



*Technology Work Session for the South African Army; Hosted by the CSIR*

## Session 8: Command & Control



### Command Post of the Future

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**CSIR**

*our future through science*

# Outline of presentation

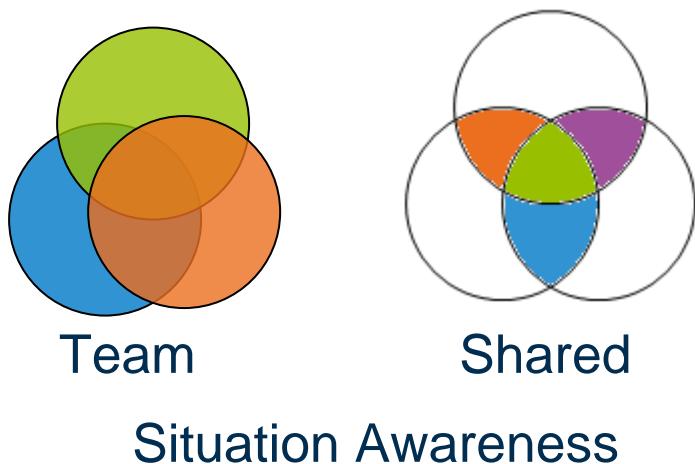
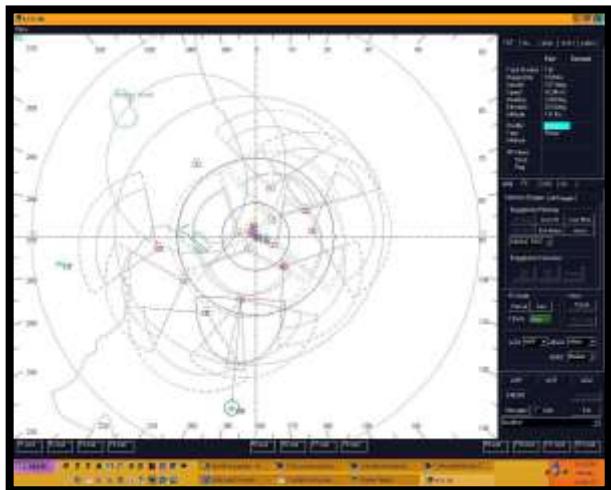
- Context
- African, South African and international perspectives
- Command post requirements and role
- Technology trends
- Introducing rest of the presentations
  - Data processing and understanding
  - The dismounted soldier
  - Information security and vulnerabilities
- Conclusion

# Context



- Theme – Command post of the future
- Command centre *versus* command post
- Command and Control
  - Situation assessment
  - Planning, tasking & control
- Changing role of the SANDF

# Context – Situation assessment



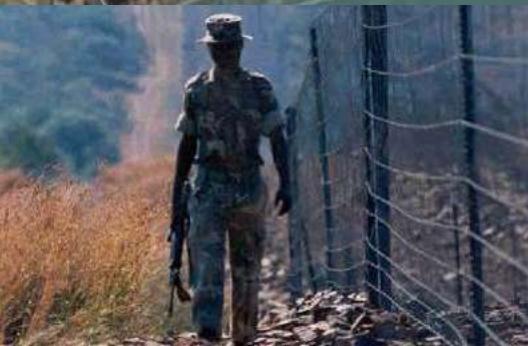
- Situation assessment → situation awareness
- A state of knowledge
  - Mental models
  - Individual, team or shared
- Supported by processes and systems, such as displays

# Context – Planning, tasking & control

- Modern role of militaries
- Centralised planning not agile
- Joint, collaborative planning crucial
  - Quick to adapt to changes in situation
  - Well-informed participants
  - Less constraints on behaviour
- Collaborative execution

