

# CSOC Contract & Advanced Technology Overview



December 8, 1999

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# Overview Of CSOC

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## CONTRACT

- Consolidated Space Operations Contract
- \$3.44B over ten years
- Basic Jan99 – Dec03 (Option thru Dec08)
- 2800 employees at start of contract
- CPAF (with conversion to FPIF in 2 years)
- Customer - NASA SOMO (Space Operations Management Office) at JSC

## CURRENT STATUS

- Oct-Dec Phase-in accomplished
- Seven legacy contracts (at GSFC, JSC, JPL & MSFC) transitioned to CSOC on schedule with no major issues
- Staffing reductions at all locations – successful “soft landing” for 600 incumbent personnel (only 95 RIFs with successful outplacement)
- “SDR” for IOA held in March

## SCOPE

- Planned consolidation of 18 legacy contracts at five NASA centers and approximately 10 field locations
- Combination of operations support, maintenance & logistics and development
- Completion form contract with limited LOE

## CHALLENGES

- Continued on-plan cost performance
- Support to operations with no issues
- Y2K compliance according to plan
- Continuation and growth of commercialization initiatives
- Services catalog implementation
- CSOC advocacy & support to the Enterprises, Missions and Science Community

# Work Locations

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- ◆ The work is being performed at five NASA locations
  - Goddard Space Flight Center, Greenbelt, MD
  - Jet Propulsion Laboratory, Pasadena, CA
  - Johnson Space Center, Houston, TX
  - Kennedy Space Center, FL
  - Marshall Space Flight Center, Huntsville, AL
- ◆ Field sites being supported
  - Wallops Island, White Sands, Merritt Island, Goldstone, Barstow, Canberra/Madrid, Guam and other remote tracking stations

# The Lockheed Martin CSOC Team

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- ◆ **Large Business** teammates
    - AlliedSignal Technical Services with Computer Sciences as its subcontractor
    - Booz-Allen & Hamilton, GTE Government Systems
  
  - ◆ **Small Business** teammates all as 1st tier subs
    - GHG and Madison Research as mentor- protégés
    - Approximately 40 other SB/SDB/WOSB subcontractors
    - Adding **Arctic Slope Regional Council (ASRC) - Aerospace** (native American owned SDB)
  
  - ◆ **Commercial Outsourcers** (Getronics (formerly WANG Global), Telos, Marconi, OAO, AS&T)
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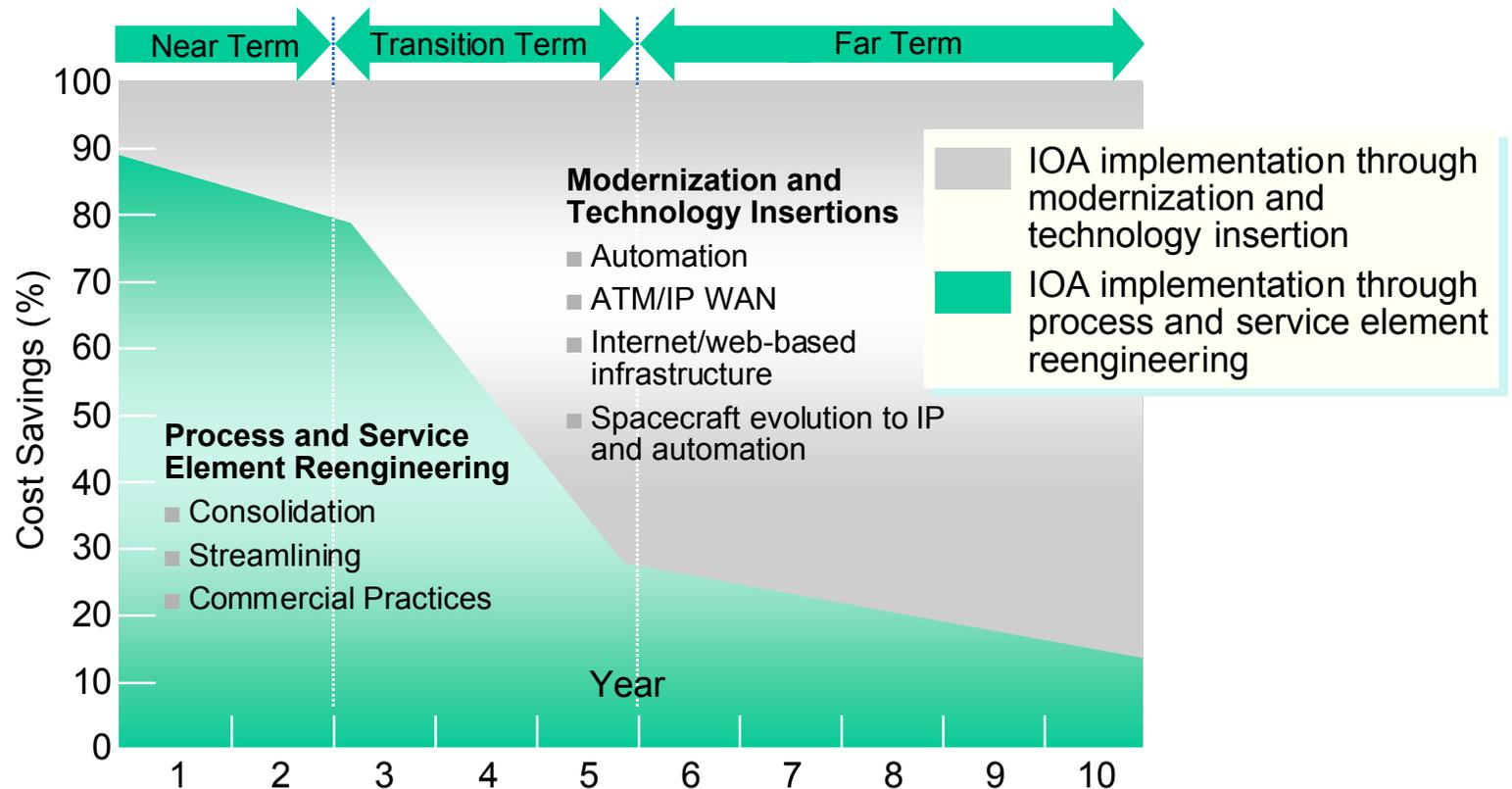
# Key Goals Are Being Met

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- ◆ Maintain **operational performance** for NASA & its Science Customers
- ◆ **Reduce costs** of operations and maintenance of NASA's ground systems and communications infrastructure
- ◆ In meeting the 26.1% goal, enable comprehensive & meaningful **small business participation**
- ◆ **Privatize and commercialize** NASA infrastructure to further reduce cost

