

# Background – The Land Battlespace Systems MOU

- Signed in December 2004 by DEC (GM)
- Aim to address specific issues that include:
  - Enhancement of interoperability
  - Risk mitigation based on sharing technology road maps & tools
  - Tactics, techniques, methods and procedures for LBS employment
  - Open and common architectures for LBS & LBS components
  - Identification of system modifications
- MOU established a framework for implementing a cooperative programme of work relating to LBS:
  - To improve understanding of US and UK national programmes
  - To leverage each nation's industrial and technical expertise
  - To define and implement a joint programme of applied research, concept development and technology demonstration



# US/UK Land Battlespace Systems MOU

## C4ISR Project Arrangement objectives

- **Objectives:**

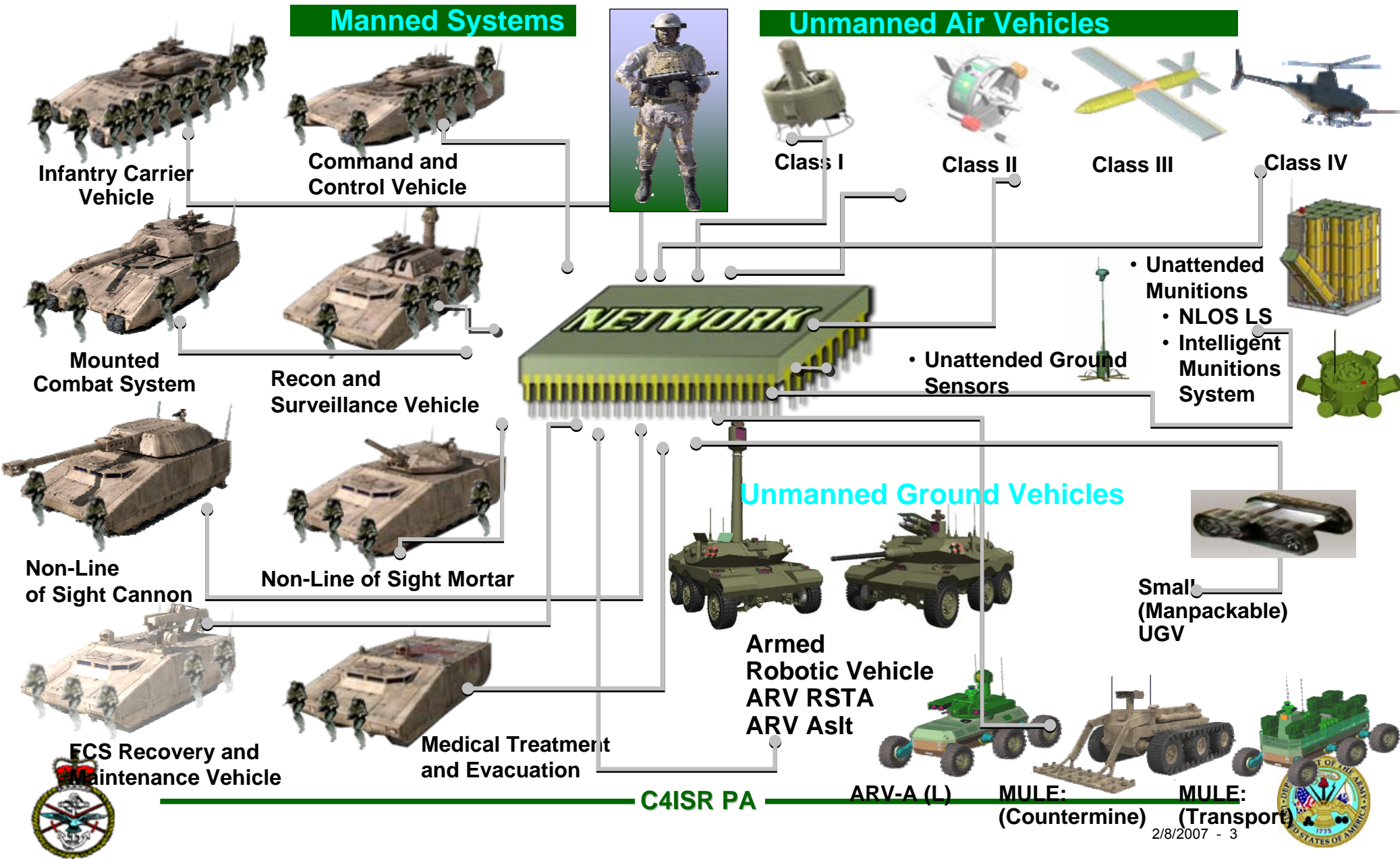
- To enhance C4ISR interoperability between US Army and UK Joint Forces at brigade/UA level and below operating in the land environment
- To support integrated US/UK Combined and UK Joint force operations in the NCW/NEC vision of 2014 and beyond

