

# Small Arms in NATO Transformation



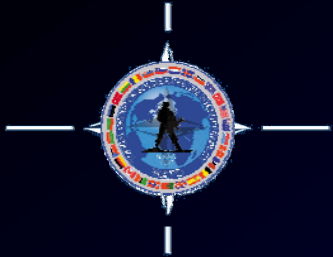
**Vernon E. Shisler**  
**Chairman NATO AC225 Land Group 1**  
**Dismounted Soldier Systems**



# Need to Transform

**Need underlined by the attacks of 11 September 2001**

- **Only venue for strategic coordination of transatlantic partners.**
- **To be relevant it must continue to serve as the foundation of the allies security**
- **It must be a principal international agent for stability and democratic reform throughout a wider area.**
- **Reform will impact NATO's:**
  - **Tasks**
  - **Membership**
  - **Relationship with partners, other nations and organizations**
  - **Ability to conduct modern military operations across full spectrum of Alliance missions**



# NATO STRUCTURE

## North Atlantic Council



**Military Committee**  
• SHAPE  
• ACO  
• ACT

**AC/259 Conference of National Armaments Directors**

**NATO Committee for Standardization**

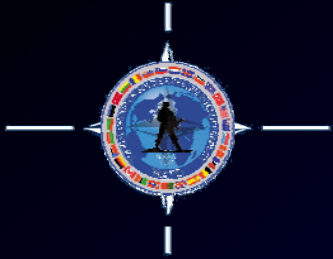
**AC/322 NATO NC3 Board**

**Other Committees**

### Military Structure

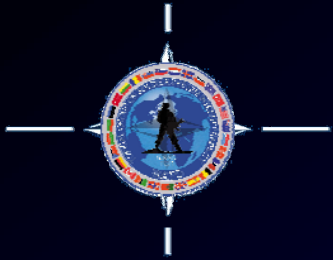
- Units under NATO Command
- Units dedicated to NATO use.
- Army, Air Force, Navy.

### Civilian Structure



# Military Transformation

- **NATO Top priority**
  - **Streamline the command structure**
  - **Improve the development of military capabilities on focused critical areas.**
  - **Create a rapid NATO Response Force**



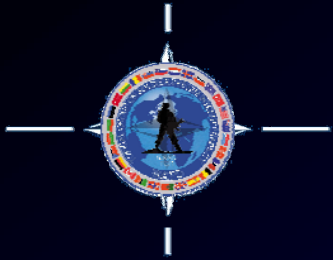
# Military Transformation

## • NATO Top priority

- Streamline the command structure
- Improve the development of military capabilities

- Create one operational strategic command
- Allied Command Operations (ACO)- Castreau Belgium
  - Land Based Combined Joint Task Force
  - Sea Based Combined Joint Task Force
  - Limited standing Joint Headquarters
- Create one functional strategic command
- Allied Command Operations (ACT)- Norfolk VA
- Drive transformation
- Identify needs and future capabilities
- Work with US engine for transformation – US Joint Forces Command.





# MILITARY TRANSFORMATION



## NATO Response Force (NRF)

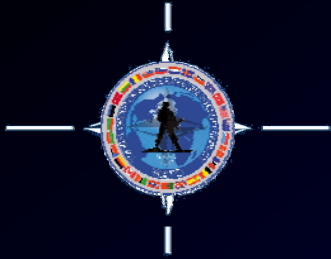
Previous NATO Maritime and Air Forces were by nature highly mobile,  
Land based assets were not.

