



Network Enabled Operations & Defense Industrial Restructuring

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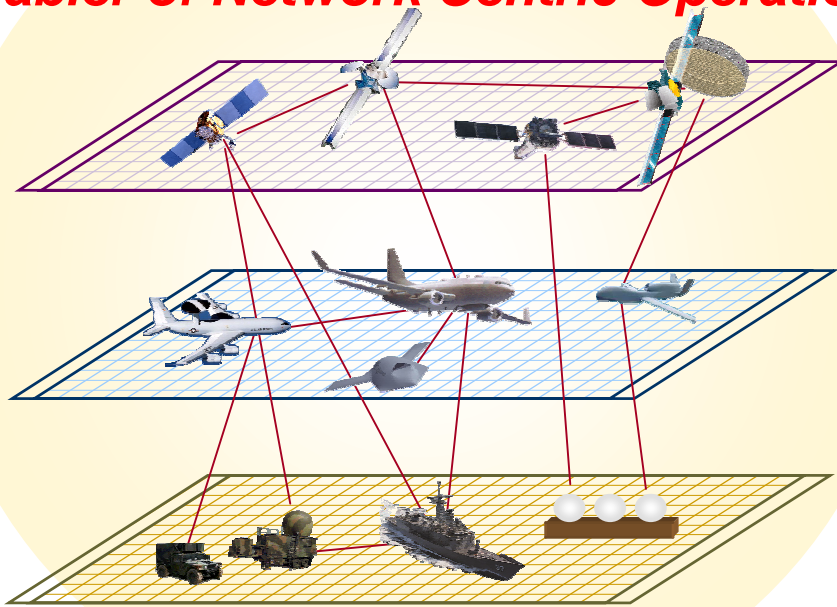
The Boeing Company

PHANTOM WORKS



Integrated Battlespace Enduring Needs

Integrated Battlespace *Enabler of Network Centric Operations*



- Common operating picture
- Interoperability of systems
- Seamless integration of space, air and ground assets
- Knowledge management leading to decision superiority

