Lead Systems Integrator

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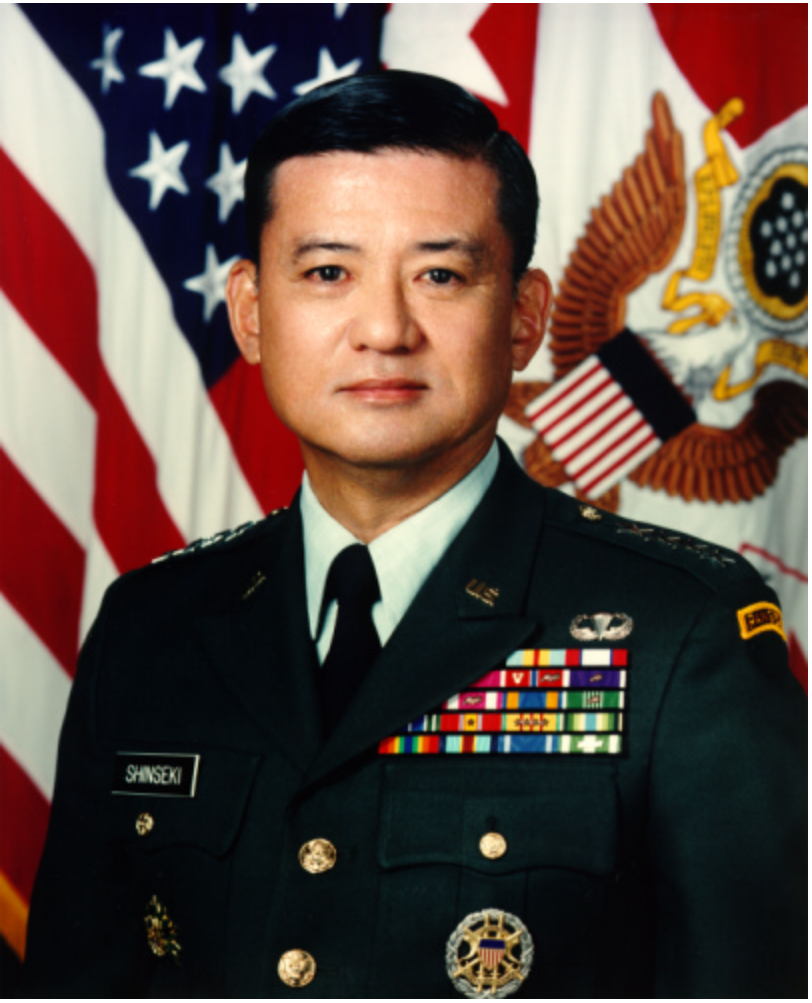
Outline

- **Future Combat Systems Program**
- **Architecture & Systems**
- **Acquisition Plan**

CSA Statement of the Problem

FUTURE COMBAT SYSTEMS
FCS
One Team – The Army/DARPA/Industry

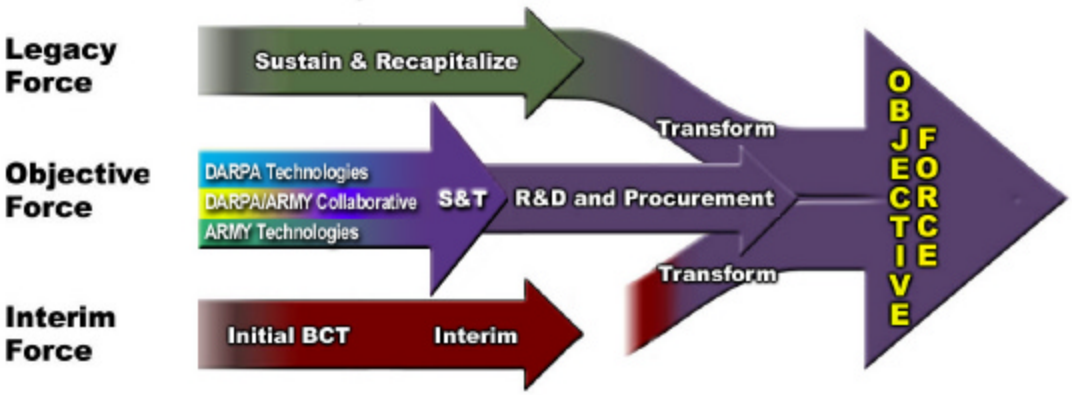


"We must provide early entry forces that can operate jointly, without access to fixed forward bases, but we still need the power to slug it out and win decisively.

Today, our heavy forces are too heavy and our light forces lack staying power.

We will address those mismatches."

-- GEN Shinseki, CSA, 23 June 1999



. . . Responsive, Deployable, Agile, Versatile, Lethal, Survivable, Sustainable.

FCS IOC by the End of the Decade

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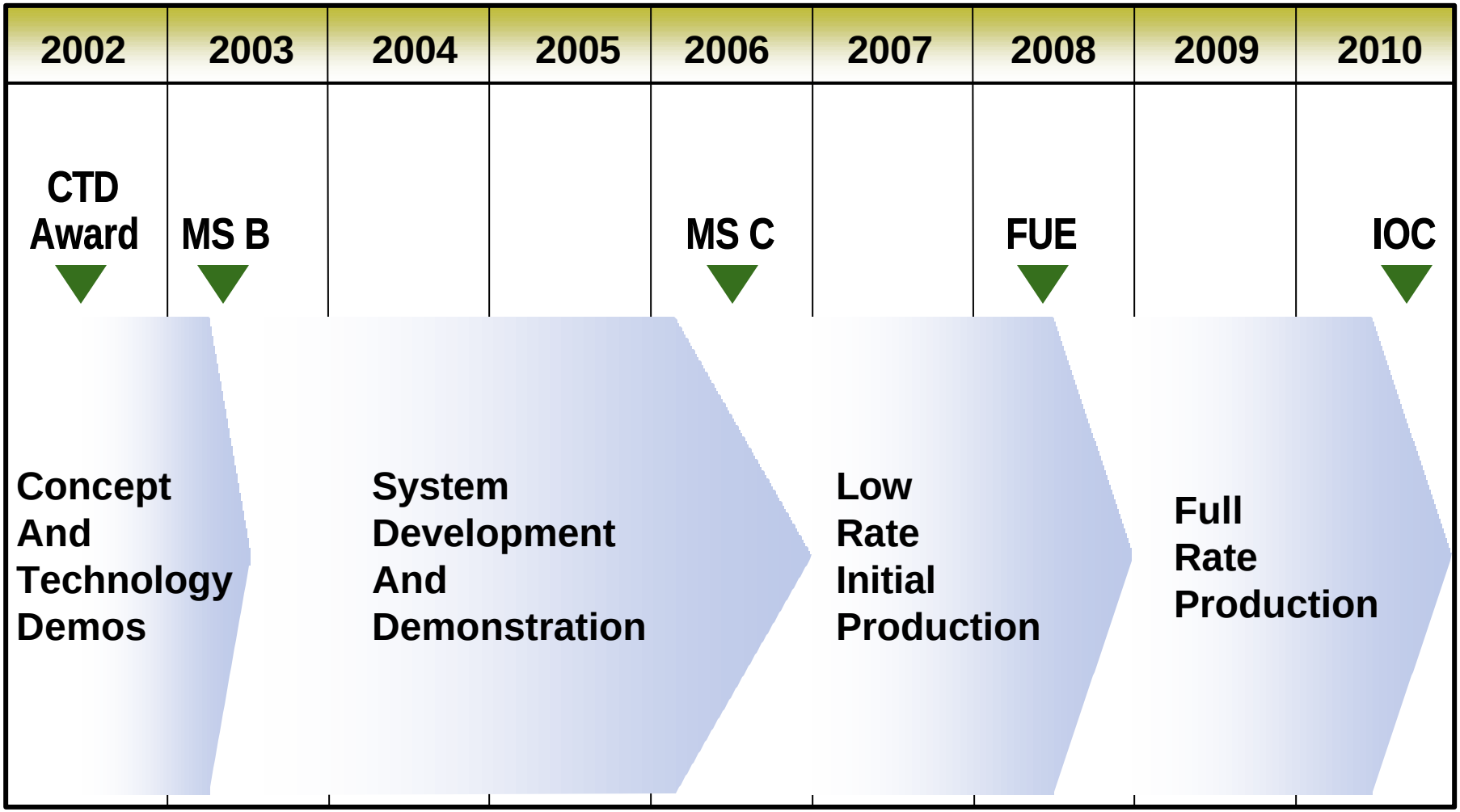

