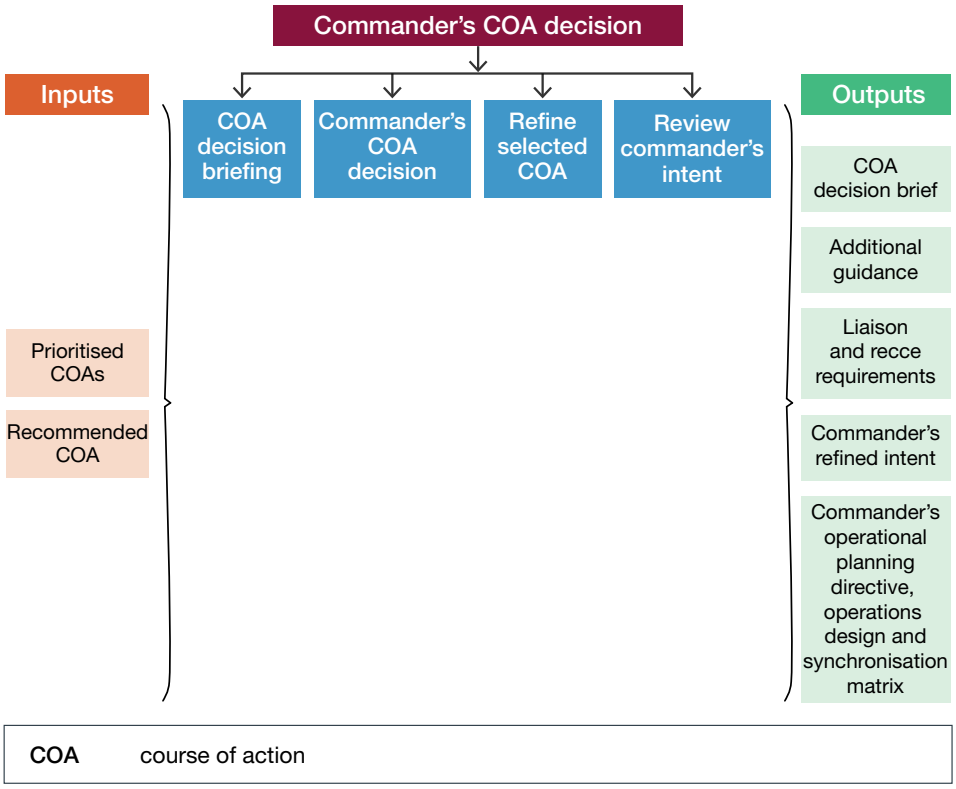
When comparing COAs, it is worth noting the following points.

- This is not an exact science; the numerically superior COA may not always be the best recommendation.
- Weighting of commander's criteria should not be known by those making the assessment – it is always added after scoring to stop inadvertent bias.
- The most important aspect is to be able to explain to the commander why one COA, or an element of a COA, is preferred over another.
- A high scoring element of one COA may be used to strengthen another COA.

Section 6 – Commander's course of action decision

Purpose

UK G.35. The purpose of this stage is to obtain a commander's decision on a chosen COA to move forward to develop the concept of operations (CONOPS). The process is illustrated in UK Figure G.14. The commander may select a COA with or without modification, or may direct that additional COAs be investigated.



UK Figure G.14 – Inputs, outputs and staff activity during commander's course of action decision process

UK G.36. **Plan and deliver course of action decision briefing.** The staff briefs the commander on the COA comparison and the analysis and wargaming results. The briefing should include a review of important supporting information such as the current status of the joint force, the current joint intelligence preparation of the operating environment and assumptions used in COA development. All principal staff and the subordinate commanders should attend this briefing.

UK G.37. **Commander selects/modifies the course of action.** The COA approval/selection is the end result of the COA comparison process. The commander, upon receiving the staff's briefing and recommendation, combines their analysis with the staff recommendation, which results in them selecting a COA. During this step, the commander should:

- review the staff's COA recommendations;
- apply results of own COA analysis and comparison;
- consider any separate recommendations from supporting and subordinate commanders; and
- review guidance from the higher headquarters/strategic guidance.

The potential results of the commander's COA decision are to:

- agree with staff/component recommendations, as presented;
- agree with recommended COAs, but with modifications;
- select a different COA from the staff/component recommendation;
- direct the use of a COA not formerly considered; and/or
- defer the decision and consult with selected staff/commanders prior to making a final decision.

UK G.38. **Refine the selected course of action.** Following the commander's decision on a COA, the commander and planning team will refine the selected COA. This will include confirmation of the final operations design and synchronisation matrix.

UK G.39. **Review the commander's intent.** Following the commander's direction and guidance, you need to do the following.