Beware of the architectural cul de sac

FCS Operational Requirements

Develop an Integrated System-of-Systems Full Spectrum Force

Legacy Force
Objective Force
Infantry Force

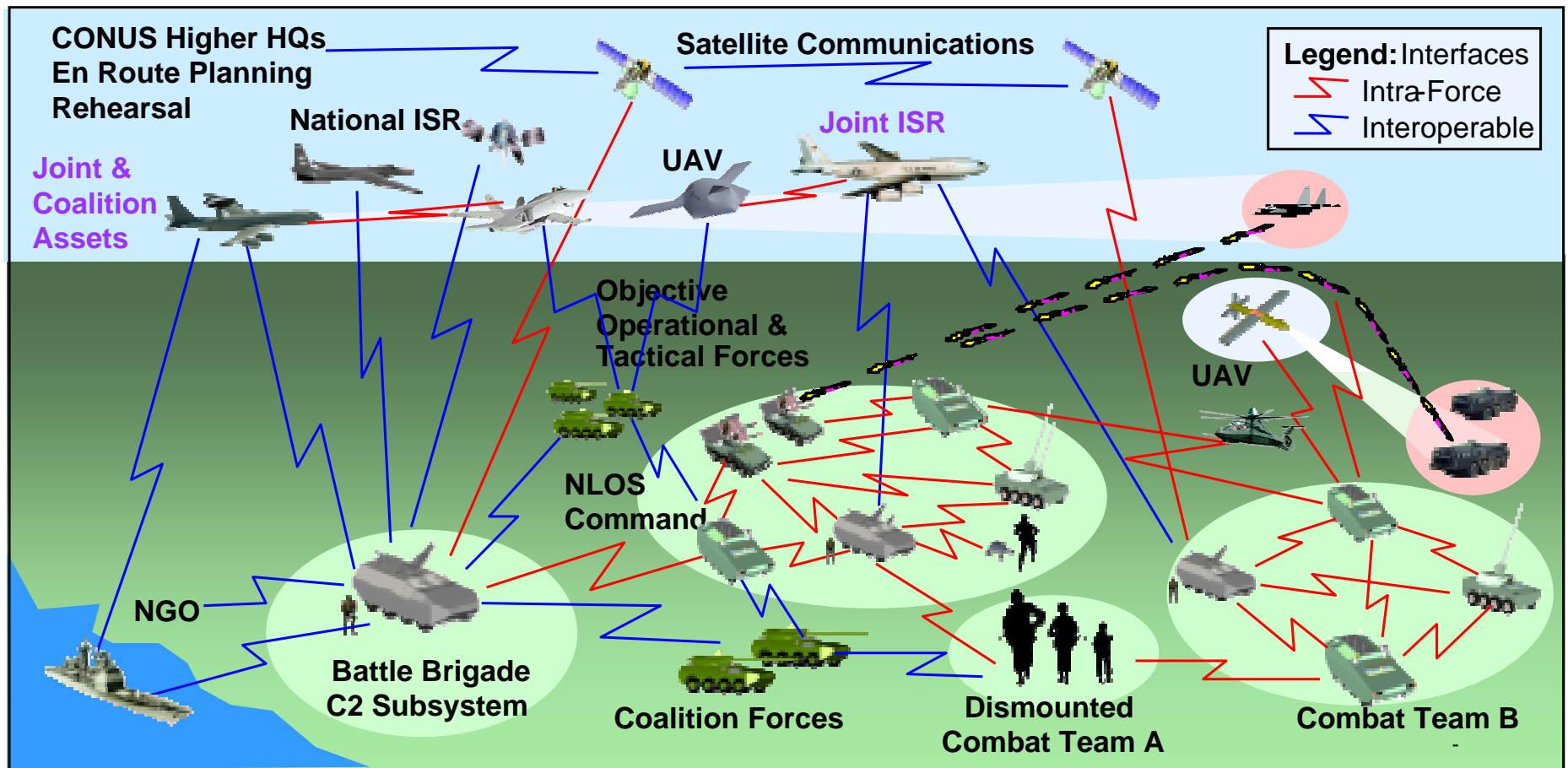


Today

- Joint interoperable Family of Systems
- Situational awareness to platform and dismounted soldier
- Joint networked lethal and non-lethal effects
- Transportable by air, sea, highway and rail
- Significant logistics footprint reductions
- Embedded individual and collective training capability
- Essential protection to mounted and dismounted soldiers

