



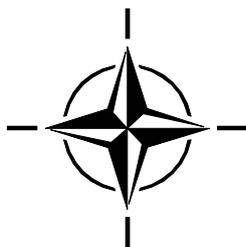
RTO TECHNICAL REPORT

TR-SAS-057

Information Operations – Analysis Support and Capability Requirements

(Opérations d'information – Soutien à
l'analyse et exigences de capacités)

Final Report of RTO Task Group SAS-057.



Published October 2006





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The Research and Technology Organisation (RTO) of NATO

RTO is the single focus in NATO for Defence Research and Technology activities. Its mission is to conduct and promote co-operative research and information exchange. The objective is to support the development and effective use of national defence research and technology and to meet the military needs of the Alliance, to maintain a technological lead, and to provide advice to NATO and national decision makers. The RTO performs its mission with the support of an extensive network of national experts. It also ensures effective co-ordination with other NATO bodies involved in R&T activities.

RTO reports both to the Military Committee of NATO and to the Conference of National Armament Directors. It comprises a Research and Technology Board (RTB) as the highest level of national representation and the Research and Technology Agency (RTA), a dedicated staff with its headquarters in Neuilly, near Paris, France. In order to facilitate contacts with the military users and other NATO activities, a small part of the RTA staff is located in NATO Headquarters in Brussels. The Brussels staff also co-ordinates RTO's co-operation with nations in Middle and Eastern Europe, to which RTO attaches particular importance especially as working together in the field of research is one of the more promising areas of co-operation.

The total spectrum of R&T activities is covered by the following 7 bodies:

- AVT Applied Vehicle Technology Panel
- HFM Human Factors and Medicine Panel
- IST Information Systems Technology Panel
- NMSG NATO Modelling and Simulation Group
- SAS System Analysis and Studies Panel
- SCI Systems Concepts and Integration Panel
- SET Sensors and Electronics Technology Panel

These bodies are made up of national representatives as well as generally recognised 'world class' scientists. They also provide a communication link to military users and other NATO bodies. RTO's scientific and technological work is carried out by Technical Teams, created for specific activities and with a specific duration. Such Technical Teams can organise workshops, symposia, field trials, lecture series and training courses. An important function of these Technical Teams is to ensure the continuity of the expert networks.

RTO builds upon earlier co-operation in defence research and technology as set-up under the Advisory Group for Aerospace Research and Development (AGARD) and the Defence Research Group (DRG). AGARD and the DRG share common roots in that they were both established at the initiative of Dr Theodore von Kármán, a leading aerospace scientist, who early on recognised the importance of scientific support for the Allied Armed Forces. RTO is capitalising on these common roots in order to provide the Alliance and the NATO nations with a strong scientific and technological basis that will guarantee a solid base for the future.

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List of Acronyms

ABM	agent-based modelling
ACO	Allied Command Operations
ACT	Allied Command Transformation
AJP	Allied Joint Publication
C2	command and control
CAX	computer-assisted exercise
CC	component command
CD&E	concept development and experimentation
CIMIC	civil-military cooperation
CM	conceptual model
CMO	civil-military operations
CNO	computer network operations
CONOPS	concept of operations
CPG	commander's planning guidance
DIME	diplomatic, information, military, economic
DMS	document management system
Dstl	Defence Science and Technology Laboratory
DSTO	Defence Science and Technology Organisation
EBO	effects-based operations
EBP	effects-based planning
ECM	electronic countermeasures
EPM	electronic protection measures
ESM	electronic support measures
EU	European Union
EW	electronic warfare
GOP	guidelines for operational planning
HQ	headquarters
Info Ops	information operations
IO	international organisation
IO ¹	information operations
JALLC	Joint Analysis and Lessons Learned Centre
JFC	joint force command
JFCOM	Joint Forces Command
JP	Joint Publication
JWP	Joint Warfare Publication
MA	morphological analysis
MC	Military Committee

¹ Only used in citations from other documents.

MNE	Multinational Experiment
MNIOE	Multinational Info Ops Experiment
MoE	measures of effectiveness
MoM	measures of merit
MoP	measures of performance
MoS	measures of success
NATO	North Atlantic Treaty Organisation
NC3A	NATO Consultation, Command and Control Agency
OA	operational analysis
OOTW	operations other than war
OPSEC	operations security
PA	public affairs
PI	public information
PMESII	political, military, economic, social, information, and infrastructure
PsyOps	psychological operations
R&D	research and development
RoE	rules of engagement
RTG	RTO Task Group
RTO	Research and Technology Organisation
SAS	System Analysis and Studies (until September 2005: Studies, Analysis and Simulation; panel of the RTO)
SNA	social network analysis
SNDC	Swedish National Defence College
SoSA	system-of-systems analysis
SSC	small(er)-scale contingency
SwAF	Swedish Armed Forces
UK	United Kingdom
US	United States (of America)
V&V	validation and verification
WP	work package



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Correlation	Information warfare (IW)	Software engineering	
Data collection	Integrated systems	Systems analysis	
Data fusion	Interoperability	Systems engineering	
Data management	Knowledge base development	Validation	
Data processing	Knowledge bases	Verifying	
Decision-making			
14. Abstract The focus of the study “Information Operations – Analysis Support and Capability Requirements” undertaken by the RTO Task Group SAS-057 was to provide recommendations to improve analysis support to information operations (Info Ops). First, the study team obtained an overview of the current understanding of Info Ops, of the current practice of documenting and assessing Info Ops, and of existing methods and tools available to support Info Ops analysis to identify gaps and needs. The results of the study indicate that in the future, Info Ops – as an essential contribution to operations following an effects-based approach – should benefit from increased analysis support in multiple ways, from a thorough improvement of lessons learned processes to the application of knowledge from a variety of physical, human, and information science disciplines.			





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