

**“Accelerating Technology Insertion for
America’s Defense and Homeland
Security Needs”**

**Army Future Combat Systems
Acceleration
Annual NDIA National T&E Forum**

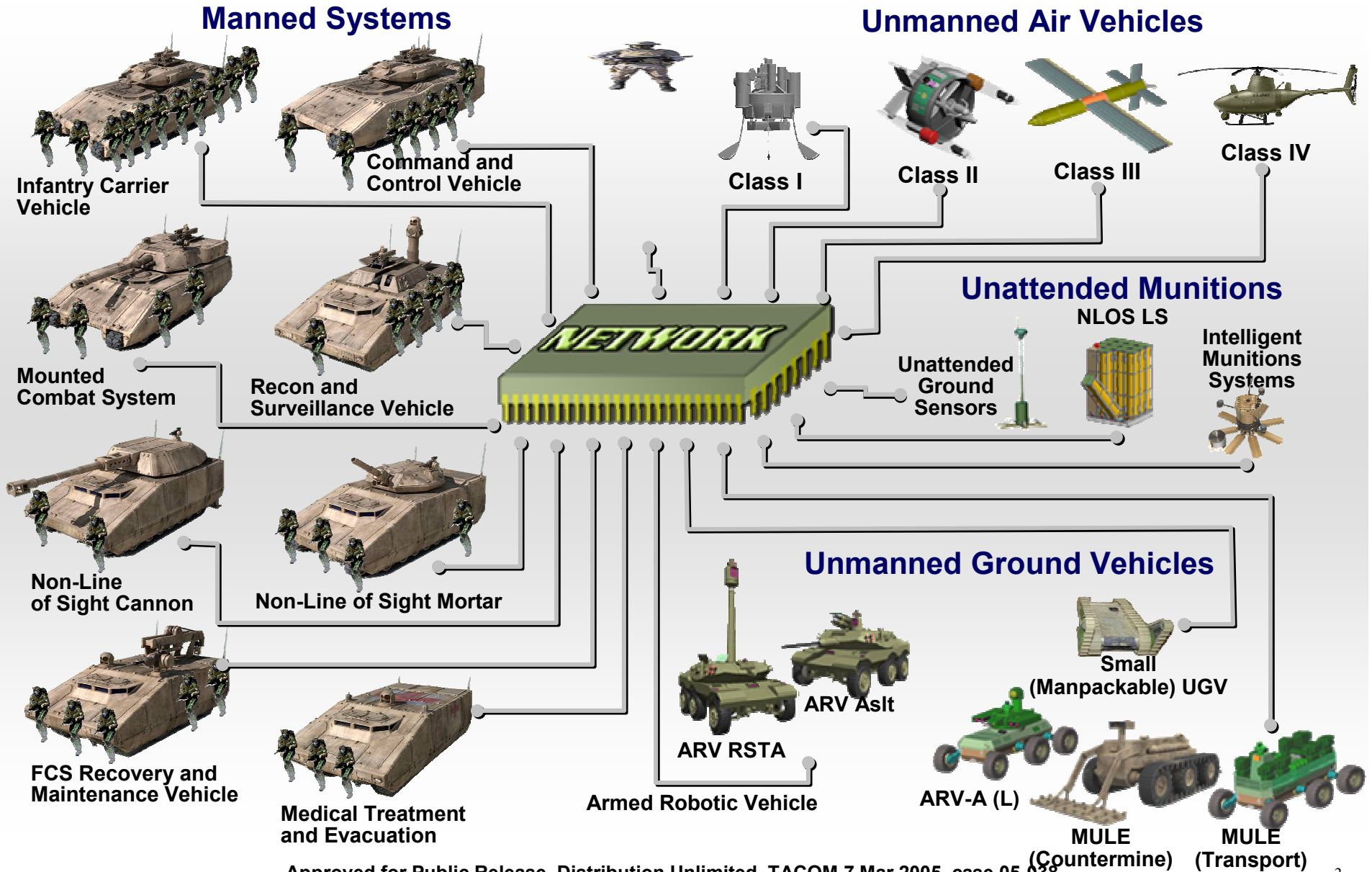
**Michael Toole
Boeing Integrated Defense Systems
8 Mar 2005**

