

Applied Concept

The Military Information Operations Function within a Comprehensive and Effects-Based Approach

Coordinated Draft Version 3.0

This is the final MNE 5 document on "The Military Info Ops Function within a Comprehensive and Effects-Based Approach".

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 13. SUPPLEMENTARY NOTES Reproduction of this document and unlimited distribution of copies is authorised for personal and non-commercial use only, provided that all copies retain the author attribution as specified below. The use of this work for commercial purposes is prohibited; its translation into other languages and adaptation/modification requires prior written permission. Kommando Strategische Aufklärung (KdoStratAufkl), Gruppe Informationsoperationen (Grp InfoOp), Attn: LTC Peter E. Westenkirchner, Robert-Schuman-Platz 3, D-53175 Bonn, Germany, The original document contains color images. ^{14.} ABSTRACT This concept paper is based on the Multinational Information Operations Experiment (MNIOE) White Paper "Information Activities in Future Coalition Operations a Comprehensive Approach (from a Military Perspective)", dated 31 May 2007, which was coordinated and agreed among Multinational Interoperability Council (MIC) Partners and MNIOE participating nations and organisations at working level. The White Paper describes a common understanding of the Information Operations (Info Ops) function developed by the MNIOE participants during a lengthy course of discussions (since 2003). Meanwhile, this understanding has affected current national and multinational concept development, e.g., that of the European Union and NATO; many of the MNIOE group of experts were involved in the preparation of NATO's Allied Joint Doctrine for Info Ops. In order to further promote the MNIOE 			
conceptual approach to Info Ops in an applied operational context, this Applied Concept also builds on AJP-3.103 in its current version, amending/adjusting the original as required.			
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Preface

This concept paper is based on the Multinational Information Operations Experiment 28 29 (MNIOE)¹ White Paper "Information Activities in Future Coalition Operations – a 30 Comprehensive Approach (from a Military Perspective)", Final Draft, Version 1.8, 31 dated 31 May 2007, which was coordinated and agreed among Multinational Interoperability Council (MIC) Partners² and MNIOE participating nations and 32 33 organisations at working level. The White Paper describes a common understanding of the Information Operations (Info Ops) function developed by the MNIOE 34 35 participants during a lengthy course of discussions (since 2003). Meanwhile, this understanding has affected current national and multinational concept development. 36 37 e.g., that of the European Union and NATO; many of the MNIOE group of experts were involved in the preparation of NATO's Allied Joint Doctrine for Info Ops. 38

In order to further promote the MNIOE conceptual approach to Info Ops in an applied
 operational context, this Applied Concept also builds on AJP-3.10³ in its current
 version⁴, amending/adjusting the original as required.

- 42 Major critical issues for change, reflected in this document, are:
- the desired emphasis on effects-based thinking and an effects-based
 approach to operations, considering all relevant actors in their multiple roles;
- the proposed scope of advice and co-ordination concerning effects in the information environment not limited to those actions deliberately designed to affect the information environment (information activities), and not focused on adversary⁵ decision-makers⁶ only;
- the envisioned role of Public Affairs related to Info Ops fully integrated in the co-ordination process for effects in the information environment and information activities;
- the requirement for mission-specific strategic and political guidance for
 information activities in the suggested format of a multinational Information
 Strategy; and
 - the aspired applicability of proposed processes and structures regardless of organisational form – national contingents, Coalition or Alliance.

¹ Germany has established MNIOE in 2003 as a national initiative to further develop the military Information Operations (Info Ops) function in the context of enhancing future Coalition interoperability through collaboration in multinational Concept Development and Experimentation (CD&E). The MNIOE project is initially designed to explore, refine, verify and validate recommendations to the Multinational Interoperability Council (MIC). This remains the primary role of the MNIOE project. At the same time MNIOE is also supporting the development and implementation of Info Ops concepts, policy and doctrine for use in national, Coalition and/or Alliance operations/missions.

² MIC Partners are: AUS, CAN, DEU, FRA, GBR, ITA and USA.

³ Allied Joint Publication 3.10: 'Allied Joint Doctrine for Information Operations'.

⁴ AJP-3.10 Ratification Draft (issued 20 October 2008).

⁵ Throughout this publication, the term **'adversary'** includes potential as well as actual adversaries.

⁶ The term 'decision-maker' is used in its broadest sense throughout this document. They include political and other leaders and military commanders, influential individuals, military personnel, armed factions and specific population groups (e.g. ethnic, cultural, religious and political).

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130 Chapter 1 – Introduction to Information Operations

131 Section I – Background

- The security environment⁷ in the 21st 132 101. The Global Security Environment. Century is characterised by fundamental changes: it is more complex and 133 involves a great deal of uncertainty about potential origins of challenges to 134 135 stability and peace. Risks and threats are more diverse, motivate asymmetric 136 warfare⁸, and tend to exceed our current security-related capabilities. This results in profound changes to crisis/conflict prevention and resolution, including 137 multinational interventions⁹. There is also an expectation in some societies, 138 reinforced by media exposure of global issues, that conflict and confrontation 139 140 will be constrained by increasingly moral codes and regulated by progressively 141 more extensive legal obligations. Concurrently, there has been an 'information revolution' – mainly driven by the rapid development of Information Technology 142 (IT) – that has ushered in an age of computer-aided decision-making, and which 143 created information societies¹⁰. Understanding this evolving information 144 environment¹¹, including underlying causes and dynamics of instability, is the 145 most essential prerequisite for crisis/conflict prevention and resolution. As we 146 147 live in an information-dominated environment there is an increased reliance on, 148 and desire for, information. In addition, the impact of real-time media coverage 149 of crises, the exploitation and manipulation of the media by some parties and the ever-increasing use of technologies such as the Internet has resulted in a 150 151 world where information plays an increasingly important or even decisive role. 152 In order to address substantial changes in both the evolving global security 153 situation and the information environment, concepts, processes and doctrine 154 are being developed to deal with these new challenges. Effective and efficient actions require integrated application, and the continuous consideration of the 155 156 information factor throughout all related processes - analysis, planning, 157 execution and assessment.
- 102. <u>Strategic Guidance</u>. Military action alone cannot resolve crises, but it can set the conditions for resolution by other actors, including the use of the full suite of national power provided by partner states. During planning and throughout operations the military identifies how it may best support, and be supported by,

⁷ The **'security environment'** is a complex political-military web of regional, cultural, and political competitions and conflicts, involving threats to vital interests posed by a variety of actors.

⁸ **'Asymmetric warfare'** is characterised by engagements between forces of dissimilar capability and doctrine (*modus operandi*).

⁹ The term **'intervention'** is not intended to imply a purely military intervention. It is intended to describe activities by a broad range of civil and military actors in an interagency context.

¹⁰ An **'information society'** is a society in which the creation, distribution, diffusion, use, and manipulation of information are a significant economic, political, and cultural activity.

¹¹ The **'information environment'** is defined as the virtual and physical space in which information is received, processed and conveyed. It consists of the information itself and information systems. (**'Information systems'** are defined as socio-technical systems for the collection, processing and dissemination of information. They comprise personnel, technical components, organisational structures, and processes that create, collect, perceive, analyse, assess, structure, manipulate, store, retrieve, display, share, transmit and disseminate information.)

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other areas of activity¹². Information activities¹³ – within the scope of any area of activity – will need to relate back to overall direction and guidance, i.e., to an Information Strategy¹⁴ that sets forth Information Objectives¹⁵. It must be coordinated between governments and provided through national government authorities. As the political/military situation evolves and matures for a given operation, revised/updated strategic guidance could be provided to adjust the planning and conduct of information activities accordingly.

- 169 While Information Objectives may be accomplished 103. Non-Kinetic Activities. 170 through kinetic or non-kinetic means, as effects-based thinking is applied, there 171 is likely to be an increased focus on non-kinetic activity. A large element of 172 operations is non-kinetic and recent military missions have shown its 173 significance by increasing the commander's choice of means by which effect can be achieved at all stages of a crisis. However, it is not only the movement 174 towards an effects-based approach to operations¹⁶ that has brought about this 175 176 new emphasis on non-kinetic activity.
- 177 104. Information as an Operational Factor. A modern military campaign is a big and complex enterprise. It is composed of multiple and multi-layered essential 178 179 factors that make up the operational environment and that, however, can still be 180 related to the three basic operational factors: force, space and time, supplemented and interlinked by a fourth operational factor: information¹⁷. 181 Control of the operational factors and their interrelationship is the chief 182 183 prerequisite for success in the planning and execution of any military action: 184 their balancing is the core of operational art.
- There are multiple essential factors constituting campaign force strength. 185 a. 186 Force strength of a modern campaign includes not only various arms and 187 services of the military but also civil security forces (such as police and law 188 enforcement agencies). In addition, modern campaigns take on a variety 189 of forms and employ a variety of methods of operation. Offence and 190 defence blend and interchange quickly with other tasks of Stability 191 Operations. This requires overall consideration in employing various operational forms, methods and means and close co-ordination among 192

¹² 'Areas of activity' are the national or organisational means to enforce political will or exert influence on others. Broad categories of actions taken to influence a security environment include politics/diplomacy, economy, information and security services (civil and military), as well as cultural/developmental activities, humanitarian assistance, and civil administration support.

¹³ **'Information activities'** are actions designed to affect information and/or information systems (the information environment), performed by any actor.

¹⁴ The 'Information Strategy' states the comprehensive, interagency and multinational approach across all levers of power to crisis/conflict prevention and resolution in the information environment. It provides mission-specific strategic and political guidance for civil and military information activities in support of mission objectives. For details see Analytical Concept: "Development and Implementation of a Multinational Information Strategy".

¹⁵ 'Information Objectives' are Decisive Conditions in the information environment. They should be measurable to enable analysis, planning, execution/management and assessment/evaluation of related actions and/or effects.

¹⁶ The 'Effects-Based Approach to Operations' (EBAO) – as described in the emerging NATO 'Concepts for Alliance Future Joint Operations' (CAFJO) – is an interpretation of the broad approach to security, which recognizes the importance of political, economic, social and environmental factors in addition to the indispensable defence dimension. See Chapter 1, Section III: 'Principles of Information Operations', and Chapter 3: 'Info Ops in the Effects-Based Operations Process'.

¹⁷ See Figure 1.

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- 193them, and the integration in an interagency context. There is a high degree194of dependency among various essential factors making up campaign force195strength. Thus, there is a higher demand for overall co-ordination in order196to achieve coherent effects through rationally configuring and organising197various capabilities, actors and resources.
- 198 b. The operational **space** of modern military campaigns is vast, and full 199 depth and multi-dimensionality have become an important characteristic of a modern operational environment. Operations of a modern military 200 201 campaign are conducted not only on the ground, in the sea and the air, but 202 also in outer space, underground, under water and in the virtual 203 environment (e.g., cyberspace), which is of particular relevance to the 204 information factor. Campaign operations place a high demand on the integration of all dimensions in this respect. 205
- 206 The factor of time indispensably interlinks the factors of force and space. C. 207 Time determines the employment of force in a given theatre of operations. 208 It is the scarcest resource that cannot be re-supplied or by-passed. The essence of Command & Control (C2), seeking overall effect toward 209 210 accomplishing campaign objectives, is the employment of the right force to the right place at the right time. The interdependency between time and 211 212 the other operational factors requires their continuous consideration as 213 dynamic determinants in the decision and execution cycle or the 214 operational planning process, respectively.



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Figure 1: The Fourth Operational Factor 'Information'

d. **Information** is understood as an assembly of data in any medium or form capable of communication and use by assigned meaning through known conventions used in symbolic representation.¹⁸ There are three basic

¹⁸ Based on: USA JP 1-02 – Department of Defense Dictionary of Military and Associated Terms.

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features of information that need to be considered for planning, execution and assessment of operations:

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- <u>Development of Knowledge</u>. Information is data interpreted in a context, and in turn, enables the linkage of data as a basis for the development of knowledge this function is a prerequisite for developing situational awareness and understanding;
 - (2) <u>Communication</u>. Information enables humans to communicate and act in a social environment – this function *inter alia* is a prerequisite for effective C2;
 - (3) <u>Automation</u>. Information enables automated systems to function without direct involvement of human reasoning – this function constitutes a decisive factor for new technological advances, including the whole range of sensors and effectors.
- 233 105. In modern information societies the creation, distribution, diffusion, use, and manipulation of information is a significant economic, political, and cultural 234 235 activity. Thus, information is a decisive factor per se and will increasingly affect the factors force, space and time. Perception and awareness gained from 236 237 analysis of collected information and personal observations have long been an 238 integral part of human existence; those with a superior ability to gather, 239 understand, control and use information have gained a substantial advantage. The ability to manage and employ information underpins activities in diplomatic, 240 military, economic and other areas of activity, maintaining own/friendly freedom 241 242 of action. From the strategic to the tactical level and across the range of military operations, information plays a vital role in the manner in which decisions are 243 244 made. The success of military operations may rest on the perception of all 245 actors involved. There is therefore considerable benefit to be gained by affecting the flow of information through a decision-maker and his 246 247 understanding of that information.
- 248 106. The Impact of the Media. All crises occur under the spotlight of the international media. The maintenance of understanding and support of public 249 opinion is crucial for democratically accountable governments, and this 250 influences¹⁹ the options they can take, including military action, and the 251 presentation of these options to different audiences. In order to gain and 252 253 public support. national governments and maintain international 254 organisations/agencies need to show a degree of transparency in their actions. and these actions must be in accordance with international law. The influence of 255 256 the media has increased as access to regional and international media has 257 increased. This has been brought about by technologies such as satellite broadcasting and global connectivity through the Internet. In addition, the 258 availability of relatively cheap printing and copying equipment has brought 259 260 newspapers and other printed material to a much wider audience. 261 Consequently, there is a need to be proactive in ensuring that the presentation 262 of actions is accurate and reflects approved themes and messages, while at the 263 same time countering other actors' attempts to undermine public support.

¹⁹ The Concise Oxford English Dictionary defines the term 'influence' as 'the capacity to have an effect on the character or behaviour of someone or something, or the effect itself'. This benign definition provides the meaning of 'influence' throughout this document.

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264 107. The Impact of Technology and the Internet. In addition to the role played by 265 technology in increasing access to the media, there is an ever-increasing 266 dependence on IT systems. Computers now pervade society; they also form the 267 core of most military systems, especially communications systems/signals 268 support and Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR). This increased reliance on computer technology introduces new 269 270 opportunities that can be exploited, and new vulnerabilities that must be addressed. In addition, technology has provided a new means of direct access 271 to information via the Internet. That information is absorbed without necessarily 272 273 knowing its validity and source. In some cases, considerable credence is placed 274 on it; this is particularly so in societies without a free press. The Internet is used 275 to spread or circulate information and opinion, including rumour, with a speed 276 inconceivable a few years ago. The Internet is an unrestricted and unregulated 277 medium, available globally, which an adversary can exploit either to spread his message, as a vehicle to attack friendly systems, or as an open source of 278 279 Intelligence (INTEL).

280 Section II – Fundamentals of Information Operations

- 108. <u>Definitions</u>. The definitions of *Information Operations (Info Ops)* and
 information activities are as follows:
- a. Info Ops is a military function to provide advice and co-ordination
 regarding activities affecting²⁰ information and information systems –
 including system behaviour and capabilities in order to create desired
 effects.
- b. Information activities are actions designed to affect information and/or
 information systems. They can be performed by any actor and include
 protective measures.²¹
- 290 109. <u>Approach</u>. The approach to the Info Ops function outlined in this document is
 291 based on the following ideas:
- 292 Systemic Understanding. As the effects-based approach to operations a. draws from an understanding of the operational environment as a 'system-293 of-systems', a concept for Info Ops in this context requires the 294 identification and application of relevant systems²². The MNIOE approach 295 296 introduces a distinctive understanding of socio-technical information systems²³, which provide the core functionality of modern societies in the 297 above understanding. Systemic understanding results from Systems 298 299 Analysis, which is based on a combination of methods from various 300 approaches, such as Systems Theory, Complexity Theory and Network

²⁰ The term **'to affect'** is used throughout the document in a generic sense meaning: 'to have an effect on', without any pre-defined (positive or negative) connotation.

²¹ This definition is common to both MNIOE and NATO AJP-3.10; it is authoritatively defined in NATO's Military Policy on Public Affairs (MC 457/1).

²² The concept of **'systems'** used in this context includes both human as well as technical factors.

²³ 'Information systems' are defined as socio-technical systems for the collection, processing and dissemination of information. They comprise personnel, technical components, organisational structures, and processes that create, collect, perceive, analyse, assess, structure, manipulate, store, retrieve, display, share, transmit and disseminate information.

301 302 303 Theory. Systems Analysis of information systems is a prerequisite for gaining a comprehensive and systemic view of the operational environment.

