

OPERATIONAL AND POLICY PERSPECTIVES TO MISSION TRAINING & SIMULATION

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Contents

- Operations – role of simulation
- Policy – the journey to now
- Operations – future requirements
- Policy – a new way forward

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What is the purpose of Mission Training and Simulation?

- Mission preparation, in order to:
 - Maximising the effect of resources
 - Win the fight
 - De-risk the operation



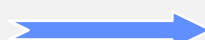
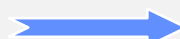
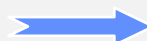
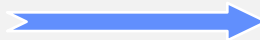
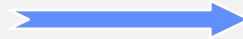
or



Operation HERRICK - Afghanistan

Nature of Conflict

- Joint/Combined
- Minimal risk appetite
- Established procedures
- Corporate knowledge
- Transitional nature



Role of Simulation

- Competency/Familiarity
- Mission rehearsals
- Refinement/development
- Roulement (RiPs/HOTOs)
- Training & Mentoring tool



Operation ELLAMY - Libya



Operation ELLAMY - Libya

Nature of Conflict

- Joint/Combined
- Politically Sensitive
- Minimal preparation
 - No corporate knowledge
- Area of Operations
 - Vast/Unfamiliar
 - Non-permissive

Role of Simulation

- Competency/Familiarity
- Minimising risk (rehearsals)
- In-theatre training
- Development of plans
- Familiarisations (database)
- Force-on-Force preparation