- **Approach:**

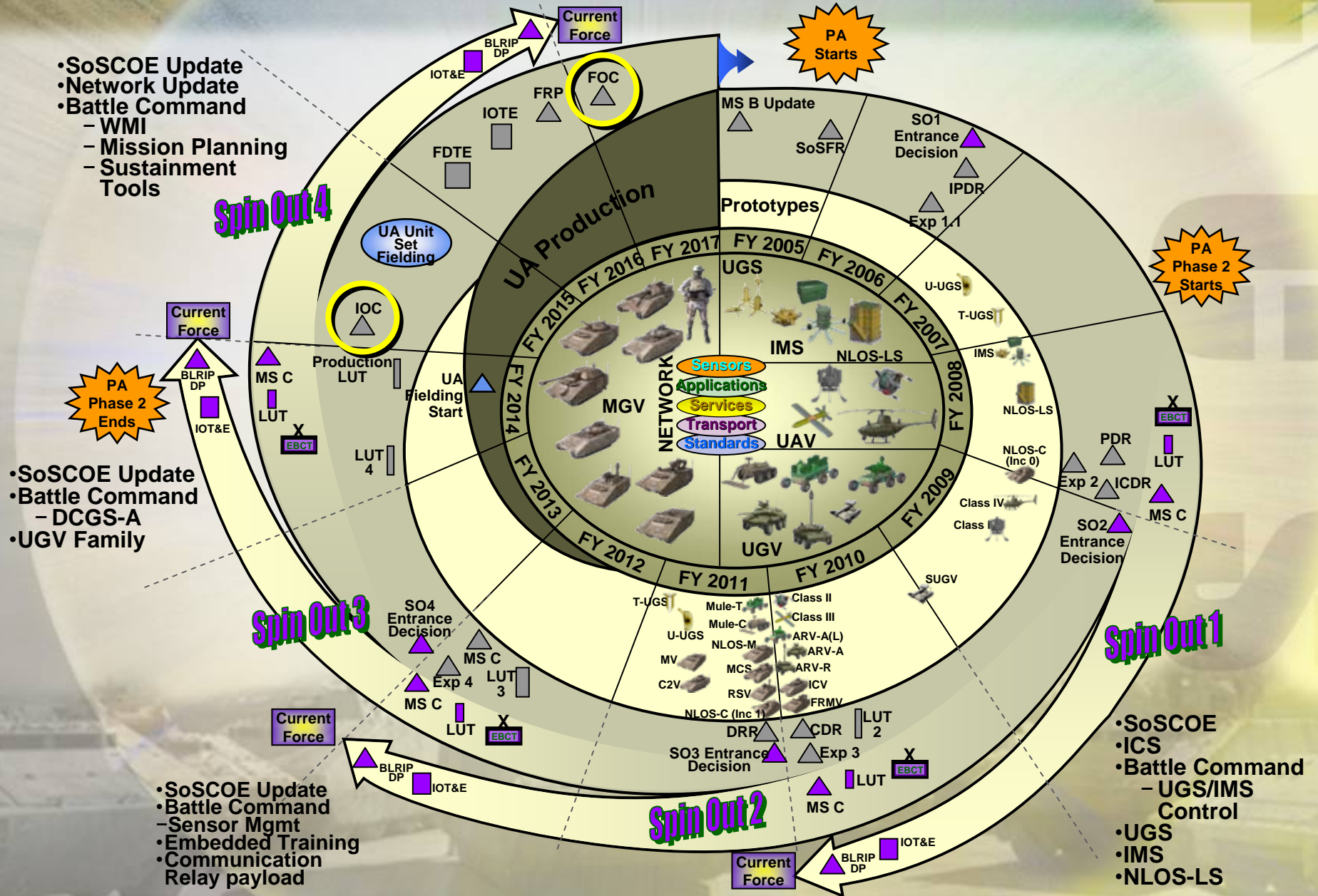
- To use best practice systems engineering practices that will enable informed investment decisions to be made for implementation options
- To maximise leverage of ongoing and planned national analyses, studies, modelling and simulation efforts and experimentation
- To facilitate early delivery of C4ISR interoperability capability improvements to current US and UK forces throughout the period 2008 to 2014