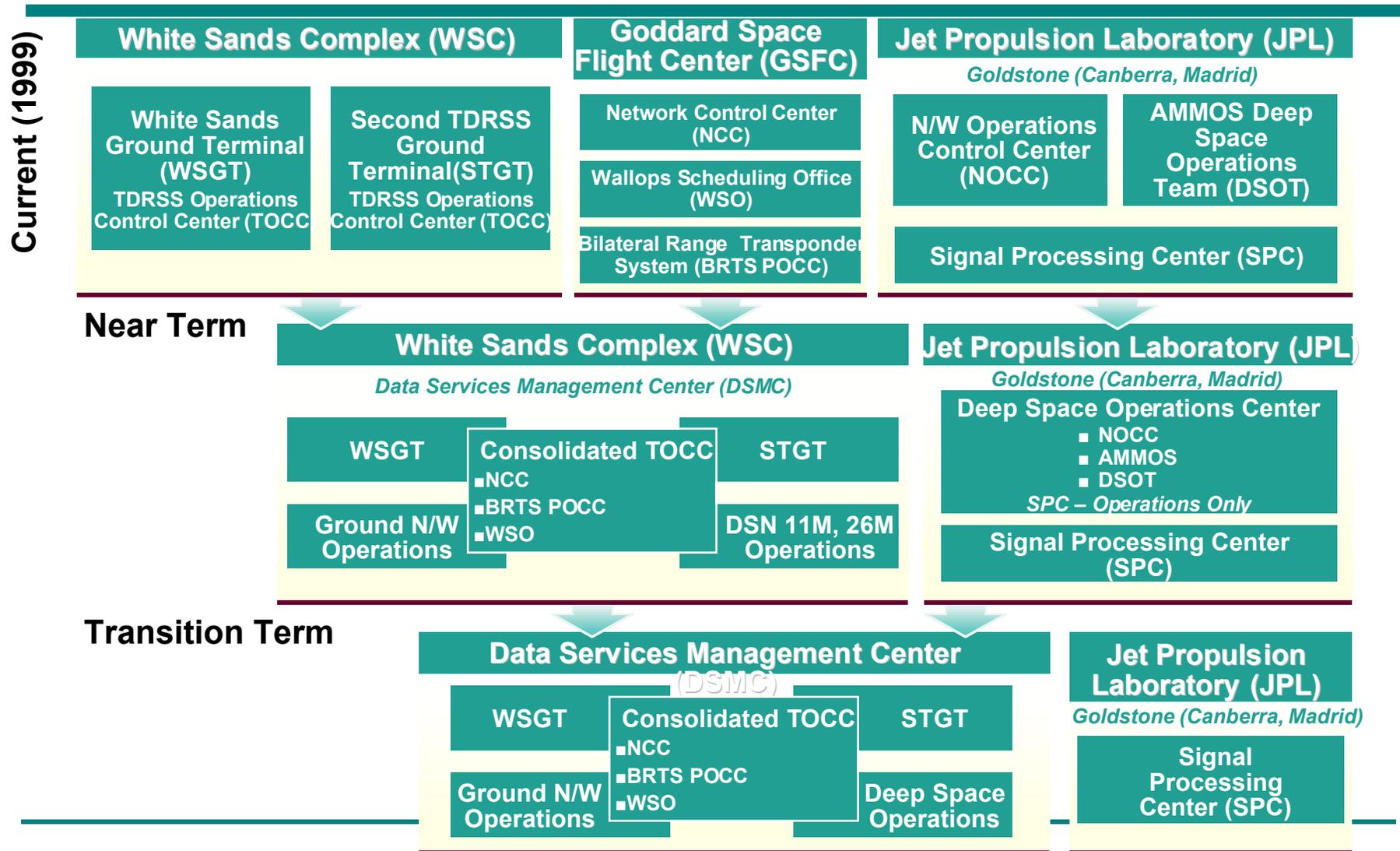
*To help NASA better focus on Space,  
not on Space Infrastructure*

# Where CSOC Cost Savings Will Originate



**Savings are maximized by early process change implementation, and supported by continued modernization and technology insertion**

# Data Services Consolidation

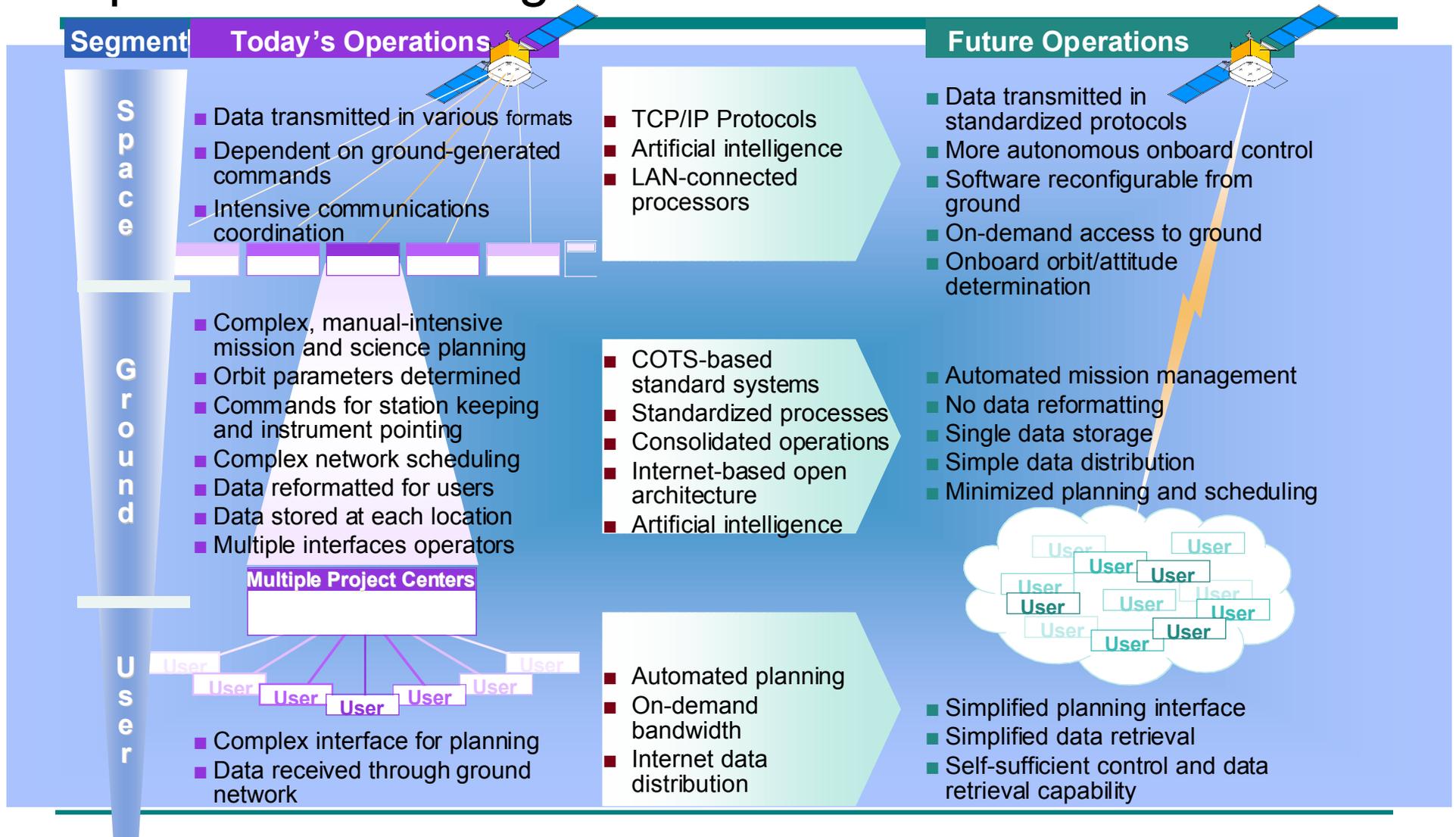


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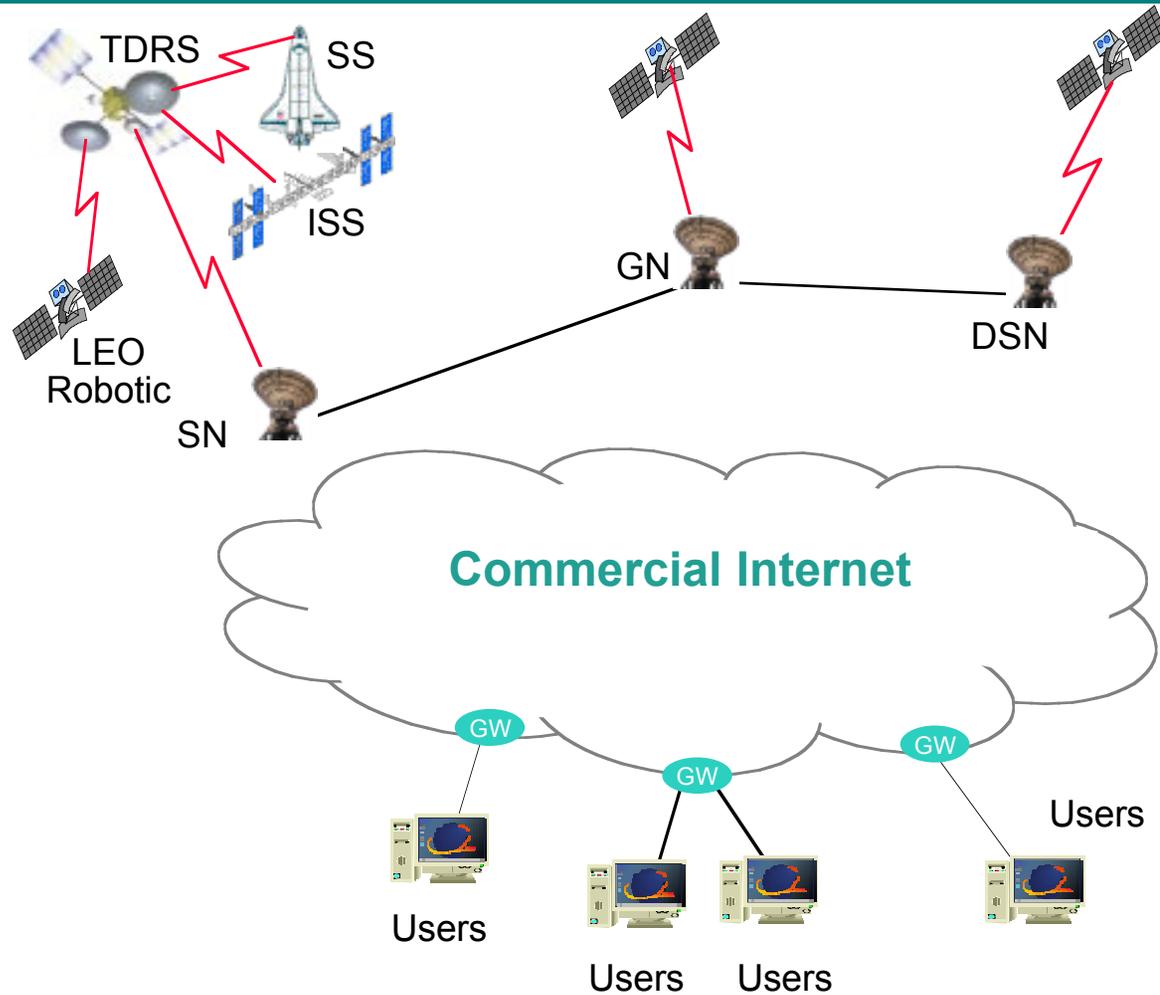
# Our Operating Concept Forever Changes the Space Operations Paradigm