- 304 In the information age the strategic, operational and b. A New Mind-Set. tactical levels are more interrelated than in the past, which demands a 305 306 different quality of co-ordination and C2 across the levels of engagement. 307 Today's military operations to counter the complex challenges of the 308 alobal security environment require consideration and integration of the 309 information factor throughout all processes - analysis, planning, execution 310 and assessment. This integration demands that all decision-makers at all 311 times appropriately understand the (possible) effects of their actions in the 312 information environment: it is not just about deliberate activity using 313 information through means of communication; it is the combination of 314 words and deeds that delivers the ultimate effect. A respective systemic 315 understanding of the information environment should result in a consistent 316 and coherent orchestration of all available means, comparable to the 317 military concept of 'combined arms combat' or the philosophy of 'jointness' in operational art. This is a new mind-set, which requires comprehensive 318 education and training rather than restructuring military organisations. 319 320 Education and training are long-term processes and must be addressed 321 as soon as possible.
- 322 Advice and Co-ordination. The Info Ops function is understood as an C. integrating process rather than a capability in its own right. It provides 323 advice to the commander and his²⁴ staff on effects and possible 324 325 information activities, and proposes solutions from a generalist's 326 perspective, based on a comprehensive and systemic understanding of 327 relevant factors of the operational environment, including cross-cultural 328 communication. This includes the preparation, integration, monitoring and 329 assessment of capability contributions, and the co-ordination of actions to 330 synchronised effects considering their relationships create and interdependencies and associated resources as a function of time and 331 space. Co-ordination²⁵ is related to the harmonisation of actions and 332 333 effects to promote desired (and avoid undesired) effects. Synchronisation 334 is related to the timing of actions and considers time dependencies of 335 effects. The MNIOE approach applies a 'process management philosophy' to Info Ops and stipulates cooperative arrangements - instead of 336 command relationships and a fixed allocation of capabilities to Info Ops -337 338 with the aim of full scope co-ordination and integration of options, and 339 better flexibility and adaptability to mission and situation requirements.

²⁴ Throughout the document, pronouns are to be understood gender-neutral; they should neither reveal nor imply the gender or sex of a person.

²⁵ 'Co-ordination' refers to consultation in order to forge common action or harmonisation in a concerted manner. Co-ordination activities can involve both subordinates as well as those organisations over which the commander has no authority. Co-ordination results in carefully planned and executed activity in which the various elements involved in an operation – military and civil – are harmonised in such a manner as to provide the greatest advantage to the overall mission. Co-ordination does not require command relationships (subordination) but active participation of all involved. The co-ordination process usually is organised by the assignment of Coordinating Authority.

340 341 342 343 344 345 346 347 348 349	110. <u>Focus of Info Ops</u> . An actor's effectiveness is a function of will, ²⁶ understanding ²⁷ and capability ²⁸ . In other words, actors must have the will to act, an understanding of the situation to act, and possess the capability to act. If any one of these elements is not in place, their ability to act in the way they want to will be affected. Generally conflict focused, military campaigns have, in the past, aimed primarily at affecting an adversary's capability, with the secondary aim of affecting his will. Activities advised by and coordinated through Info Ops address all three dimensions, i.e., influencing will, affecting understanding, and targeting those capabilities that promote understanding or the application of will – ultimately in order to change behaviour.
350 351 352	Effects in the information environment can be created by a variety of military activities, the close co-ordination of which will contribute to the achievement of Information Objectives. Info Ops covers three inter-related activity areas:
353	 Activities that focus on changing, influencing, or reinforcing perceptions
354	and attitudes of adversaries and other approved parties.
355	 Activities that focus on preserving and protecting own/friendly freedom of
356	manoeuvre in the information environment by defending the data and
357	information that supports own/friendly decision-makers and decision-
358	making processes.
359	 Activities that focus on countering command functions and capabilities,
360	by affecting the data and information that support adversaries and other
361	approved parties, and are used in C2, ISTAR, and weapon systems.
362 363 364	111. The Info Ops function ideally considers the full range of military operations. The following are examples of how to support mission accomplishment in all military operations by creating effects in the information environment:
365 366	a. <u>Will</u> . Military activities may be aimed at actors at any level capable of influencing the situation.
367	(1) Military activities can influence other actors' will and undermine
368	cohesion. For example, questioning the legitimacy of leadership and
369	cause may weaken their moral power base, separating leadership
370	from supporters (political, military and public), thus degrading their
371	desire to continue and affecting their actions.
372	(2) Military activities can protect those capabilities – for example friendly
373	command, control and communications infrastructure – that allow us to
374	exercise effective command, and to seize and maintain the initiative.
375	Countering adversary attempts to influence the will of own/friendly
376	actors can isolate the adversary, maintain coalition cohesion and
377	enhance own freedom of action.
378	 b. <u>Understanding</u>. Military activities may seek to affect the information
379	available to other actors in order to influence their understanding of a
380	given situation.

²⁶ 'Will' includes factors such as motivation, intent, attitude, beliefs and values.

 ²⁷ 'Understanding' includes an actor's perceptions of a given situation and an actor's situational awareness of that situation.
 ²⁸ A learnability' is understand as a combination of ways and means to perform tasks or create an effect under

²⁸ A **'capability'** is understood as a combination of ways and means to perform tasks or create an effect under specified conditions.

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- (1) Military activities can deny, degrade, disrupt and manipulate the information available to a decision-maker in order to affect perception and thereby understanding. Manipulation of information in these ways may directly affect the decisions and actions of other actors, enabling own/friendly Information Superiority²⁹.
- 386 (2) Military activities can also ensure that the information available to 387 friendly decision-makers is safeguarded and assured. In this way, 388 shared understanding between partners will be possible (provided the 389 appropriate mechanisms are in place), thus improving own/friendly 390 decision-making and effectiveness. In addition, providing factual 391 information to other approved parties can gain their support or 392 undermine efforts of an adversary attempting to gain support from 393 them.
- c. <u>Capability</u>. Military activities may affect those capabilities such as
 command, control and communications infrastructure and facilities that
 support understanding a situation, decision-making, and the application of
 will (i.e., focused action):
- 398 (1) Military activities can degrade, disrupt, deceive, destroy or deny those 399 capabilities that allow adversary decision-makers to increase their understanding; bolster, impose, apply and sustain their will; and to 400 401 exercise effective command. Military activities can also attack the 402 source of the adversary decision-maker's power base, splitting internal and external groupings and alliances. In addition, they can be directed 403 404 at any information-based processes that enable the employment of 405 weapon systems.
- 406 (2) Military activities can protect those capabilities that allow us to
 407 exercise effective command, and seize and maintain the initiative.
 408 Capabilities can be protected directly by providing materiel and advice,
 409 or indirectly by targeting those adversary capabilities that could be
 410 used for an attack.
- 411 112. <u>Summary</u>. The military Info Ops function will support the integration of the information factor in analysis, planning, execution and assessment of military operations and complement respective education and training efforts. Info
 414 Ops advice and co-ordination will integrate military activities to influence will and understanding; affect capabilities; exploit information and information systems; and counter adverse information activities.

²⁹ 'Information Superiority' is the state of a relative superior ability of an actor to collect, process, and disseminate information compared to competitors in the same arena and to draw an operational advantage from it. (Based on: USA JP 1-02 – Department of Defense Dictionary of Military and Associated Terms.)

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418 **Section III – Principles of Information Operations**

- 419 113. Effects-Based Approach to Operations. Modern military operations are likely to 420 be more efficiently conducted by adopting an effects-based approach. The 421 individual elements that comprise an effects-based approach are not new; it is a 422 philosophical change in the way to plan, conduct and assess operations. It puts 423 a stronger focus on cause and effect versus target-centric attrition. Effects-424 based thinking facilitates the appropriate build-up of forces, effective C2, 425 comprehensive targeting and flexible plan execution; enhances the ability to 426 task-tailor forces according to desired effects; and supports the integration of 427 multinational contributions across the spectrum of levers of power and all 428 stages of conflict - from pre-crisis (peacetime) to post-conflict. It involves the 429 coherent planning, execution and assessment of actions by all involved 430 organisations - together with the use of modern technology and novel approaches to enhance situational understanding - that brings new possibilities 431 432 to the way future operations will be conducted.
- 433 114. Info Ops is an integral part of the military application of the effects-based
 434 approach, intended to achieve synergy through the co-ordination and
 435 synchronisation of military information activities integrated with other actions.
 436 The Info Ops integrating function involves the selective combination of lethal
 437 and non-lethal effects, kinetic and non-kinetic means to achieve campaign
 438 objectives.
- 439 115. Commander's Direction and Personal Involvement. The commander's personal involvement drives Info Ops, and exercises control over all Info Ops 440 activity within a framework of timely decision-making and consultation up and 441 442 down the chain of command. Following mission analysis, the commander 443 formulates his initial intent, which reflects higher guidance. Tactical level 444 planning is based on that intent, which must have a clearly defined military end 445 state and identify the effects required to achieve the relevant objectives. Without 446 this guidance, the Info Ops effort will lack focus and will not support the creation 447 of desired effects.
- 448 116. <u>Close Co-ordination and Sequencing</u>. The very nature of Info Ops and the 449 large, diverse target set means that there needs to be very close integration 450 within a command, and consistency with mission-specific strategic and political 451 guidance for information activities. All plans and activities must be coordinated, 452 de-conflicted and synchronised up, down and across the chain of command 453 with other military, political and civil activities in order that one activity does not 454 compromise, negate or diminish the desired effect of another.
- 117. <u>Centralised Planning and Decentralised Execution</u>. Due to the requirement for
 full integration of the Info Ops function, the principles of centralised planning
 and decentralised execution apply at all command levels. However, centralised
 execution may be required for certain types of targeted information activities,
 when all involved force elements are required to adhere rigidly to a plan, or
 where strategic assets are used.
- 461 118. <u>Input to Joint Targeting</u>. Effective targeting requires a detailed understanding
 462 of the operational environment and the commander's objectives. Military

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information activities may include a wide range of actions and will be conducted
by kinetic and/or non-kinetic means delivering lethal and/or non-lethal effects.
The relevant functional/capability experts and the Info Ops staff identify effects
in the information environment required to achieve the commander's objectives
and a range of actions that, when integrated into the overall campaign plan, will
achieve those objectives. Info Ops will co-ordinate the assessment of the
(possible) impact of activity and propose appropriate action.

- 470 119. <u>Early Involvement and Timely Preparation</u>. Info Ops involvement in planning
 471 must start early, because both planning and execution take time and results can
 472 be slow to emerge. Hence, a commander's intent towards the information
 473 environment, and direction as part of the planning process, must be given at the
 474 earliest opportunity. Info Ops staffs need to be fully involved in the planning
 475 process to integrate the information factor within the overall campaign plan.
- 476 120. Monitoring and Assessment. The successful prosecution of Info Ops relies on 477 continuous monitoring and assessment of the short and long-term effects of 478 interrelated activities, directed towards Information Objectives. Particular 479 attention should be paid to changes in the adversary's behaviour and such 480 other items as changes in the attitude of the civilian population, political activity, 481 and expressions of unrest. Also, changes in an adversary's capability may be 482 used as an indicator for measuring success, e.g., reduced efficiency, 483 disorganisation and slower reactions to events and specific actions in response 484 to deception.

485 **Section IV – Capabilities, Tools and Techniques**

- 486 121. <u>Military Capabilities and Functions</u>. Military capabilities provide the ability to
 487 create a desired effect in a specific operational environment. Capabilities can be
 488 people, assets, means and methods, as well as structures, systems and
 489 specific characteristics of these. Functions are generally performed by staff
 490 activities for the purpose of orchestrating available capabilities to achieve
 491 mission objectives.
- 492 122. The Info Ops function is concerned with integrating activities affecting 493 information and/or information systems to create desired effects using military 494 capabilities. Various capabilities and functions may contribute information 495 activities by either applying their full scope of actions or parts of it, on a permanent or temporary basis, as determined by the commander. Info Ops 496 497 must be applied to the whole spectrum of military operations and meet the 498 requirements for asymmetric warfare and networked operations in the light of 499 rapid technological developments in order to combine the valuable contributions 500 of various (national) military capabilities. Specific military capabilities and 501 functions required for performing information activities can be derived from their 502 defined purpose and their role related to information and information systems.
- 503 123. The three inter-related activity areas described in Paragraph 110 can make use
 504 of all or any capability or activity that can exert influence, affect understanding
 505 or have a counter-command effect; the extent is only limited by imagination,
 506 availability, policy, doctrine and legal constraints. However, there are several
 507 capabilities, tools and techniques that form the basis of most activity affecting

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508 the information environment. Information Objectives can be achieved by the 509 planned co-ordination and synchronisation of military capabilities, tools and 510 techniques to create effects on information or information systems, such as 511 direct and indirect communication, and by using the electromagnetic spectrum 512 or computer networks. The use of force, such as coercion and destruction, may 513 also combine with those means, e.g., by delivery of specifically targeted fires, 514 which can create considerable effects in the information environment. Clearly, many of these tools and techniques have a much wider application than just in 515 516 the information environment though the potential unintended effects of such 517 activity must always be considered.

- 518 124. Identification of force capability shortfalls is an important aim of multinational 519 CD&E efforts in the armed forces' transformation process. This document 520 provides a broad description of the scope and scale of military activities suitable 521 to affect information and/or information systems - with a view on current and 522 emerging capabilities - and suggests related capability requirements for future multinational operations. The following paragraphs³⁰ provide examples of 523 524 capabilities, tools and techniques that can be used for achieving Information 525 Objectives.
- 526 125. <u>Key Leaders Engagement</u>. Key Leaders Engagement (KLE) is the planned
 527 and coordinated use of the senior leadership of the friendly force to influence
 528 key decision-makers / opinion shapers / influencers / leaders in the assigned
 529 area of operations in support of the commander's objectives. Related
 530 information activities include:
- 531a. bilateral talks (BILATs) of senior leaders with military and civilian532counterparts at their level of influence;
- 533 b. speeches held at various occasions in the presence of the media and/or 534 key decision makers;
 - c. featured interviews to selected media with wide influence;

- 536 d. conferences arranged to discuss specific items of interest with influential 537 characters.
- 538 126. The commander may delegate selected members of his command group and 539 special staff to perform respective high-level functions. In particular, the Political 540 Adviser (POLAD) may be able to exert influence on high-ranking civil actors 541 such as local government authorities or representatives of the International Community. The Chief Public Affairs Officer (CPAO) is the primary contact for 542 the media³¹: he is authorised to speak on behalf of the commander, and is 543 544 responsible for the dissemination of messages to the media throughout the 545 operation, in consultation with the Chief Info Ops.
- 546 127. As part of the Info Ops contribution to an operation it is vital that all key actors
 547 and their inter-relationships are identified. Having detailed knowledge of
 548 relevant stakeholders' personalities, leadership styles, ambitions, motivations,
 549 objectives (short and long term), current stances, dependencies, psychological
 550 profiles and personal histories will be essential to provide the context to plan

³⁰ The sequencing of the paragraphs is not meant to indicate any order of priority, nor does it propose any standard allocation of capabilities/activities to the Info Ops function.

³¹ This function may also be performed by the Spokesperson (if established).

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551 appropriate information activities. An important component in all plans will be to 552 recognise the complex, adaptive relationships and dependencies that exist 553 between actors. The Info Ops staff will compile dossiers – based on INTEL 554 products and input provided by other functions/capabilities, such as PSYOPS, 555 CIMIC, etc. – that present relevant background information on key actors to be 556 engaged (e.g., *curricula vitae*) and other information in support of targeted 557 messaging (similar to traditional 'target folders').

- The Info Ops staff coordinates the Key Leaders Engagement Plan (KLEP), the
 purpose of which is to de-conflict and streamline command group information
 activities. It provides an overview of actors, dates and times, locations, contents
 and objectives, related to specific milestones of an operation. Info Ops
 responsibilities include the tracking and assessment of the KLEP, in close coordination with the CPAO.
- 564 129. Psychological Operations. Psychological Operations (PSYOPS) are planned psychological activities using methods of communication - including media 565 products and face-to-face communication - and other means directed at 566 approved audiences in order to influence perceptions, attitudes and behaviour, 567 568 affecting the achievement of political and military objectives. PSYOPS are conducted to convey selected information and indicators to governments. 569 organisations, populations, groups and individuals, with the aim of ultimately 570 571 changing their behaviour and decisions. Successful PSYOPS weaken the will of an adversary, reinforce the feelings and stimulate the co-operation of the loval 572 573 and sympathetic, and gain the support of the uncommitted.
- 574 130. PSYOPS contribute to create effects in the information environment by affecting
 575 the decision-making of selected actors either directly and/or indirectly through
 576 addressing their respective public or military forces.
- 577 131. <u>Electronic Warfare</u>. Electronic Warfare (EW) includes military actions to exploit
 578 the electromagnetic spectrum which encompasses the interception and
 579 identification of electromagnetic emissions; the employment of electromagnetic
 580 energy to reduce or prevent adversary use of the electromagnetic spectrum;
 581 and actions to ensure its effective use by friendly forces.
- 582 132. EW comprises the disciplines of Electronic Counter Measures (ECM), Electronic
 583 Support Measures (ESM) and Electronic Protective Measures (EPM):
- 584a. ECM offer an alternative to the use of physical force on information585systems. Furthermore, the footprint of PSYOPS broadcasts may be586enhanced and deception supported by the coordinated use of ECM.
 - b. ESM provide information and INTEL as part of All-Source Intelligence at all levels for Info Ops analysis, planning and assessment.
- 589 c. EPM is critical for all operations and can support Operations Security 590 (OPSEC) and Force Protection objectives of the force commander.