- Refine the intent and main effort, using simple language so the meaning is unmistakable, to clearly and concisely explain the selected COA and provide only whatever information is necessary to develop a plan for the operation (there is no defined format).
- Refine the CONOPS to describe what the force is to do as a whole, and as much of the elements of when, where and how as may be appropriate using updated COA templates.
- Express a clear end state in terms of what is to be accomplished, if possible.
- Include a statement of what is acceptable risk.
- This will inform and launch the CONOPS and operation plan (OPLAN) development. The commander's intent will serve as a guide that allows mission command and initiative by subordinates.
- Finally, war game the refined COA (if there is time).

The essential outcomes of the commander's COA decision are:

- clear direction on the COA and the required branches and sequels;
- additional guidance for developing the CONOPS;
- identify issues to be raised to higher command;
- priority of issues requiring liaison and coordination;
- commander's refined intent; and
- guidance for developing the commander's operational planning directive.

Section 7 – Plan development

UK G.40. The purpose of this activity is to produce a coherent CONOPS and OPLAN. The CONOPS clearly and concisely expresses what the commander intends to accomplish and how it will be done using available resources. It describes how the actions of the joint force components and supporting organisations will be integrated, synchronised and phased to accomplish the mission, including potential branches and sequels.

UK G.41. The OPLAN has basically the same structure and format as the CONOPS, but is elaborated to include much more detail and additional guidance. The force capability statements of requirement are developed in parallel to the CONOPS; the combined joint statement of requirement is presented to contributing nations with the activation order and includes the commander's required date for forces. The provisional theatre capability statement of requirements is derived from the troops-to-task analysis and identifies functional capabilities required to support the whole joint force as well as the time frame for this support.

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Lexicon

Additional UK terms and definitions are shown in highlighted text.



Part 1 – Acronyms and abbreviations

ACO	Allied Command Operations
AJP	Allied joint publication
ASCOPE	area, structure, capabilities, organisation, people, events
C2	command and control
CCIR	commander's critical information requirement
CDS	Chief of the Defence Staff
CIS	communication and information systems
CJSOR	combined joint statement of requirements
COA	course of action
CoG	centre of gravity
CONOPS	concept of operations
CONPLAN	contingency plan
COPD	Comprehensive Operations Planning Directive
CPD	Council Planning Directive
CUOE	comprehensive understanding of the operating environment
DDA	Concept for the Deterrence and Defence of the Euro-Atlantic Area
DIME	diplomatic, information, military, economic
DIME-FL	diplomatic, information, military, economic, financial and legal
EEFI	essential elements of friendly information
EMO	electromagnetic operations
EMS	electromagnetic spectrum
FACCES	feasibility, acceptability, completeness, compliance, exclusivity and suitability
FFIR	friendly forces information requirements
FPG	functional planning guide

JDP	joint doctrine publication
JFC	joint force command
JOPG	joint operations planning group
JTF	joint task force
LOC	lines of communications
LoO	line of operation
MC	Military Committee
MDO	multi-domain operations
MSHQ	Military Strategic Headquarters
MSO	military-strategic objective
NAC	North Atlantic Council
NRS	NATO Response System
OLRT	operational liaison and reconnaissance team
OPD	operational planning directive
OPLAN	operation plan
OPORD	operation order
OPP	operations planning process
PESTLE (I)	political, economic, social, technological, legal, environmental, (information)
PMESII	political, military, economic, social, infrastructure and information
PMESII-PT	political, military, economic, social, infrastructure and information-physical environment and time
PIR	priority intelligence requirement
PJHQ	Permanent Joint Headquarters
RM	response measure
ROE	rules of engagement
ROEREQ	rule-of-engagement request
RSN	reinforcement and sustainment network
SHAPE	Supreme Headquarters Allied Powers Europe
SJFHQ	Standing Joint Force Headquarters
SPOD	seaport of debarkation
STEEPLEM	social, technological, economic, environmental, political, legal, ethical, military

StratCom	strategic communications
SUPPLAN	support plan
SWOT	strengths, weaknesses, opportunities, threats
TCSOR	theatre capability statement of requirements