Op ELLAMY – AH Strike Mission Composition

C2



Find / Cue



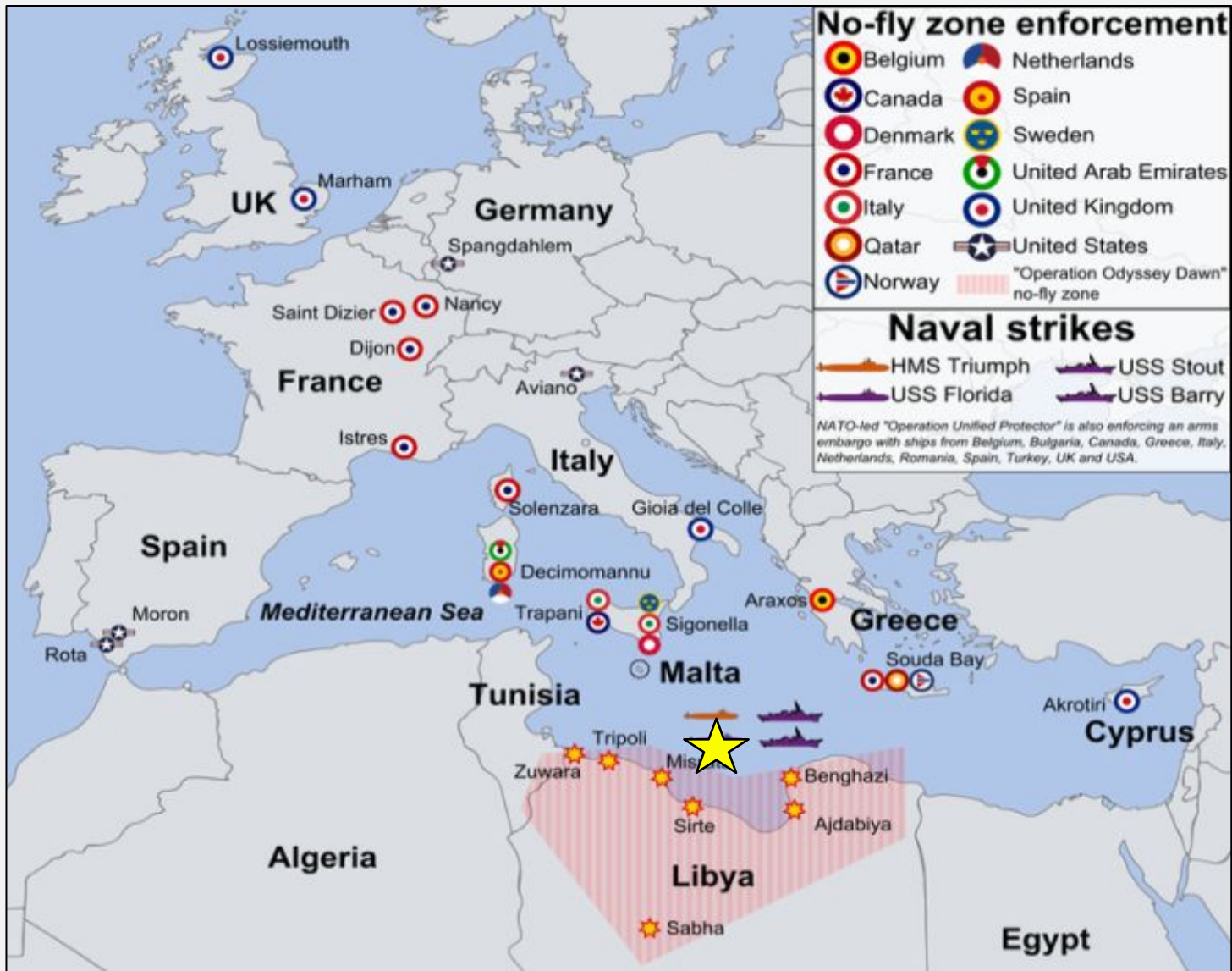
Coordinate



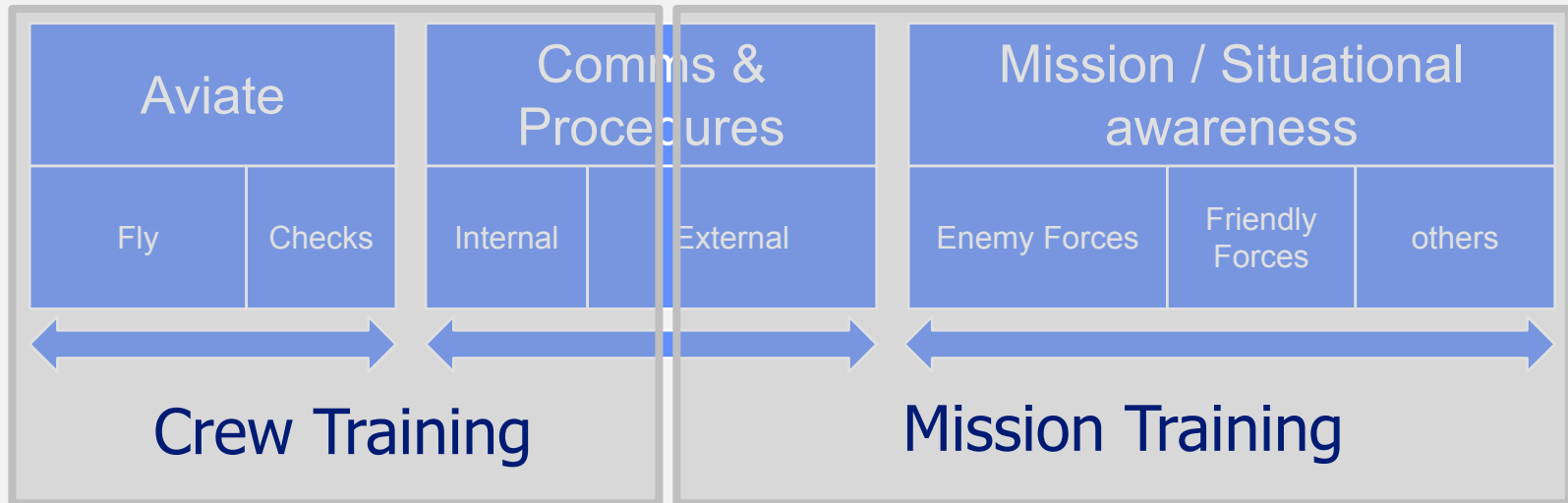