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591 133. Overall, EW can support operations so that critical information on which an
592 adversary will make a decision, or the information systems for carrying such
593 information, can be affected to own advantage.

594 595 596 597 598	134.	tech expl the	nputer Network Operations ³² . Computer Network Operations (CNO) use nically advanced approaches to enter computer networks and attack or oit the data, the processes or the hardware; they include activities against confidentiality, integrity and availability of computer data and systems as as protective measures.
599 600 601	135.		D comprises the interrelated activities of Computer Network Exploitation E), Computer Network Attack (CNA), and Computer Network Defence D).
602 603 604		a.	CNE provides the ability to get information about computer systems, to gain access to information hosted on computer systems and the ability to make use of the information and the system itself.
605 606 607		b.	CNA are operations to disrupt, deny, degrade, or destroy information resident in computers and computer networks, or the computers and networks themselves.
608 609		C.	CND includes the preventive protection of own computer systems and measures to block and counter adversary CNA and CNE.
610 611 612 613	136.	risk free	<u>rations Security</u> . OPSEC is an analytical process intended to reduce the to a military operation by adversary INTEL exploitation and maintain dom of action by preventing adversary foreknowledge of friendly ositions, capabilities and intentions. The OPSEC process:
614 615 616		a.	identifies critical information and determines what indicators hostile INTEL systems may obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries;
617 618		b.	analyses the susceptibility of information to exploitation by hostile INTEL systems (vulnerabilities);
619 620 621		C.	analyses hostile INTEL systems and operational capabilities, motivation, and intentions designed to detect and exploit vulnerabilities (threat analysis);
622 623		d.	assesses the potential degree to which critical information is subject to loss through hostile exploitation (risk analysis);
624 625 626		e.	selects and executes counter-measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions that may be exploited by adversaries.
627 628 629 630 631 632	137.	oper host from own	SEC is concerned with the achievement of secrecy and surprise in military rations and activities through protection of capabilities and intentions from ile INTEL exploitation. The ultimate objective is to prevent an adversary obtaining sufficient information in a timely manner to predict and degrade operations or capabilities. Effective OPSEC contributes to Information eriority.
633 634 635 636 637	138.	OPS piec secu Corr	SEC also reduces or negates the signatures of indicators which could be ed together to reveal critical information already protected by established urity procedures such as Information Systems Security (INFOSEC), munications Security (COMSEC), Computer Security (COMPUSEC), ument Security, Physical Security and Personnel Security. OPSEC

 $^{^{\}rm 32}$ $\,$ In NATO, CNO is defined as 'Cyberwar' and also includes 'Cyber Defence'.

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- 638 concentrates on those activities that could indicate the existence of an
 639 organisation, impending operation, or its details, reveal intentions, dispositions,
 640 capabilities and potential vulnerabilities. These activities are then given
 641 additional protection using a range of counter-measures.
- Military Public Affairs³³. Military Public Affairs (PA) is the function responsible
 for promoting the force's military aims and objectives to the public in order to
 enhance awareness and understanding of the mission. This includes planning
 and conducting media relations, internal communication and community
 relations.
- 647 140. In a democracy, military forces are responsible and accountable to the public for
 648 the performance of their mission. PA is the primary means to reach the general
 649 public. Therefore, PA is a command responsibility of the highest priority. PA at
 650 each level of command directly supports the commander, and may therefore not
 651 be further delegated or subordinated to other staff functions.
- 141. PA activities are information activities. PA is a key contributor of effects in the
 information environment and has an important role in implementing an
 Information Strategy. Therefore, other information activities must be closely
 coordinated with PA in order to ensure consistency in the message released by
 the military to outside audiences and to promote overall effectiveness and
 credibility of the campaign.
- 142. <u>Civil-Military Co-operation</u>. Civil-Military Co-operation (CIMIC) is the co-ordination and co-operation, in support of the mission, between the military and civil actors, including national population and local authorities, as well as international, national and non-governmental organisations and agencies³⁴.
 CIMIC facilitates co-operation between a military force and all parts of the civilian environment within the assigned area of operations by civil-military liaison, support to the civil environment, and support to the force. This includes:
- 665a. considering social, political, cultural, religious, economic, environmental666and humanitarian factors when planning and conducting military667operations;
 - b. liaison and co-ordination with International Organisations (IOs) and Non-Governmental Organisations (NGOs);
- 670 c. forging an effective relationship between the military and indigenous
 671 civilian authorities, organisations, agencies and populations within the
 672 area of operations.
- The CIMIC staff need to establish relations with a variety of civilian authorities
 and agencies, and will be a valuable source of information to assist planning for
 information activities. CIMIC also needs to coordinate with other capabilities that

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³³ Also known as 'Public Information'.

⁴ The meanwhile widely accepted NATO term 'CIMIC', which describes a military capability, must not be confused with the 'Civil-Military Co-ordination' concepts of the European Union (CMCO) or the United Nations (CMCoord): CMCO in the context of Common Foreign and Security Policy/European Security and Defence Policy addresses the need for effective co-ordination of the actions of all relevant EU actors involved in the planning and subsequent implementation of EU's response to the crisis; the approach of UN-CMCoord is designed to address the need for co-ordination of the activities of international civilian humanitarian actors, especially the UN humanitarian agencies, and international military forces in an international humanitarian emergency.

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address civil audiences and affect civil information systems in order to assist the
creation and sustainment of conditions that support the achievement of the
commander's objectives. Depending on the situation and mission requirements
CIMIC activities (within the scope of CIMIC tasks) may directly contribute to
influence key decision makers or become part of a campaign to win the trust
and co-operation of the local populace.

- 144. <u>Troop Information³⁵</u>. An inherent part of leadership and training for each commanding officer is the responsibility for keeping all personnel under his command informed of the situation, their role in the mission, their personal responsibilities, and the strengths and weaknesses of the unit which they serve.
- 686 145. Troop Information programs generally are designed to help instil in each individual the qualities and character traits required of a combat effective 687 includes cultural 688 soldier. This theatre specific awareness and the 689 implementation of appropriate 'rules of behaviour'. In addition, Troop 690 Information can support Counter-Intelligence (CI) awareness and prevent hostile propaganda from becoming effective. Commanders establish Troop 691 692 Information programs to fulfil the particular needs of their commands. To the 693 extent possible, Troop Information should be conducted at the lowest unit level 694 to facilitate communication and exchange of ideas between the unit leader and 695 the individual soldier.
- 146. The central contents of Troop Information programs must be in concert with the
 Information Strategy, harmonised throughout the national contingent of each
 multinational partner, and should, wherever possible, be coordinated between
 the nations. Info Ops staffs should be kept well informed of their commanders'
 Troop Information programs to be able to consider own vulnerabilities and
 adjust Info Ops advice appropriately. Products of Troop Information programs
 must be in line with PA media guidance and internal communication activities.
- 703 147. Special Forces and Forces for Special Operations. Special Operations Forces 704 (SOF) are specially designated, organised, trained and equipped forces using 705 operational techniques and modes of employment not standard for conventional 706 forces. SOF activities are conducted across the full range of military operations 707 independently or in co-ordination with operations of conventional forces to 708 achieve political, military, psychological and economic objectives. Politicomilitary considerations may require clandestine, covert or discreet techniques 709 710 and the acceptance of a degree of physical and political risk not associated with 711 conventional operations.
- 712 148. SOF can support the assessment of the information environment and provide713 effective information activities, e.g.:
- 714a.Special Reconnaissance (SR) involves a wide range of information715gathering activities that focus on strategic or operational objectives716designed to give the commander time sensitive information with human717insight. SR is the conduct of environmental reconnaissance, target718acquisition, area assessment, post-strike assessment, emplacement and719recovery of sensors, or support of Human Intelligence (HUMINT) and720Signals Intelligence (SIGINT) operations.

³⁵ Also known as 'Command Information'.

- 721 b. Direct Action (DA) includes raid, ambush, direct assault, obstacle 722 clearance, and anti-ship operations in pursuit of important targets located 723 within hostile or denied territory. DA targets may be hostile key personnel 724 as well as important elements of information infrastructure. 725 Military Assistance (MA) to foreign states includes education and training, C. 726 and other military support. When conducted within multinational 727 operations, MA activities must be consistent and conform to the campaign 728 objectives. 729 149. SOF need to participate in Info Ops co-ordination efforts in order to promote 730 common awareness of activities relevant to information and information 731 systems, and to ensure consistency of the overall appearance of the force. 732 150. Presence, Posture and Profile. The impact that the mere presence of a force 733 may have on perceptions can be significant. Deploying even limited capability to 734 the right place at the right time can add substantial credibility to messages 735 being delivered through other channels and provide a major contribution to 736 deterrence. The posture of troops on the ground can demonstrate both 737 commitment and intent and must be considered and balanced with the 738 requirements of force protection. The public profile of commanders at all levels 739 will impact on perceptions and therefore the public role of the commander must 740 be carefully analysed and opportunities used to transmit key messages. 741 151. Military activities and characteristics such as troop presence, posture and profile 742 as well as the performance of the individual soldier in the field bear information 743 content and can be intentionally employed to affect information and/or 744 information systems to create desired effects. Info Ops should contribute to the 745 co-ordination and synchronisation of these elements of military operations to 746 assist full integration of the overall campaign. 747 Deception is complex and demands considerable effort and a 152. Deception.
 - 748 sound understanding of an adversary's way of thinking. Deception operations 749 require an active OPSEC program to deny critical information about both actual and deceptive activities. Knowledge of deception plans must be carefully 750 751 protected and a 'need-to-know' criterion must be applied to each aspect of the 752 deception operation. Deception during operations can directly contribute to the 753 achievement of surprise and indirectly to security and economy of effort. Ultimately, deception operations must not affect the credibility of the forces 754 755 and/or political authorities. Info Ops planners must be involved in deception planning in order to ensure that information activities are properly employed in 756 757 support of deception operations.
 - 758 153. Physical Destruction. Physical destruction of adversary capabilities – such as 759 massive strikes on enemy forces - in co-ordination with information activities 760 can have enormous effect in support of own objectives. Physical destruction 761 can also create effects on decisive adversary information infrastructure. 762 However, destruction of (elements of) adversary information systems in many 763 cases may not be desirable/proportional or attainable/supportable, in particular 764 concerning those parts of information systems that are required for further 765 exploitation or that may lead to complete denial of information if destroyed. Related effects may be obtained through the use of air-delivered munitions, 766 unmanned aerial vehicles and SOF. Tactical resources such as naval gunfire, 767

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artillery and manoeuvre forces may also be used to contribute to create effects
on information and information systems. In order to appropriately consider these
kinetic options and advise on desired and undesired effects, the Info Ops staff
needs to be involved in the targeting process, addressing the whole scope of
hard and soft targets.

- 154. <u>Counter-Intelligence</u>. CI includes those activities which identify, assess and counter potential and/or actual threats to the forces' mission and personnel posed by intelligence collection activities of hostile INTEL services, organisations, or individuals engaged in terrorism, espionage, sabotage, subversion, and/or organised crime. CI needs to participate in Info Ops co-ordination efforts in order to promote common awareness of activities relevant to the information environment.
- 780 155. Related Enabling Disciplines.
- a. Networked Operations³⁶. 781 Networked operations consist of C2 and 782 employment of capabilities based on a joint, inter-echelon and interoperable information network - including procedures, organisation 783 784 and technology - that links all involved personnel, agencies, units and facilities as well as sensors and effectors. They impact all levels of military 785 activity from the tactical to the strategic. At the operational level, 786 networked operations provide commanders with the capability to generate 787 precise effects at an unprecedented operational tempo, creating 788 conditions for the rapid interruption of adversary courses of action. A 789 networked force is linked or networked by an information infrastructure 790 791 that enables capabilities to share and exchange information among the 792 geographically distributed elements of the force: sensors (regardless of 793 platform); actors and effectors (regardless of service); and decision 794 makers and supporting organisations (regardless of location). In short, a 795 networked force is an interoperable force, a force that has global access to 796 assured information whenever and wherever needed. Across a broad 797 spectrum of mission areas, evidence of the power of networked military operations is emerging from experiments and exercises. Empirical 798 799 evidence collected to date indicates a strong correlation between 800 information sharing, improved situational awareness and understanding, 801 and significantly increased combat power; this is the actual force multiplier 802 effect. A common theme in this evidence is the critical role of modified (in 803 some cases new) tactics, techniques and procedures, which enable personnel to use an information advantage effectively, enhance C2 and 804 action effectiveness, as well as to provide input into the Common Relevant 805 Operational Picture (CROP)³⁷. Info Ops constitutes a basic function in 806 networked operations as the related co-ordination effort contributes to 807 achieving Information Superiority and effective C2. 808

³⁶ See Glossary for definition and reference, as well as related other/alternative concepts.

³⁷ A 'CROP' is a rules-based picture of the operating environment that presents data in a way that is relational to the user or the environment. This promotes interagency and cross-jurisdictional information sharing by giving each user access to the information that they need based on their security clearances and organisational needs.

- 809 The purpose of INTEL is to support political and military b. Intelligence. authorities in the planning, execution, and assessment of military 810 operations in peace, crisis and conflict. INTEL generates the basics for 811 military planning, to include assessment and targeting, and provides an 812 813 indispensable prerequisite for effective C2. INTEL also provides the 814 Intelligence Preparation of the Battlespace (IPB), the resources and 815 instruments that enable military capabilities to operate effectively. 816 Furthermore, it supports effects assessment by observing changes or 817 responses following friendly actions on the (potential) adversary or others. The ultimate aim of the INTEL process is to produce relevant information 818 from all sources in a comprehensive, responsive, and timely manner, so 819 820 that military decision-makers may gain and maintain an information advantage over an adversary. The Info Ops staff will have to closely 821 cooperate with the INTEL community during preparation, planning, 822 execution and assessment of operations. This is especially crucial in terms 823 824 of coordinating information activities with INTEL operations to prevent interference by one with the other. Further, accurate and timely advice by 825 826 INTEL to Info Ops is fundamental to the success of the Info Ops function. 827 Successful military information activities must be founded on effective 828 INTEL support. Attributes of effective INTEL include timely, accurate, and 829 relevant information about adversaries, other approved parties, and the 830 operational environment. The Info Ops staff should work closely with the INTEL staff to define those INTEL requirements necessary to plan, 831 execute and assess the effectiveness of military information activities. 832
- 833 Command & Control Support. The C2 Support function includes C. 834 information management, processing and transfer as well as information security functions. C2 Support contributes to achieving and maintaining 835 836 Information Superiority and effective C2. This comprises the use of IT to 837 information transfer, processing. representation. storage. support 838 management, as well as locating, directing, identification, navigation and security functions. C2 Support enables a wide range of activities to 839 become effective on own and other's information and/or information 840 841 systems, and therefore require specific consideration for Info Ops advice 842 and co-ordination.
- 843 d. Knowledge Management. Knowledge Management (KM) is the process 844 of purposeful handling, direction, government or control of the acquisition, 845 validation, production, transfer, and integration of information and explicit 846 knowledge to support comprehensive/holistic situational understanding in 847 a multidimensional scenario/environment. KM deals with the fact that 848 contemporary operational commanders are faced with data and information overload from multiple sources beyond traditional military 849 perspectives. Yet they lack sufficient means to synthesise data and 850 851 information to provide the key actionable knowledge required for timely 852 and effective operational decision-making. KM leverages state-of-the art 853 knowledge processing, abstraction, inference and retrieval tools and 854 methods to contribute to the provision of actionable knowledge. KM 855 specifies business rules and best practices to encourage a Cross-Domain 856 Collaborative Information Environment (CD-CIE) during multinational

857 operations. KM can be considered as an enabler of the CD-CIE, but on the 858 other hand will benefit from such a well orchestrated framework -859 particularly in terms of mutual knowledge exchange and perceptual coordination between participating parties. KM enables a wide range of 860 activities - both synchronous and asynchronous - to become effective on 861 information and/or information systems, and therefore require specific 862 863 consideration for Info Ops co-ordination. 864 Multinational Information Sharing. Unity of effort is essential to achieve e. consistency of word and action in multinational operations. This is 865 866 achieved as much by co-ordination and consensus-building as it is by 867 unity of command. Unity of effort has broad implications on planning and 868 decision-making processes, and the execution of operations. Information 869 is the source of knowledge; the ability to manipulate information and 870 knowledge confers power. Information sharing or collaboration is the 871 cornerstone in building a relationship of trust and confidence between 872 partner nations and commanders. The sharing of information in a 873 multinational body to create a multinational Knowledge Base is enabled by Multinational Information Sharing (MNIS). This is of particular relevance for 874 875 INTEL. Effective MNIS is a prerequisite for mission accomplishment and supports all aspects of multinational operations, including Info Ops. 876 Arrangements and techniques for MNIS should be established and 877 878 practiced in peacetime in order to be effective in crisis, enhance Alliance 879 cohesion, and facilitate a coalition building process. 880 Interagency Co-ordination. Interagency co-ordination at all levels is f. 881 critical for the success of operations since it builds the link between the 882 different instruments and elements of national power. Concepts emerge to 883 outline structures and procedures for interagency co-ordination at the operational level. They inter alia aim at facilitating information sharing 884 throughout the multinational interagency community and bringing cross-885 886 government expertise, perspective and understanding to the planning, execution/management and assessment/evaluation processes. Civil 887

experts involved in interagency co-ordination as Subject Matter Experts 888 889 (SMEs) may belong to governmental organisations and agencies 890 operating worldwide or regionally/locally. They can contribute their knowledge, views and perceptions to Systems Analysis within the 891 Knowledge Development (KD)³⁸ process and support liaison to civil actors 892 during the conduct of operations. As Info Ops will orchestrate military 893 894 information activities in conjunction with other activities to form a 895 synergistic entity, Info Ops participation in interagency co-ordination at all levels and throughout planning, execution/management and assessment/ 896 897 evaluation is essential.