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

NCO Concept of Operation



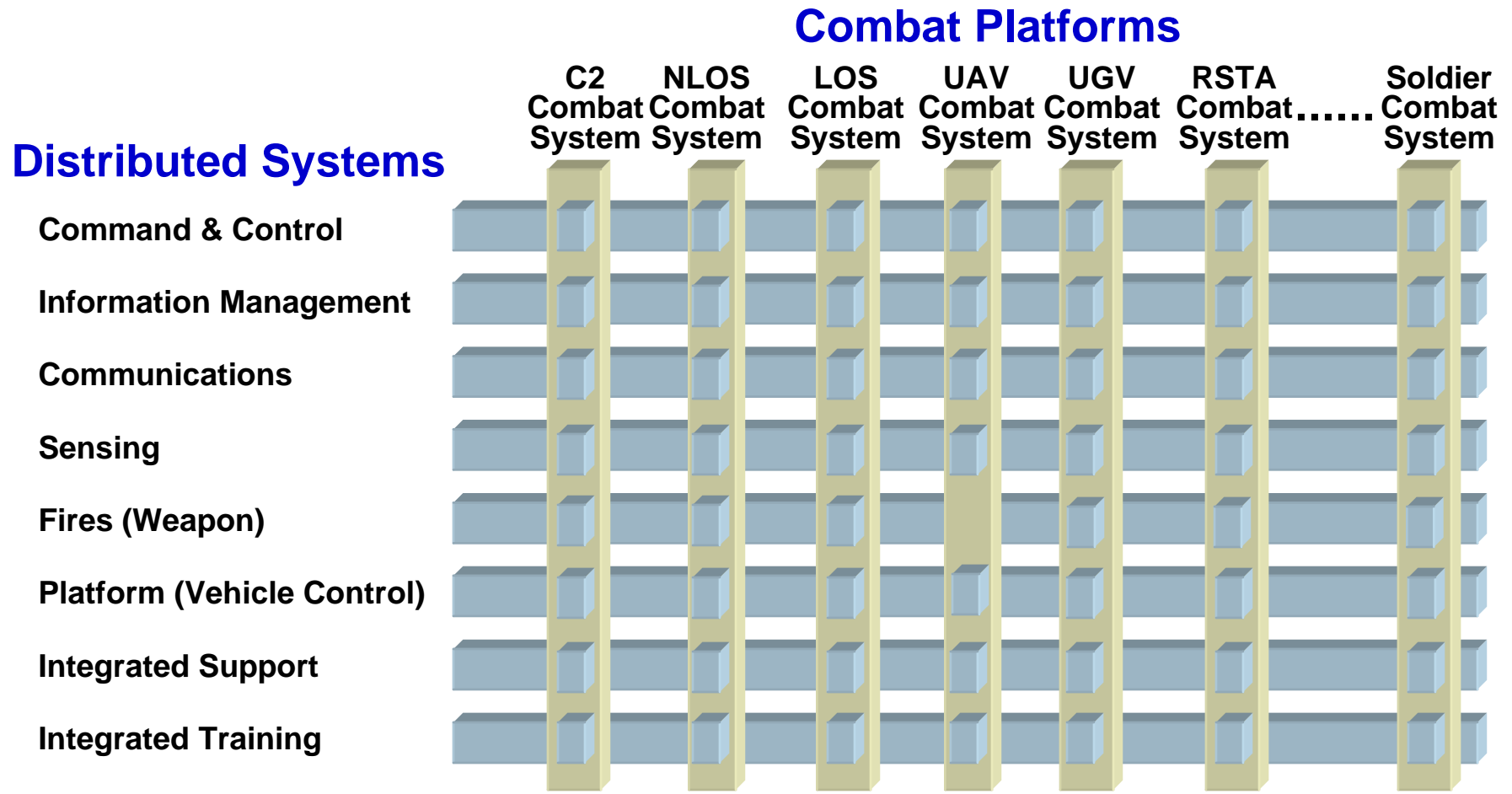
Magnitude of the FCS Challenge

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

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

FCS Family of Systems

The FCS is a set of fully integrated and distributed systems

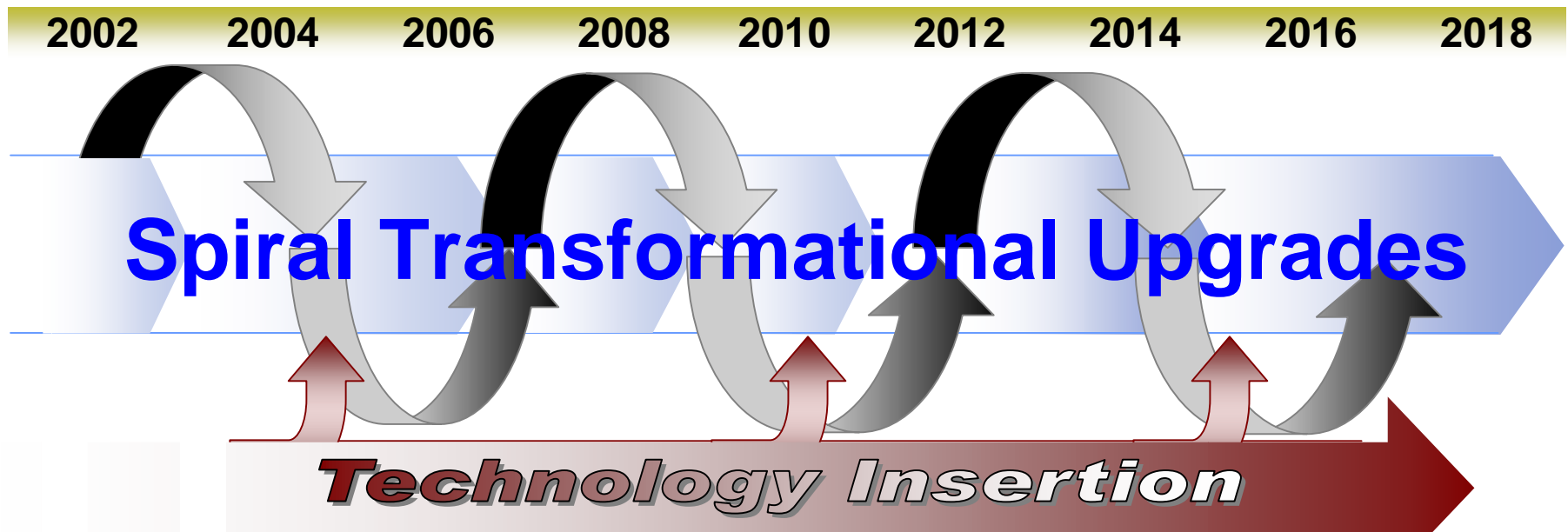


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Network Enables Transformation