### **NRF = 25,000 Joint Multinational Troops**

- Technology advanced
- Deployable with in 5 days
- Sustainable for 30 days
- Trained and equipped to common standards
- Initial operational capability October 2004
- Fully operational October 2006

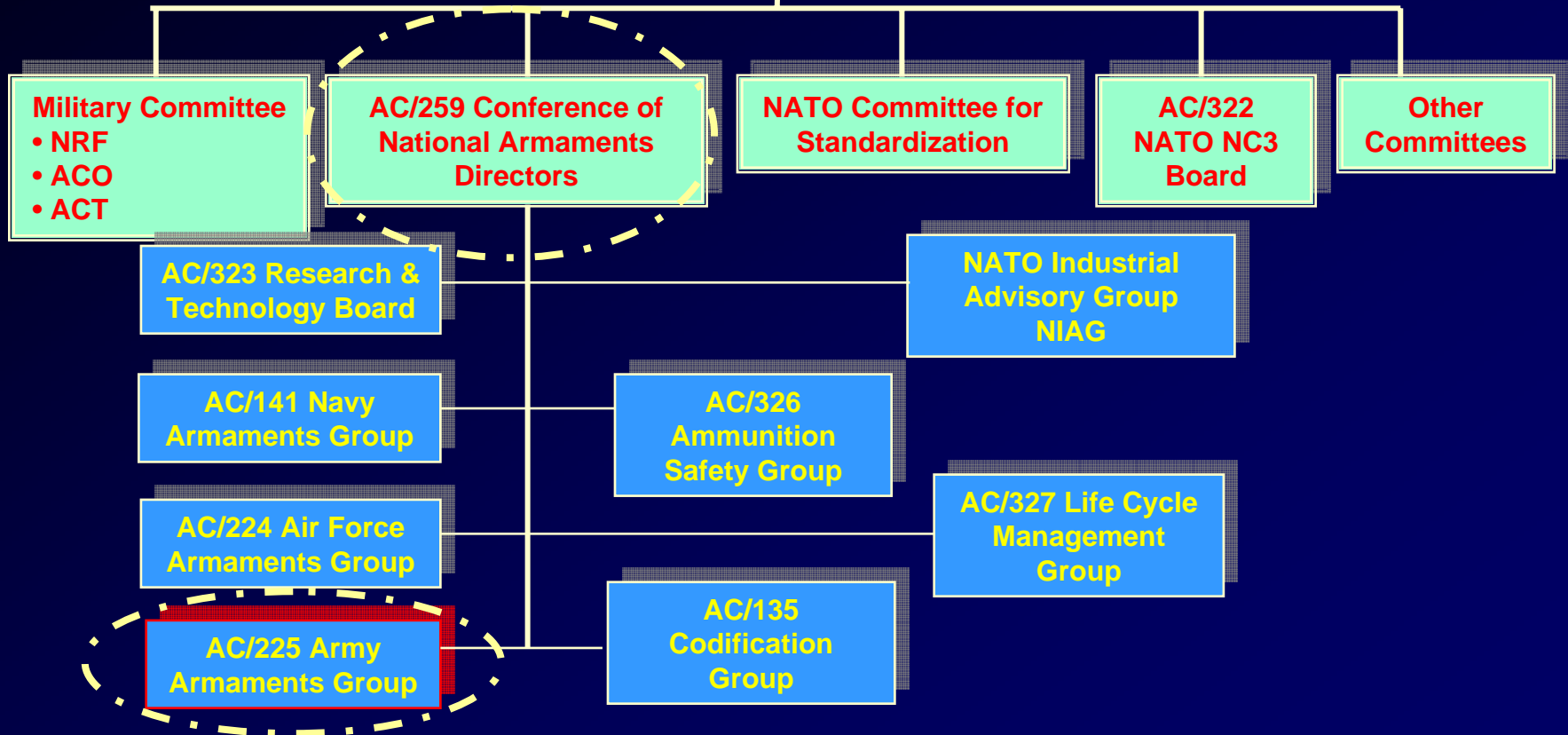


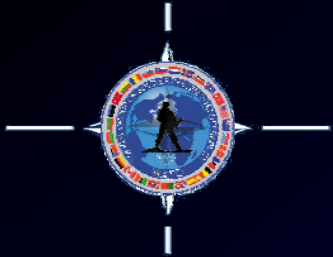
Land Group 1 on Dismounted Soldier System