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# Information Age Today

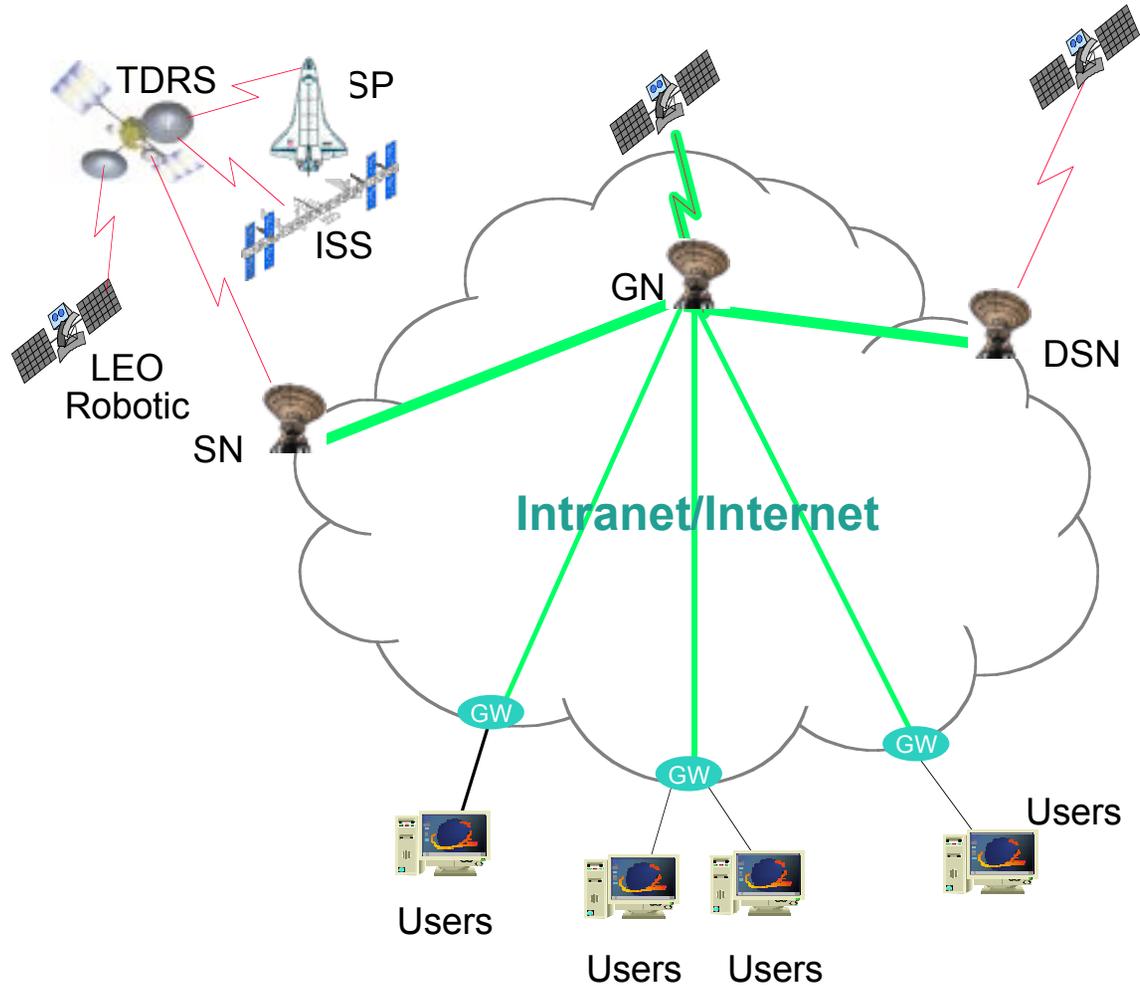


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# IP Cloud Expands to Spacecraft in Transition Term

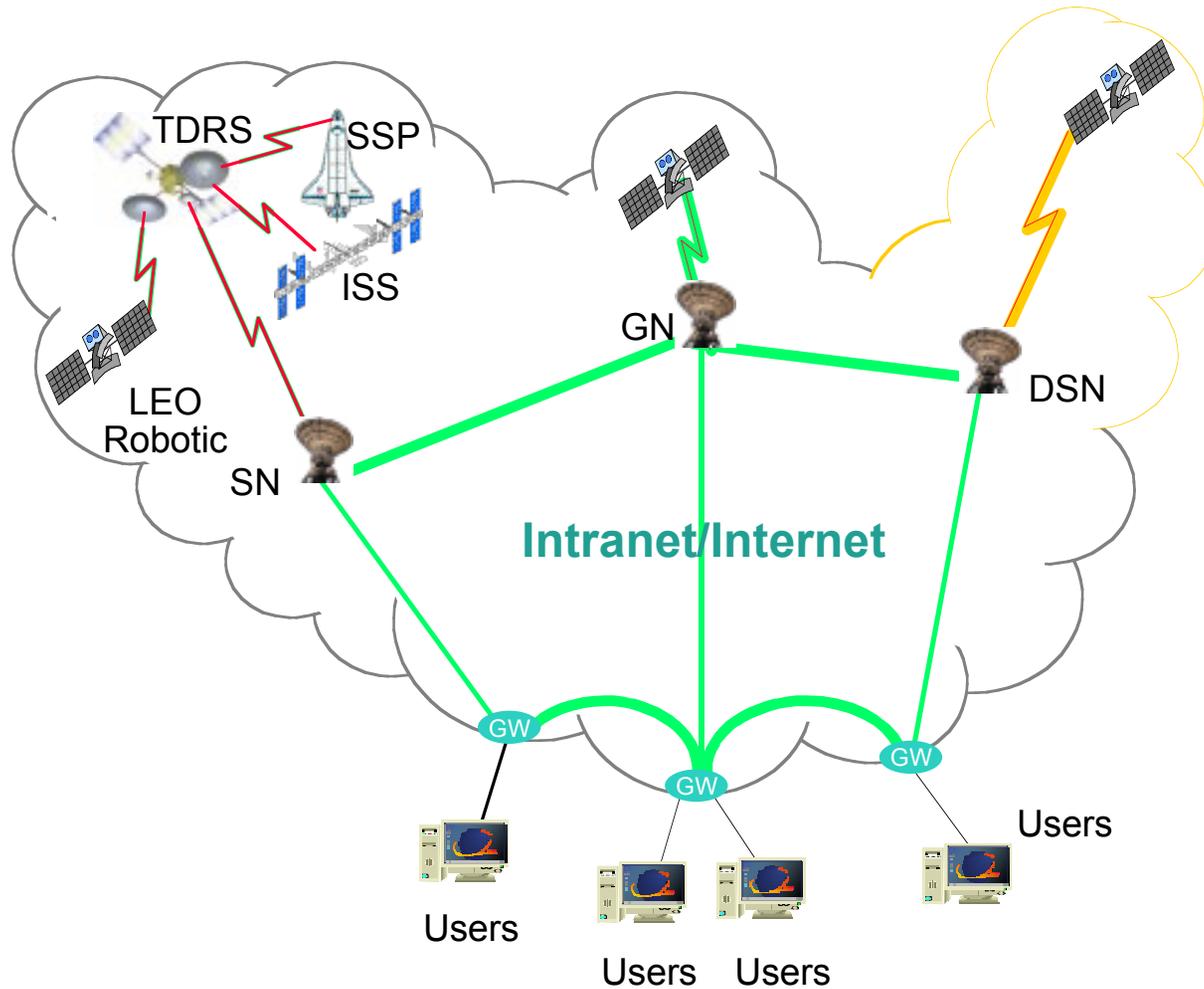


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# Intranet/Internet Cloud Expands Again Through Far Term