³⁸ See Chapter 3, Section II: 'Info Ops in the Effects-Based Operations Process – Knowledge Development'.

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918 Chapter 2 – Info Ops Advice and Co-ordination Process 919 and Staff Requirements

920 Section I – Info Ops Generic Process Model

- 921 201. The purpose of the generic process model for Info Ops is to provide a comprehensive overview of the role of the Info Ops function in general staff 922 923 activities at the (military) operational level required for analysis, planning, execution and assessment of operations. It describes the Info Ops contributions 924 925 to military processes at the operational level of command, interfaces to higher 926 and lower levels as well as to civil processes and products, relationships within the decision and execution cycle, and assumptions on the integration of military 927 928 information activities within a comprehensive approach.
- 202. The generic Info Ops process model is primarily intended to explain the essentials of the Info Ops function to military practitioners commanders and their staffs and enable them to better understand the added value of this emerging concept and initial ideas for its implementation. Furthermore, this model should also inform other government departments and civil partners of the military view on information activities in order to facilitate the required military and civil interaction within a comprehensive approach.



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Figure 2: Generic Military Operational Level Processes

203. A generic Info Ops process model should be applicable to the whole scope of
 military activities within a comprehensive approach. As the Info Ops function
 constitutes an integral part of military analysis, planning, execution and

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- assessment, a generic process model for Info Ops should also refer to generic
 military processes and their related civil interfaces without considering extant
 concepts such as the NATO Operational Planning Process (OPP) or other
 specific models used in current CD&E.
- 945 204. The mutually complementing processes of analysis, planning, execution and assessment are interconnected by feedback loops, and proceed iteratively and in parallel. Each process is characterised by input and output relations, specific 948 staff activities, and performing actors in their specific roles. Altogether these 949 features frame a generic model for military operational level processes (see 950 Figure 3).
- 205. The generic Info Ops process model encompasses the contributions of the Info
 Ops function to the four identified generic processes at the military operational
 level as well as the interfaces to higher and lower levels, and to related civil
 processes.



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Figure 3: Model of the Info Ops Function and Civil-Military Interfaces

- 957 206. Info Ops contribution to military analysis should concentrate on the provision of 958 guidance to the analysis and evaluation of the information environment, and the 959 development of an estimate of the state of the information environment, 960 including assumptions on future developments. Info Ops will promote enhanced 961 situational awareness and understanding regarding the information 962 environment.
- 963 207. Info Ops contribution to military <u>planning</u> should concentrate on a continuous
 964 dialogue between the Info Ops staff and joint planners on the analysis and
 965 assessment of the information environment. This will facilitate the integration of
 966 the information factor (relevant aspects of the information environment and

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967 possible information activities) into plans and the co-ordination of relevant 968 functional/ capability experts' contributions. Military Info Ops staff will also 969 provide input to the development of mission-specific strategic and political 970 guidance for military and civil information activities.

- 971 208. Info Ops contribution to military <u>execution</u> of operations should concentrate on
 972 the co-ordination of functional/capability experts' contributions to the
 973 execution/implementation of plans regarding information activities, and the
 974 possible effects of military actions in the information environment. This will be
 975 based on superior guidance provided for civil and military information activities.
- 976 209. Info Ops contribution to military <u>assessment</u> of operations should concentrate
 977 on the collaborative evaluation of insights provided by the functional/capability
 978 experts and the identification of de-confliction and/or co-operation requirements
 979 regarding effects in the information environment. This will also contribute to
 980 enhanced situational awareness and understanding and finally the integration
 981 of the information factor in military and civil actions.

982 Section II – Info Ops in the Decision and Execution Cycle

- 983 210. Military C2 is the process of exercising authority and direction by a commander
 984 over assigned and attached forces. It is about focusing the efforts of resources
 985 toward the accomplishment of a mission. C2 consists of several functions, to
 986 include: establish a common understanding of the commander's intent;
 987 determine roles, responsibilities, and relationships; establish rules and
 988 constraints; monitor and assess the situation and progress.³⁹
- 211. The 'OODA Loop' (Observe-Orient-Decide-Act)⁴⁰ is a generic and simplified 989 model of the decision and execution cycle continuously applied by commanders 990 991 and their staff. Each activity is based on input from the previous activity and 992 provides the basis for the next activity. The 'OODA Loop' model basically 993 remains valid throughout the scope of security actions in complex contingencies 994 and emergencies, but its focus changes in the framework of modern information 995 societies. In conventional war speed was crucial to completing the decision-996 making process - it got you inside your opponent's OODA Loop. We have to 997 use a different approach in today's crisis/conflict prevention and resolution 998 activities: stressing speed above all else does not make sense in interventions 999 that can last a decade or more. Today, we still need to act speedily, but the 1000 focus must be more on accuracy (developed in the 'observe-orient segment' of 1001 the loop).
- 1002 212. Decision makers must understand what they see before they decide what to do.
 1003 To date, network-centric concepts have focused on shortening the 'sensor-to1004 shooter' step (or: the 'decide-act segment' of the OODA Loop). Now, we must
 1005 focus on improving the quality of the 'observe-orient segment'. Even more
 1006 important, the OODA Loop expands to track not just our opponent's reaction,
 1007 but how the entire operational environment is reacting our forces, the host
 1008 nation, Coalition partners, civil actors, and even our own population.⁴¹

³⁹ For further details on C2 functions see: D. Alberts, R. Hayes: Understanding Command and Control (2006).

⁴⁰ J. Boyd: An Organic Design for Command and Control – A Discourse on Winning and Losing (1987).

⁴¹ Based on: Thomas X. Hammes: Countering Evolved Insurgent Networks (2006).

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Figure 4: Info Ops in the Decision and Execution Cycle

- 1011 213. The OODA Loop can be used to illustrate the importance of the information factor for effective decision-making and C2. This model can also facilitate the identification of generic leverage points for information activities (see Figure 4 above).
- 1015 214. During the '<u>Observation</u>' activity, Info Ops contribute to the identification of essential information requirements and advise on the information environment, in order to improve situational awareness. The impact of own information activities on other actors' Observation activity is primarily directed at their information systems to affect their capability to collect, process, and disseminate information, and the information itself.
- 1021 215. During the 'Orientation' activity, Info Ops contribute to the development of shared situational understanding by providing specific expertise and analytical 1022 1023 skills related to the information environment, its system dynamics and inherent 1024 cause-and-effect relationships. This contribution includes advice to staff 1025 activities as well as the co-ordination of respective functional experts' input. The direct impact of own information activities on other actors' Orientation activity is 1026 1027 relatively limited; it mainly occurs indirectly during the Observation activity by 1028 affecting the ability of an actor to collect, process, and disseminate information 1029 or by manipulating the respective information itself.
- 1030 216. During the '<u>Decision</u>' activity, Info Ops contribute to the preparation of plans and
 1031 orders by advising the commander and staff on issues related to the information
 1032 environment, by coordinating functional experts' input to the design of

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1033 integrated military information activities, and by participating in the interagency co-ordination process. This results in plans and orders that detail the 1034 commander's will to act, and which appropriately consider aspects of the 1035 information environment relevant for the achievement of mission objectives. As 1036 described above for the Orientation phase, the direct impact of own information 1037 activities on other actors' Decision activity is limited and in most cases occurs 1038 indirectly through affecting others' information collection, processing and 1039 dissemination capability. 1040

1041 217. During the '<u>Action</u>' activity, Info Ops contribute to the implementation of plans and orders focused on integrated information activities. This requires the continuous assessment of the situation regarding the information environment, and the development of recommendations for the adjustment of plans and orders, including effects, actions and resources. The impact of own information activities on the actions of other actors is primarily directed at their capabilities – ways and means – to implement decisions.

Section III – Roles of Info Ops at the Strategic, Operational and Tactical Levels

- 218. Operations are directed, planned and conducted at three levels of command: 1050 1051 political direction and guidance are obtained via the strategic commander, while 1052 planning and execution are largely achieved at the operational and tactical levels. The distinction between activities conducted by forces at the different 1053 levels is clear, but the effects of political, strategic, operational and tactical 1054 levels of joint operations will seldom remain only at one level. This requires 1055 1056 special consideration for Info Ops, where interconnected information systems 1057 and the psychology of decision-making mean that action at the tactical level can 1058 have strategic implication and vice versa.
- 1059 219. <u>Strategic Level</u>. Strategy is the planning, coordination, and general direction of 1060 military operations to meet overall political and military objectives. At this level, 1061 armed forces are used within an overarching political framework and in a 1062 synchronised fashion with other instruments of power/civil areas of activity. Info 1063 Ops staff at this level should:
- 1064a. recognise any political or legal limitations on the conduct of military1065information activities, with particular regard to international law, custom and1066practice, host nation agreements/arrangements, support by other nations1067or other sensitivities;
- 1068b. contribute to military strategic assessment and advise on the information1069factor in all military-strategic planning and conduct of operations;

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- c. contribute military advice to the development and implementation of an Information Strategy;
- 1072 d. consider the impact of approved Rules of Engagement (ROE) on the 1073 application of information activities;
- e. contribute to the force generation process by considering available
 resources for the planning of information activities;

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- 1076f. regularly update and inform the strategic commander on the focus and1077progress of the overall Information Objectives, which will contribute to the1078review of the Information Strategy;
- 1079g. ensure co-ordination of strategic level targeting to include information1080activities. This applies especially to sensitive targeting such as against1081computer networks and IT, population groups or individuals.
- 1082 220. Strategic guidance will usually include available political guidance, strategic 1083 goals, directives and limitations. Overall Info Ops strategic guidance will be derived from the Information Strategy and outlined in the strategic plan or 1084 1085 directive. It is the responsibility of the strategic level Info Ops staff to ensure that 1086 military co-ordination with the higher-level political and media aspects of the operation takes place regularly. This feedback loop is crucial in order to ensure 1087 that the targeted information activities at the strategic and operational levels are 1088 1089 synchronised with other activities.
- 1090 221. After the initial co-ordination process has been established and strategic planning guidance has been issued, the strategic level Info Ops staff will 1091 1092 contribute to further refinement of plans and directives, taking into account issues from multinational and joint operational planning. Given the scope of the 1093 tasks described above and the potential sensitivity of information activities, 1094 every consideration should be given to ensure that the strategic level Info Ops 1095 staff is established on a full-time basis. This will require sufficient manpower to 1096 1097 cope with the demands from the operational level as well as the requirements of the higher political and military bodies. 1098
- 1099 222. <u>Operational Level</u>. The level at which campaigns and major operations are 1100 planned, conducted, and sustained to accomplish strategic objectives within 1101 theatres or areas of operations. Activities at this level link tactics and strategy by 1102 establishing operational objectives needed to accomplish the strategic 1103 objectives, sequencing events to achieve the operational objectives, initiating 1104 actions, and applying resources to bring about and sustain these events. The 1105 operational-level Info Ops staff should assist in:
- 1106a. the analysis of the information environment conducted by the INTEL /1107Knowledge Development (KD) and functional/capability staffs by providing1108focused guidance;
- 1109b. planning and campaign synchronisation by cross-functional co-ordination1110of efforts related to effects and activities in the information environment;
- c. identifying and prioritising the operational level effects in the information
 environment necessary to achieve campaign objectives (campaign
 assessment and synchronisation);

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- d. coordinating effects (and activities) in the information environment (including contribution to the targeting process);
- e. providing guidance for allocating forces and resources as necessary for subordinate commanders to execute their tasks (the operational commander will maintain the capability to change the emphasis of information activities at the operational level for the joint campaign to react to developments);

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1121 f. supporting the co-ordination of military information activities with other agencies in theatre, as appropriate; 1122 g. providing military advice on effects in the information environment to the 1123 strategic commander and contributing to the assessment of the information 1124 environment: 1125 h. providing guidance to tactical commanders to enable them to create the 1126 1127 desired effects depicted in the operational plan. 223. Tactical Level. The level of war at which battles and engagements are planned 1128 1129 and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and manoeuvre 1130 of combat elements in relation to each other and to the opponent to achieve 1131 combat objectives. The tactical-level Info Ops staff should: 1132 1133 a. assist in conducting a mission analysis based on the commander's intent 1134 and relevant plans to integrate information activities in tactical plans; 1135 b. provide advice on planning and implementing activities to create effects in 1136 the information environment, including the appropriate assignment of 1137 resources: 1138 c. assist in coordinating the conduct of information activities focused on creating an effect on key local decision-makers and groups by affecting 1139 their will, decision-making processes and capabilities; 1140 1141 d. provide advice on (possible) effects of other actions in the information 1142 environment: 1143 e. provide advice on protecting own information and information systems. Section IV – Info Ops Staff Activities 1144 1145 224. The Info Ops staff of a military headquarters is responsible for implementing the 1146 Info Ops function through the following major staff activities: evaluation and interpretation of results from Systems Analysis concerning 1147 a. the information environment: 1148 1149 b. advice to planning and execution of operations regarding effects in the information environment; 1150 1151 C. development of Info Ops contributions to planning and assessment from a generalist's perspective; 1152 d. co-ordination of contributions by military capabilities to planning, execution 1153 1154 and assessment regarding effects in the information environment. 1155 225. These staff activities include in particular: 1156 a. Evaluation and interpretation of results from Systems Analysis concerning 1157 the information environment. 1158 (1) Establishment, development and utilisation of information relationships 1159 (SME network). 1160 (2) Assessment of the Situation: 1161 (a) description of the operational environment related to information 1162 and information systems (considering global/ strategic aspects);

1163 1164		(b)	mission analysis/analysis of (strategic) guidance for creating effects in the information environment;
1165 1166		(c)	analysis of limitations (assumptions, constraints and restraints) for information activities;
1167 1168		(d)	identification of own capabilities for creating effects in the information environment;
1169 1170		(e)	identification of others' capabilities for creating effects in the information environment, considering allied, friendly, neutral and
1171			(potentially) adversary actors.
1172		(3) Est	imate of the situation:
1173 1174 1175		(a)	comparison of the actual and aspired situation in the information environment (variance analysis related to the situation and mission);
1176 1177		(b)	identification and evaluation of possible trends (developments, evolutions) in the information environment;
1178 1179		(c)	Identification and evaluation of possible and desired effects in the information environment that can be created by military means;
1180 1181		(d)	Identification and evaluation of the vulnerability of own information and information systems and respective protection requirements;
1182		(e)	Development of the Info Ops Estimate (see Annex 3A).
1183		. ,	velopment of contributions to situation update and decision
1184		· ·	efings.
1185 1186		· ·	velopment of contributions to the enhancement of situational areness and understanding, and the development of the CROP.
1187 1188		. ,	mulation of (additional) information needs, KRs, and requirements Systems Analysis.
1189 1190	b.		to planning and execution of operations regarding effects in the ation environment.
1191 1192			efing the commander and staff on the situation, possible effects and velopments in the information environment.
1193 1194		. ,	ntification of possible trade-offs regarding effects in the information /ironment.
1195 1196		. ,	nitoring of the conduct of information activities and variance alysis concerning planned/desired and actual effects.
1197 1198		· ·	ntification of coordination requirements for military and civil actors nducting information activities.
1199 1200 1201		cor	ntification of collaborative opportunities for military and civil actors inducting information activities (description of possible synergetic acts).
1202		(6) Pa	rticipation in various staff activities related to:
1203		(a)	EBP (including targeting) and exercise planning;
1204		(b)	EBE (including targeting) and exercises.
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1205 1206		(7) Proposal of training programs to promote integration of the information factor in planning and execution of operations.
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1207 1208	C.	Info Ops <u>contributions to planning and assessment</u> from a generalist's perspective.
1209		(1) Formulation of effects in the information environment, including MOE.
1210		(2) Development of Info Ops contributions to general planning products,
1211		including contributions to the development and implementation of an
1212		Information Strategy at appropriate levels of command.
1213		(3) Proposal of activities for key leaders engagement (command group
1214		and special staff), and designing the KLEP.
1215		(4) Development and proposal of common assessment criteria for
1216		information activities.
1217		(5) Identification of differences and commonalities in the assessments of
1218		military capabilities regarding information activities.
1219		(6) Analysis of indications and reports, and formulation of Info Ops
1220		contributions to EBA.
1221		(7) Formulation of Info Ops contributions to the reporting system.
1222	d.	Coordination of contributions by military capabilities to planning, execution
1223		and assessment regarding effects in the information environment.
1224		(1) Harmonisation and synchronisation of proposed information activities,
1225		including proposals for the KLEP.
1226		(2) Harmonisation and consolidation of individual assessments of military
1227		and civil information activities.
1228		(3) Harmonisation of individual contributions to the development of the
1229		CROP concerning the information environment.
1230		(4) Participation in various staff activities related to:
1231		(a) EBP (including targeting) and exercise planning;
1232		(b) EBE (including targeting) and exercises;
1233		(c) EBA;
1234		(d) evaluation of exercises and operations (lessons learned).
1235	Section	V – HQ Internal Co-ordination and Staff Requirements
1236	226. Gen	eral. The commander provides direction and guidance to the HQ on Info
1237		development and implementation. He also provides advice on Info Ops to
1238		higher levels of command, including assessment of information activities as
1239		of the campaign and for implementation of the Information Strategy. The
1240		mander is a key Info Ops contributor in his own right, given his ability to
40.44		and the state of the state of the state of the Parlies of the state of

to the wider mission-specific guidance through his direction of all HQ activity. 1243 227. Meeting the commanders' objectives, requires information activities being fully 1244 integrated and coordinated with all other military actions. In order to create the desired effects, a coherent and synchronised approach among HQs, adjacent 1245 1246 and subordinate commands, and the strategic-political level must be achieved.