Part 2 – Terms and definitions

actor
An individual, group or entity whose actions are affecting the attainment end state. (NATO Agreed)

adversary
An individual, group or entity whose intentions or interests are opposed to those of friendly parties and against which legal coercive political, military or civilian actions may be envisaged and conducted. (NATO Agreed)

area of operations
An area within a joint operations area defined by the joint force commander for conducting tactical level operations. (NATO Agreed)

assessment
The process of estimating the capabilities and performance of organisations, individuals, materiel or systems.
Note: In the context of military forces, the hierarchical relationship in logical sequence is: assessment, analysis, evaluation, validation and certification. (NATO Agreed)

campaign
A set of military operations planned and conducted to achieve a strategic objective. (NATO Agreed)

centre of gravity
The primary source of power that provides an actor its strength, freedom of action and/or will to fight. (NATO Agreed)

civil-military cooperation
A military joint function that integrates the understanding of the civil factors of the operating environment and that enables, facilitates and conducts civil-military interaction to support the accomplishment of missions and military strategic objectives in peacetime, crisis and conflict. (NATO Agreed)

civil-military interaction
Activities between NATO military bodies and non-military actors to foster mutual understanding that enhances effectiveness and efficiency in crisis management and conflict prevention and resolution. (NATO Agreed)

command
The authority vested in a member of the armed forces for the direction, coordination, and control of military forces. (NATO Agreed)

commanders' critical information requirement
Information requirement identified by the commander as being critical in facilitating timely information management and the decision-making process that affect successful mission accomplishment. (AAP-39 (not NATO Agreed))

communication and information systems
Collective term for communication systems and information systems. (NATO Agreed)

concept of operations
A clear and concise statement of the course of action chosen by a commander to accomplish a given mission. (NATO Agreed)

conduct of operations
The art of directing, coordinating, controlling and adjusting the actions of forces to achieve specific objectives. (NATO Agreed)

contingency plan
A plan prepared for possible operations that is based on identified and assumed planning factors, produced in as much detail as possible and that may be used subsequent planning. (NATO Agreed)

control
The authority exercised by a commander over part of the activities of subordinate organisations, or other organisations not normally under their command, encompassing the responsibility for implementing orders or directives. (NATO Agreed)

course of action
In the estimate process, an option that will accomplish or contribute to the accomplishment of a mission or task, and from which a detailed plan is developed. (NATO Agreed)

decision point
A point in space and time, identified during the planning process, where it is anticipated that the commander must make a decision concerning a specific course of action. (NATO Agreed)

decisive condition
A combination of circumstances, effects, or a specific key event, critical factor, or function that, when achieved, allows commanders to gain a marked advantage over an opponent or contribute materially to achieving an objective. (NATO Agreed)

Defence strategic communication
Advancing national interests by using Defence as a means of communication to influence the attitudes, beliefs and behaviours of audiences. (JDP 0-01.1)

doctrine
Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgement in application. (NATO Agreed)

essential elements of friendly information
Critical information about own and friendly forces' intentions, requirements, capabilities and vulnerabilities that, if compromised, could threaten the success of operations. (NATO Agreed)

end state
The political-strategic statement of conditions that defines an acceptable concluding situation to be attained at the end of a strategic engagement. (NATO agreed)

enemy
An individual or group, entity or state actor whose actions are hostile and against which the legal use of armed force is authorised. (NATO Agreed)

friendly force information requirement
Information the commander and staff need about the friendly forces available for an operation. (NATO Agreed)

force protection
All measures and means to minimise the vulnerability of personnel, facilities, materiel, operations, and activities from threats and hazards to preserve freedom of action and operational effectiveness of the force, thereby contributing to mission success. (NATO Agreed)

gender analysis
The systematic gathering and examination of information on gender differences and on social relations between men and women in order to identify and understand inequities based on gender. (NATO Agreed)

gender perspective
The ability to detect if and when men, women, boys and girls are being affected differently by a situation due to their gender.
Notes: Gender perspective takes into consideration how a particular situation impacts the needs of men, women, boys and girls, and if and how activities affect them differently. (NATO Agreed)

host nation
A country that, by agreement:
a. receives forces and materiel of NATO member states or other countries operating on/from or transiting through its territory;
b. allows materiel and/or NATO and other organisations to be located on its territory; and/or
c. provides support for these purposes. (NATO Agreed)

information system
An assembly of equipment, methods and procedures and, if necessary, personnel, organised to accomplish information processing functions. (NATO Agreed)

intelligence
The product resulting from the directed collection and processing of information regarding the environment and the capabilities and intentions of actors, in order to identify threats and offer opportunities for exploitation by decision-makers. (NATO Agreed)

interoperability
The ability to act together coherently, effectively and efficiently to achieve Allied tactical, operational and strategic objectives. (NATO Agreed)

joint
Adjective used to describe activities, operations and organisations in which elements of at least two services participate. (NATO Agreed)

joint intelligence preparation of the operating environment
The analytical process used to produce intelligence estimates and other intelligence products in support of the commanders' decision-making and operations planning. (NATO Agreed)

joint operations area
A temporary area within a theatre of operations, defined by the Supreme Allied Commander Europe, in which a designated joint force commander plans and executes a specific mission at the operational level. (NATO Agreed)