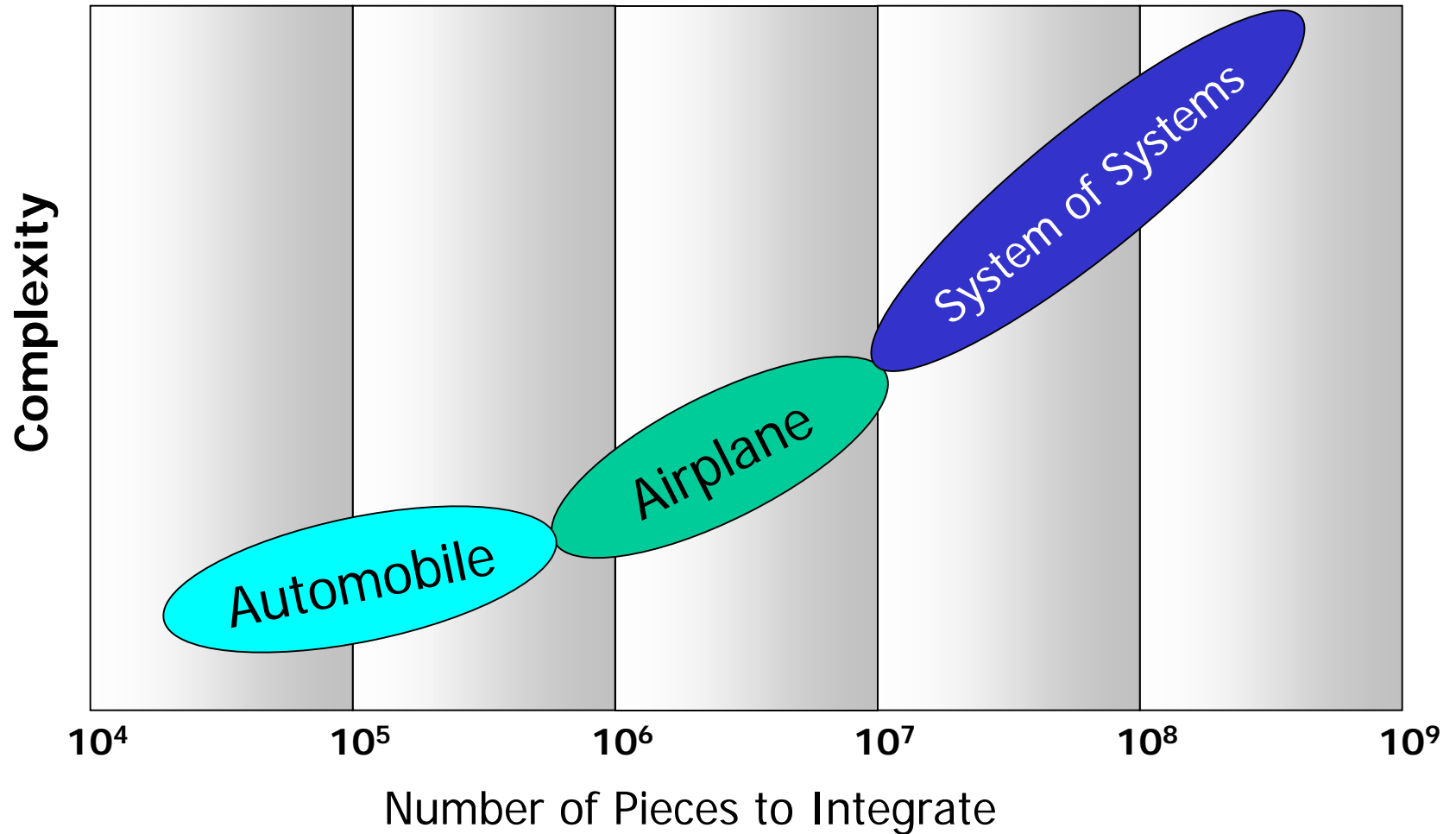
- Increased ops tempo
- Improved survivability
- Increased reach and persistence
- Reduced logistics and cost



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Complexity Drives Need for LSI



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What the LSI Does/Does Not Do ...