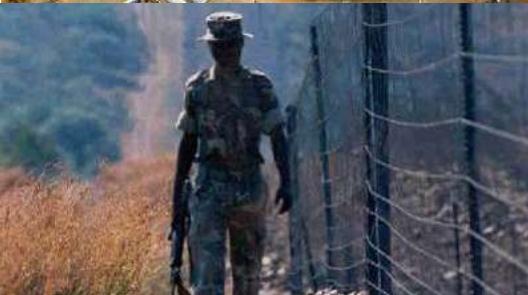


# Context – Changing military role



- Trend is towards non-conventional operations
- Military operations less and less in isolation
- Operations other than war
  - Peace missions, post-conflict reconstruction
  - Border safe guarding, anti-piracy
  - Humanitarian assistance
- “Irregular war”

# African, South African & international perspectives



- Military, governmental & commercial command centres
- Covering various areas
  - Air, land, sea, joint & cyber
  - Disaster and event management
  - Financial and telecommunications sectors
- Regional collaboration

# Command centre requirements



- Reduced decision time
- Increased situation awareness
- Facilitate transfer of situation awareness
- Maximise planning, tasking & control effectiveness
- Mobility

# Command centre role



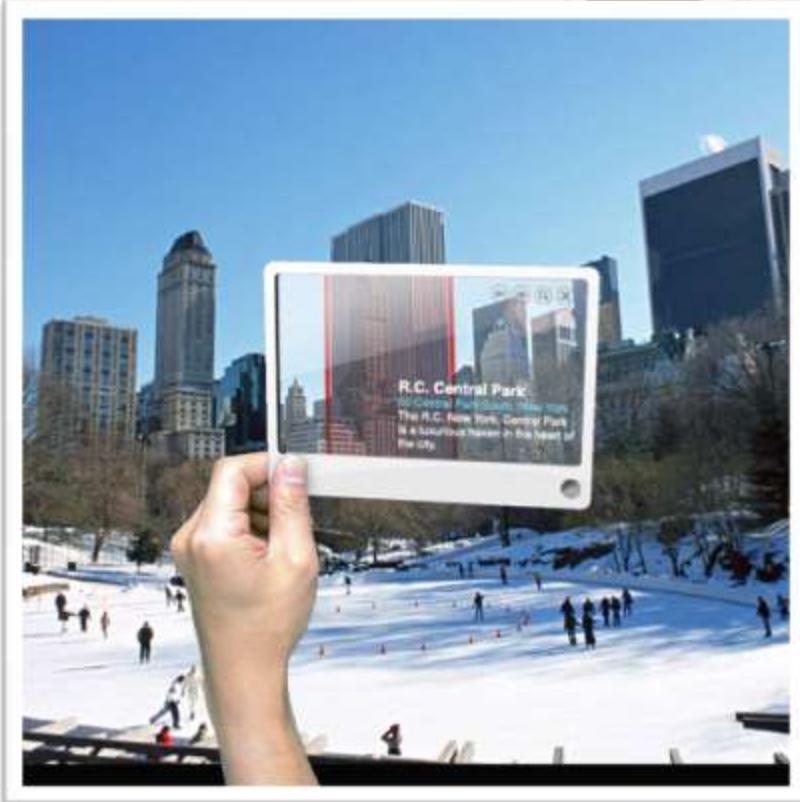
- Coordination, cooperation and collaboration
- Sharing of information
- Agility and exploitation of available information
- Incubating communities of interest
- Maintain interoperability standards
- Internet analogy

# Technology trends

- Composable C2 information systems and services
- Secure and consistent latency communications
- Participatory and opportunistic sensing
- Knowledge reasoning and automated decision support
- Cognitive ergonomics

# Technology trends (continued)

- Visualisation
- Mobility



# Technology trends (continued)

- Integrated modelling & simulation
  - New technology definition, acquisition, integration and commissioning
  - Acquisition decision support
  - Integration of systems, sensors and applications
  - Training of operators and commanders
  - Exercises and operations planning, rehearsal, execution and debriefing
  - Exercise control
  - Concept development, evaluation and demonstration
  - Scenario development and evaluation
  - Doctrine development support
  - Standards development and management
  - Interoperability
  - Cost effectiveness

# Rest of the Command & Control session

- Data processing and understanding
- The dismounted soldier
- Information security and vulnerabilities



# Conclusion



## Command centres must exploit

- Information rich society – Availability of information
- Era of mobility dawned – More and more difficult to operate statically
- Agile processes