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influence local events through presence and dialogue, and he also contributes

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1247 One of the keys to success is thorough co-ordination of information activities from the strategic to the tactical level. Commanders should ensure that any 1248 information activity likely to affect other areas is implemented with prior co-1249 1250 ordination and notification. 1251 228. Implementation Criteria. Implementing the Info Ops advice and co-ordination function requires efficient and effective processes and organisational structures. 1252 Requirements and constraints are usually given by some general factors such 1253 as the composition of the coalition, the type of mission, operation, and scenario, 1254 political and strategic guidance, and the HQ philosophy (e.g. structure, 1255 1256 organisation, processes, and battle rhythm), and specific factors such as the 1257 availability of resources, expected workload, and timeframes (e.g. for planning). 1258 Therefore, implementation of the Info Ops function in multinational operations 1259 should not be pre-defined, but adaptable, based on generic implementation options tailored to best address the requirements and constraints given. 1260 229. Organisational design should consider various aspects in order to provide 1261 optimal conditions for the performance of the advice and co-ordination role of 1262 the Info Ops function. Such aspects include, but are not limited to: 1263 1264 the complexity and longevity of the mission; a. 1265 b. the understanding of 'information' as an operational factor, and related 1266 opportunities and risks within the staff; systemic understanding of the information environment and respective 1267 C. 1268 situational awareness and understanding within the HQ; specified Info Ops function responsibilities and accountability; 1269 d. 1270 e. integration of the Info Ops function throughout all processes of the 1271 operation; the recognition of the Chief Info Ops/Info Ops staff as the primary advisor 1272 f. 1273 to the commander/HQ on effects in the information environment; 1274 the application of Coordinating Authority by the Chief Info Ops; g. 1275 Info Ops awareness of staff activities and related advice and co-ordination h. requirements; 1276 1277 i. the implementation of an Information Strategy; the interactive relationship of Info Ops with other interagency actors at the 1278 j. appropriate level of command/involvement; 1279 a suitable balance of Info Ops specific and other duties for staff personnel 1280 k. 1281 in Info Ops functions; 1282 the supporting role of Systems Analysis; Ι. m. minimisation of 'stovepipe' working and optimisation of information flow 1283 1284 within the HQ (suitability for collocated or distributed work); efficient use and flexible allocation of available resources; 1285 n. 1286 o. qualification and training requirements; 1287 p. administrative support requirements. 230. Info Ops Staff. The implementation of the Info Ops function should be led by a 1288 dedicated Info Ops staff in order to promote the full integration of the 1289 information factor in all military activities. Its primary role is to assist the 1290

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1291 commander in planning, coordinating and directing the implementation of information activities to support the achievement of campaign objectives. The 1292 1293 Info Ops staff are generalists, operators and advisors. They are process 1294 managers for internal and external co-ordination and provide advice to the 1295 commander and his staff on actions and effects related to the information environment. Advice can be formal, such as inputs to plans and orders, or 1296 1297 informal, such as discussions or briefings. The Info Ops staff need to have a comprehensive and systemic knowledge of the information environment, and 1298 need to basically understand the scope of options available for affecting the 1299 1300 information environment.

- 1301 231. The focus and responsibilities of the Info Ops staff will be determined by the command level and assigned mission. At the operational level, there will be a need for a comprehensive staff to enable planning, operations, INTEL support and specialists to determine targeting and campaign assessment. At the tactical level, the need will focus more on specialists to deliver capability against specified targets.
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- 1313 233. Linked to the Info Ops function, Coordinating Authority⁴² needs to be granted to the Chief Info Ops by formal regulations. It is recommended that the Chief Info 1314 Ops should be positioned above functional groups (or J-staff divisions) of an 1315 operational level HQ. An appropriate integration of the Chief Info Ops in 1316 1317 Command Group meetings and respective reporting procedures is required to 1318 accomplish his primary advisory role. In order to act as the appropriate military interface for the harmonisation of military and civil information activities, the 1319 1320 Chief Info Ops is required to establish an interactive relationship with respective 1321 interagency representatives at the respective level of command. The rank of the Chief Info Ops must facilitate all these responsibilities. 1322
- 1323 234. Within the HQ, the Chief Info Ops is responsible for:
- a. providing specific Info Ops input to the development of the commander's direction and guidance;
- b. preparing Info Ops contributions to the commander's plans and orders;
- 1327 c. assisting in the determination of the desired effects in support of 1328 Information Objectives;
- 1329 d. assisting in the determination of possible military actions to support the 1330 attainment of Information Objectives;

⁴² 'Coordinating Authority' is the assigned responsibility for coordinating specific capabilities, functions or activities involving two or more agencies (organisations or commands). The individual with assigned Coordinating Authority has the authority to require consultation between the agencies involved or their representatives, but does not have the authority to compel agreement. In case of disagreement between the agencies involved, he should attempt to obtain essential agreement by discussion. In the event he is unable to obtain essential agreement he shall refer the matter to the appropriate authority.

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- e. recommending priorities for military information activities;
 - f. contributing to the campaign synchronisation and assessment;
- 1332 1333

g. coordinating with all principal functional staff areas, special staff and

- higher and subordinate HQs;
- h. coordinating KLE;
- i. chairing the Info Ops Co-ordination Board (IOCB)⁴³.
- 1337 235. Info Ops Staff Structures. Given the evolving nature of Info Ops and due to command and mission specific requirements, an Info Ops staff can be formed at all levels of command. Comparable command levels should generate similar Info Ops structures within staffs. The actual size of the Info Ops staff, its allocation within the headquarters, as well as the function's organisational design will depend on the specific requirements (mission and situation) of the multinational force.
- 1344 236. The generic implementation requirements and the respective roles and 1345 responsibilities of both the Chief Info Ops and the Info Ops staff as outlined in this chapter could be applied to a variety of HQ structures including traditional J-1346 1347 structured staffs, functional group centric staffs, or other staffs. The Info Ops 1348 staff should understand information as an operational factor and be aware of the capabilities available to the commander for creating effects by information 1349 activities. They should be integrated in applicable cross-functional teams and 1350 1351 participate in appropriate working groups of a HQ to enable a continuous, close dialogue with all relevant staff elements and support the processes throughout. 1352 It must be clearly understood that these Info Ops generalists will not replace 1353 capability experts or special staff. Info Ops will involve functional experts to 1354 1355 collectively identify and exploit the full spectrum of options and appropriately 1356 assess situations and issues related to the information environment.
- 1357 237. Representation of Info Ops in all relevant HQ functional groups (or J-staff divisions, respectively) enables the Info Ops staff to monitor and to be aware of 1358 all relevant HQ activities, identify advice and co-ordination requirements, and 1359 1360 provide advice and input. However, detailed procedures to integrate the members of the Info Ops Staff in cross-functional groups must be in place. In 1361 order to ensure such representation a cross-functional matrix-organised 1362 structure of the Info Ops function may be implemented as a suitable option. 1363 1364 However, such a matrix organisation must be based on formal matrix agreements approved by the appropriate authorities. 1365
- 1366
 238. In principle, different options for the assignment of Info Ops staff personnel (besides the Chief Info Ops) are conceivable. The selected option must allow for the application of Coordinating Authority and priority tasking of the Info Ops staff by the Chief Info Ops. Examples for the organisation of the Info Ops staff – based on a traditional J-staff organisation – include (see Figure 5):
- 1371a.Chief Info Ops as member of the HQ's special staff with decentralised Info1372Ops personnel in J-divisions, probably J2, J3 and J5. This would ensure1373that Info Ops was fully considered at the highest, decision-making level1374with close relationships to the command group. Possible disadvantages

⁴³ See Paragraphs 232-234 and Annex 2A.

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1375 1376 1377		could result from a reduced involvement of the Chief Info Ops in day-to- day J-staff activities, and from administrative problems inherent in the matrix-type organisation of the Info Ops staff.
1378 1379 1380 1381 1382 1383	b.	A centralised Info Ops staff brigaded at Chief of Staff (COS) level under a Chief Info Ops. This would ensure that Info Ops was fully considered at the highest, cross-functional level in planning, execution and assessment of an operation. Possible disadvantages could include a lack of liaison and understanding of the more detailed aspects of the operation, particularly in the J3 and J5 areas.
1384 1385 1386 1387 1388	C.	Centralised Info Ops staff at Assistant Chief of Staff (ACOS) level under a Chief Info Ops would ensure a greater level of liaison with specialist staffs within the respective J-division whilst retaining a significant level of senior influence within the HQ, albeit a considerably reduced level compared to the COS construct.



STAFF DIVISIONS

1389 1390

Figure 5: Info Ops Staff in a Generic HQ Staff Structure (Examples)

1391 239. The Information Operations Co-ordination Board. The Info Ops process is put into effect through the existing HQs co-ordination processes and via an IOCB, 1392 which prepares inputs to relevant HQ internal and external processes including 1393 1394 the joint targeting processes, the INTEL process and the joint co-ordination process. A wide range of staff functions play a role in the Info Ops process, as 1395 outlined in Annex 2A. Functional area participation in the IOCB is essential in 1396 order that their input and subject matter expertise can be applied to the Info Ops 1397 co-ordination process. Of particular importance is the need for all activity to be 1398 consistent with the Information Strategy. 1399

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 241. The IOCB is integrated into the HQ's battle rhythm and meets regularly within the HQ, attended by relevant staff and Liaison Officers (LOs) from subordinate or superior commands, as required, to plan, coordinate and synchronise military activities affecting the information environment. In this capacity, the IOCB may also function as a think-tank for the commander.

1410 Section VI – External Coordination

- 1411 242. <u>General</u>. To realise desired effects in support of the Information Strategy,
 1412 close co-ordination of campaign and supporting plans, among strategic,
 1413 operational and tactical HQs is vital. This co-ordination up and down the
 1414 command levels takes the form of formal plans, direction, guidance, doctrine,
 1415 policy and training. Co-ordination is also required with international and regional
 1416 political and civil organisations through agreed procedures and structures.
- 1417 243. Component Commanders/Tactical Level Commanders. It is important that 1418 activity conducted by component commanders and commanders at lower 1419 tactical levels are synchronised with activity at higher levels. In addition, 1420 commanders at these levels will often be required to conduct activity to support higher level objectives. To ensure synchronisation, proposed information 1421 1422 activities may need to be forwarded to superior HQ's Info Ops cells for deconfliction with other ongoing activities. LOs will normally be required during 1423 crisis or deployed operations. All LOs must maintain close contact with their 1424 1425 command Info Ops staff to ensure they are fully aware of changes and/or 1426 requirements to be discussed at the IOCB.
- 1427 244. Inter-Command Level Co-ordination. Any viable assessment of information 1428 activities requires an inter-command effort as intended and unintended effects 1429 can be felt across informational, physical and psychological boundaries. Given 1430 the potentially wide-ranging effect of military information activities, a coordinated approach is necessary across all command levels and political institutions. Thus 1431 1432 a system of co-ordination and liaison processes between commands and 1433 supporting agencies (GOs, IOs, NGOs, etc.) that allows staffs to communicate 1434 with, send reports to, and receive guidance from, superior and subordinate 1435 commands is required.
- 1436

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1437 Annex 2A – The Information Operations Co-ordination Board

- 1438 2A1. <u>General</u>. The IOCB is the forum for the implementation of Info Ops collective
 1439 co-ordination and advice, chaired by the Chief Info Ops. It will convene as
 1440 necessary in the HQ decision cycle and as required during non-operational
 1441 activities.
- 1442 2A2. <u>Membership</u>. The IOCB should involve expertise from all staff elements, determined by mission and situation requirements. A possible composition of the IOCB is shown in Figure 6. This composition is not fixed and the Chief Info
 1445 Ops will invite other parties, which may include other agencies and departments, as required, to contribute to the mission and the role of Info Ops in accomplishing the commander's objectives. IOCB member responsibilities are outlined at paragraph 2A6.





Figure 6: Possible Composition of the IOCB (Example: Operational Level HQ)

1451 The role of the IOCB is to ensure that military information activities are 2A3. Role. 1452 coherent and synchronised with other actions (potentially) affecting the information environment. The IOCB provides the forum for collective co-1453 ordination of information activities. Within the scope of its assigned functions, 1454 the IOCB will provide initial co-ordination of target nominations related to 1455 information and information systems to facilitate subsequent harmonisation. It 1456 1457 will also provide advice on possible effects in the information environment created by other military actions. The responsible capability representatives, 1458 functional advisors or Component LOs will present results from IOCB 1459 1460 discussions to the respective targeting boards, where the Info Ops representative will monitor the selection, harmonisation, nomination and 1461 1462 prioritisation process, and advise on over-arching, cross-functional issues, as

1463 1464	required. The IOCB further provides a forum for co-ordination, de-confliction and monitoring of Info Ops related plans and activities.				
1465	2A4. <u>Responsibilities of the IOCB</u> . The responsibilities of the IOCB are:				
1466	a. co-ordination, revision and assessment of the plans and information				
1467	activities based on approved Information Objectives;				
1468	b. provision of Info Ops guidance based on commander's guidance and				
1469	direction;				
1470	 consideration of activities affecting the information environment; 				
1471	 identification of necessary and available resources and requirements; 				
1472	e. recommendations for tasking, co-ordination and staff action;				
1473	f. review of Info Ops inputs to the main body and annexes to various plans;				
1474	g. development of target nominations;				
1475	h. recommendation for approval of the Info Ops annex to plans;				
1476	i. co-ordination with outside agencies in consultation with other staff areas,				
1477	as required.				
1478	2A5. <u>General Responsibility of Representatives</u> . Representatives on the IOCB must				
1478	have the authority to speak for and make decisions on behalf of their command				
1479	functional area. Representatives provide information on their future intentions				
1481	and advise on the employment of their assets. Through the IOCB, activities are				
1482	de-conflicted and intentions amended to ensure coherence before submitting				
1483	inputs to the planning and targeting processes and, ultimately, the commander				
1484	for approval. Representatives from the subordinate or component commands,				
1485	usually Info Ops officers, will provide expertise and act as liaison for Info Ops				
1486	matters between the higher and subordinate commands.				
1487	2A6. Contribution of Specialist Staff to the IOCB. To maximise the effectiveness of				
1488	Info Ops, an integrated approach to operations that considers desired effects on				
1489	the will, capability and understanding of adversaries and other approved parties				
1490	must be considered. This requires a coordinated approach to Info Ops across				
1491	the staff, led by the command group, to achieve a common understanding of the				
1492	nature of the Info Ops function. Specific responsibilities for roles, functional				
1493	areas and other staffs include:				
1494	a. Political Adviser. The POLAD advises on policy implications of proposed				
1495	information activities and when required, coordinates the political aspects				
1496	of information activities with higher HQ counterparts. The POLAD guides				
1497	public diplomacy activities in accordance with the Information Strategy.				
1498	b. Legal Adviser. The Legal Adviser (LEGAD) advises on legal implications,				
1499	including ROE, of proposed information activities.				
1500	c. Cultural Adviser. The Cultural Adviser (CULAD) advises on cultural				
1501	implications of proposed information activities, including ethnological,				
1502	religious and social aspects. He also contributes to the assessment of				
1503	information activities from the cultural perspective.				
1504	d. Gender Adviser. The Gender Adviser (GENAD) advises on general				
1504	gender issues that may affect information activities. In particular, the				
1506	GENAD can provide advice regarding gender equality and women				
1507	empowerment, based on a high degree of cultural sensitivity. Depending				

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on the scenario requirements the CULAD may cover the function of the

1508

1509

GENAD.

