Integrating Geospatial Decision Support into C2 Decision Making

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Geographical Information Systems

- Visualisation and querying of spatial data
  - » Maps
  - » Digital Elevation Models
  - » Feature data and imagery
- Powerful analytical tools but requires specialised skills
- Analysis is separated from decision makers
- Deters problem solving or ‘What if…’ analysis

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Geospatial Decision Support

- To maximise the efficiency of decision making, decision makers require support with;
  - » Computational Calculations
  - » Scientific & Process Modelling
  - » “What if…” 4D Time-Based Planning
- GIS sytems offer a suitable foundation for Decision Support Systems, but offer only limited functionality

Need specifically designed spatial systems for Decision-Makers not GIS experts

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Complex Spatial Problems

- C2 Decisions often contain semi-structured problems
- Structured - one clear solution ⟶ Automated problem solving
- Semi-structured
  - intuitive decision making
  - intangible elements
    - gaps in data
    - unknown threats
    - politics

} Impossible to model!

No Solution - Have to attempt to Resolve the problem

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“What if…” Problem Solving

- A decision making environment that allows complex spatial problems to be resolved
- Contains models
  - » sensor propagation
  - » ballistics
  - » 4D de-confliction
- Provides terrain analysis
  - » line-of-sight
  - » routing/going
- Allows multi-path planning
  - » limitless “What if…” plans
  - » concurrent and sequenced

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NCW Considerations

- NCW is the power of Information
  - Information Superiority
    - distributed throughout the battlespace
- Agile Mission Groups (NEC)
  - Flexible, dynamic Mission Groups with shared awareness
  - self synchronisation *Command & Coordination*
- Synchronised Effects
  - planning based on Joint effects *Coordinating assets*

Empowering all the decision makers in the battlespace rather than just a few

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Questions?

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