# NATO Structure

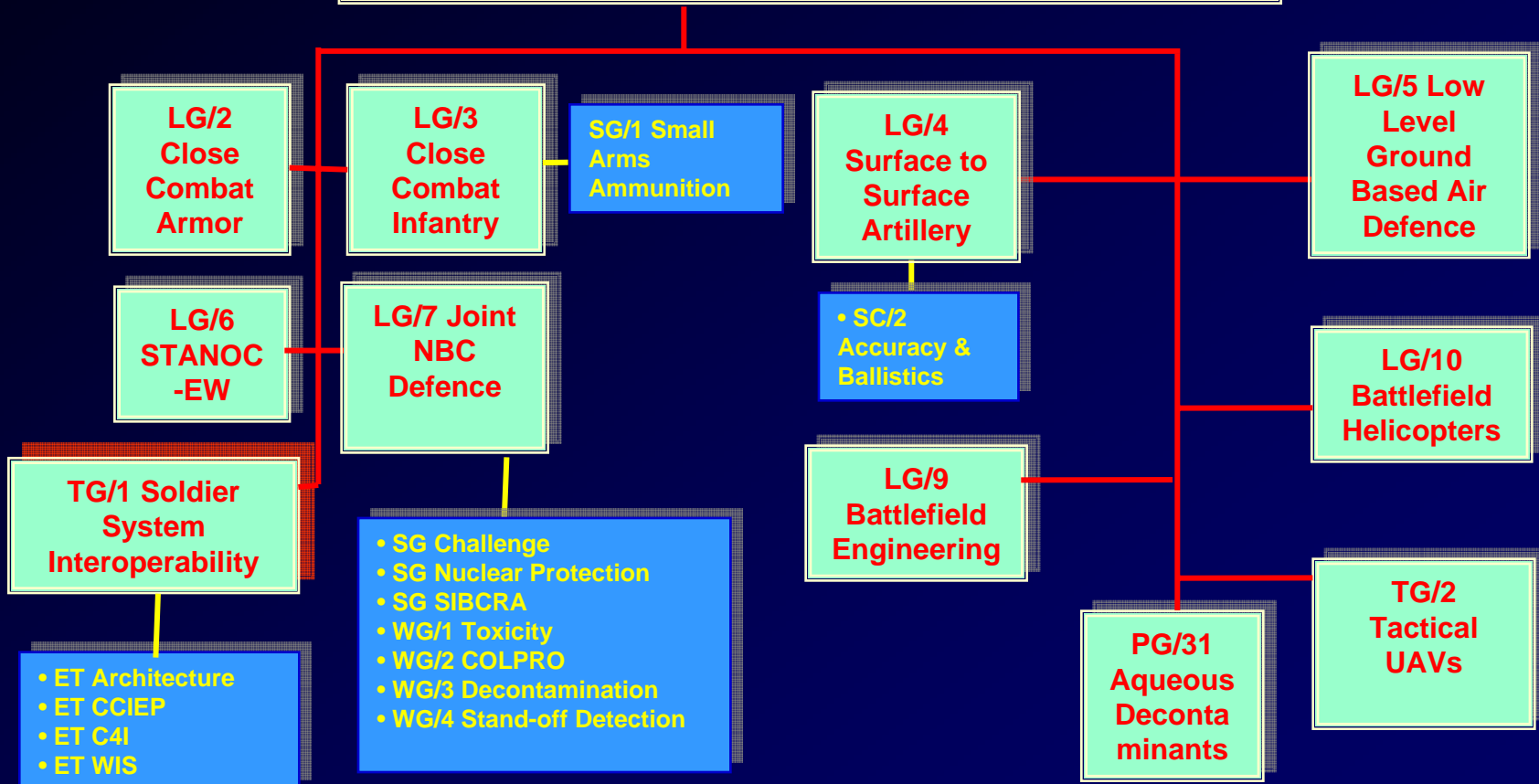
## North Atlantic Council



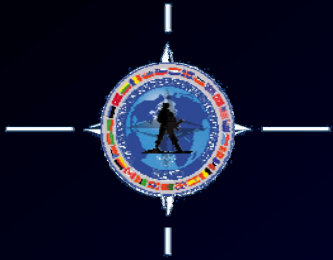


# Civilian Transformation

## AC/225 Army Armaments Group



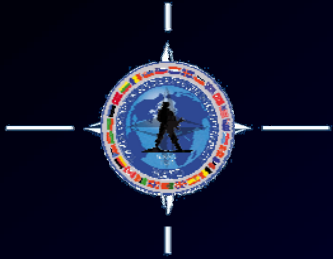




# Civilian Transformation

## Infantry Reorganization 2006

- **Create Land Group 1 Dismounted Soldier Systems**
  - Utilize recourses for Topical Group 1
  - **Disband Land Group 3 Close Combat Infantry**
    - Small Arms weapons to Land Group 1
    - Canon weapons to Land Group 2
  - **Move SG/1 Ammunition Interchangeability from Land Group 3 to Land Group 1**
- **All small arms work is now under one group with a system perspective**



# Civilian Transformation

## Council of National Armaments Directors

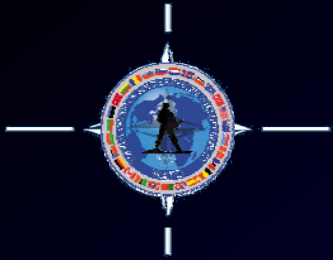
- Army Armaments Group
- Navy Armaments Group
- Air Force Armaments Group
- Research & Technology Organization
- Industrial Advisory Group

- **Need a structure that is better aligned with the Allied Command Transformation to address their future needs.**
- **Focus**
  - **Capabilities based structure**
  - **Joint structure where appropriate.**

# CNAD Implementation Plan

## Capability Management Framework

JCIG	NAFAG	NAAG	NNAG
Effective Engagement	ACG2 Air Effective Engagement	LCG1 Soldier	MCG1 Above Water Engagement
		LCG2 Combat Manoeuvre	MCG2 Under Sea Engagement