1510 e. Systems Analyst. Using scientific methods, the Systems Analyst⁴⁴ 1511 provides significant input to all operational and campaign analyses and assessments in relation to the information environment. He is closely 1512 1513 associated with Info Ops, advising on and analysing measures of success, and informing campaign assessments. His advice and output will be 1514 1515 applied throughout the iterative planning, execution and review cycle. 1516 Chief Public Affairs Officer. The CPAO is responsible to the commander f. 1517 for all media relations, internal communication and community relations 1518 plans and activity. He participates in the Info Ops co-ordination process to ensure that PA activities and other military information activities are 1519 1520 mutually consistent. 1521 Chaplain. The Chaplain is responsible for the spiritual ministry and q. 1522 pastoral support to soldiers and their families in a range of challenging environments. He may contribute religious and cultural assessments to the 1523 1524 Info Ops function. Manpower Management Representative (J1). 1525 J1 participates when h. 1526 personnel and troop information matters are relevant to the conduct of information activities. J1 identifies personnel requirements and shortfalls, 1527 and provides advice on troop information programs. 1528 1529 i. Intelligence Representative (J2). J2 coordinates INTEL collection requirements and provides analytical support for Info Ops in close co-1530 ordination with the KD support staff. INTEL will provide the initial Systems 1531 1532 Analysis, to include a description of the political/military decision-making 1533 process and decision-makers, nodal analysis, human/cultural factors and an analysis of other entities' capabilities to affect the information 1534 1535 environment. J2 assists in the assessment of activities and the resulting 1536 effects and advises on the capability of all-source INTEL support to Info 1537 Ops to include targeting. 1538 Operations Management Representative (J3). J3 advises on the j. integration of effects and activities in the information environment into the 1539 1540 HQ's deliberate short and mid-term planning process as well as on the 1541 integration of information activities in the context of current operations. 1542 Logistics Representative (J4). J4 considers the effects of information k. 1543 activity on logistics and support, including any related capability requirements. 1544 1545 Plans & Policy Representative (J5). J5 integrates Info Ops planning into Ι. 1546 the long-term planning process (advance and crisis response planning). m. Communications and Information Systems / Command & Control Support 1547 1548 Representative (J6). J6 identifies Communications and Information Systems (CIS) vulnerabilities and develops procedures and capabilities to 1549 protect friendly battle management and Consultation, Command, Control, 1550 1551 Communications and Information (C4I) systems. J6 develops INFOSEC

⁴⁴ From the KD support staff or embedded in the INTEL (J2) staff.

1552	plane and supports the development of ODSEC plane. Is also accessed
1552	plans and supports the development of OPSEC plans. J6 also assesses the impact of adversary information activities on own systems.
1554 n	. Training and Exercises Representative (J7). J7 contributes lessons
1555	learned and mission rehearsal aspects to Info Ops.
1556 o 1557	. Financial Management Representative (J8). J8 advises on budgetary issues of projects having an impact on the information environment.
4 = = 0	
1558 р 1559	. Civil-Military Co-operation Representative (J9). J9 advises on CIMIC capabilities and assessments that support Information Objectives.
1560 q 1561 1562	. Psychological Operations Representative. The PSYOPS representative advises on PSYOPS capabilities and assessments that support Information Objectives.
1563 r. 1564 1565	
1566 s 1567 1568 1569 1570 1571 1572 1573	Liaison Officers. LOs provide critical linkages between their parent organisation and the supported HQ, ensuring the activities of both are mutually supportive. There needs to be a good understanding by LOs of plans and capabilities for information activities of their command. At the operational level, Component Commands should not rely on their standing, general purpose liaison staff for representation at the IOCB; rather should they consider involving flexible expertise appropriate to the subject issues to be discussed.
1574 t. 1575	Electronic Warfare Officer. The EW Officer provides advice on EW support to Information Objectives and feedback on its effectiveness.
1576 u 1577 1578	. Targeting Officer. The Targeting Officer ensures integration of Info Ops in the targeting process. He also assists in target de-confliction and assessment of effects of information activities.
1579 v 1580	Computer Network Operations Officer. The CNO Officer advises on CNO capabilities and assessments that support Information Objectives.
1582 1583 1584 1585 1586 x 1587 1588	assistance may have an enormous psychological impact on local/regional audiences. The Chief Medical advises on capabilities and assessments
1589 1590	that support Information Objectives.

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1591 Chapter 3 – Info Ops in the Effects-Based Operations 1592 Process

1593 Section I – Effects-Based Operations Introduction

- 1594 301. Effects-based thinking focuses on influencing or changing system behaviour or
 1595 capabilities using the integrated application of selected instruments of
 1596 power/areas of activity in order to achieve directed policy aims. Effects-Based
 1597 Operations (EBO)⁴⁵ consist of planned, executed, assessed, and adapted
 1598 military actions based on a comprehensive and dynamic understanding of the
 1599 operational environment.
- 302. Effects-based thinking provides the ability to be more responsive and 1600 1601 discriminating by emphasising the desired end state behaviour, i.e., how the 1602 situation in the operational environment would appear and evolve, and the 1603 specific effects that would lead to this desired end state. The effects-based approach postulates a more comprehensive understanding of a crisis, e.g., its 1604 1605 root causes and symptoms, relevant elements and involved parties and actors, and their interrelationships. It will also promote a comprehensive understanding 1606 of other parties to the conflict as well. Armed with this knowledge, military 1607 1608 commanders are afforded a more flexible and effective means to prosecute activities ranging from co-operation to conflict by focusing on the effects they 1609 1610 would need to create in order to achieve a behavioural change in the system of 1611 actors.
- 1612 303. The effects-based approach to operations establishes explicit linkages among 1613 system behaviour consistent with own objectives, the necessary effects that 1614 would lead to this behaviour, each instrument of power/area of activity required 1615 to generate these effects, and the specific tasks (sets of actions) at each level of command. This understanding and these explicit linkages - promulgated to, 1616 1617 and understood by leaders at all levels - provide increased flexibility and a 1618 greater ability to adapt to rapidly changing situations within the operational 1619 environment.
- 1620 304. Effects-based thinking also provides a powerful backdrop for a greater unity of effort among the various instruments of power/areas of activity. When all 1621 1622 instruments understand relevant system behaviour, the various elements that 1623 support or enable this behaviour, and the changes which would have to occur 1624 within a system to alter this behaviour, they will produce a much broader set of possible effects capable of achieving the desired behavioural change. 1625 Interagency co-ordination, participation and liaison must be an organic 1626 1627 component in the commander's EBO process.
- 1628 305. EBO are about ends (effects), ways (actions) and means (resources) it is the synergy of the three that gets results. An end is a description of what is to be achieved; ways is a description of how an end might be achieved, and means is a description of who might be used. EBO are 'outcome centric'; they focus upon

⁴⁵ The term **'Effects-Based Operations (EBO)'** is used throughout the document for the military application of effects-based thinking – or: the effects-based approach (to operations) – at the operational level of command.

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1632 the results that might be obtained by the application of military actions in concert with the other areas of activity and the selection of the most expedient 1633 and effective way of obtaining these outcomes. The conduct of EBO, therefore, 1634 1635 demands first to establish the intended outcome prior to 1636 determining/implementing the actions that will likely produce the desired result.

- 306. Actions undertaken at the political, strategic, operational, and tactical levels can cause effects at any other level. Effects can occur simultaneously on the tactical, operational and strategic levels of military operations, as well as in domestic and international civil arenas. Effects, at each level and in each arena, are interrelated and cumulative over time. Also, effects in this context can be cognitive as well as physical, i.e. changes in attitudes and behaviour of actors, as well as in the functionality of weapon systems or other capabilities.
- 307. Within an effects-based approach to operations, military information activities
 will notably contribute to achieve effects on adversary, friendly, neutral, and own
 system behaviour or capabilities in concert with effects produced by other
 military and civil means. Effects on own systems will support the protection and
 enhancement of own capabilities.
- 1649 308. The delineation between what constitutes information activity and what constitutes mainstream military activity is becoming increasingly blurred as 1650 effects-based thinking is pursued. In the future commanders and their staffs will 1651 have to consider all means for creating effects from the outset, and they will be 1652 as familiar with information as they are with the traditional operational factors 1653 force, space and time. The desired end state is the full integration of the factor 1654 information - a sufficient awareness of the additional options provided by 1655 affecting the information environment. 1656
- 309. Within EBO, Info Ops will notably contribute to create effects on adversary,
 friendly, neutral, and own system behaviour or capabilities in concert with other
 military and civil activities. Info Ops must be fully integrated in order to enable
 co-ordination and advice on the military contributions to an overarching
 Information Strategy.
- 1662
 310. The EBO process can be described in terms of four major functions: Knowledge
 1663 Development (KD); Effects-Based Planning (EBP); Effects-Based Execution
 1664 (EBE); and Effects-Based Assessment (EBA). The effects-based approach
 1665 proposes a few key divergences from traditional approaches in each of these
 1666 areas. Once a campaign is under way the EBO functions will occur both in a
 1667 sequential and in a parallel manner.

1668 Section II – Knowledge Development

1669 311. KD is a function that applies Systems Analysis to generate and enable explicit knowledge of the operational environment in order to improve situational 1670 awareness and understanding in support of a comprehensive approach in a 1671 1672 multinational and interagency context. Systems Analysis is a method which defines a network of elements, their relations and interactions, evolving in space 1673 and time and so allows a valid contextual assessment of objectives, sequences 1674 1675 of effects and sequences of actions. The result of Systems Analysis is a comprehensive modelling of the operational environment with its system 1676

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1677 dynamics and feedback loops. Systems Analysis will provide a description of 1678 intended effects and will expose both intended and unintended consequences. 1679 Systems Analysis will utilise various existing models, methods, techniques to 1680 model and explore the system in its dynamics. Although no single model or 1681 method will sufficiently cover all aspects, the application of specific models will facilitate a systemic view on the operational environment. Relevant candidate 1682 1683 models may be found in several scientific areas, to include: operations research, cognitive modelling⁴⁶, social, natural and economic sciences, social 1684 1685 and technical network analysis, command and control assessment, human 1686 behaviour representation, risk assessment, information dissemination, and ethnology⁴⁷. 1687

- 1688 312. Basic staff activities such as personnel, INTEL, operations/command & control, 1689 logistics, plans & policy, communications, training & exercise, budget and 1690 finance, CIMIC, and the Special Staff contribute to and receive value from the 1691 KD process without interfering with original responsibilities. KD also utilizes linkages between national and multinational partners/agencies, Centres of 1692 1693 Excellence (COEs), SMEs, and the HQ staff. It strives to take advantage of 1694 relevant information and knowledge from all available (open and classified) 1695 sources of expertise.
- 1696 313. KD contributes to a knowledge base that contains the information necessary for 1697 Systems Analysis and other use. The results of Systems Analysis and other 1698 assessment are continuously fed back into the knowledge base. It is 1699 continuously updated by and accessible for customers (civil and military actors 1700 and supporting staff). KD facilitates a widened, comprehensive view on the 1701 operational environment. Based on a systemic methodology, the clarity of 1702 interrelationships between all relevant actors and issues with regard to power 1703 and influence is significantly enhanced. Improved situational awareness and 1704 understanding provides a common, improved foundation for further analysis, 1705 planning, execution/management and assessment/evaluation of operations/ 1706 missions, including their related processes and structures among military and 1707 civil partners.
- 314. Systems Analysis provides the Info Ops function with valuable knowledge of the
 relevant systems in order to make valid assumptions, to take full advantage of
 their strengths and weaknesses, and to assess the impact of information
 activities.

1712 Section III – Effects-Based Planning

315. Overall Planning Considerations. Info Ops is an integral part of military activity
at every level of command. It is therefore critical that Info Ops aspects are
considered in the planning process from the beginning. Planning of effects and
activities in the information environment must directly support the commander's
intent, guidance and desired end-state. Info Ops staff should be core members
of relevant staff planning sub-groups, and provide inputs to planning for the

⁴⁶ E.g., mental models for decision-making, individual or shared sense-making.

 ⁴⁷ Systems Analysis may be structured according to the PMESII (Political, Military, Economic, Social, Infrastructure, Information) or any other adequate analysis scheme.

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1719targeting process. An Info Ops estimate will usually be conducted (either as a1720written product or as a less formal process) to ensure that all potential1721information activities and their intended effects are properly considered and1722then fed into the commander's estimate process.

- 1723 Inclusion. Planning of activities to achieve desired effects in the a. 1724 information environment provides significant input to EBP. There are important links to be established with the planning team looking at the 1725 overall commander's campaign. It is imperative that Info Ops is not added 1726 1727 on afterwards, but integrated into planning from the beginning while Strategic Objectives and Decisive Conditions are being identified as a 1728 1729 central aspect. It is equally important that planning for Info Ops is 1730 considered during the IPB process.
- 1731 b. Integration. The Info Ops staff need to understand the other aspects of 1732 the commander's plan and how they may impact on planned activities in the information environment (and supporting plans) and ensure that Info 1733 Ops are integrated into the overall plan, without conflict with other 1734 1735 elements and functions. This means that the Info Ops planners must 1736 maintain a broad perspective with respect to how other operations can 1737 impact on the information environment, taking a protracted amount of time to complete or involving several synchronous operations and activities. 1738
- Certain information activities may be 1739 c. Planning for Sensitive Issues. considered sensitive due to the nature of these, the audiences or the 1740 1741 targets. This type of planning may have to be conducted within a subgroup of the planning team. Briefing of sensitive plans or those which are 1742 classified above the level of the overall operation will have to be 1743 1744 conducted separately on the basis of 'need to know' and should be marked with a Limited Distribution (LIMDIS) caveat. Plans should always 1745 1746 be considered for sensitivity marking if they address deception, the use of special IT, political sensitivities or if plans involve using SOF. 1747
- 1748d.Phasing.Effects in the information environment to support the overall1749mission and implementation of the Information Strategy must be1750considered at the earliest stage possible, and relevant activities have to be1751required even prior to the deployment of the main force. Similar1752consideration should be given concerning the support to transition and1753redeployment, where effects in the information environment need to be1754continued.
- 1755 316. <u>Effects-Based Planning</u>. The EBP function supports the development of a plan that matches the end state with the effects needed to achieve the end state, with the causative actions required to create the effects, and the resources needed to execute the actions. EBP also supports the development of an assessment plan which provides the method to assess the progress of the campaign towards achieving the end state.
- 1761 317. The end state describes the state of the system that is desired at the end of the operation. During planning, development and application of effects statements bridges the gap between end state and actions. Not only is a bridge of reason provided between the two, but a context for civil-military interaction is built, and the basis for continuous assessment of the effectiveness of the operation is

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created. An end state may be decomposed into objectives, which describe the
intended end state from the commander's perspective. The wording of
objectives and effects is more specific than that of the end state. Effects are
then translated into actions that will need to be taken against parts of the
system in order to create the desired changes. Many actions may be required to
create an effect.