The Lead Systems Integrator

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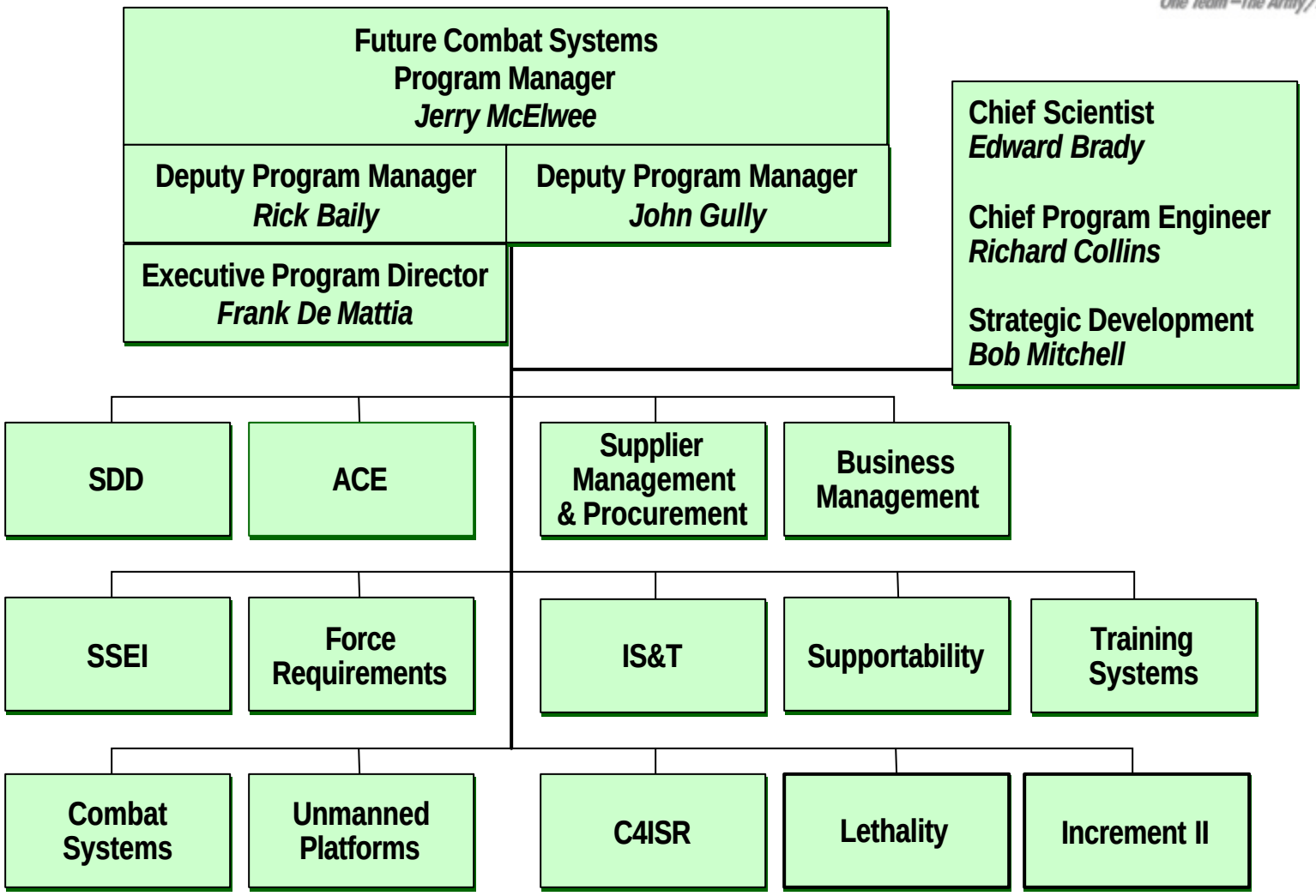
- **LSI**
  - **Is not a type of contract**
  - **Is a style of operation**

- **Conventional Prime**
  - **Develops/builds what it can**
  - **Subcontracts what it can't**

- **LSI**
  - **Focuses on system engineering, system integration, system planning and control**
  - **Gets best of industry to work the hardware**