# Technologically Enabled through Future Combat Systems and Net-Centric Operations



# C4ISR PA timescales in relation to the FCS Program Schedule



- SoSCOE Update
- Network Update
- Battle Command
  - WMI
  - Mission Planning
  - Sustainment Tools

Spin Out 4

PA Phase 2 Ends

- SoSCOE Update
- Battle Command - DCGS-A
- UGV Family

Spin Out 3

- SoSCOE Update
- Battle Command - Sensor Mgmt
- Embedded Training
- Communication Relay payload

Spin Out 2

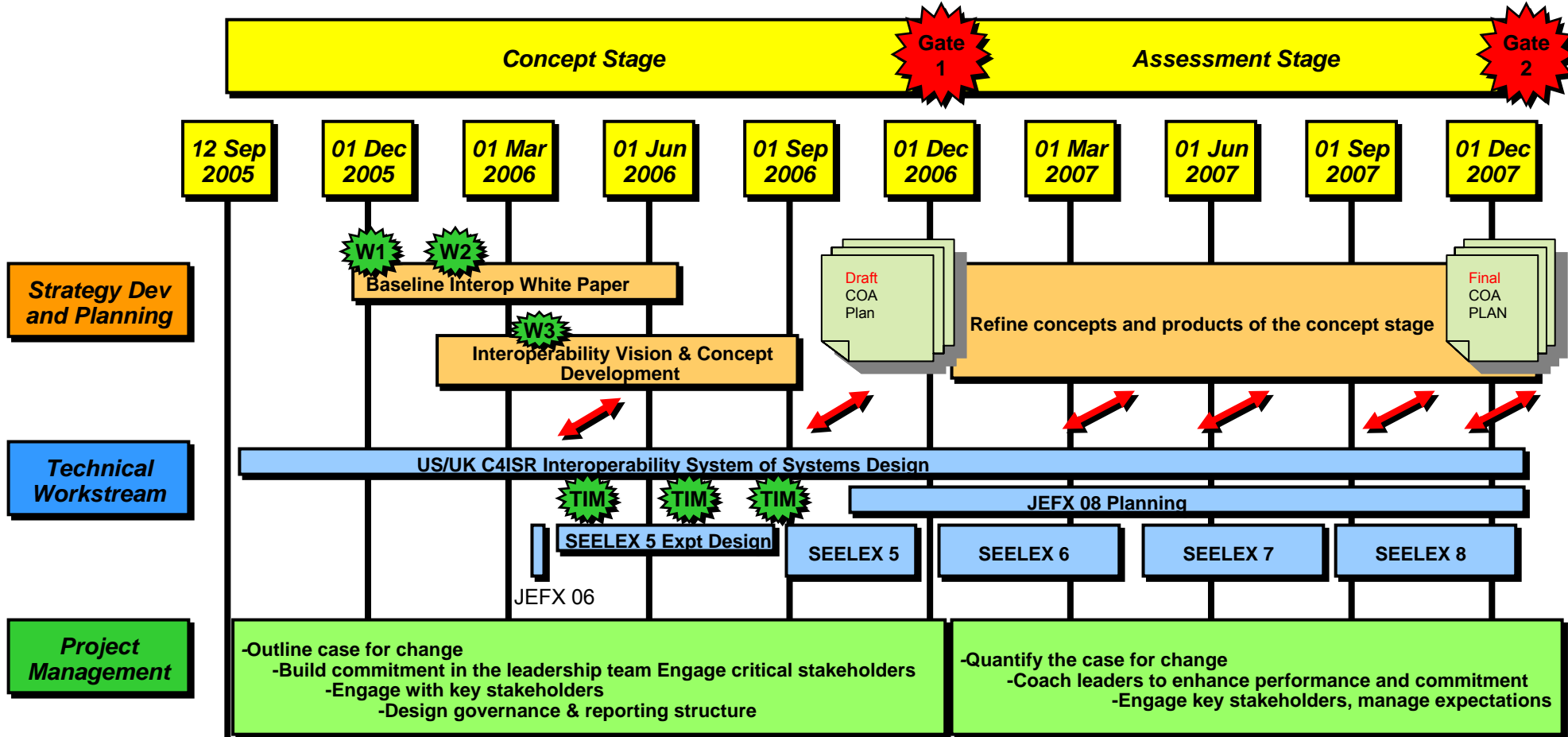
Spin Out 1

- SoSCOE
- ICS
- Battle Command - UGS/IMS Control
- UGS
- IMS
- NLOS-LS



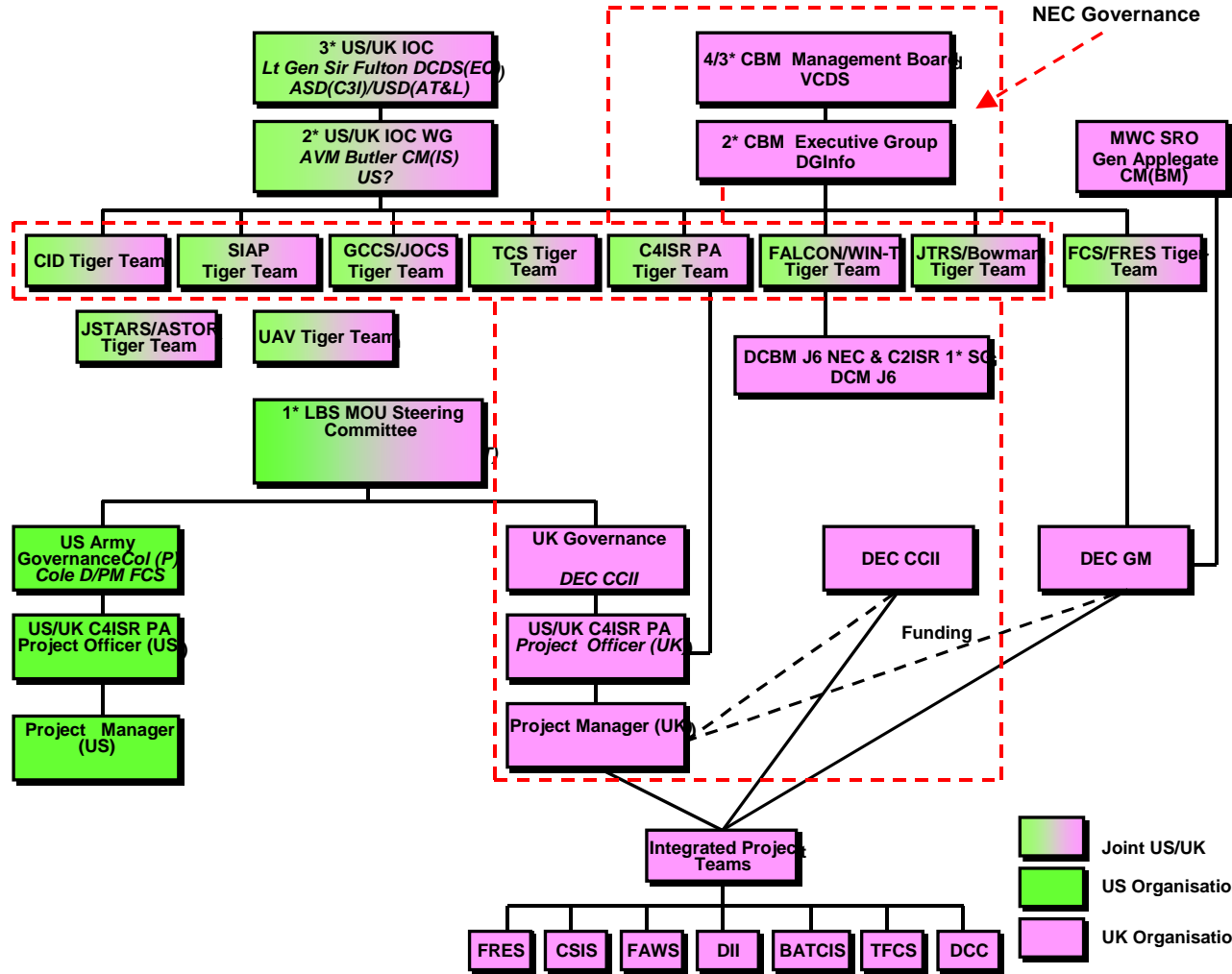
# C4ISR PA Phase 1

## Two Years-Three major work streams

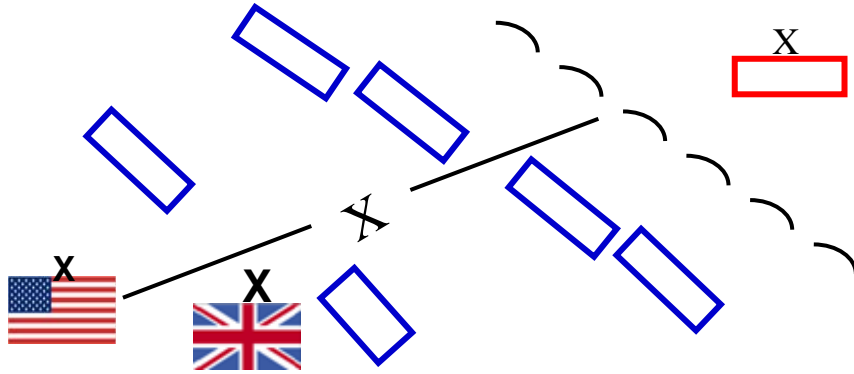


# UK Organizational Structure

- Overall governance & reporting structure
- Multiple DECs
- Integration across multiple IPTs



# UK-US Future Force C4ISR Interoperability Vision Paper Highlights



## Current Environment

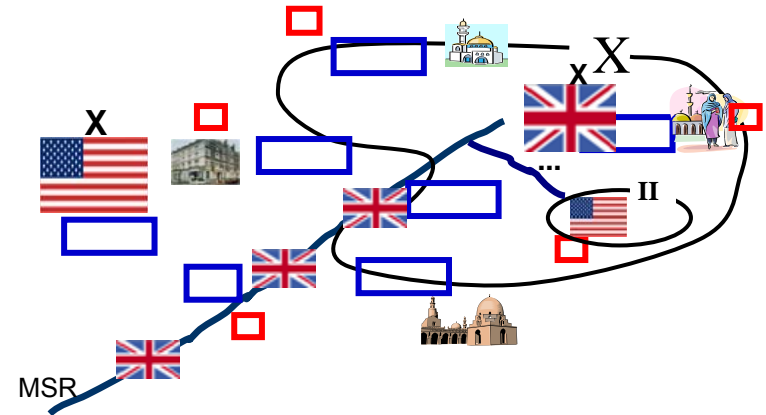
- Generally Open Terrain
  - Linear Array of Forces
  - Nation State Actors/forces
  - ISR= Movement to contact