- 1772 318. EBP emphasizes the consideration of the various effects (physical and/or behavioural states of a system) caused by an action or set of actions that result 1773 from application of capabilities associated with specific levers of power. Besides 1774 own actions under control of national/Coalition/Alliance power, other actions are 1775 1776 undertaken by (potential) adversaries, friends and neutrals, including non-state 1777 and non-governmental civil and military actors that affect mission accomplishment. All of these actions cause effects and - more or less - shape 1778 1779 the behaviour of those who perceive these actions and/or related effects.
- 1780 319. The product of EBP is an effects-based plan that provides subordinate
 1781 commanders with sufficient detail to complete their own planning, as well as
 1782 with the direction for the conduct of the operation. It is developed throughout the
 1783 project planning process and *inter alia* contains the plan expressed in a
 1784 synchronisation matrix that depicts the relationships and dependencies among
 1785 desired effects, planned actions, and their associated resources as a function of
 1786 time and space.
- 1787 320. The Info Ops function facilitates the appropriate consideration of the information factor within the military instrument of power. It coordinates military information activities and integrates those with other military activities throughout the EBP process. Representatives and experts from all relevant capabilities will contribute to the development of effects, actions, and tasks according to their areas of expertise.
- 321. Based on the Information Strategy Info Ops contribute to EBP by facilitating the exploitation of the full spectrum of available options, and by supporting the co-ordination and de-confliction of information activities in order to form a coherent effort. Info Ops also supports the harmonisation with civil information activities using appropriate procedures and structures for interagency co-ordination.
- 1798 322. Outputs from Info Ops Contribution to Planning. The functions and processes indicated above will lead to the production of key planning products in support of operational plans and executive papers. The products are applicable for both training and operations. Standard formats should be developed and used as guidance for Info Ops staffs within command standard operating procedures.
- 1803a.Info Ops Estimate.Info Ops contribute to the staff estimate throughout1804the operational planning process and conduct of operations. Details are1805provided in Annex 3A.
- 1806 Info Ops Elements of Plans. The strategic plan/directive is required to b. provide overall guidance to the operational planner. It should, as a 1807 minimum, cover details concerning strategic-political intent and any 1808 restraints, constraints or limitations placed on planning for information 1809 1810 activities. The desired effects, themes and messages generated from the specific Information Objectives distilled from the Information Strategy will 1811 1812 be listed in the Info Ops Matrix. Subordinate commanders will use this

1813 1814 1815 1816 1817 1818		matrix as a basis for their own plans. Info Ops must be developed to support both the Information Strategy and the overall campaign plan; consequently, Info Ops staff must ensure that the two requirements are melded together and potential conflicts of interest highlighted. The Info Ops staff will be responsible for providing the following elements as part of the plan:
1819 1820		 (1) the commander's intent concerning desired effects in the information environment;
1821		(2) Information Objectives provided by the Information Strategy;
1822 1823 1824		 (3) HQ internal and external coordinating instructions concerning the implementation of the Info Ops function within their own and subordinate commands;
1825 1826		(4) Info Ops considerations concerning INTEL, targeting and assessment of effects in the information environment.
1827 1828 1829 1830		(5) Co-ordination and support to the primary contributors of information activities will be included as cross-references to the appropriate functional annexes. These cross-references are not fixed but will be situation and mission-dependent.
1831		An outline Info Ops Annex to plans is at Annex 3B.
1832	C.	Info Ops Contribution to Tasking. Within development of orders, Info Ops
1833		contributes aspects concerning the information environment that affect the
1834		conduct of information activities and require additional co-ordination effort.
1835		This contribution focuses on the identification of opportunities for the
1836		achievement of synergetic effects, and on the de-confliction of efforts (e.g.,
1837		concerning the use of resources). The Info Ops staff will not issue any
1838		separate orders.
1839	d.	Info Ops Contribution to Targeting. Info Ops assist in the targeting
1840		process by identifying where (information) activities could be applied to
1841		achieve specific effects in support of the commander's mission objectives.
1842		During planning and continuously as part of implementation, target
1843		nominations are required in order to implement information activities and
1844		other actions affecting the information environment. These targets will be
1845		coordinated through the Info Ops process (e.g., using the IOCB) and can
1846		include a diverse array of subjects, including decision-making systems,
1847		information systems and other linked activities. The cyclic target
1848		development process during planning must include Info Ops input from the
1849		strategic to tactical levels and vice versa.
1850 1851 1852 1853 1854	e.	<u>Force and Capability Co-ordination</u> . To ensure that relevant capabilities and appropriate staff manning are inserted in good time into the force requirements, a clear analysis must be carried out to determine broadly what activities are needed to support the campaign. This is a continuous process and requires regular review.
1855 1856 1857	f.	<u>Campaign Plan Review</u> . Throughout the planning process, the Info Ops staff will continue to conduct assessment of the information environment, and contribute to the refinement/adjustment of estimates and plans. This

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1858 1859 will require constant synchronisation of the planning of information activities with feedback to the Information Strategy.

1860 Section IV – Effects-Based Execution

- 323. The EBE function monitors actions taken to create specific effects. Following 1861 the issuance of the orders derived from the EBPLAN, execution of EBO is 1862 1863 dynamic and adaptive, which provides two subtle but vital differences compared to traditional execution: first, military and civilian actions are conducted 1864 complementary whenever possible; secondly, in combination with continuous 1865 assessment, opportunities are created to make adjustments to the plan in a less 1866 1867 disruptive manner, making even fundamental changes potentially less costly in terms of momentum, resources, and even political will. 1868
- 1869 324. EBO focus in terms of systems, not in terms of traditional targeting. Information activities in EBO aim at specific parts of the system information systems and their relations to other sub-systems in order to contribute to influencing overall system behaviour and capabilities. The spectrum of information systems covers those of (potential) adversaries as well as own and those of others (friendly and neutral). Information activities may be aimed at individuals, groups, populations (audiences) as well as technical components of information systems (targets):
- 1876a. 'audiences' for non-kinetic information activities could be (potential)1877adversary decision-makers, supporting opinion leaders and opinion1878formers, and their followers⁴⁸;
- b. 'targets⁴⁹ for kinetic information activities could be the information infrastructure, IT and information-based processes of (potential) adversaries^{50;} ultimately also humans may become targets, if non-kinetic action is ineffective.
- 1883 325. Effects created by information activities cannot be limited to specific sub1884 systems, e.g., if mass media or electronic emissions are involved. These means
 1885 by their nature may cause side effects on unintended audiences that have to be
 1886 considered and weighed in the planning and approval process.
- 1887 326. An essential element of the EBE process is co-ordination with relevant civil activities, and the synchronisation of respective actions to ensure unity of effort.
 1889 The Info Ops function facilitates the co-ordination of military information activities with civil information activities.

1891 Section V – Effects-Based Assessment

1892 327. EBA is the basis for the commander to ascertain campaign success from start1893 to finish, and provides continuous feedback to the other functions of the EBO

 ⁴⁸ However, to be able to support the full spectrum of possible operations/missions, information activities may be conducted to reinforce behaviour of friendly audiences and/or to consolidate and modify behaviour of neutrals
 – to prevent them from becoming adversary or hostile.

⁴⁹ In NATO a **'target'** is defined as the object of a particular action, for example a geographic area, a complex, an installation, a force, equipment, an individual, a group or a system, planned for capture, exploitation, neutralisation or destruction by military forces. (AAP-6(2007))

⁵⁰ In addition, Info Ops will contribute to maintaining the functionality of, and exploiting own and friendly information systems.

- process. The EBA function addresses the accomplishment of actions, the
 creation of effects, and the attainment of the end state as expressed in the
 Synchronisation Matrix while the plan is executed.
- 1897 328. EBA periodically measures the degree to which the elements of the campaign plan have been established as a function of time. These measurements are 1898 1899 based to a varying degree on a combination of gualitative and guantitative analyses. An assessment plan provides the method to assess the progress of 1900 the campaign. Measures of Effectiveness (MOE) describe the parts of the 1901 system that need to be examined in order to determine whether effects have 1902 1903 been (or are being) achieved. Measures of Performance (MOP) describe the 1904 parts of the system that need to be examined in order to determine whether the 1905 assigned actions have been (or are being) completed. Baseline measures will 1906 be developed in the planning phase and collected, where feasible, before 1907 operations start.
- 1908 329. Info Ops contributions to EBA will have to consider short, mid and long-term effects – the latter usually applies to consistent changes in behaviour of human 1909 audiences. The Info Ops staff, in co-operation with COEs and SMEs of 1910 1911 respective capabilities, will have to apply the respective measures for each effect (MOE) and supporting actions (MOP) which they developed during EBP 1912 to cover the whole range from short to long-term. For long-term effects reliable 1913 1914 MOE will likely not be available in the early phases of an operation. In these 1915 circumstances MOP may provide indicators/trends that permit interim assessment until observable indicators linked to the MOE occur. Assessment in 1916 1917 the absence of reliable MOE may ultimately depend on the judgement and 1918 experience of the commander and his staff.
- 1919 330. Assessment of both MOE and MOP can be conducted by using organic means 1920 of military capabilities (such as PSYOPS target audience analysis, PA media 1921 analysis, manoeuvre and special forces reporting, and INTEL) as well as by outsourcing services (e.g., opinion polls and scientific studies). Assessment is 1922 1923 also critically dependent on component reporting of their activities and the effect the component identified they had on the target. Synthesis of all available 1924 sources lends legitimacy to the final analysis and ensures follow-on actions are 1925 1926 timely and appropriate.
- 1927 331. Plans can expect to be compromised by developing circumstances, so continuous adjustments are likely to be required during implementation to ensure proper focus on desired outcomes. Based on EBA results, Info Ops have to continue co-ordination throughout the adaptive process to maintain coherence and unity of effort.
- 1932

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1933 Annex 3A – The Info Ops Element of the Staff Estimate Process

- 1934 The following guidance addresses Info Ops considerations at the 3A1. General. various stages of the command estimate process, which can be conducted as 1935 1936 either a written Info Ops estimate, or as a thought process that feeds into the 1937 overall staff estimate, as required. It should be updated through an iterative process that involves INTEL, Systems Analysis as well as functional/capability 1938 expertise and will contribute to overall situational awareness and understanding. 1939 The Info Ops staff will provide guidance to INTEL analysts, submit specific 1940 Knowledge Requests (KRs)⁵¹, and coordinate analysis contributions and assessments from capabilities. The Info Ops staff will not perform any INTEL 1941 1942 collection or analysis function itself. 1943
- 1944 3A2. <u>Analysis of Strategic and Political Guidance</u>. The Info Ops staff will
 1945 continuously review the Information Strategy to reaffirm relevancy of Information
 1946 Objectives, planned desired effects in the information environment and related
 1947 activities. The Info Ops estimate should contain an updated comparison of
 1948 strategic guidance and the operational commander's intent and plans. Related
 1949 assessments should be translated as feedback and advice to superior
 1950 authorities.
- 3A3. Assessment of the Information Environment ⁵². The Info Ops estimate should 1951 focus on the analysis and assessment of the information environment in a 1952 systemic context including at least relevant actors, specific information systems, 1953 and the media. This description and assessment cannot be done in isolation by 1954 but needs to be coordinated and draw from 1955 Info Ops staff. the functional/capability expertise without duplicating others' analysis efforts. The 1956 resulting product should be considered as a summary of collective situation 1957 1958 analysis.
- 3A4. <u>Status of Own Information Activities</u>. The Info Ops estimate should include an overview of available own capabilities, tools and techniques for conducting military information activities, including their current state of readiness, involvement in current operations and principle limitations. This part of the estimate should be contributed to by the responsible capability representatives, functional advisors or component LOs. Chapter 1, Section IV and Chapter 2, Annex 2A provide initial guidance for structuring this part of the estimate.
- 3A5. <u>Status of Other Actors' Information Activities</u>. The Info Ops estimate should also include an overview of other relevant actors' capabilities, tools and techniques for creating effects in the information environment, including their (assumed) intent and objectives, current state of readiness, involvement in current operations, principle limitations and vulnerabilities. This part of the estimate should be coordinated with INTEL and the responsible capability representatives, functional advisors or component LOs.
- 19733A6. Possible Effects in the Information Environment. The Info Ops estimate should1974conclude with a list of possible effects, considering all three activity areas

⁵¹ Traditional: 'Requests for Information' (RFIs).

⁵² See Analytical Concept "Development of a Multinational Information Strategy" for a generic taxonomy of the information environment and a list of guiding questions for its assessment.

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1975	outlined in Chapter 1, Section IV. Effects must be formulated in a way that
1976	describes the physical and/or behavioural state of a part of the information
1977	environment (see Paragraph 3A3) that results from an action or set of actions.
1978	They should be characterised as desired or undesired. In addition, the Info Ops
1979	staff should consider possible trends (developments, evolutions) that may occur
1980	over time without own interference.

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1982	Annex 3B – Info Ops Annex to Plans (Format)
1983 1984 1985 1986	ANNEX O TO PLAN xxxx TITLE xxxx DATED dd mm yyy
1987	INFORMATION OPERATIONS
1988 1989 1990	REFERENCES:
1991	1. (xx) ⁵³ <u>SITUATION</u> .
1992	a. General. See main text.
1993	b. Specific.
1994 1995	(1) <u>Information Environment.</u> Summary of mission-relevant aspects o the information environment, taken from the Info Ops Estimate.
1996 1997 1998	(2) <u>Strategic Guidance</u> . Summary of mission-specific strategic and political guidance on information activities (Information Objectives, themes and messages).
1999 2000	(3) <u>Own Information Activities</u> . Summary of the status of owr information activities, taken from the Info Ops Estimate.
2001 2002	(4) <u>Other Actors' Information Activities</u> . Summary of the status of othe actors' information activities, taken from the Info Ops Estimate.
2003	2. (xx) <u>MISSION</u> .
2004 2005 2006	a. <u>Strategic Command</u> . Statement of the superior commander's inten towards the information environment, taken from the Strategic Directive (if available).
2007 2008	b. <u>Operational Command</u> . Statement of the commander's intent towards the information environment, taken from the main plan, Paragraph 3.a.
2009	3. (xx) EXECUTION.
2010 2011 2012	a. Information Objectives. List of Information Objectives that are to be achieved or contributed to by military means, derived from the Information Strategy and the Strategic Directive (if available).
2012	b Thomas and Massagas Taken from the Information Strategy and the

 ²⁰¹³ b. <u>Themes and Messages</u>. Taken from the Information Strategy and the
 2014 Strategic Directive (if available).

⁵³ Abbreviated classification.

- 2015 **c.** <u>Supporting Effects</u>. Prioritised list of desired effects in the information environment.
- 2017 **d.** <u>Primary Contributors</u>. Cross-reference to appropriate functional annexes of capabilities conducting or contributing to information activities.
- 2019 **e.** <u>Key Leaders Engagement</u>. Guidance on the development of the KLEP.
- 2020 4. (xx) COORDINATING INSTRUCTIONS.
- 2021a. Information Operations Co-ordination Board.Guidance on the IOCB2022composition and process in support other HQ processes, taken from the2023relevant SOPs (if available).
- 2024**b.** <u>Analysis Support</u>. Guidance on INTEL/Systems Analysis support to Info2025Ops as well as contributions by capabilities conducting or contributing to2026information activities, with cross-reference to appropriate functional annexes.
- 2027 c. <u>Targeting</u>. Guidance concerning the coordination of target nominations, taken from the relevant SOP (if available).
- 2029 **d.** <u>Measurement of Success</u>. Reference to effects listed in Paragraph 3.c: guidance on the coordinated/collective assessment of MOE.
- 2031 e. <u>Info Ops Reporting</u>. Guidance on contributions to reporting concerning
 2032 information activities and effects in the information environment, with cross 2033 reference to appropriate functional annexes.
- 2034
- 2035
- 2036 <u>APPENDIX</u>: Info Ops Matrix (Format: see Annex 3C)
- 2037
- 2038

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2039 Annex 3C – Information Operations Matrix Format (Example)

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Serial	Information	Mulitary	Effects	Themes	Messages	MOE	Co-ordination Requirements	Remarks

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2057 Chapter 4 – Education and Training

2058 Section I – Introduction of a New Mind-Set

- 401. A comprehensive and systemic understanding of the information environment
 by all decision-makers and their staffs should be the ultimate goal for integrating
 the information factor throughout analysis, planning, execution and assessment
 of military operations. The Info Ops function will assist all relevant staff activities
 by providing advice and co-ordination.
- 2064 402. It is of utmost importance to understand that Info Ops staffs will never be able to substitute respective leadership qualifications required to cope with all 2065 challenges posed to the security environment in modern information societies: 2066 2067 the information environment is not a parallel universe that could be looked at independently from 'traditional' or 'conventional' activity; nor can it be dealt with 2068 just the employment of a limited number of some 'core capabilities'. Therefore, 2069 2070 the Info Ops function requires the application of a generalists' perspective rather 2071 than a biased specialist view.