FCS LSI Organization



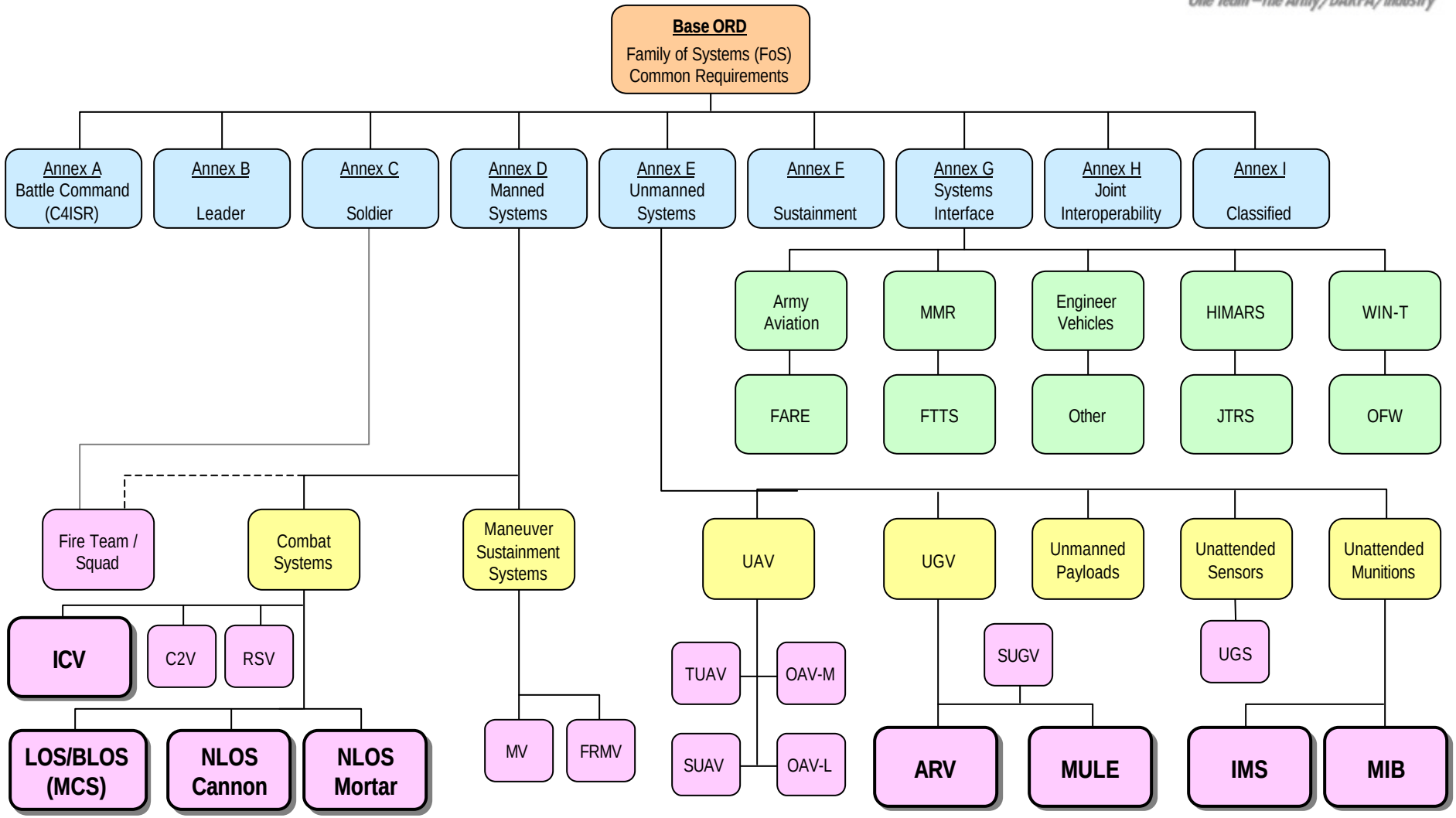
FCS Environment

- **Significant Government Investment**
- **Impacts Every Unit and Soldier in the Army**
- **Shapes Government / Commercial Industrial and Sustainment Base**
- **Schedule Constrained and Technology Driven**

Requires Innovation and Leadership

First True System-of-Systems Development, Production and Fielding

ORD Definition of FCS



The LSI's Concept of Operations

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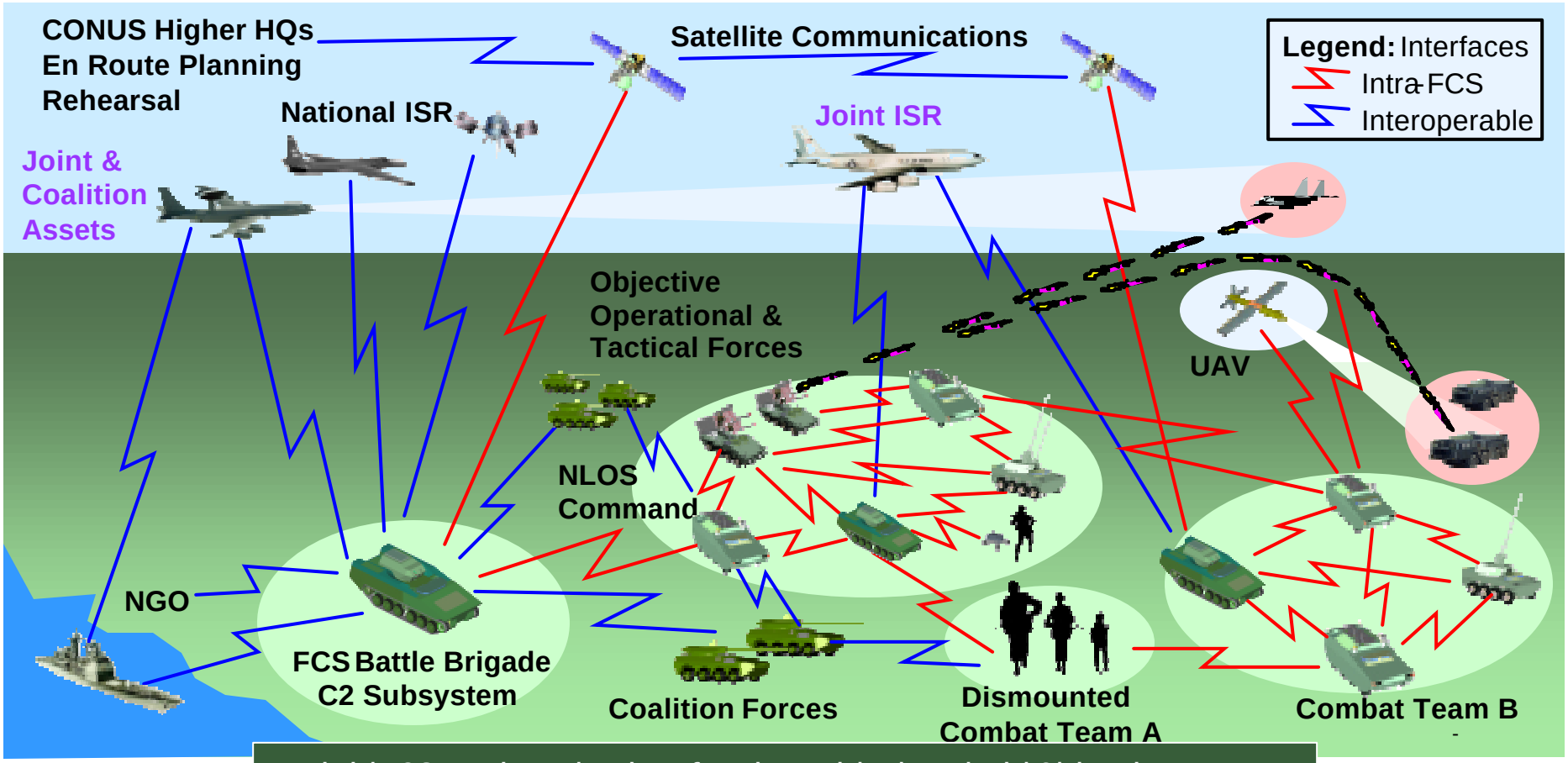

Field FCS-Equipped Units of Action With Threshold Objective Force Capability by the End of the Decade.