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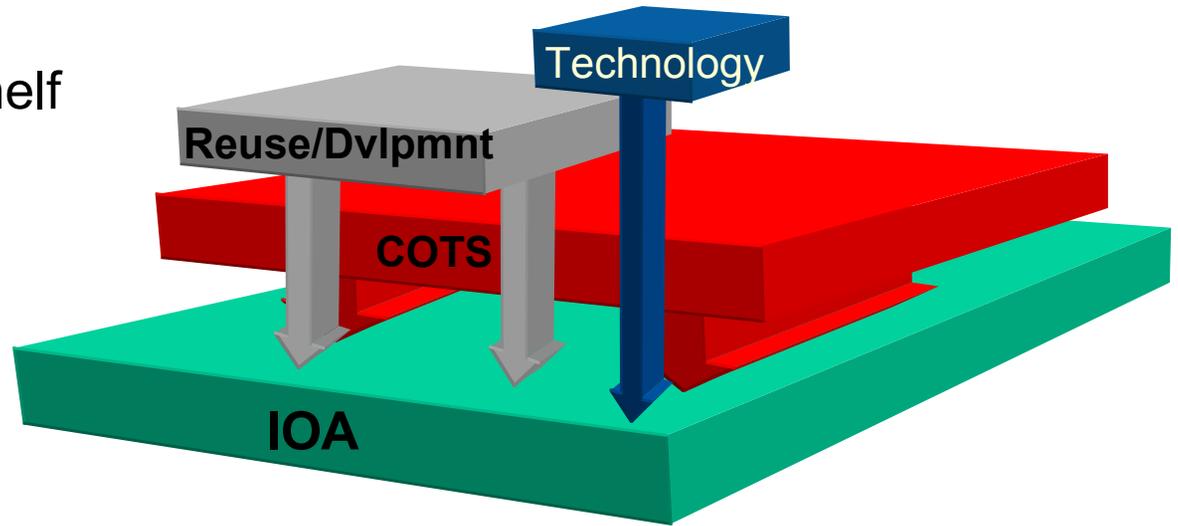
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# IOA Implementation Layers

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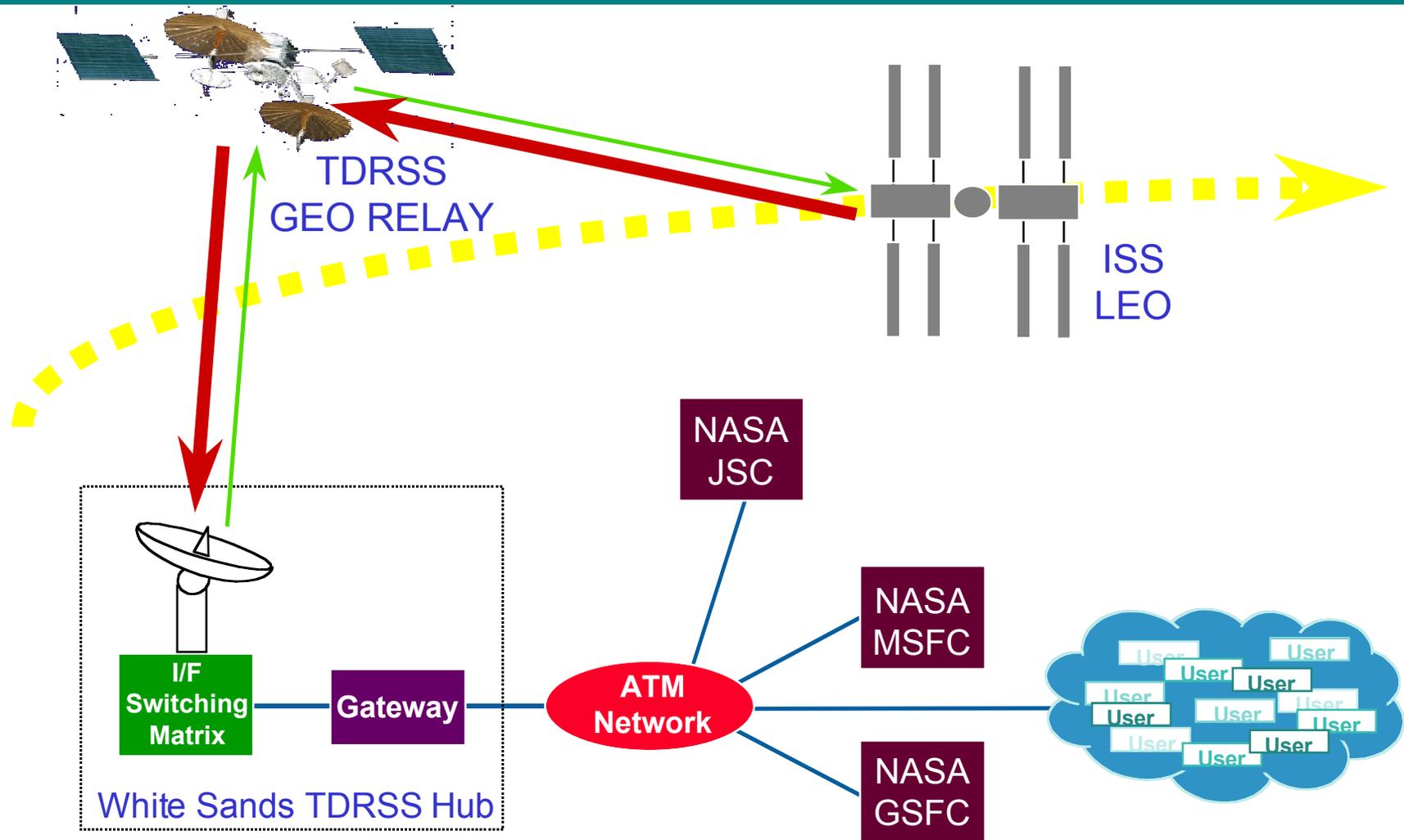
- ◆ Commercial Off The Shelf
  - Products
  - Philosophies
  - Practices
  - Protocols
  - Procedures
  - Policies



form the primary basis of services delivered through the Integrated Operations Architecture (IOA)

- ◆ Significant life cycle cost savings are achievable through conversion of the IOA from a “Space Specific” set of implementations to what the rest of the Information Technology world is using to accomplish their mission critical functions

