



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

Session 8: Command & Control

Command Post of the Future

Herman le Roux
CSIR Defence, Peace, Safety and Security

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Outline of presentation

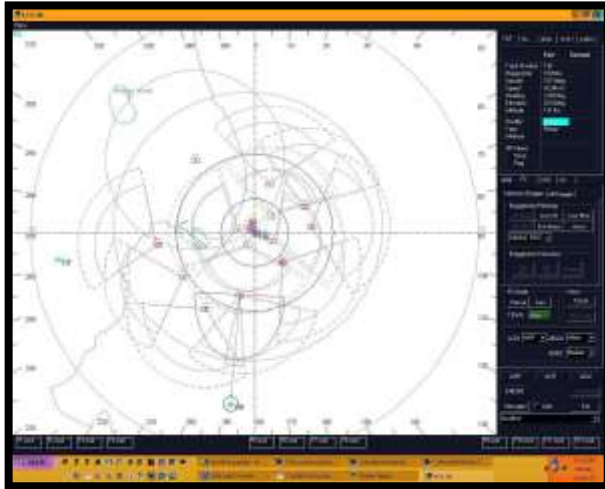
- Context
- African, South African and international perspectives
- Command post requirements and role
- Technology trends
- Introducing rest of the presentations
 - Data processing and understanding
 - The dismounted soldier
 - Information security and vulnerabilities
- Conclusion

Context

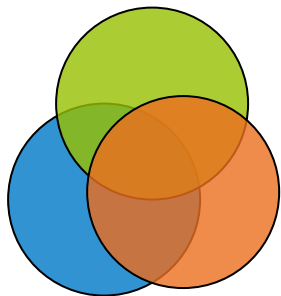


- Theme – Command post of the future
- Command centre *versus* command post
- Command and Control
 - Situation assessment
 - Planning, tasking & control
- Changing role of the SANDF

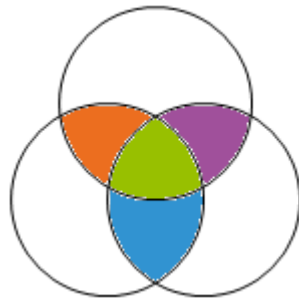
Context – Situation assessment



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



Team



Shared

Situation Awareness

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)

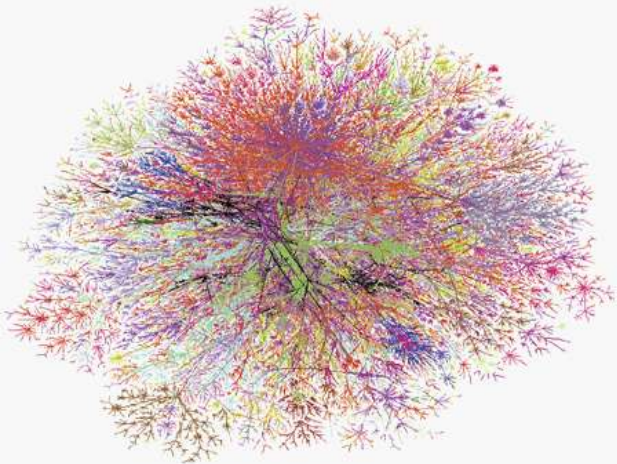
- Visualisation
- Mobility



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

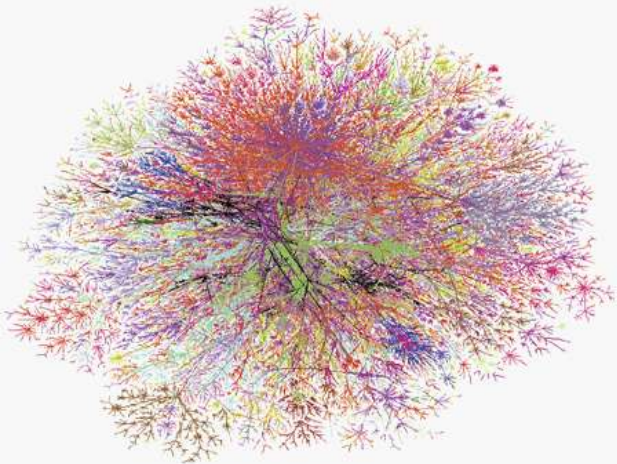
Rest of the Command & Control session



- 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