Robust Capability Within 8.5 hrs of Wheels Down

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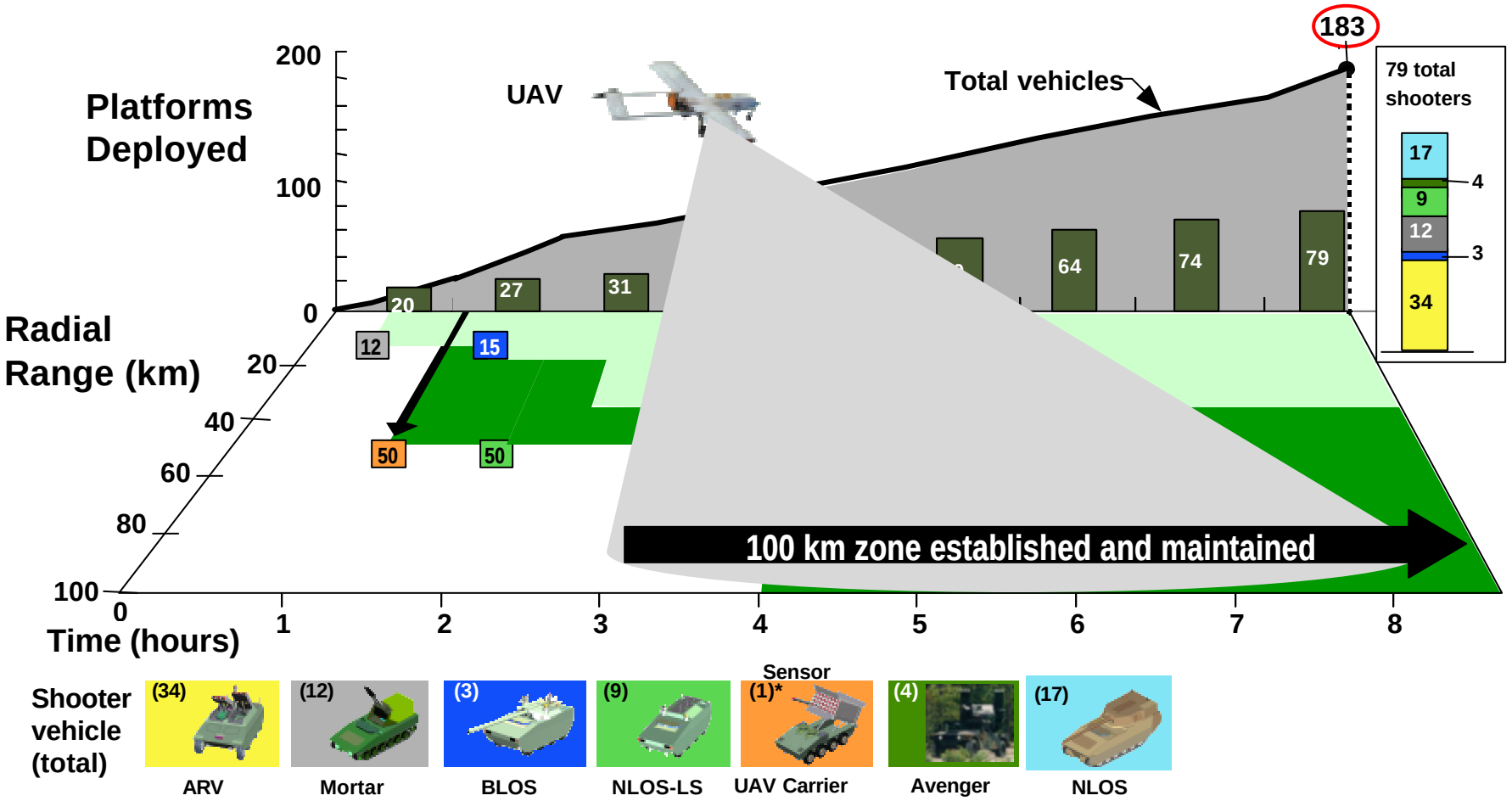

Organizing Integrated Architectures

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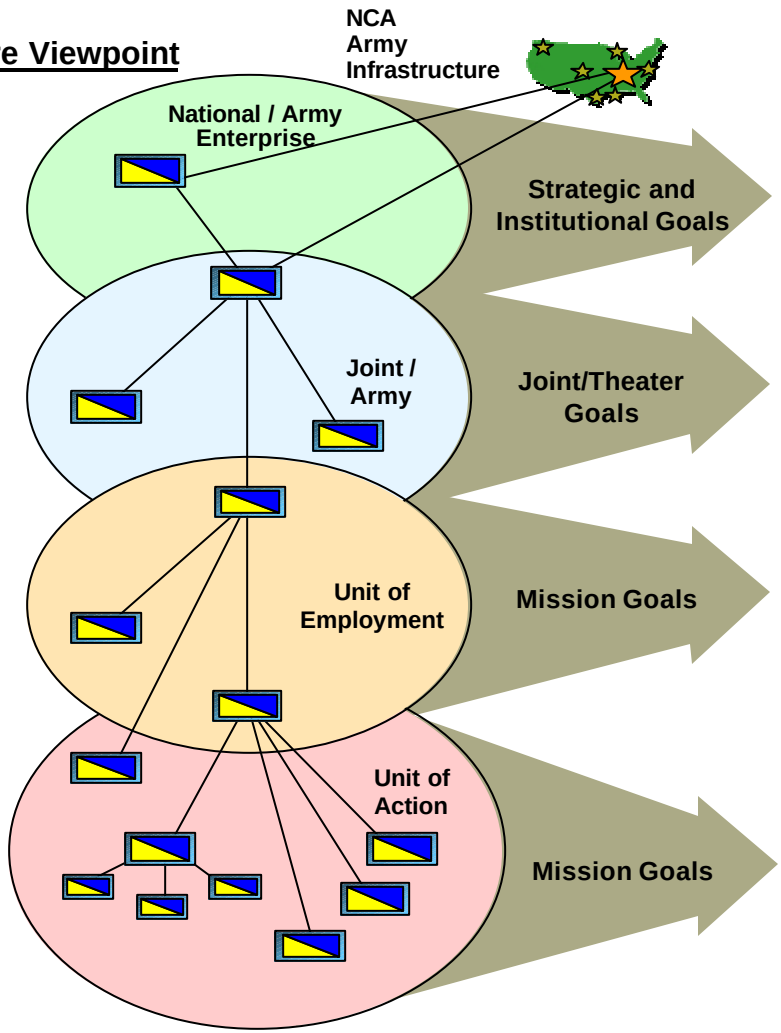
Architecture Viewpoint