# Example: COTS ISS Network Architecture



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# Technology Universe

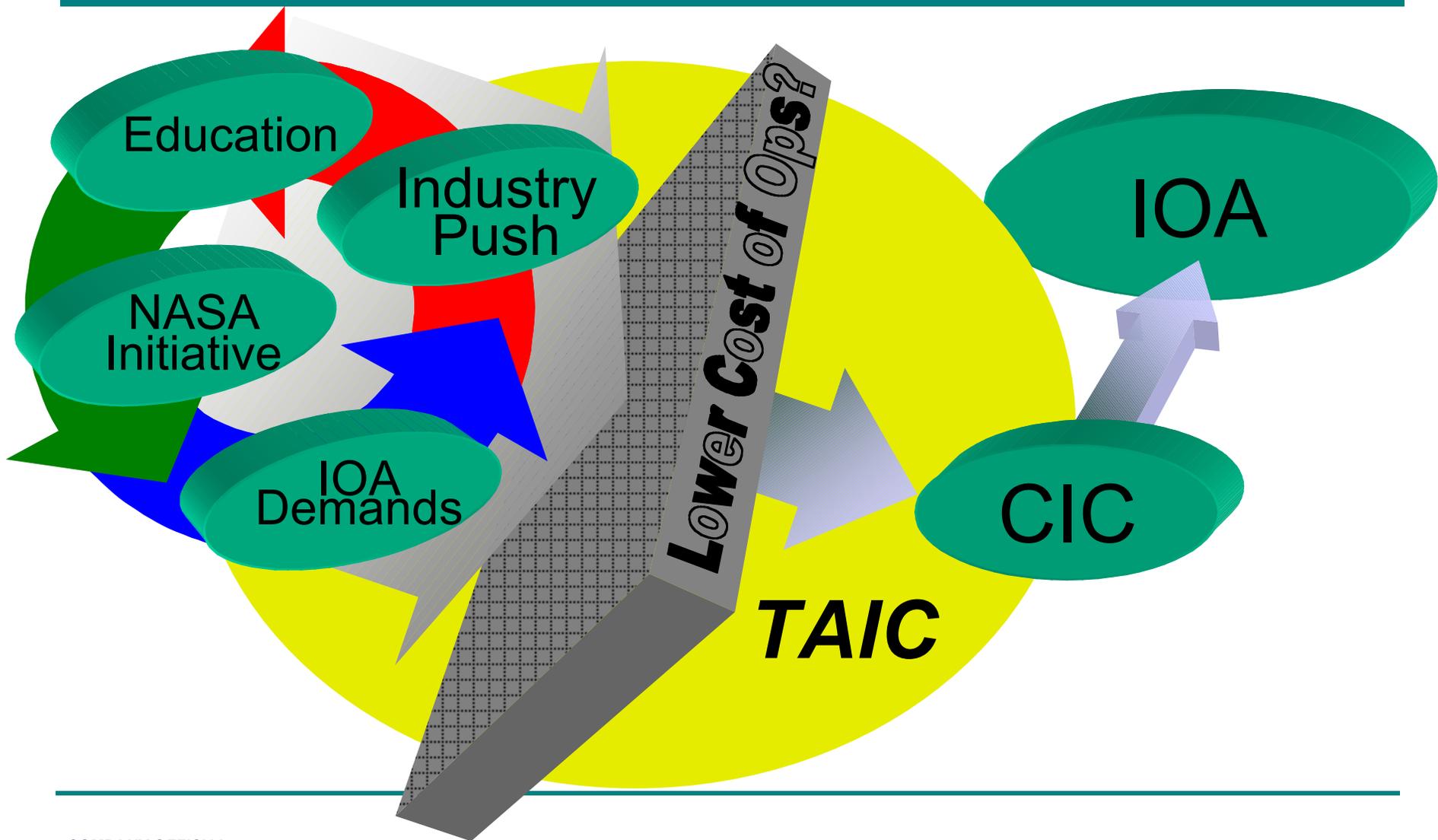


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# IOA Technology Infusion Process Overview

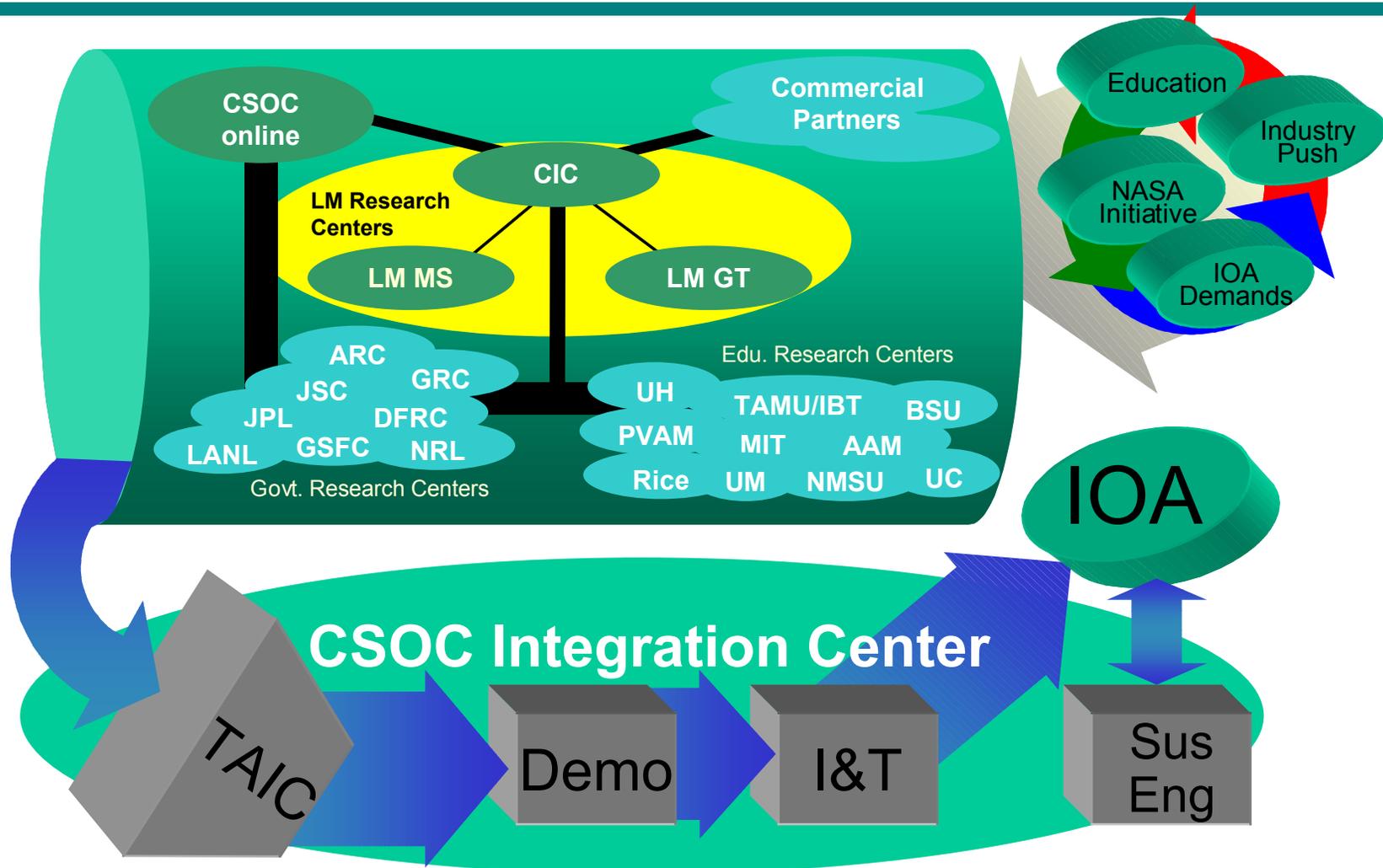


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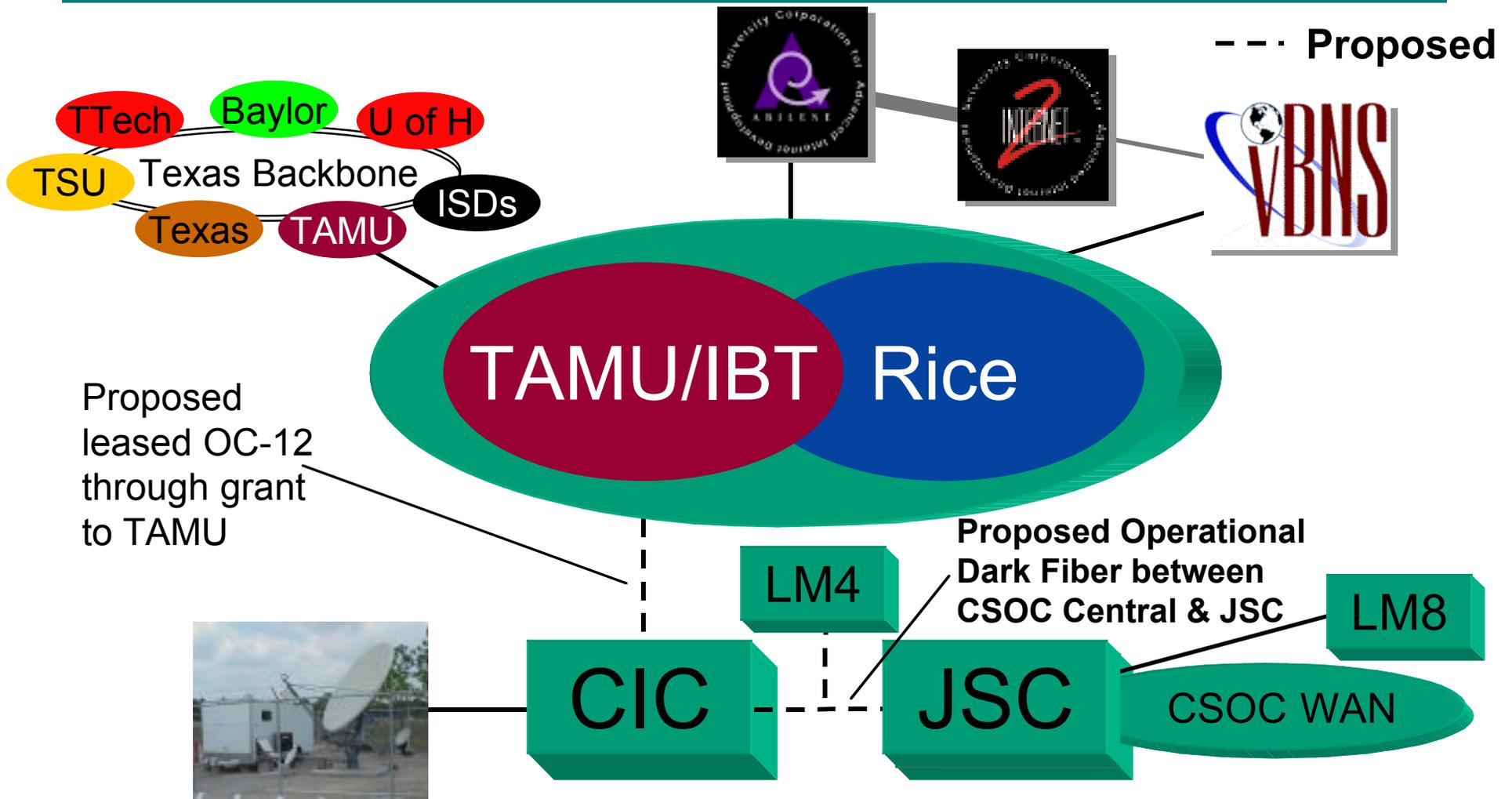
# Technology Insertion Pipeline