Army Future Combat Systems Acceleration



- **Develop FCS Equipped Unit of Action for the Future Force**
 - Network
 - Lethality Systems
 - Unattended Ground Systems
 - Unattended Air Vehicles
 - Manned Ground Vehicle
- **Spiral Out FCS Capabilities to the Current Force**

FCS Family-of-Systems



FCS Significant Events & Updated Products



Northrop Grumman UAV Testing



Packbot on Patrol in Iraq



GDAIS ICS Demonstrator at Fall AUSA Symposium



After Action Review Meeting Center



iRobot Packbot Production Line

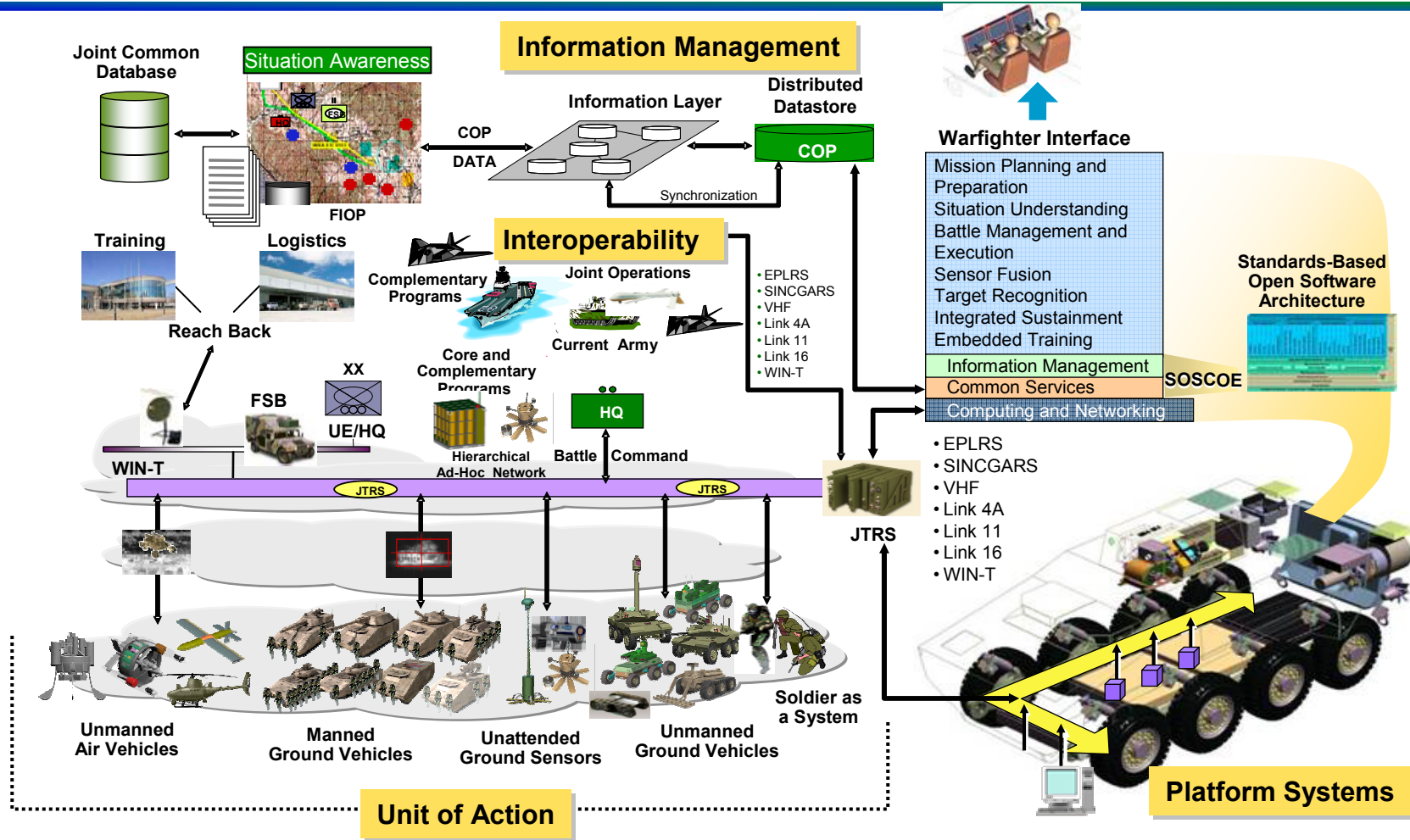


GDAIS Completes First Test Station Build for ICS



SARTI UGV

The Integrated and Interoperable UA Network-Centric Warfighting



Warfighting Advantage - exploits behavioral change and new doctrine to enable:

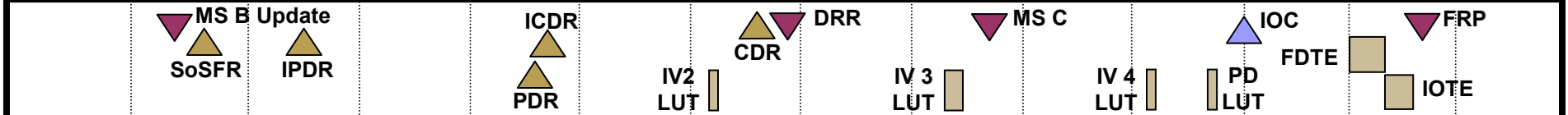
- Self-synchronization
- Speed of command
- Increased combat power

PM UA Master Schedule

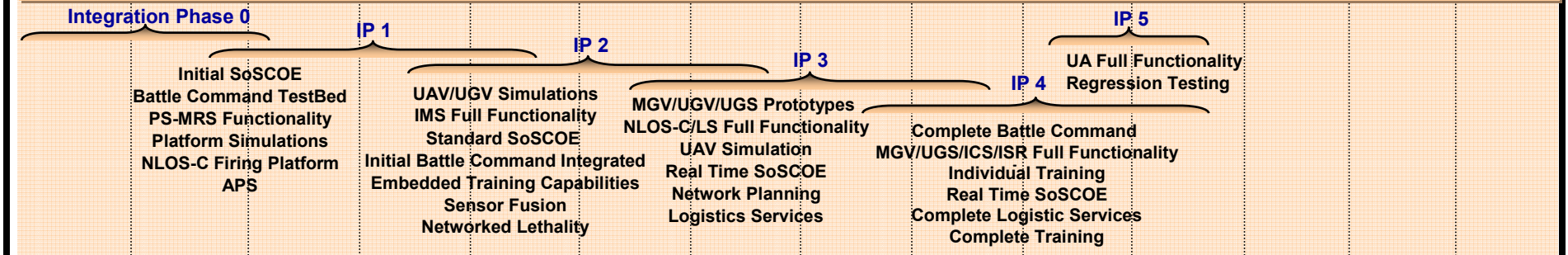
[As of 1 MAR '05]

FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
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CY2004	CY2005	CY2006	CY2007	CY2008	CY2009	CY2010	CY2011	CY2012	CY2013	CY2014	CY2015	CY2016	CY2017
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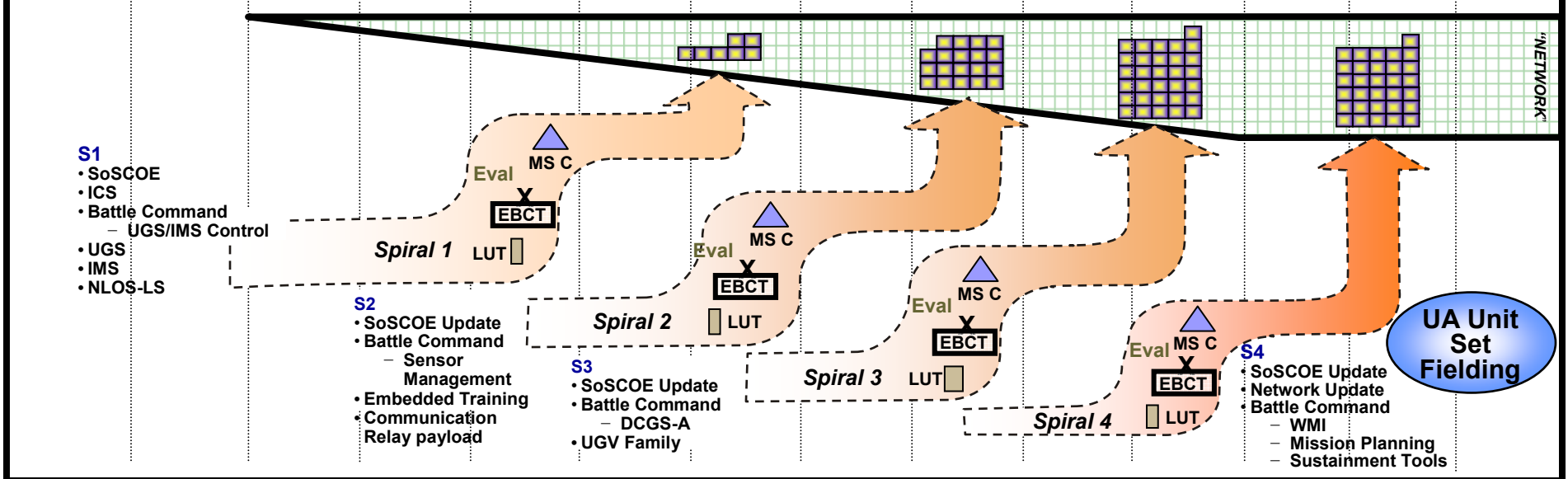


