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The Need for a Capability approach

Commodore Peter Eberle Royal Navy

RUSI

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ISTAR & the Capability Approach

- **Why ?**
 - The ISTAR mission
 - The ISTAR problem
 - Current ISTAR characteristics
- **How?**
 - The capability approach
 - The role of technology



The Mission

(From an Equipment Capability Perspective)

To deliver a UK equipment capability for the provision of precise and timely information for the decision maker and warfighter.



The Problem

- Increasing ISTAR demands at all levels
- Increasing tempo and size of areas of interest
- Risk of collateral damage risk and ensuing constraints
- Time critical targets
- Enemy exploitation of ROE constrained operations
- Limited budgets



Characteristics of Today's ISTAR

- **Operations**
 - Assets independently tasked
 - ISTAR planning 'stovepiped' into specialties
 - Observations not cross-cued
 - Dissemination methods uncoordinated
- **But these are not predominantly equipment issues**
- **So how can technology play a part - what can it offer ?**



Co-ordinating Capability

- Managing a situation where an enabling capability must be integrated as common across a large number of platforms to:
 - Maximise value for money in supplying the enabling capability
 - Maximise both intra- and inter-capability BoI opportunities
 - Minimise proliferation of solutions for a single capability
 - Ensure integration of new solutions across UK forces and lines of development to achieve In Service Date



The Role of Technology

- **To support the rolling out and maintenance of capability (including equipment & systems)**
 - Improvements in sensor performance do not necessarily translate into significant improvement in combat benefit
 - Assessing benefit vs cost
- **Benefits through**
 - Fusion of disparate sensor outputs
 - Improved processing
 - Integration of legacy and planned systems
 - Innovative concepts of use



Implementing/Applying Technology

- Technology development through corporate research
- Applied research targeted at capability gaps & shortfalls as defined by gap analysis
- Limited resource targeted at specific areas requiring direct technical advantage
- Pulling through technology research to assist in addressing gaps
- Development of COTS technologies for a defence application
- Studies, operational analysis and concept development



Applied Technology Examples

- **Technology work:**
 - Small satellite technologies and utility
 - Radar pod for tactical reconnaissance
 - Novel UAV control concept
 - EW Integration
- **Concepts and Integration:**
 - Capability Requirements Documents
 - Architecture development
 - Ground station requirements specifications for interoperability
 - Urban & Semi-Urban operations



The Capability Approach

- Effects and outcomes - not solutions
- ‘to enable the user to deliver ...’
- For research as well as systems



The Goal

- Integrated ISTAR operations
- Not achievable just through equipment and underpinning technology research
- Other lines of development may well be more significant in achieving greater effectiveness



Summary

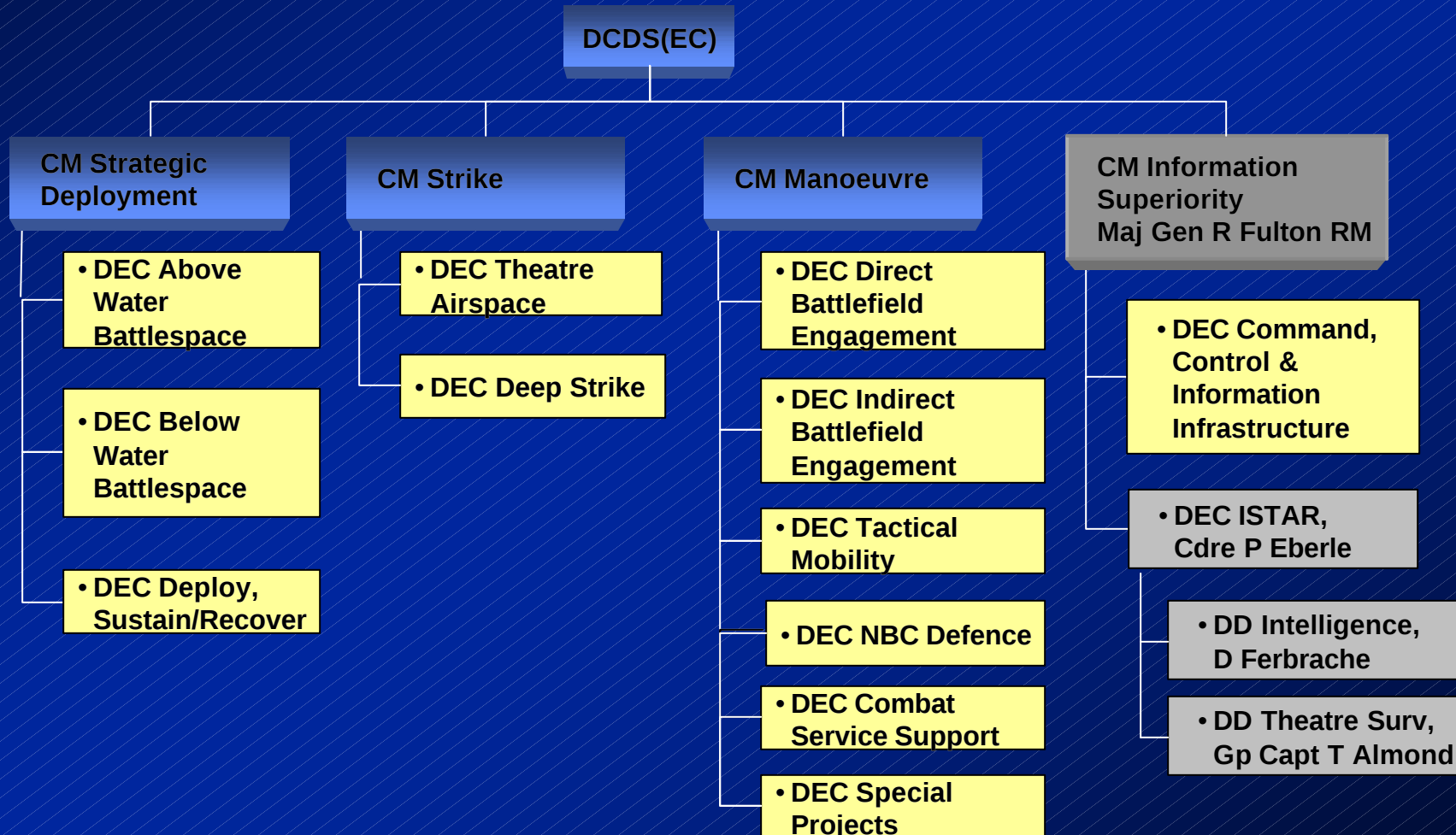
- Demand for information increasing
- ISTAR targets more demanding - timeliness now the biggest driver
- Current operations have grown organically and are not optimised for overall effectiveness
- Research offers advantages as much through utilisation strategies as through direct sensor improvement
- Capability approach is holistic



Backup slides follow



Organisation of Equipment Capability Area



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Core DEC Requirements Flow