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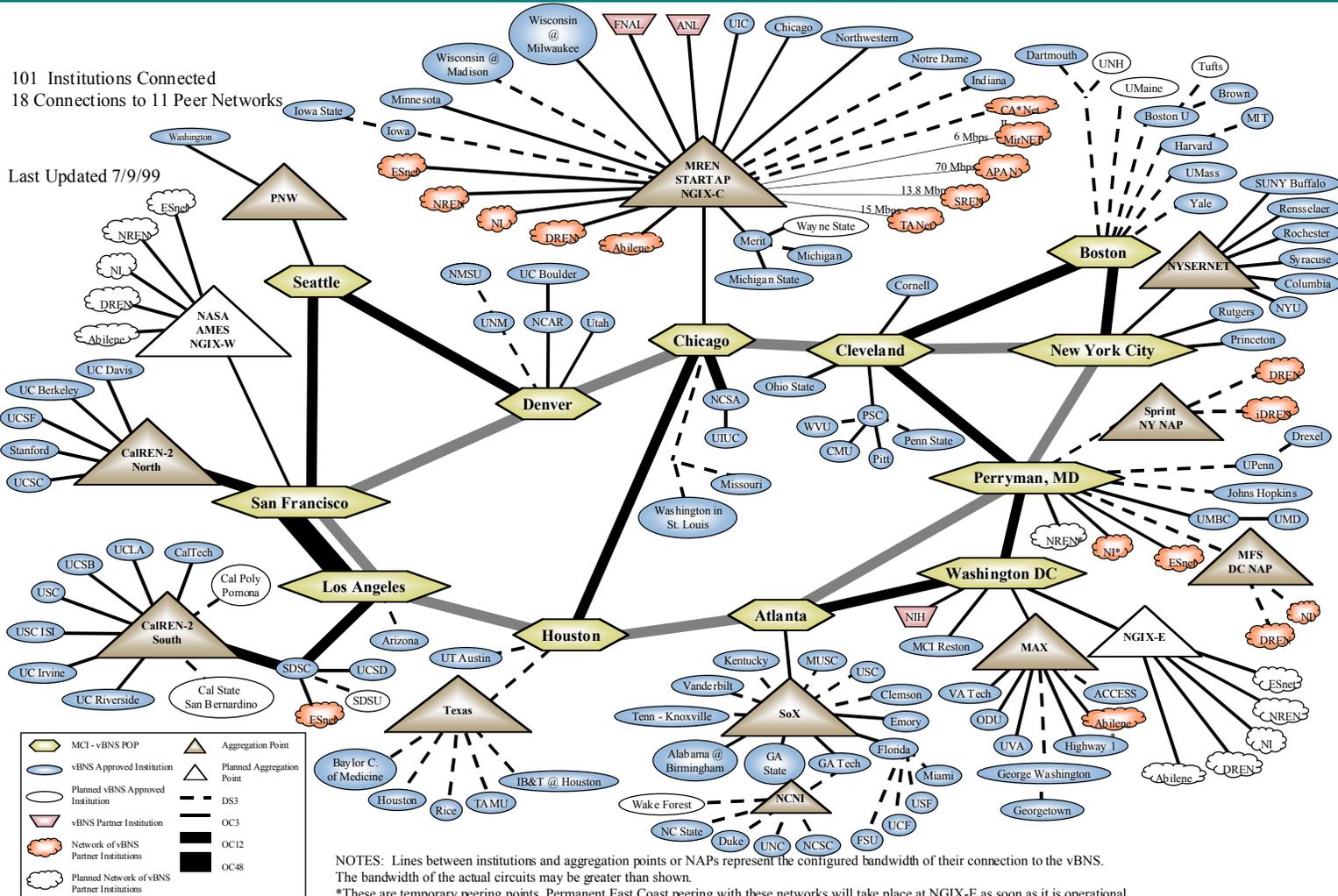
# Proposed CSOC Central Connectivity