Three Views of Architecture

Operational	Systems	Technical
Integrated **Capabilities** Nationally Focused Force Structure	**Integrated Systems** Infrastructure and Asset Focused	**Standards** & Guidance Federal/Legal DOD/National/Joint -Coalition/International…
Integrated Capabilities Deployed Army OV Theater Focused Army / Joint	Integrated Systems Deployed Army OV Theater Focused Army / Joint	Standards & Guidance Army guidance Joint guidance National guidance Coalition guidance + Technical Standards
Integrated Capabilities Unit of Employment OV	Integrated Systems Unit of Employment: SV	Standards & Guidance Technical Standards for the UE
Support Training C4ISR Combat Systems Unit of Action: OV Focus on the Unit as it Operates	Support Training C4ISR Combat Systems Unit of Action: SV Focus on the Man/Systems as they Operates	Technical Standards Unit of Action: TV -- IT -- vehicles -- electronics -- weapons -- M&S

A System of Systems Architecture is Transformational

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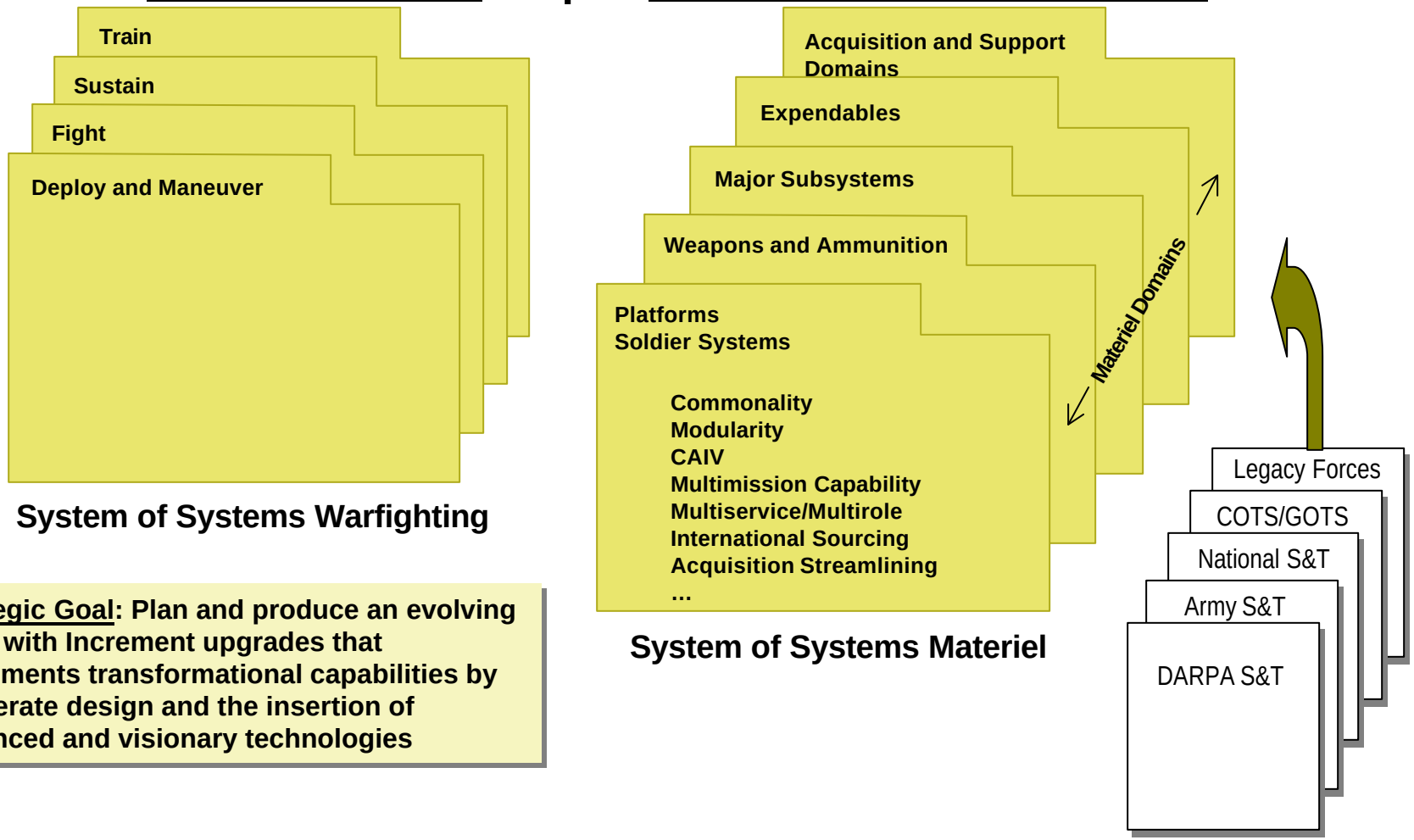
Integrated Warfighting + **Integrated Materiel and Infrastructure**