Protection



Planning / Briefing / Rehearsal / AAR

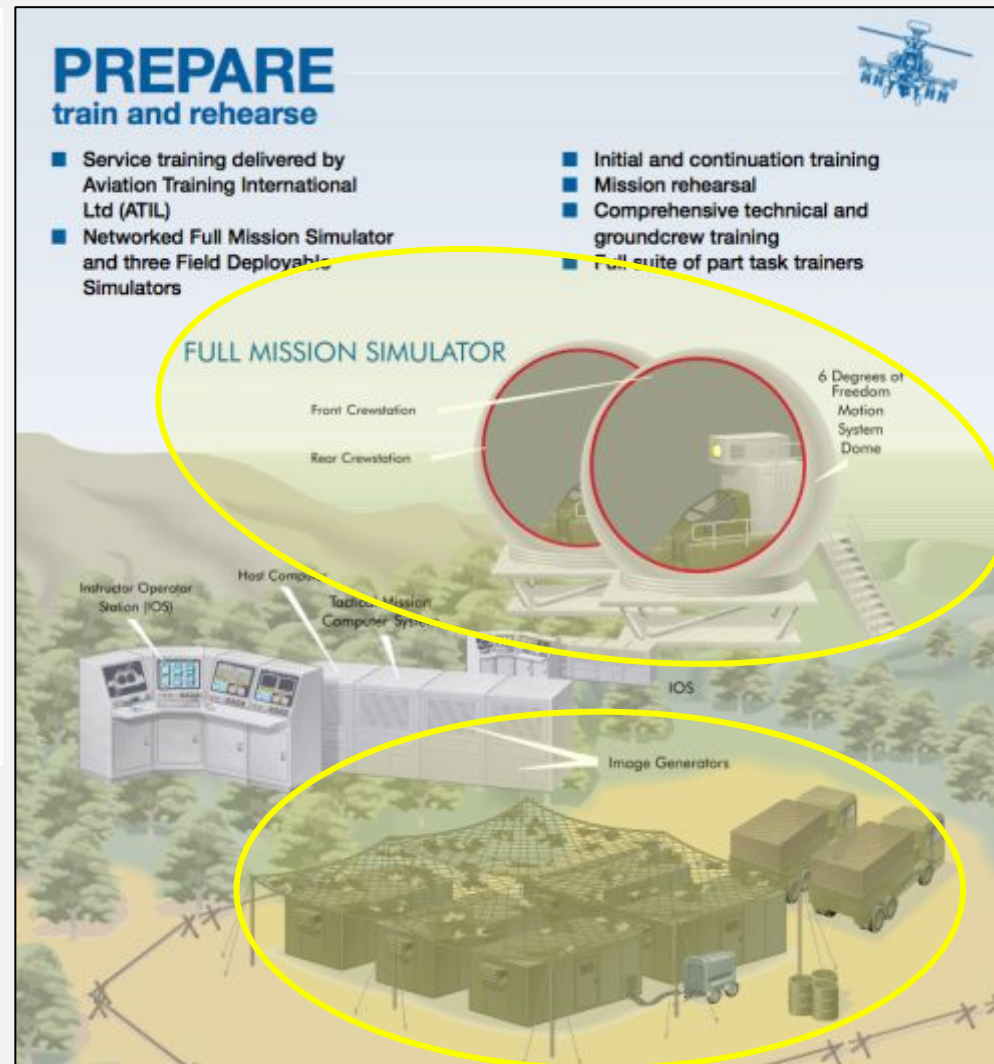
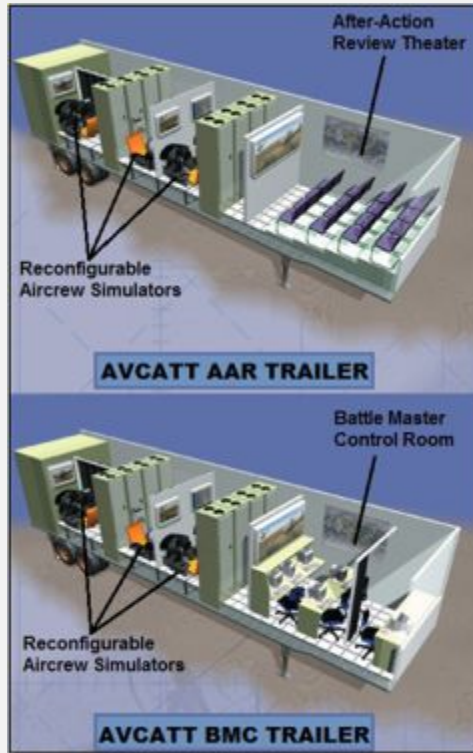