Integrated Phase = Engineering Iteration + Integration, Verification + Spiral Out



Training Task Analysis, Training Support Package Development, TADSS Development

Logistics Supportability Assessments, Logistics Product Development and Production, Prototype and Production Fielding Increment 1 Mat. Release Δ



- S1**
- SoSCOE
 - ICS
 - Battle Command - UGS/IMS Control
 - UGS
 - IMS
 - NLOS-LS

- S2**
- SoSCOE Update
 - Battle Command - Sensor Management
 - Embedded Training
 - Communication Relay payload

- S3**
- SoSCOE Update
 - Battle Command - DCGS-A
 - UGV Family

- S4**
- SoSCOE Update
 - Network Update
 - Battle Command - WMI
 - Mission Planning
 - Sustainment Tools

UA Unit Set Fielding

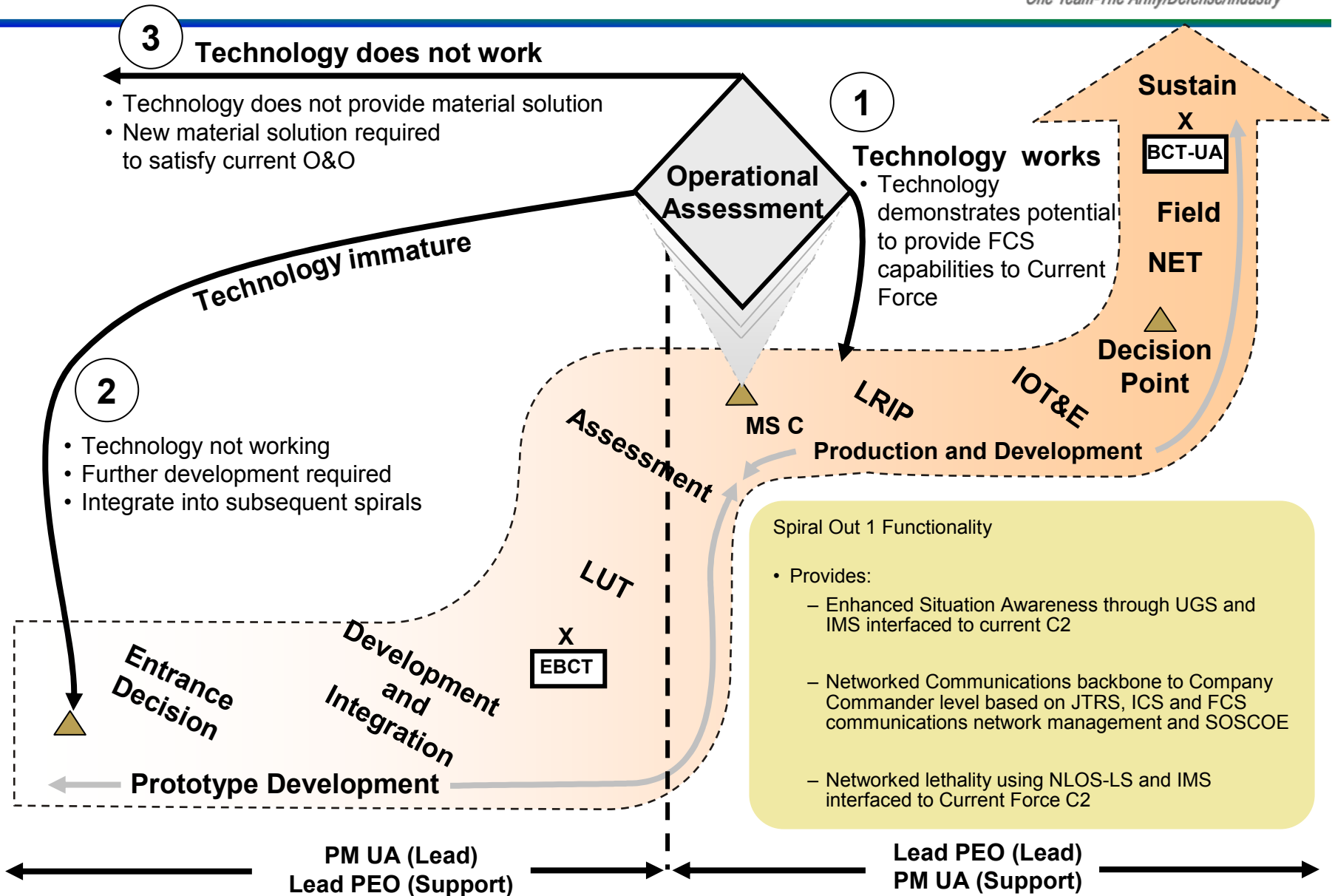
Spiral Out 1 Definition

- **Spiral Out 1 will provide FCS network components for integration into Seven (7) Current Force vehicle types:**
 - Commanders vehicles down to the company commander level
 - Basic existing CF vehicle types - Stryker, Abrams, Bradley, HMMWV
 - Emerging vehicle types - WIN-T POP Vehicle, MBCOTM, & TOC
 - LSI provides support for integration of First Article B-kits to vehicles
- **FCS Network Components**
 - B-Kit Contents
 - JTRS Cluster 1 Radio (SINCGARS/EPLRS/SRW/WNW)
 - NRE for development of antennas for CF vehicles including co-site mitigation for FCS network components
 - Network Management System:
 - Manage FCS computer/network
 - Interfaces to obtain EPLRS & SINCGARS waveform instantiations on JTRS
 - Manage Red/Black side of JTRS (SRW, WNW)
 - RF and Cosite Mitigation for FCS network components
 - SOSCOE v1.8:
 - Standard edition on Linux OS
 - Level 1 interop services to: FBCB2, AFATDS, GCSS-A, DCGS-A
 - Integrated Computer System (ICS) – Type VI:
 - Networked thru JTRS CL1 – Provides more capable comms network w/a variety of waveforms
 - EPLRS Form Factor w/integrated platform LAN router
 - Battle Command:
 - Use FBCB2 Application and Display for Situational Understanding
 - SDM, L1F, and C2 for UGS & IMS
 - Battle Space Objects sent to FBCB2
 - Allows CDR's to conduct MBCOTM w/improved Common Operating Picture & SA
 - Integrates Comms & Tactical Fire Control w/AFATDS for NLOS-LS

Spiral Out 1 Definition Cont.

- **Systems/Platforms**
 - T-UGS and U-UGS (hand emplaced)
 - Radiological, nuclear, and acoustic sensing
 - Increased early warning for Force Protection
 - Increased surveillance capability to platoons and companies
 - U-UGS will improve ability to detect and engage potential urban threats
 - Provides 2km min range (w/out CRP)
 - UGS Gateway has JTRS C5 (or surrogate)
 - Gateways include SOSCOE Micro Edition
- **Lethality**
 - NLOS-LS w/JTRS C5 (or surrogate)
 - CLU and PAMs
 - SOSCOE Real-time Edition
 - Managed/networked via AFATDS
 - Provides effective NLOS lethal attack munitions solution
 - IMS w/JTRS C5 (or surrogate) - Intelligent Munitions
 - Hand emplaced
 - Increased surveillance & lethality to platoons and companies
 - IMS program provides dismounted & platoon level C2; FCS will provide for Co level and higher C2.
 - Gateway includes SOSCOE Micro Edition
- **Training**
 - Individual Training for the LSI developed components/systems
- **Logistics**
 - Support integration of FCS systems and components into the CF logistics system
 - CLS/PBL support for the FCS components/systems
 - Logistical support for prototypes in E-BCT

Spiral Management Roadmap



FCS Acceleration

Resetting FCS Priorities

The Need Is NOW

The Future Is Now