		LCG3 Fire Support	
Information Superiority	ACG1 Advanced Concepts		MCG5 Tactical Effective C2
	ACG6 C2 & Distributed Ops		
Force Protection & Survivability	ACG3 Air Survivability	LCG4 GBAD	MCG3 Mine Counter Measures
		JCG CBRN	MCG8 Maritime Electronic Warfare
			MCG7 Maritime Protection
JISR	JCG ISR	LCG6 RSTA	MCG4 ISR JCG on UAV
Deployability	ACG5 Global Air Mobility	LCG8 Air Mobility & Sp	MCG6 Ship Design & Maritime Mobility
		LCG7 Ground Mobility & Sp	



# Transformation

## Implications on Small Arms

- All small arms activities are now focused under Land Group 1
- Military transformation will result in identification of actual military needs.
  - More top down guidance
  - Long Term Capability requirements
  - Small Arms needs at the system level
- Civilian transformation to a capabilities based and joint structure
  - Major impacts to some current Land Groups
  - Minor impact to Land Group 1
  - Will become Land Capabilities Group 1 –Soldier
    - Increased responsibilities of training, TTPs etc



# Land Group 1 Management

- **Chairman**
  - Vernon E. Shisler – USA
  
- **Deputy Chairman**
  - Koos Meijer – NLD
  
- **Rapporteur**
  - Maj Paul McNicholas – GBR
  
- **NATO Staff Support**
  - Hugues Briche – NATO
  
- **Land Group 1 US Delegation**
  - Ross Guckert - PEO Soldier – HOD
  - Pat Berger - TSM Soldier