  - Long Theatre Build up a necessary evil
  - Local Actions have local consequences
- Maneuver and Firepower dominate

## C4ISR

- C2=Hierarchical Voice and Digital
- Most ISR assets at Strategic and national level

## Interoperability

- Relegated to higher echelons
- Mostly Voice and MS Office = air gap to national C2 systems
- Ad Hoc and requires augmentation
- Formal tactical solutions are Rigid and cumbersome=not used
- Limitations force Mission and Geographical Deconfliction TTPs



## Future Environment

- Urban and Complex Terrain
  - Non-Linear battle field
  - Asymmetric and adaptive actors/forces
  - Sense= Engage
  - Strategic deployability and off the ramp operations a necessity
  - Local actions have strategic consequences
- Information, Speed, and Precision Dominate

## C4ISR

- Horizontally and vertically integrated networks
- Increase in tactical ISR assets= See First

## Interoperability

**C4ISR PA Vision  
= Integrated Force**



# Customers' Enduring Needs



- Joint, Interagency and Multi-National Capabilities
- Increased Strategic Responsiveness
- Dominant across Full Spectrum Operations
- Battle Command on the Move
- Ubiquitous, Distributed Network with Joint Fires
- Integrated Survivability
- 3-7 Days Self-sustainment
- Network Enabled, Embedded Training

*Soldiers as the Centerpiece of the Formation*

C4ISR PA





## Role of Experimentation in C4ISR PA

- Integral part of System of Systems SE approach
- Investigation and definition of interoperability options:
  - Requirements definition (functional & non-functional)
  - Option viability & effectiveness
  - Assess technology readiness
  - Identification of shortfalls or limitations
- De-risk capability development options
- Inform concept, doctrine & TTP development



# JEFX'06 & SEELEX#5 Results

- JEFX'06:
  - Net-centric interoperability enablers fielded & tested
  - Interoperability & combined effects between air & land forces tested
  - Integration of FCS with current force systems proved
- SEELX#5:
  - Near-real-time Situational Awareness interoperability options investigated
  - Comms interoperability gateways at different echelon levels investigated
  - Capability development options de-risked