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# vBNS Logical Network Map

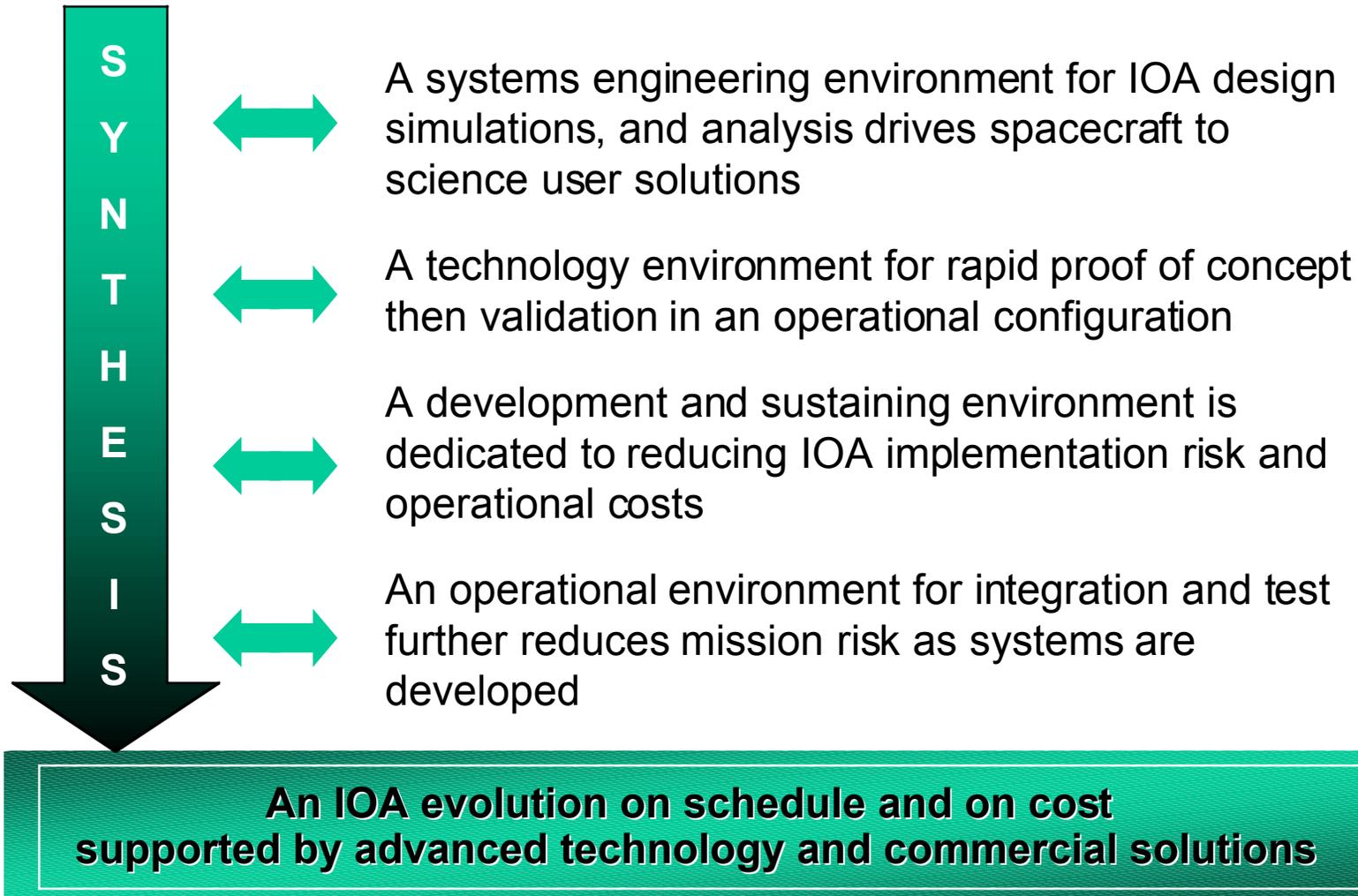


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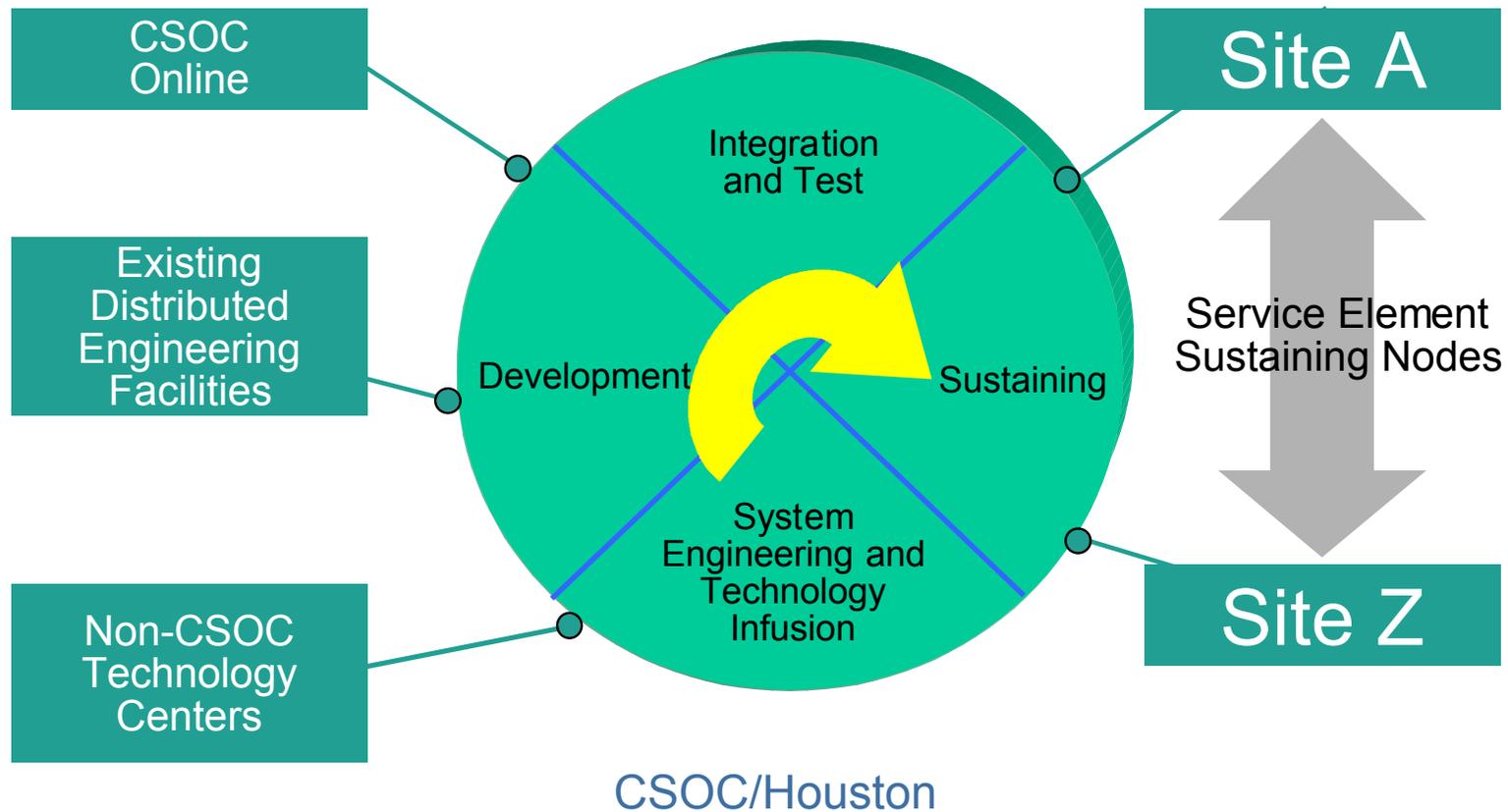
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# CIC - The CSOC Engineering Tool Infrastructure



# The CSOC Integration Center (CIC)

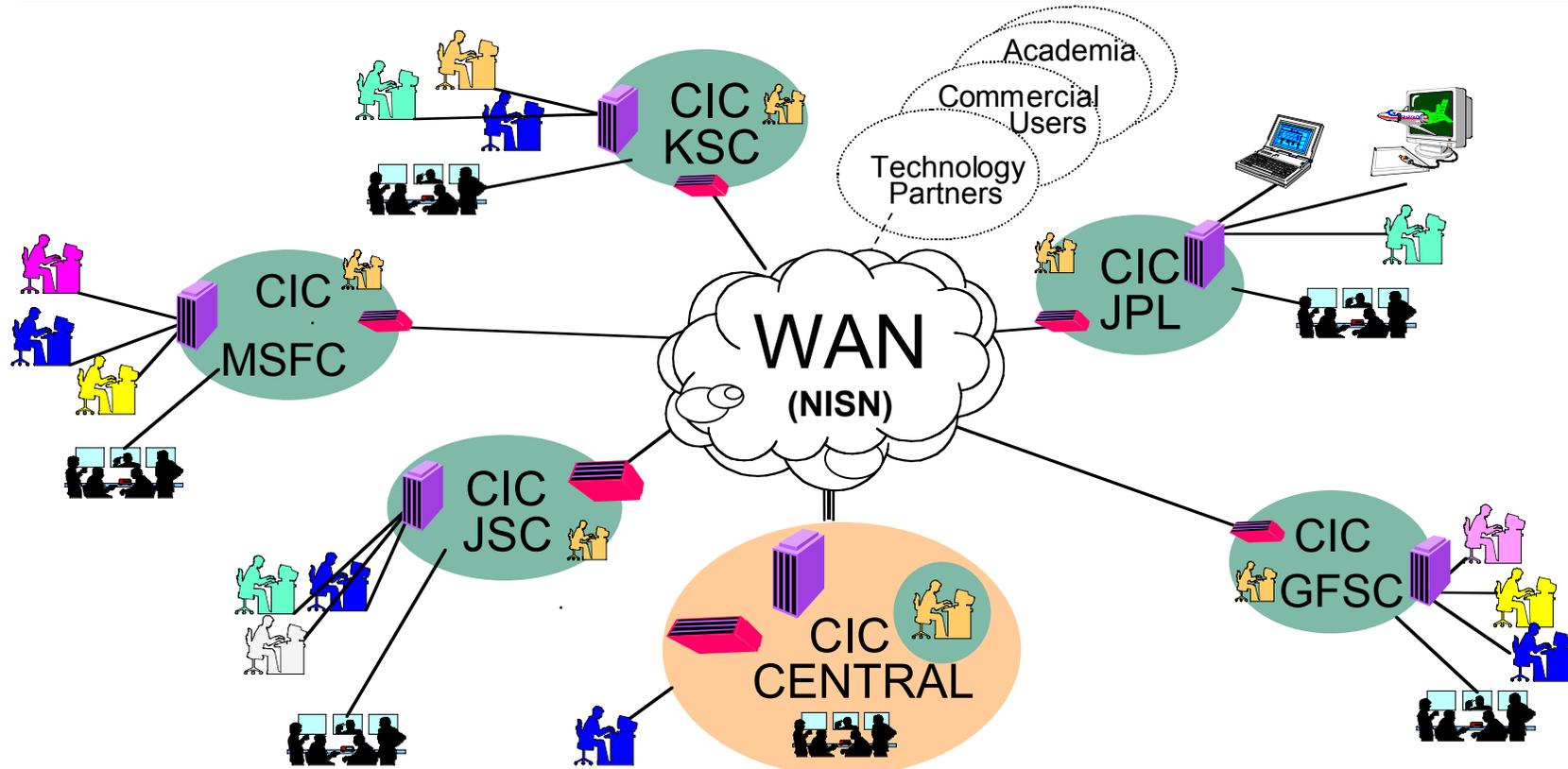


**Key to risk mitigation and IOA evolution**

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# The CIC is a Distributed Environment