Mental Capacity Demands of a Mission



Military Simulators: One size doesn't fit all

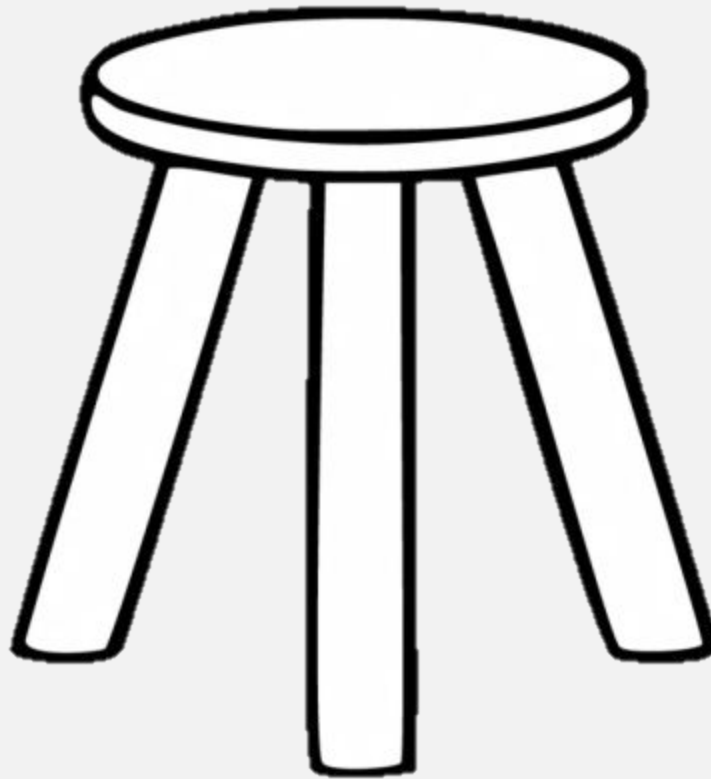
(The right sim, in the right place, at the right time)



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Mission Training Requirement



Easily
Accessible

Reflects the
C4ISTAR

Reflects the
Operation

Anything New?

1960s - Mobile Simulation for B52s



SIMNET Vision - 1978

Networks of simulators that would be used for combat planning, rehearsal, and execution

1



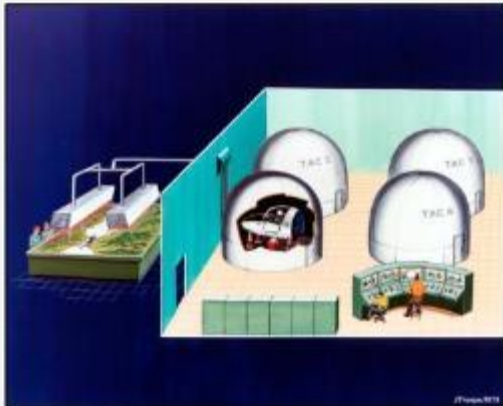
Enemy aggression detected

2



Planning a response

3



Rehearsal and analysis

4



Real time mission observation

SIMNET Principles

- “concepts which tightly align training systems with real combat readiness and make them indistinguishable”
- Best use of simulators might be for *non-substitution* tasks
- Selective fidelity
- The 60% solution
 - Fast approximate and cheap was better than slow, deliberate and expensive

1990s and 2000s

- 1990 – Distributed Interactive Simulation (DIS)
- 1994 – US STOW-E (Synthetic Theater of War)
- 1995 – High Level Architecture
- 1999 – UK MTDS Concept
- 2004 - NATO First Wave
- 2005-8 UK MTDS CCD
- 2006 - UK and Coalition Universal Networks
- C4ISTAR/Simulation Interoperability Initiatives (eg. C-BML)

Challenges Now

- Mission Training Requirement
 - Essentially remains the same
- Research/Acquisition
 - Technology has changed, but little organisational change
- Post Defence Reform
 - Delivering an enterprise approach in a more delegated world

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Tomorrow's Conflict

- Where?
- What?



- With who?



- Against who?



Tomorrow's Conflict

Nature of Conflict

- Joint/Combined
- Preparation
 - Short notice
 - Distributed planning/training
- Duration
 - Shorter than HERRICK(!)
- 'More-from-less'
- Area of Operations
 - Unfamiliar?
 - (non/semi)permissive?
- Political complexities

Role of Simulation

- Competency/Familiarity
- Deployed, in theatre training
- Course of Action analysis
- No planned Msn Specific Training
- Max efficiency thru rehearsal
- Familiarisation (database)
- Force-on-Force preparation
- Minimising risk (rehearsals)