# Current Land Group 1 Structure

## ➤ Soldier Capabilities & Assessment

➤ COL Eric Bellot des Minieres - FRA

## ➤ Combat Clothing Individual Equipment & Protection

➤ Henk Reulinmk - NLD

## ➤ C4I & Systems Architecture

➤ Rune Launsund – NOR

## ➤ Weapons & Sensors

➤ Per Arvidsson - SWE

➤ Mark Richter – USA

➤ US Delegate – Kori Spiegel

## ➤ SG/1 Ammunition

➤ COL Dirk Hemerlick – BEL

➤ US Delegate – Sandy Geddes

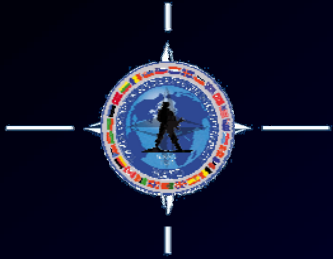
### Ad Hoc Team Teams

#### Power

Jason Reigner - USA

#### Head Borne Systems

Dr. Wouter Lotens - NLD



# Current Land Group 1 Directives

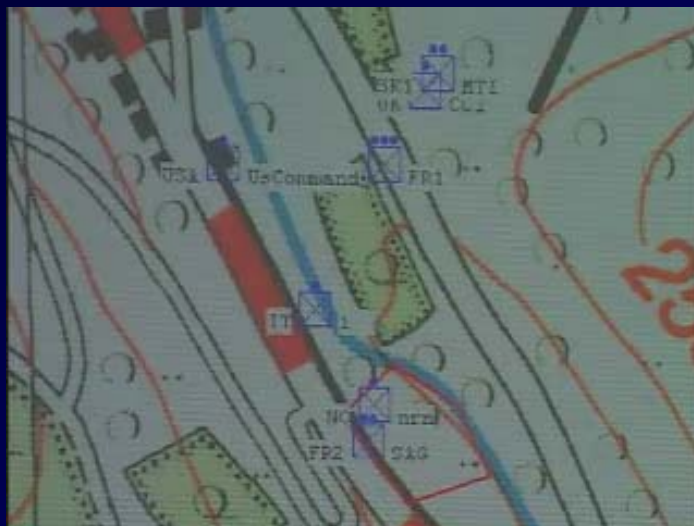
- **Long Term Capability Requirements from the Allied Command Transformation**
- **MF12/1 Non-Lethal Weapons & Low-Collateral Damage Precision Guided Munitions**
- **MF12/3 Individual level NATO Network Enabled Capability**
- **MF12/6 Integrated Personal Protection**
- **MF12/9 Control of Crowds in Urban Areas**



# Specific Work of Land Group 1

## Network Enabled Capability

- Develop the ability to exchange tactical map information and individual soldier positional information at the soldier level
- Demonstrations:
  - Rome Oct 2003
  - German Infantry School Oct 2004
  - French Infantry School Oct 2005



Land Group 1 on Dismounted Soldier System





# Specific Work of Land Group 1(cont)

## Plugs & Connectors

- **Phased approach**
- **First Priority the ability to share battlefield power or draw power from national power grid**
- **Agree on common plugs and connectors**
- **Establish connections in infantry vehicles and helicopters.**

**Deutsch Warrior Programs Connectors**  
**Tomorrow's Infantry Warrior - Solutions**

Over molding  
Composite connector with metalisation  
Lanyard push pull locking system  
Sealing conductor gasket  
Easy mounting (no tools)  
Dead face protection system

More than 5000 mating  
Connector sealed when mated and unmated

**Mighty Mouse 80 series connectors for Soldier Systems**

- Connector mating of up to 5000 mates and de-mates already tested
- Quick release and push pull connectors already developed for Soldier systems programs.
- Sealed connector rear ends to avoid water ingress when being cleaned
- Contact will accept multiple wire sizes 28 to 22 AWG
- Fully tested to meet the needs of our military customers
- Colour coding is possible

**Glenair**

**HYPERFAC DESIGN CHARACTERISTICS** [Receptacle Connector.com](http://ReceptacleConnector.com)

**Latching Mechanism** - this controls the connector break away force.  
**Spring Shutters** - prevents small solid objects and vapours of liquid entering the receptacle interface.  
**Thin Gasket** - creates a seal between the two shell components.  
**Grounding Spring** - well recessed to prevent damage.  
**Interfacial Seal** - seals the connector interface when the connectors are mated.  
**Encapsulant** - retains contacts and insulator in shell and creates a water tight seal.  
**Pin Contacts (13 off)** - pins are 0.6 mm diameter with flux termination.