- **Why a Lead Systems Integrator (LSI)...**
 - The Army's first large scale "system of systems" development, integration across many platforms and disciplines, requires a robust / dedicated organization experienced in large scale systems integration to be successful
- **What the LSI does...**
 - Trusted Industry member of the FCS Team (DARPA/ ARMY/ LSI/ Best of Industry) that has total systems integration responsibility ("top down" development)
 - Provides the Team a "general contractor" for resource allocation, subcontract implementation and coordination, and programmatic responsibilities
 - Provides the vital link to the "Best of Industry" including domestic / foreign contractors, Government programs/ Labs, and educational institutions
- **What the LSI does not...**
 - Does NOT provide hardware solutions to subsystem/element requirements

Government & LSI - Trusted Partners



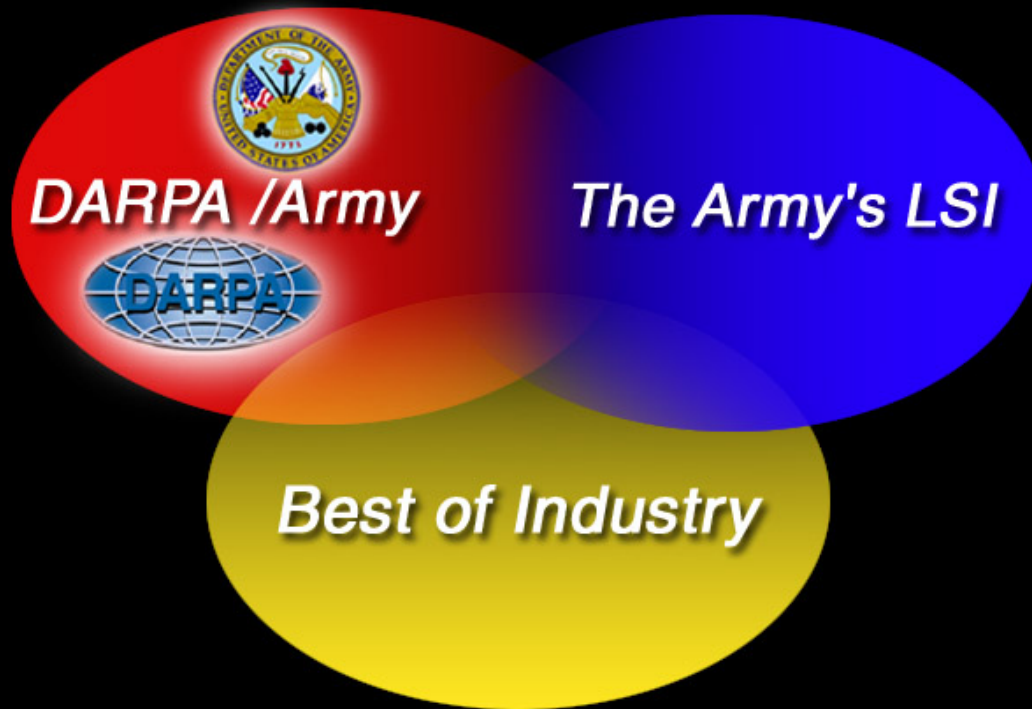
DARPA / Army



The Army's LSI

Best of Industry

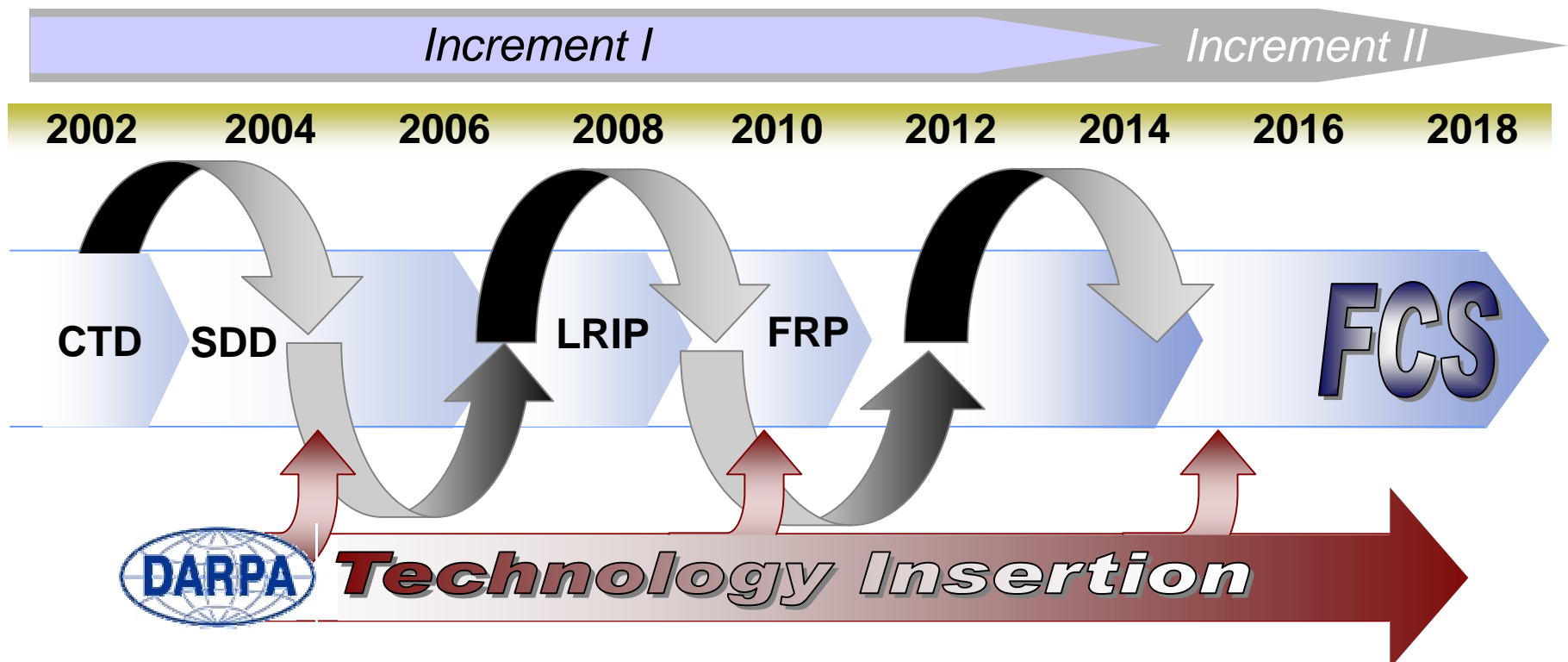
The Best of Industry Approach



Innovation and Leadership

Network Operations - Way Ahead

- Continue the Cultural Shift Through Evolutionary Acquisition and System-of-Systems Development Process
- Continue Capabilities Enhancement through Spiral Development / Technology Insertion



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New Paradigms Drive a Global View

- **The Way We Operate is Changing**
 - Many threats and needs
 - Rapidly emerging action requirements
 - Operations Other Than War

Coalition Operations Becoming the Norm

New/adapted acquisition approaches are mandated

- **International Industrial Collaboration assures Coalition Ops Capability**

- **Evolutionary Acquisition/Spiral Development**
 - Specify needed effect instead of a solution
 - Early capability delivery
 - Works well in budget constrained environments



Lead System Integrator

LSI is a style of management not a contract type

- ◆ Typical Prime contractor forms a team and proposes to bring the best of that team to the program
- ◆ LSI approach is also a Prime contract, however it proposes to do only limited work inside the core team and bring the best of industry .. awarded through multiple competitions
 - ◆ LSI typically retains SoS Engineering and C4ISR
 - ◆ Best of Industry brings platforms and hardware
- ◆ LSI style prime makes investments in the sweet spot of it's offering.. typically SoS Engineering tools & C4ISR
- ◆ LSI Prime encourages best of industry partners to invest in the sweet spot of their offerings .. typically platforms, hardware, & selected S/W
- ◆ LSI has total systems integration responsibility

Summary

- **Avoid the architectural cul de sac**
- **Non-proprietary, open, and modular systems**
- **Bring the best of industry**