2072 Section II – Info Ops Staff Skills and Competencies

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- 403. Info Ops staffs should be able to contribute to all aspects of the EBO process and provide advice based on a sound knowledge of the information environment. A vital prerequisite for this is an understanding of the functional capabilities contributing to or performing information activities, and experience of general HQ processes. Info Ops staffs require appropriate levels of experience, training and qualifications to discharge the Info Ops staff activities described in Chapters 2 and 3.
- 404. Specific Info Ops staff skills and competencies derived from these staff
 activities include:
- 2082a. A comprehensive and systemic understanding of the information2083environment.
 - (1) Basic principles of complex systems (Systems Theory).
 - (2) Basic principles of Systems Analysis ('systemic approach').
- 2086(3) Basic principles of Operations Research (OR), and Modelling and2087Simulation (M&S).
- 2088(4) A conceptual model of relevant aspects of the operational environment2089for information and information systems:
 - (a) recognition of system structures and dynamics;
 - (b) balancing complexity reduction vs. complexity management;
 - (c) selection and assessment criteria for factors that determine system behaviour.
 - (5) Procedures and structures for the collaboration with personnel/agencies with assigned Systems Analysis/INTEL functions:
 - (a) roles and responsibilities of advisors and analysts vs. planners and operators;

2098	(b) significance of the focusing of planning and conduct of operations
2099	on information and information systems.
2100 2101	(6) Basic principles of intercultural competence and human communication.
2102	b. Basic knowledge about own and others' capabilities for creating effects in
2103	the information environment:
2104 2105	 Options for providing specific direction and guidance (e.g., Information Strategy).
2106	(2) Available and relevant assets/means/methods (military and civil) for
2107 2108	creating effects in the information environment, including their capacity and employment principles:
2109	(a) assets, means and methods for conducting information activities;
2110 2111	(b) possible effects of mainstream activity in the information environment;
2112 2113	(c) interfaces and starting-points for synergetic effects and/or trade- offs.
2114	(3) Basic methods and techniques for the measurement of success (MOP
2115	and MOE).
2116 2117	(4) Legal aspects involved in the employment of above capabilities, including ROE.
2118	c. Process management skills, including components of information
2119	management and visualisation techniques:
2120	Deepened knowledge and skills for staff duty:
2121 2122	 (a) possible staff structures (emphasis on particularities of joint and combined headquarters);
2123	(b) basic staff processes (e.g., planning, targeting), including battle
2124	rhythm.
2125	(2) Methods and tools:
2126	(a) Info Ops Estimate;
2127	(b) KLEP;
2128	(c) Info Ops Matrix.
2129	(3) Recognition of the importance of the establishment and development
2130	of expert networks, and the collaboration with SMEs.
2131	(4) Preparation, conduct and evaluation of co-ordination processes:
2132	(a) IOCB (see Annex 2A);
2133 2134	(b) details of the co-ordination with members of the command group and special staff;
2135	(c) details of the consultation with civil actors.
2136	405. Furthermore, Info Ops staff should have gained literacy and/or experience in the
2137	following areas:
2138	a. understanding effects-based thinking and the comprehensive approach;
2139	b. understanding information as an operational factor;

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- c. understanding the joint targeting process;
- 2141 d. creativity skills (for adapting plans for information activities to specific 2142 environments);
- e. holistic and analytical thinking skills;
- f. leadership and moderation skills;
- g. social competence and communication skills.

2146 Section III – Individual and Collective Training for Info Ops Staff

- 406. Prior to employment in a multinational (Alliance or Coalition) context, nominated
 Info Ops personnel should have undertaken a multinational Info Ops course
 (e.g., at the NATO School or by attendance of a national course offered by a
 partner nation) and/or have undergone a similar level of national training.
- 407. In addition to formal training courses, individual training can be undertaken with 2151 2152 personnel grouped for training depending on their role and function in a HQ 2153 staff. Those involved daily with Info Ops, either by being an integral part of an Info Ops staff or indirectly involved through working in another section, will 2154 2155 require a higher level of understanding and training than personnel who will just gain some limited exposure during exercises. Additionally there is a general 2156 requirement to train all staff to have a basic understanding of the Info Ops 2157 2158 process and to train the command groups to understand how Info Ops can 2159 benefit them and how to best employ the resources/capabilities at their 2160 disposal.
- 408. Personnel augmenting a staff for exercises or operations need to be properly
 qualified and should have some experience prior to filling the posts. Sufficiently
 detailed job descriptions for each Info Ops billet should be prepared and posted
 or distributed during the planning phase for operations or exercises.
- 409. Augmentees to HQs must receive the latest policy, doctrine and SOP
 information concerning Info Ops prior to filling an Info Ops post. This will enable
 them to properly prepare for their functions. Failure to do this may cause
 augmentees to spend several days reviewing basic doctrine and policy instead
 of fulfilling their post. Attending training courses in Info Ops and related
 applications will help provide the augmentees with a basis of knowledge and
 understanding.

2172 Section IV – Training Activities for Key Leaders

- 2173 410. It is crucial that the key leaders gain an understanding of the Info Ops function, 2174 information activities and the effects that can be created. The training of key 2175 leaders in Info Ops will greatly improve their understanding of how Info Ops can contribute to the mission, and thereby enable the Chief Info Ops to gain 2176 2177 approval for Info Ops contributions to plans and operations within an 2178 environment supportive of Info Ops. Training for key leadership can be provided 2179 through attendance at various multinational courses (e.g., run at the NATO 2180 School) and through national resources.
- 411. Key leader knowledge of Info Ops will also help to ensure that Info Opsbecomes central to plans and exercises. The Chief Info Ops should take every

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2183 opportunity to brief and update key leaders to ensure they understand the 2184 importance and central role of Info Ops.

2185 Section V – Headquarters Functional Area Internal Training

412. It is important that functional staff divisions and specialist staff also benefit from
Info Ops training to enable them to effectively work and integrate with Info Ops
staff to maximise the Info Ops contribution to the mission. Training could
include lectures, pre-exercise briefings, and mini-exercises to develop aspects
of Info Ops, to ensure that the entire HQ staff is aware of the strengths and
benefits of Info Ops and that they incorporate them into all unit training.

2192 Section VI – Integrating Info Ops within Exercises

- 2193 413. Outside structural exercise planning, there is a real need for the Info Ops staff to be fully involved in the preparation of strategic, operational or tactical 2194 2195 exercises. Info Ops has many links across the spectrum of exercise training objectives and operational planning. Info Ops should therefore be integrated 2196 from the beginning of the exercise planning process through exercise analysis 2197 2198 and the identification of lessons learned. Integration of Info Ops is considered particularly relevant for command post exercises, study periods, seminars and 2199 2200 map exercises to develop the Info Ops knowledge and understanding of 2201 commanders and their key staff.
- 2202 414. Equally important are manpower and forces for exercises. Depending on the 2203 type of exercise being conducted, serious consideration should be given to the 2204 manning of Info Ops staff and the expertise required, especially since much of 2205 the staff is often built through augmentation. Other role players and Directing Staffs, who control, coordinate and synchronise the Info Ops contribution from 2206 2207 the adversary's perspective should be considered early in the planning process. There will also be the need for interagency co-ordination and co-operation with 2208 2209 civil actors such as IOs, NGOs and other civil representatives involved in 2210 exercising Info Ops.
- 415. When considering the training objectives of each unit participating in the exercise, the type of training, forces and units required should be determined.
 Certain manoeuvre operation elements and the more technical aspects of information activities such as EW and CNO are best trained during a live exercise, which may include everything from providing tactical jamming assets to playing the role of adversary key decision-makers.
- 416. Early allocation or request for units is essential together with an understanding
 of their intended role in the exercise. The limitations and other restrictions for
 operating those forces need to be resolved in the early stages of planning.
- 417. An exercise analysis plan should be created as part of exercise planning to
 ensure that valuable lessons identified before, during or after the exercise can
 be addressed. Lessons should be captured during exercise runtime so that they
 can be addressed, changed during the exercise (if necessary) and can also be
 included in later analysis.
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Chapter 5 – Legal Aspects

2227 Section I – Developments in Modern Warfare and Law

2226

- 501. The advent of IT has made it possible for adversaries to attack each other in new ways, inflicting new forms of damage and influence. Attackers may use international networks to affect adversary systems without ever physically entering the adversary's country. Additionally, a country's dependence on information-based systems may make those systems particularly attractive targets. Furthermore, the dual-use nature of many information systems and infrastructures may blur the distinction between military and civilian targets.
- 502. The provisions of International Law, including the Law of Armed Conflict (LOAC), apply to Info Ops. As a result of the rapid technology expansion over the past decades, the virtual nature of information, and the change of focus from manoeuvre warfare to asymmetric warfare, some activities involved in Info Ops may require further consideration under International Law.
- 503. There is currently no common international understanding as to whether 2240 2241 information activities other than kinetic options are comparable to an "armed attack" or to "use of force" in the traditional sense. The dilemma in responding 2242 to an opponent's information activities is the difficulty in actually identifying an 2243 attack. This is exacerbated when supposed information activities occur during a 2244 2245 period of relative calm or reduced international tensions. Investigators may have difficulty differentiating between an accidental catastrophe and a malicious 2246 2247 attack. In any case, the response to adversary information activities shall be 2248 proportional.

2249 Section II – Legal Challenges to Info Ops

- 2250 504. Info Ops challenge existing international law in three primary ways:
- First, the intangible damage or cognitive effects that information may 2251 a. 2252 cause is fundamentally different than the physical effects caused by traditional warfare. The damage and destruction caused by conventional 2253 2254 munitions is easy to comprehend and conforms to accepted views of war. 2255 In contrast, the disruption of information systems or the manipulation or 2256 corruption of stored or transmitted data or the shaping of human perception may cause intangible damage - such as the disruption of civil 2257 or government services or the unconscious and biased decision-making of 2258 2259 military leaders - without primary or secondary physical effects.
- b. Second, the ability of information or an electronic signal to transit
 international networks challenges the concept of territorial sovereignty. As
 the world becomes increasingly "networked" with signals travelling across
 international borders with impunity, allowing individuals or groups to affect
 systems around the globe without directly or indirectly causing physical
 damage, the precept of territorial sovereignty becomes blurred.
 Additionally, such intangible crossing of national borders without causing

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2267 any physical effects may not be the type of violation traditionally 2268 recognized as a military attack. 2269 C. Third, information activities which do not cause physical damage may be difficult to define as "attack" or "acts of violence against the adversary" 2270 in the sense of Humanitarian Law. Thus, regulations of the LOAC 2271 2272 protecting non-combatants and civilian objects partly may not be applicable. Furthermore, in the context of information activities, it is difficult 2273 to distinguish legitimate military targets from forbidden civilian objects. 2274 Section III – Fundamental Questions 2275 2276 505. When examining the relationship between Info Ops and the law – particularly International Law and the LOAC - it becomes apparent that fundamental 2277 2278 questions need to be explored: a. How do the terms 'use of force', 'armed conflict', 'armed attack', 2279 'aggression', 'violence', 'hostile intent', and 'hostile act' equate or relate to 2280 2281 information activities? 2282 b. Who are considered combatants related to information activities? 2283 C. How will established legal principles related to national sovereignty be affected by information activities? 2284 2285 How does international law apply in situations where there is no armed d. 2286 conflict or UNSC mandate but where Info Ops are applied, ranging from peacetime to military operations other than war?⁵⁴ 2287 e. When and how is Info Ops targeting restricted by the principles of the 2288 2289 LOAC?

- f. How can proportionality be determined for information activities?
- g. What obligation exists to assess reverberating effects?

2292 Section IV – Rules of Engagement

- 506. The political/strategic leadership must clearly state not only the objectives for any mission that they task to the military but also the constraints that are to be placed upon that mission and its execution. The adherence to a set of ROE does not, however, guarantee the legality of a particular action; it remains a command responsibility to use only that force which is necessary, reasonable and lawful in the circumstances.
- 507. Ideally, there should be just a single set of ROE; these should be agreed to by
 all nations contributing to a Coalition operation. However, national differences
 often result in additional national limitations on ROE which may be more
 restrictive than the Coalition's ROE. Clearly, this will be a major factor for the
 commander to consider when assigning troops to task. The commander will
 strive, through the auspices of the Strategic Commander or interagency coordination procedures and structures, to establish uniform ROE throughout his

⁵⁴ In NATO, the full scope of activities to affect the information environment requires NAC approval.

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2306 command. This process can, however, be lengthy and, thus, the issue must be 2307 an early component of the planning process.

2308 Section V – Legal Requirements

- 2309 508. Commanders are required to consider the legality of their actions, including2310 those in the information environment.
- 2311 509. Existing military capabilities already create effects on information and
 2312 information systems, and therefore a stand-alone study of the law surrounding
 2313 their application is not required.
- 510. Separate consideration of the legality of using emerging capabilities for the purpose of affecting the information environment may be necessary.

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2339		Lexicon Part 1 – Abbreviations
2340		
2341	AAP	Allied Administrative Publication
2342	ACOS	Assistant Chief of Staff
2343	AJP	Allied Joint Publication
2344	BILAT	Bilateral Talk
2345	C2	Command & Control
2346	C4I	Consultation, Command, Control, Communications
2347		and Information
2348	CAFJO	Concepts for Alliance Future Joint Operations
2349	CD-CIE	Cross-Domain Collaborative Information Environment
2350	CD&E	Concept Development and Experimentation
2351	CI	Counter-Intelligence
2352	CIMIC	Civil-Military Co-operation
2353	CIS	Communications and Information Systems
2354	CMCO	Civil-Military Co-ordination (EU)
2355	CMCoord	Civil-Military Co-ordination (UN)
2356	CNA	Computer Network Attack
2357	CND	Computer Network Defence
2358	CNE	Computer Network Exploitation
2359	CNO	Computer Network Operations
2360	COE	Centre of Excellence
2361	COMPUSEC	Computer Security
2362	COMSEC	Communications Security
2363	COS	Chief of Staff
2364	CPAO	Chief Public Affairs Officer
2365	CROP	Common Relevant Operational Picture
2366	CULAD	Cultural Adviser
2367	DA	Direct Action
2368	EBA	Effects-Based Assessment
2369	EBAO	Effects-Based Approach to Operations
2370	EBE	Effects-Based Execution
2371	EBO	Effects-Based Operations
2372	ECM	Electronic Counter Measures
2373	EPM	Electronic Protection Measures
2374	ESM	Electronic Support Measures
2375	EW	Electronic Warfare
2376	GENAD	Gender Adviser
2377	HUMINT	Human Intelligence

2378	Info Ops	Information Operations
2379	INFOSEC	Information Systems Security
2380	INTEL	Intelligence
2381	IO	International Organisation
2382	IOCB	Information Operations Co-ordination Board
2383	IPB	Intelligence Preparation of the Battlespace
2384 2385	ISTAR	Intelligence, Surveillance, Target Acquisition and Reconnaissance
2386	IT	Information Technology
2387	J1	Manpower Management (staff division)
2388	J2	Intelligence (staff division)
2389	J3	Operations Management (staff division)
2390	J4	Logistics (staff division)
2391	J5	Plans & Policy (staff division)
2392	J6	Communications and Information Systems /
2393		Command & Control Support (staff division)
2394	J7	Training and Exercises (staff division)
2395	J8	Financial Management (staff division)
2396	J9	Civil-Military Co-operation (staff division)
2397	J-ENG	Engineers (staff division)
2398	J-MED	Medical (staff division)
2399	JP	Joint Publication (USA)
2400	KD	Knowledge Development
2401	KLE	Key Leaders Engagement
2402	KLEP	Key Leaders Engagement Plan
2403	KM	Knowledge Management
2404	KR	Knowledge Request
2405	LEGAD	Legal Adviser
2406	LIMDIS	Limited Distribution
2407	LO	Liaison Officer
2408	LOAC	Law of Armed Conflict
2409	MA	Military Assistance
2410	MC	Military Committee (Publication)
2411	MIC	Multinational Interoperability Council
2412	MNIOE	Multinational Information Operations Experiment
2413	MNIS	Multinational Information Sharing
2414	MOE	Measure(s) of Effectiveness
2415	MOP	Measure(s) of Performance
2416	M&S	Modelling and Simulation
2417	NAC	North Atlantic Council

2418	NGO	Non-Governmental Organisation
2419	OODA	Observe–Orient–Decide–Act
2420	OPP	Operational Planning Process
2421	OPSEC	Operations Security
2422	OR	Operations Research
2423	PA	Public Affairs
2424 2425	PMESII	Political, Military, Economic, Social, Infrastructure, Information (analysis scheme)
2426	POLAD	Political Adviser
2427	PSYOPS	Psychological Operations
2428	RFI	Request for Information
2429	SIGINT	Signals Intelligence
2430	SME	Subject Matter Expert
2431	SOF	Special Operations Forces
2432	SR	Special Reconnaissance
2433	ROE	Rules of Engagement
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2456	Lexicon Part 2 – Terms and Definitions
2457	
2458	(to be issued)
2459	
2460	Adversary
2461	Affect
2462	Asymmetric Warfare
2463	Capability
2464	Common Relevant Operational Picture
2465	Comprehensive Approach
2466	Co-ordination
2467	Coordinating Authority
2468	Decision-Maker
2469	Effects-Based Approach to Operations
2470	Effects-Based Operations
2471	Function
2472	Influence
2473	Information
2474	Information Activity
2475	Information Environment
2476	Information Objective
2477	Information Operations
2478	Information Society
2479	Information Strategy
2480	Information Superiority
2481	Information System
2482	Instrument of Power
2483	Intervention
2484	Key Leaders Engagement
2485	Knowledge Development
2486	Network Centric Warfare
2487	Networked Operations
2488	Operational Level
2489	Understanding
2490	Will
2491	Security Environment
2492	Strategic Communication
2493	Strategic Level
2494	System

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2495 Systems Analysis

2496 Tactical Level

2497 Targeting

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