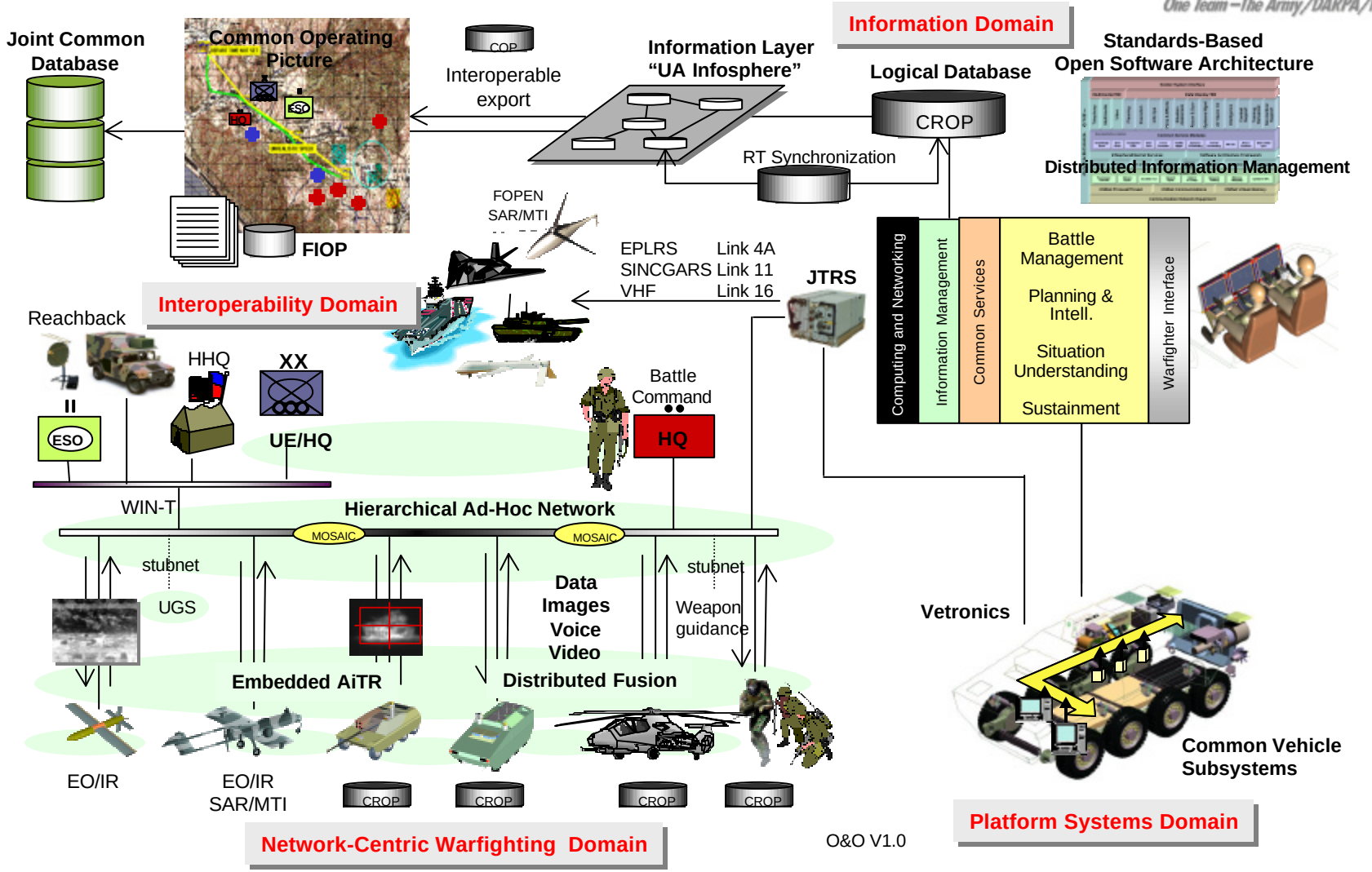


System of Systems Warfighting

System of Systems Materiel

Strategic Goal: Plan and produce an evolving force with Increment upgrades that implements transformational capabilities by deliberate design and the insertion of advanced and visionary technologies

Unit of Action: C4ISR Architecture



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Persistent ISR

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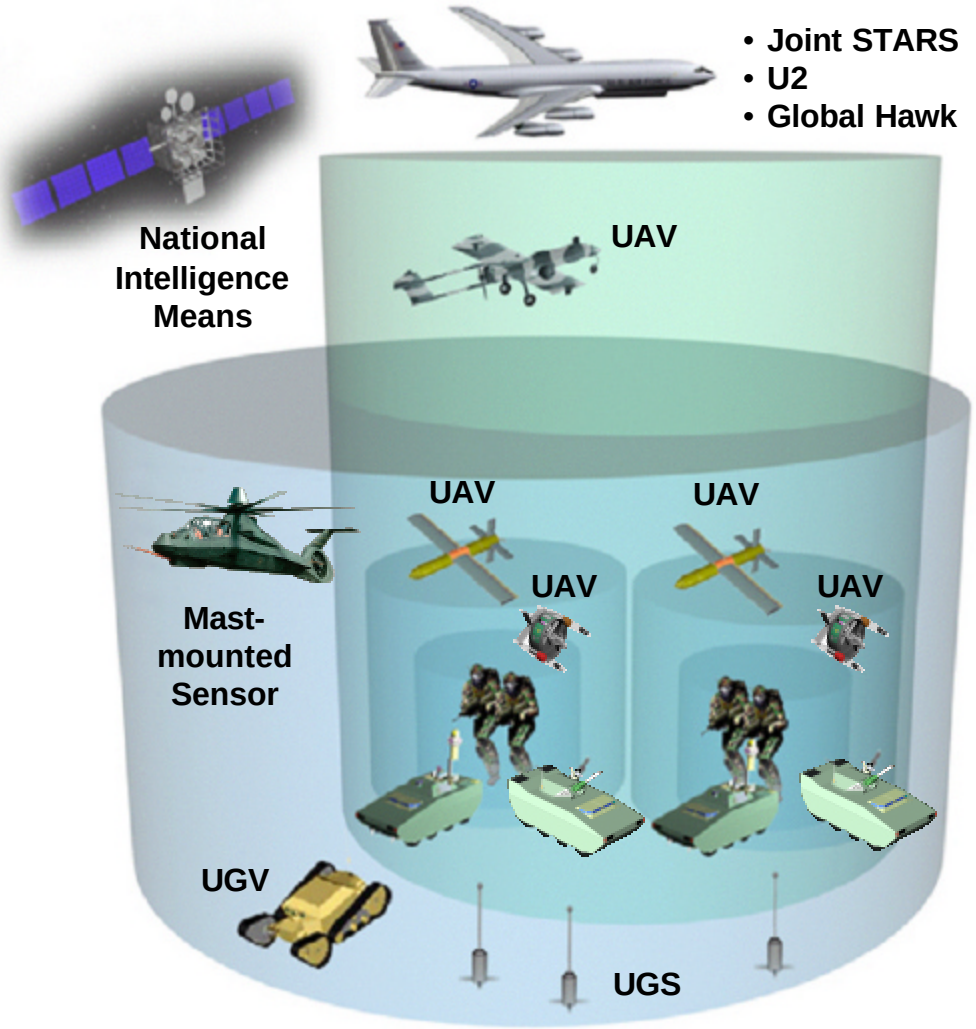
Sensors

- Individual soldier system
- Vehicle mobility/weapon sight
  - LWIR FLIR, EO
- Vehicle warning and defensive aids
  - MWS,EO, glint, laser RF, laser warning
- 5m RSTA mast for R&S
  - LWIR/MWIR FLIR, EO, laser RF, laser warning, Ka band radar
- 2m RSTA mast for ARV
  - LWIR FLIR, EO
- Modular payloads for UAVs
  - MWIR, IICCD, LRF, gated SWIR
    - SIGINT
    - SAR/MTI radar
    - NBC, hyperspectral