Deployed Mission Simulation

Air/Land



Maritime



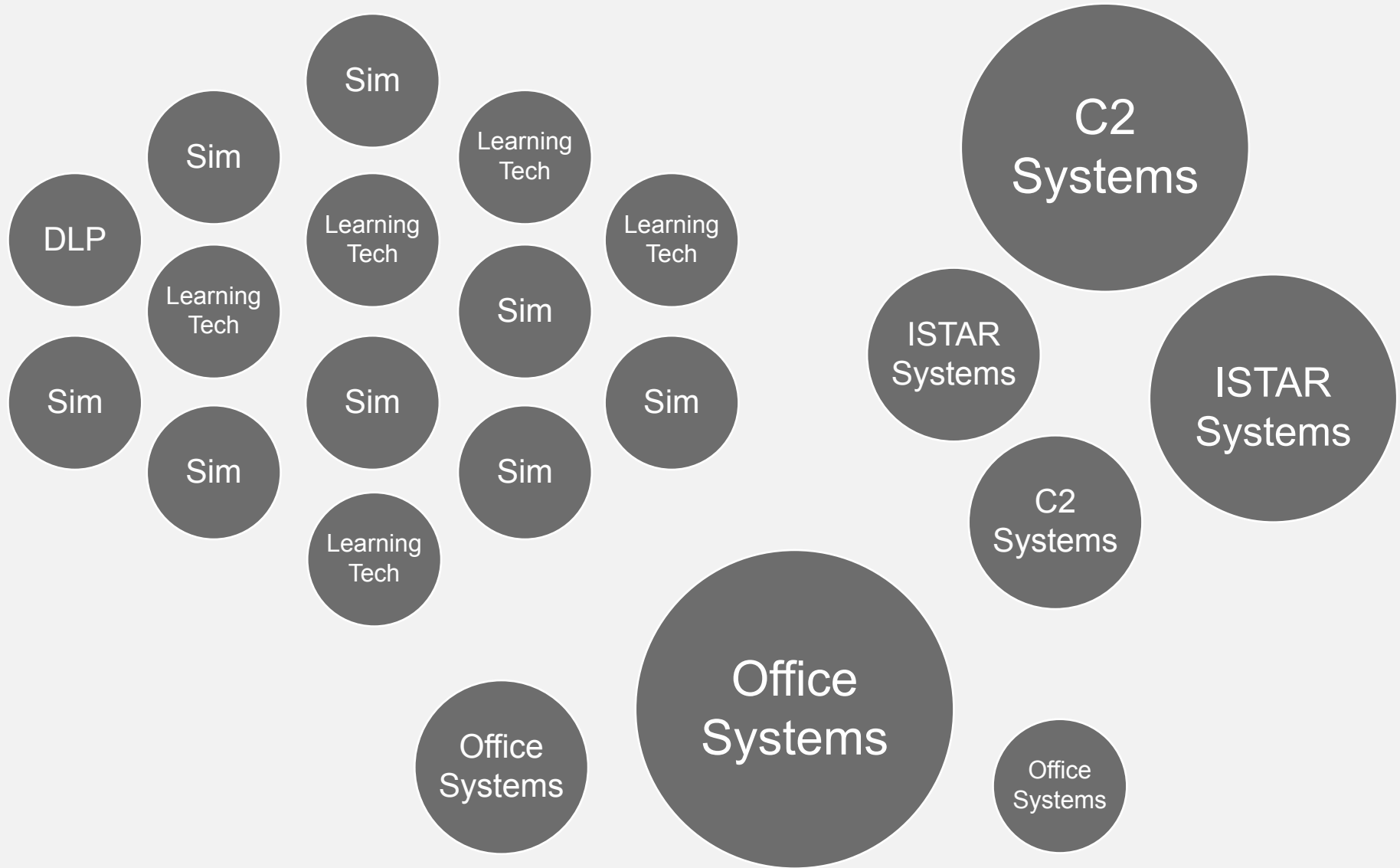
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The Mission Training Requirement

- Long Standing Vision
 - Operational Requirement Clear and Unchanging
 - Operation Specific Requirement Unpredictable
 - We have the Technology and Standards
 - Years of Research, Demonstration and Reports
-
- Mission training requires the rapid integration of C4ISTAR and simulation elements

Organisational Boundaries



Meeting the Mission Training Requirement

- Rapidly reconfigurable networked simulation
 - Single network
 - Common rapidly available up-to-date simulation data
 - Minimal simulation software diversity
 - Targeted fidelity
 - *60% solution*
- Accessible/Mobile
- Simulation and C4ISTAR Interoperability