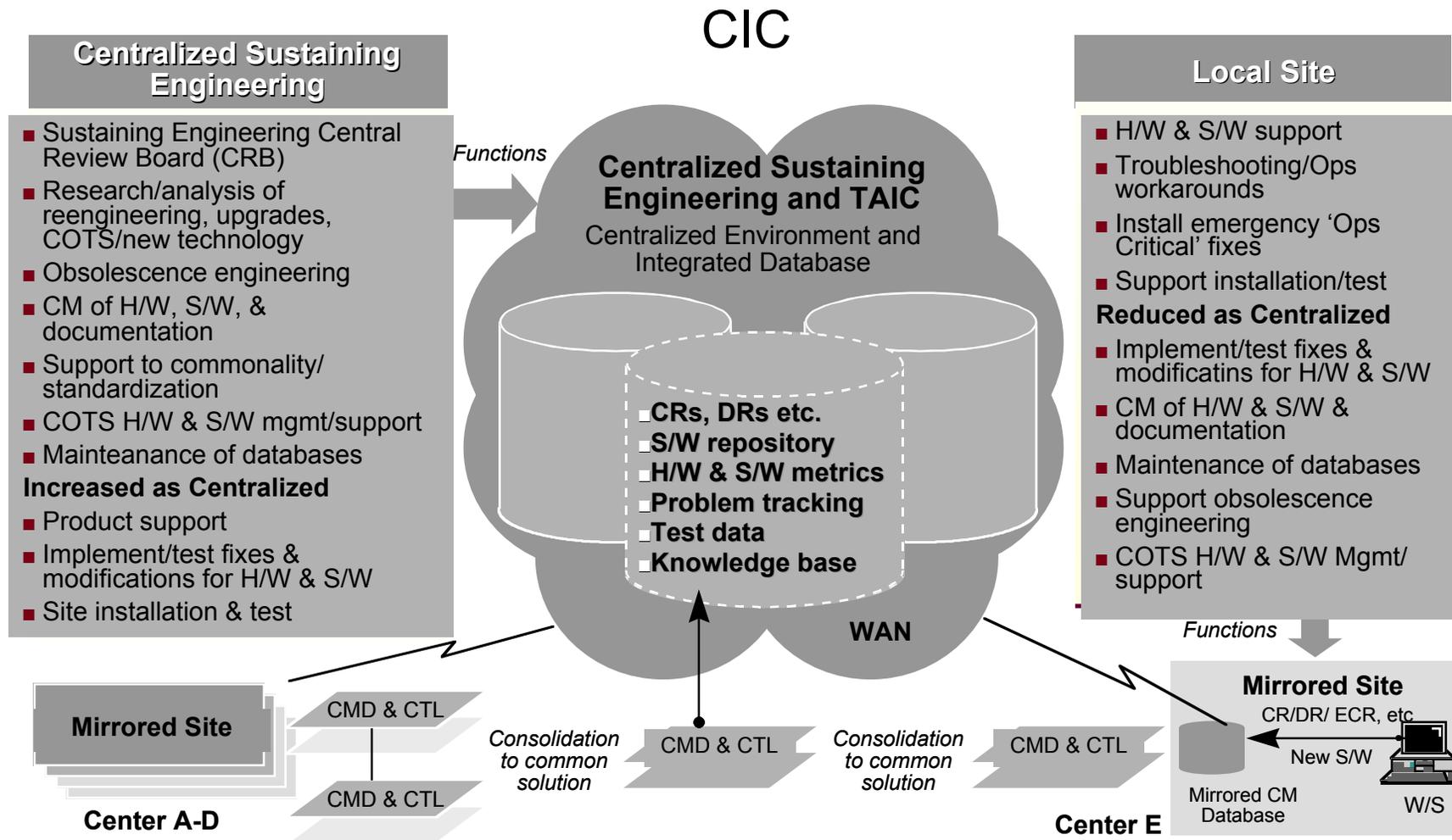


**Provides central coordination, tools, and processes to leverage existing distributed systems**

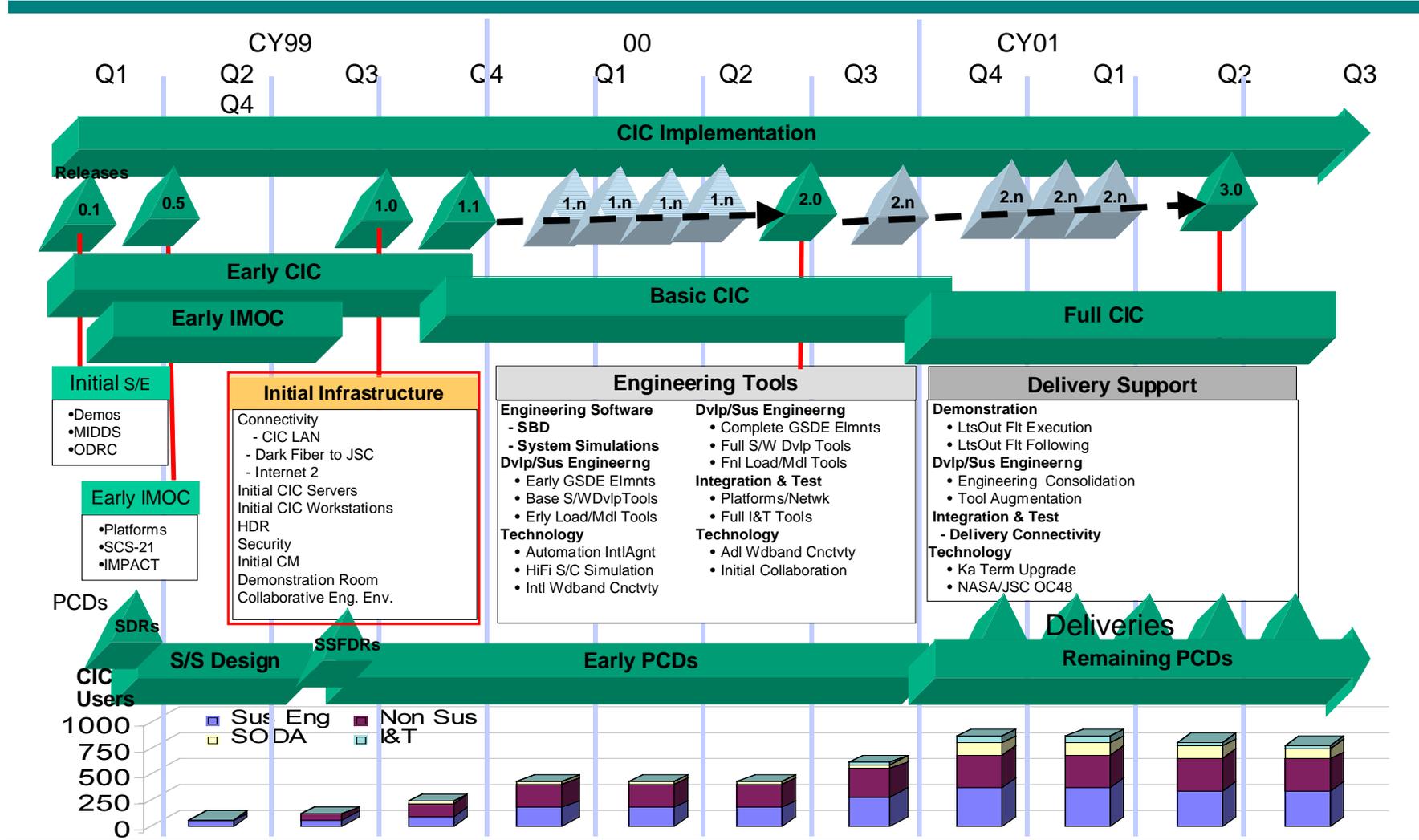
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# Sustaining Engineering in the CIC



# CIC Phased Implementation



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# Initial CSOC Technology Initiatives

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- ◆ Assessment of current NASA Technology initiatives and modeling of CSOC Technology Demand
  - ◆ CIC Connectivity
    - Ka band High Data Rate SatCom Terminal
    - High data rate terrestrial links to key facilities
      - JSC/CSOC WAN
      - Texas Medical Center & R&D Consortia
  - ◆ Preferred Supplier Program reduces immediate corporate outlay for CIC and delivers fresh commercial technology
  - ◆ Education Outreach provides access to R&D, Science Advocacy, engineering talent from MIT, Texas A&M, Prairie View A&M, Rice, Maryland, Colorado, NMSU, Bowie State, Alabama A&M, UHCL
  - ◆ Community Outreach
  - ◆ Collaboration and partnerships with other LM organizations
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