Combat Systems

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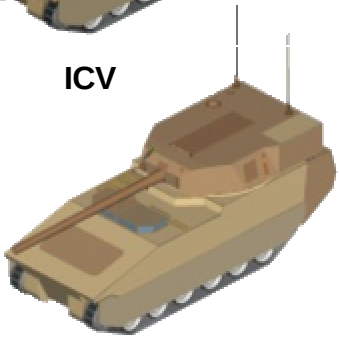
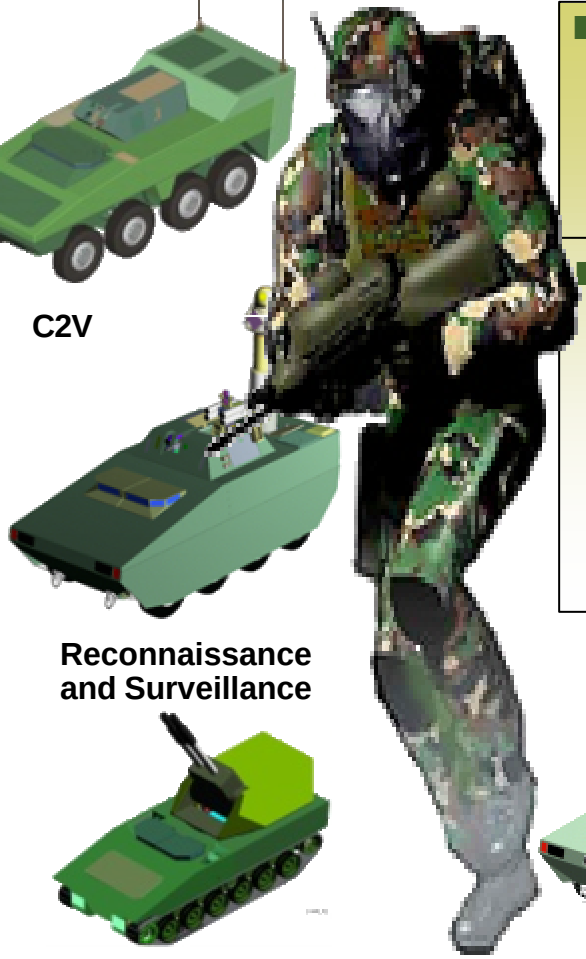
Manned Systems

ICV

C2V



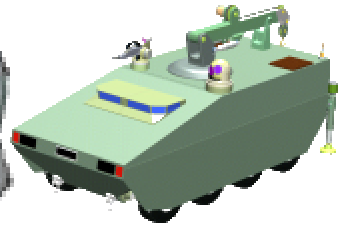
Mounted Combat System



Reconnaissance and Surveillance

NLOS Cannon

NLOS mortar

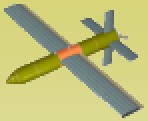


Maintenance and Recovery

Medical Treatment, Evacuation

Unmanned Air Vehicles (UAV)

Class I & II

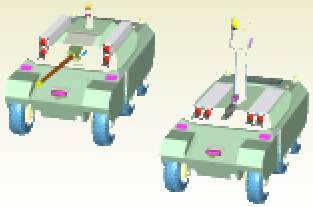


Class III

Class IV

Unmanned Ground Vehicles

Small Manpackable UGV



Armed Robotic Vehicle

Mule

- Unmanned Payloads
- Unattended Ground Sensors
- Intelligent Munitions System
- NLOS LS System

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Unmanned Systems

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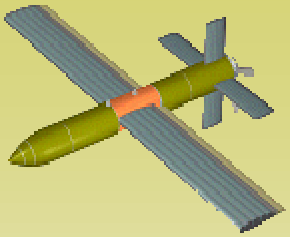

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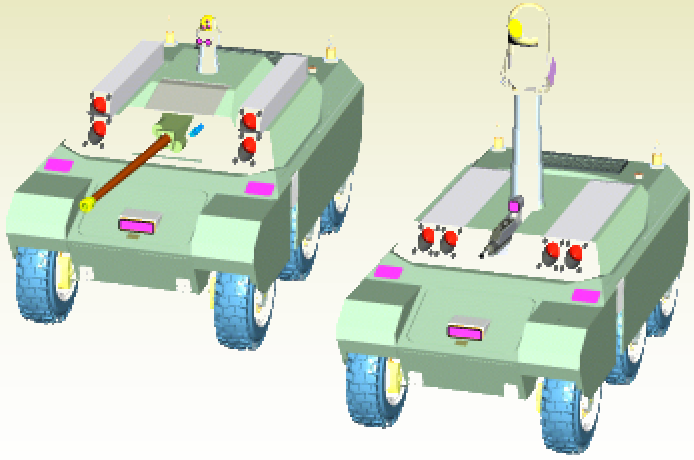

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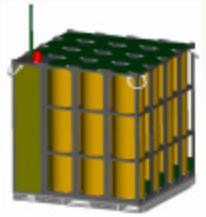

Acquisition Challenges

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- **Program With Three Independent Variables**
  - **Schedule**
  - **Technology Maturity**
  - **Available Funding**
- **New Environment for Army Acquisition**
  - **LSI**
  - **Politics**
  - **System of Systems**
  - **Historical Advocacies**
- **Commonality**

Schedule Remains the Primary Concern

Key Tenets of FCS Development and Procurement

- Create opportunities for Best of Industry
- Retain competition throughout acquisition
- Maintain and shape industrial base for the future
- Achieve substantial commonality at subsystem level
- Facilitate technology insertion
- Leverage on-going government technology base
- Maintain/shape government acquisition community
- Minimize impact to current/projected warfighting capability
- Keep an eye on total program affordability, balancing performance and sustainment requirements