lessons learned
A NATO Lesson Learned is an improved capability or increased performance, confirmed by validation when necessary, resulting from the implementation of one or more remedial actions for a lesson identified.
(ACO DIRECTIVE 080-001/April 2013 (not NATO Agreed))

liaison
The contact, intercommunication and coordination maintained between elements of the military and/or other non-military actors to ensure mutual understanding and unity of purpose and action. (NATO Agreed)

line of operation
A path linking decisive conditions to achieve an objective. (NATO Agreed)

lines of communications
All the land, water, and air routes that connect an operating military force with one or more bases of operations, and along which supplies and reinforcements move. (NATO Agreed)

measure of effectiveness
A criterion used to assess changes in system behaviour, capability, or operating environment, tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect. (NATO Agreed)

multi-domain operations
The orchestration of military activities across all operational domains and environments, synchronised with non-military activities to enable the Alliance to create converging effects at the speed of relevance. (NATO Agreed)

multinational operation
An operation conducted by forces of two or more nations acting together. (NATO Agreed)

objective
A clearly defined and attainable goal for a military operation, for example seizing a terrain feature, neutralising an adversary's force or capability or achieving some other desired outcome that is essential to a commander's plan and towards which the operation is directed. (NATO Agreed)

operating environment
A composite of the conditions, circumstances and influences that affect the employment of capabilities and bear on the decisions of the commander. (NATO Agreed)

operation
A sequence of coordinated actions with a defined purpose. (NATO Agreed)

operation plan
A plan for a single or series of connected operations to be carried out simultaneously or in succession.
Notes:
1. It is the form of directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders.
2. The designation ‘plan’ is usually used instead of ’order’ in preparing for operations well in advance.
3. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order. (NATO Agreed)

operational art
The employment of forces to achieve strategic and/or operational objectives through the design, organisation, integration and conduct of strategies, campaigns, major operations and battles. (NATO Agreed)

operational domain
A specified sphere of capabilities and activities that can be applied within an engagement space.
Notes: There are five operational domains: maritime, land, air, space and cyberspace, each conditioned by the characteristics of its operating environment. (NATO Agreed)

operational level
The level at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operations. (NATO Agreed)

operational pause
A temporary and deliberate cessation of certain activities during the course of an operation to avoid reaching the culminating point and to be able to regenerate the combat power required to proceed with the next stage of the operation. (NATO Agreed)

operations planning
The planning of military operations at the strategic, operational or tactical levels.
Notes:
1. The preferred English term to designate the planning of military operations at all levels is 'operations planning'.
2. The term 'operational planning' is not to be used so as to prevent confusion with operational-level planning. (NATO Agreed)

opposing forces
Those forces used in an enemy role during NATO exercises. (NATO Agreed)

peace support
Efforts conducted impartially to restore or maintain peace.
Note: Peace support efforts can include conflict prevention, peacemaking, peace enforcement, peacekeeping and peacebuilding. (NATO Agreed)

priority intelligence requirement
An intelligence requirement for which the commander has an anticipated and stated priority in their task of planning and decision-making. (NATO Agreed)

red team
A team that is formed with the objective of subjecting an organisation's plans, programmes, ideas and assumptions to rigorous analysis and challenge. (JDP 0-01.1)

rules of engagement
Directives to military forces, including individuals, that define the circumstances, conditions, degree, and manner in which force, or actions which might be construed as provocative, may be applied. (NATO Agreed)

stability policing
Police-related activities intended to reinforce or temporarily replace the indigenous police in order to contribute to the restoration and/or upholding of the public order and security, rule of law, and the protection of human rights. (NATO Agreed)

strategic communications
In the NATO military context, the integration of communication capabilities and information staff function with other military activities, in order to understand and shape the information environment, in support of NATO strategic aims and objectives. (NATO Agreed)

strategic level
The level at which a nation or group of nations determines national or multinational security objectives and deploys national, including military, resources to achieve them. (NATO Agreed)

supported commander
A commander having primary responsibility for all aspects of a task assigned by a higher NATO military authority and who receives forces or other support from one or more supporting commanders. (NATO Agreed)

tactical level
The level at which activities, battles and engagements are planned and executed to accomplish military objectives assigned to tactical formations and units. (NATO Agreed)

targeting
The process of selecting and prioritising targets and matching the appropriate response to them, taking into account operational requirements and capabilities. (NATO Agreed)

transfer of authority
Within NATO, an action by which operational command or operational control of designated forces and/or resources, if applicable, is passed between national and NATO commands or between commanders in the NATO chain of command. (NATO Agreed)

wargames
Wargames are representations of conflict or competition in a safe-to-fail environment, in which people make decisions and respond to the consequences of those decisions. (NATO Wargaming Handbook (not NATO agreed)

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