Policy Guidance
Autonomy in Defence Systems
MCDC Summary

LtCol Artur KUPTEL
MCDC NATO-ACT National Director, OPEX, HQ SACT.

8-Dec-14
HQ SACT, OPEX
Aim

Provide forward-looking view on recommendations and future challenges for military transformation in the area of autonomous systems
Agenda

• MCDC General Info
• MCDC AxS FA description
• AxS Policy Guidance recommendations
• Way Ahead
Multinational Capability Development Campaign

2013-2014

Support the development of required concepts and capabilities for joint, multinational, and coalition operations through multinational development efforts in order to meet present and future operational needs

Autonomous Systems Studies

- Definitions (ACT lead)
- Legal (Switzerland lead)
- Military benefits of autonomy (ACT lead)
- Human factors and ethics (ACT lead)
- Technology (Czech Rep. lead)
Policy Context

- Compliance with International Law
- Evolving ethical perspectives
- Challenging public debate
Policy Recommendations

Definition considerations

• Machines do not have human characteristics
  – “Autonomous System” a misnomer
• Caution over interchange of “unmanned” with “autonomous”
• “Autonomous system” stimulates thinking, organizes action

Reduce emphasis on “autonomy” and focus on accountability and level of human control over systems

– Extreme caution using the term “autonomous”
– Level of human control
– International standardization on appropriate usage of terms
Policy Recommendations

Legal & Ethical

• Legal issues
  – National legal review processes initiated
  – International legal cooperation
  – Consideration about appropriate auditing, verification and data retention means
  – Law of Armed Conflict application

• Ethical issues
  – Follow on, participation in and stimulate of public discourse about the ethical aspects
  – Ethical benefits vs. concerns associated with autonomous technology
  – Justification of technological advances – lethal, nonlethal…
Policy Recommendations

Human Factor & Public Awareness

• Human factor issues
  – Design for effective interaction
  – Shift resources from outdated capabilities to support new logistics operations and organisational
  – Evaluate and provide training.
  – Develop coordination processes

• Public Awareness
  – Encourage transparent, public debate on the introduction of autonomous technologies
  – Public awareness campaigns.
Policy Recommendations

Military Operations

• Additional complexities to multinational operations
  – Interpretation of machine ROEs between nations
  – Differing data standards
  – System collaboration/benefits
  – Standardisation requirements

Implications
• Benefits vs. trade-offs and risks.
• Autonomy as a capability of systems in general.
• Evaluation in terms of whole life-cycle costs.
Concluding Guidance

- Understand the strategic context of autonomy in military capability development
- Autonomous capability requires the convergence of multiple technologies
- Emphasise key research areas:
  - Operational use of systems with autonomous capabilities
  - Cyber issues
  - Impact on the character of war
  - Interoperability and C2 in multinational operations
  - Doctrinal implications
  - Education and training needs
  - Countering systems with autonomous capabilities