Way Ahead to Procurement Products

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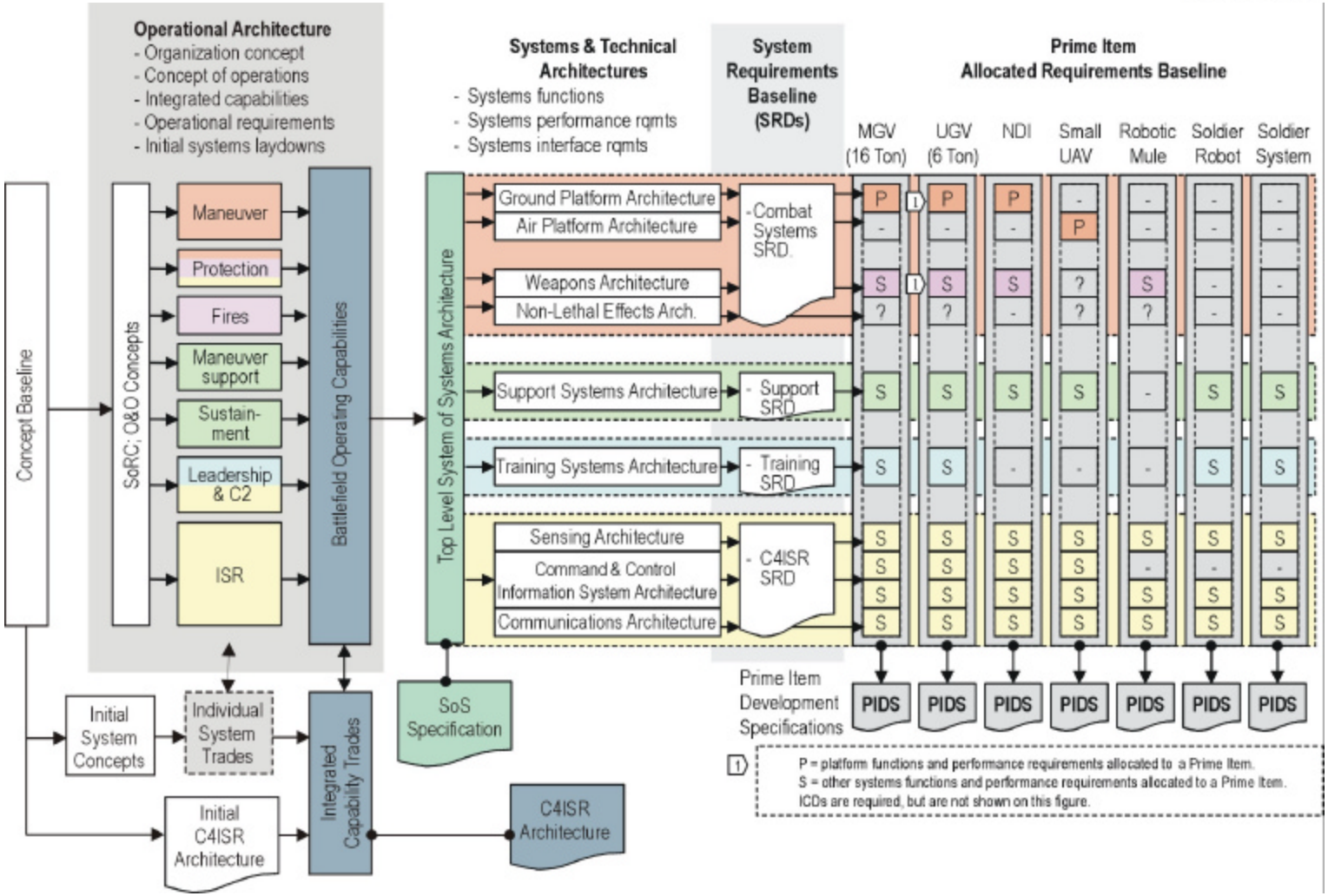

Industry Competition Schedule

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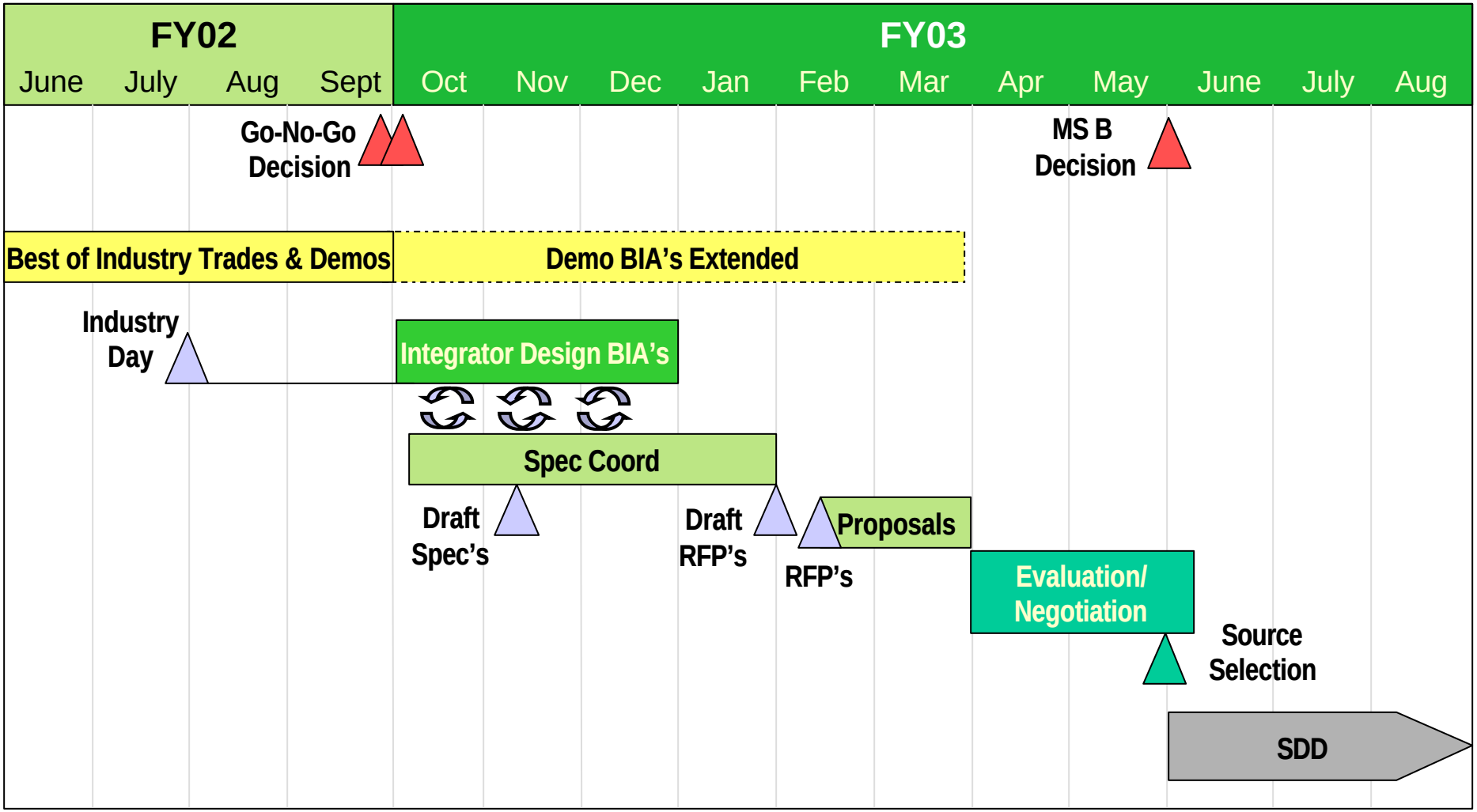

S&T for FCS

- **The FCS LSI Program is an SDD procurement program, not an S&T program**
  - **The LSI S&T IPT evaluates and assesses technologies for incorporation into FCS Increments**
  - **S&T funding will come from the services and DARPA, not the LSI**
  - **CTD for Increment II will begin shortly after Increment I MS B**
  - **DARPA and the Army will begin focusing S&T funding for Increment II**
- **Candidate technologies that are consistent with the O&O and the ORD should seek to become a part of the FCS Increment II SDD**
- **The current ORD describes the objective capabilities and is the best source of information for future requirements**