Convergence

Simulation
& Learning
Technologies

C4ISTAR
Systems

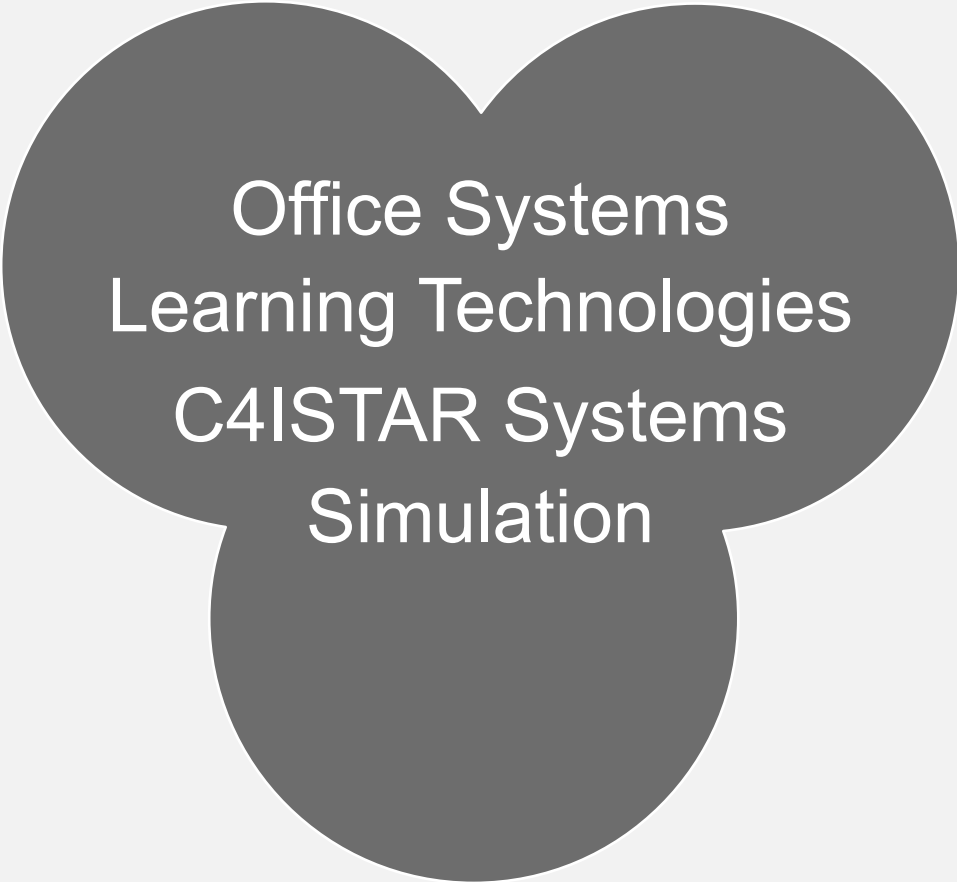
Office
Systems

Digital Convergence

- Digital technology advances and convergence offer the prospect of changing the way we create simulations, learn, deliver training content and interact with each other
- We may need to train less



One Digital Acquisition Organisation



Office Systems
Learning Technologies
C4ISTAR Systems
Simulation

Simulation for Operations: More than just training?

- Exploiting the simulation facility
- Collating, filtering, displaying the information
- Through-mission simulation



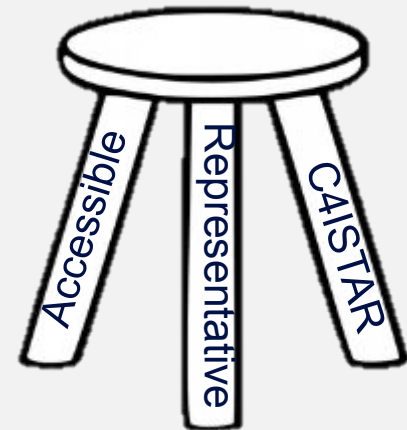
Enduring Principle

- Focus on the Human Element of Warfare and Decision Making



Summary

- The mission simulator **must**:
 - be easily accessible
 - represent the operation
 - represent the C4ISTAR
- No new concepts..
- Enduring requirement – Acquisition organisation changes required?



Questions