Prop\_0297\_B 4



# Specific Work of Land Group 1(cont)

## Other Work

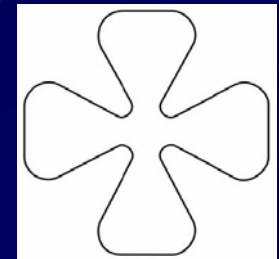
- Ability to share battlefield power at individual level
- Identify and standardize common components and modules
- Combat clothing individual equipment and protection.
- Develop scenarios and rationale for interoperability work



# Specific Work of Land Group 1(cont)

## Small Arms Work

- **Certify Ammunition as “NATO Interchangeable”**
- **Authorize the application of the NATO symbol of interchangeability**
- **Operate the**
  - ✓ **European Regional Test Center (Pendine GBR)**
  - ✓ **North American Regional Test Center (Lake City AAP USA)**
- **Maintain Test procedures and standards**
- **Conduct surveillance tests to assure maintained interchangeability**
- **Certify national test centers**



**NATO Symbol of Interchangeability**



## Specific Work of Land Group 1(cont)

### Small Arms Work

- Investigating interoperability between the different weapons attachments
- Standardization connecting and power sources

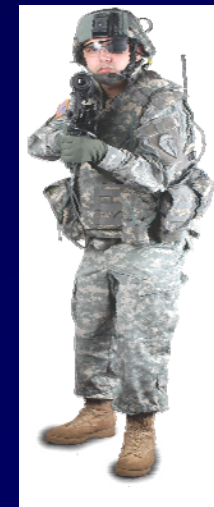




# Specific Work of Land Group 1(cont)

## Small Arms Work

- What are the interface issues with other soldier equipment
- NATO RTO Study under the Systems Concepts & Integration Panel
- Deliver a Technical Report by Dec 2008 addressing issues of:
  - ✓ Weapons interfaces
  - ✓ Human Factors & analysis
  - ✓ Electrical Power
- Firing tests conducted at Quantico May 05, May 06



# Specific Work of Land Group 1(cont)



## Small Arms Work

- Non Lethal Systems
- NATO NL Capabilities Set
- Develop an effects based capabilities list
- Agree Non lethal terms and definitions.
- Addressing impacts of future national programs





# Specific Work of Land Group 1(cont)

## Work with Industry

- **NATO Industrial Advisory Group (NIAG)**
- **Study Title: Integration of C4I on Soldier Systems**
- **Budget Estimate: €300,000**
- **Duration April 06-March 07**
- **First meeting 30 March 06**

**Purpose:** A pre-feasibility study for an autonomous, covert system to: draw information from a central Common Operating Picture for dismounted systems....facilitate automatic transfer of intelligence, target information etc



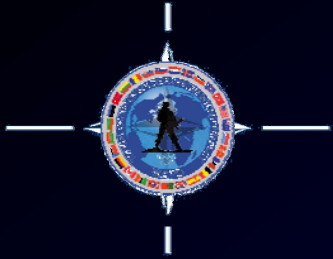
# Specific Work of Land Group 1(cont)

## Work with Industry

- **NATO Industrial Advisory Group (NIAG)**
- **Study Title: Interoperability for the soldier Systems**
- **Budget Estimate: €150,000**
- **Duration April 06-April 07**
- **First meeting 31 March 06**

Purpose: To study the issues and potential standards associated with interoperability of various soldier system components. ..identify potential standards...technical benefits and shortcomings ...





# Summary

- **NATO is undergoing a rapid transformation**
- **Land Group 1 will become Land Capability Group1 next year.**
- **All small arms and dismounted operations are in one place**
- **Allied Command Transformation is engine for change.**