



# Operationally Responsive Space Office

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July 2007

**Col Kevin McLaughlin**  
**Director, ORS Office**

# Agenda

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- **ORS Background**
- **ORS Defined**
- **Combatant Commander Perspective**
- **ORS Office Status**
- **TACSAT Status**
- **Way Ahead**

# Why ORS?

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- **Increasing reliance on space, emerging global challenges and threats place new demands on our space capabilities**
- **Growing realization that we need new capabilities**
  - Increased flexibility and adaptability to respond to urgent needs
  - Ability to rapidly infuse technological and operational innovation
  - Ability to rapidly augment or reconstitute space systems
- **Congress recognizes importance of ORS**
  - Language in NDAA for FY2007 provided specific guidance to DoD on ORS
  - Directed creation of ORS office
- **Definition: assured space power focused on timely satisfaction of Joint Force Commanders' needs**

# John Warner Nat'l Defense Authorization Act–FY 2007

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- **Submit to the defense committees a report setting forth a Plan for the acquisition by the DoD of capabilities for ORS**
  - Roles and Missions of each military department, agency, components
  - Identification of the capabilities required by DoD to fulfill such mission during current FYDP & an additional 10-year period
  - Chain of command and reporting structure
  - Classification of information requirements
  - Acquisition policies and procedures
  - Any legislative action necessary to provide the Office additional acquisition authority to carry out the ORS office responsibilities
  - Schedule for the implementation
  - Funding and personnel required

# Department of Defense Response to Congress

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- **Community-wide effort to develop the Plan for ORS**
  - Defense, intelligence, civil agency participation
  - Warfighters, operators, scientists, developers, acquirers
- **Strong warfighter influence on the result**
- **Sets forth a plan for the stand-up of the ORS Office and the acquisition of ORS capabilities**
  - Develop, acquire, field, and employ space capabilities in shortened timeframes and more affordable ways

**Plan signed by the DepSecDef on 20 April 2007**

# Noteworthy Features of the Plan

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- **Scopes ORS in a broader context**
  - More than just rapid launch and smallsats
  - Tiered approach to improving responsiveness
- **“ORS Office” vice “ORS Program Office”**
  - More than just an acquisition program office
  - Integrator of ORS efforts throughout the community
- **Concepts and Solutions element added to the four elements specified in Section 913**
  - More than just program acquisition function
  - Rapidly identify and assess promising capability options for pressing needs
- **ORS Office at the hub of a larger National Security Space community effort**

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# ORS Defined

# DoD ORS Definition

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- **ORS is “assured space power focused on timely satisfaction of Joint Force Commanders’ needs”**
  - **Assured:** Being sufficiently robust, timely, agile, adaptive, and resilient to achieve desired outcomes, with a high degree of certainty
  - **Space power:** The total strength of a nation’s capabilities to conduct and influence activities to, in, through, and from space to achieve its objectives
  - **Focused:** A concentrated effort on a particular outcome
  - **Timely satisfaction:** Addressing needs & delivered within an operationally relevant timeframe
  - **Joint Force Commanders Needs:** Achieving desired effects through unified action

**ORS addresses “other users needs” beyond just DoD**

# Operationally Responsive Space

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- **An affordable, rapid reaction combination of:**
  - Quick identification and analysis of alternative solutions
  - Responsive spacecraft, payloads, spacelift, ground systems, integration, command & control, and TPED
  - Streamlined acquisition
- **Tiered approach to providing responsive space capabilities**
- **ORS provides capabilities to:**
  - Reconstitute lost capabilities ; Augment/Surge existing capabilities; Fill Unanticipated Gaps in capabilities; Exploit new technical/operational innovations; Respond to unforeseen or episodic events; Enhance survivability and deterrence
- **Status**
  - Plan for ORS (Report to Congress) signed by DepSecDef – 17 April 2007
  - Initial ORS CONOPS approved by CDRUSSTRATCOM -- 7 May 2007
  - Initial ORS Office stood up at Kirtland AFB, NM on 21 May 2007
  - Implementation actions underway for FY08 execution

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# **Combatant Commander Perspective**

# Commander's Intent

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- **“Enhance and assure the space contribution to joint warfare by enabling timely support to emergent needs of Joint Force Commanders and other users”**
  - Generate warfighting effects for operational/tactical use
  - Tasked by the Joint Force Commander, available where needed
  - Deliver effects in response to an urgent/unanticipated need
- **Enable rapid deployment/employment of new, pre-planned, or existing capabilities**
  - Link operational, acquisition, industry partners, and Science and Technology communities to rapidly exploit emergent capabilities to fill operational gaps

# ORS Tiered Approach

- **Tier-1 (employ it)**

- On-demand with existing assets
- Minutes to hours



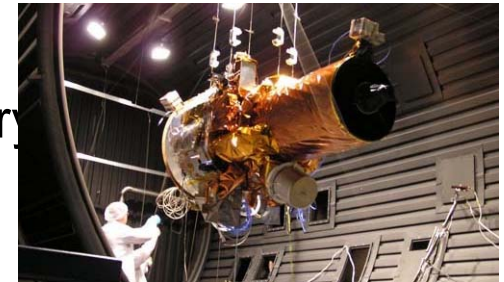
- **Tier-2 (launch/deploy it)**

- On-call with ready-to-field assets
- Days to weeks



- **Tier-3 (develop it)**

- Rapid transition from development to delivery capabilities
- Months (not years)

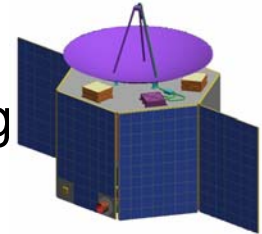


**The Desired End-State**

# ORS Capabilities

- **Traditional Space Force Enhancement**

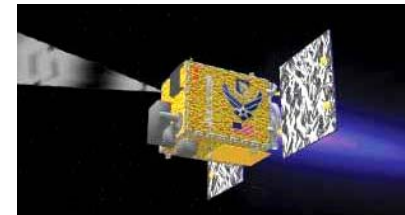
- ISR, specialized comm, tailored tactical missions (e.g. Force Tracking)



e.g. TACSAT 4

- **Space Control**

- Space Situational Awareness (SSA)



e.g. XSS-11

- **Space Support**

- Rapid access



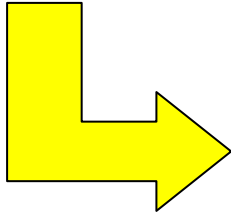
e.g. Minotaur

**Enabling New Approaches / Architectures –  
Complementary to Existing Capabilities**

# Operationally Responsive Space

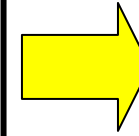
## ORS Needs

Gaps / Needs Identified and Prioritized by USSTRATCOM



## ORS Approaches

Tier 1	<b>“Employ it”</b>
	On-demand with existing assets Minutes to hours
Tier 2	<b>“Launch/deploy it”</b>
	On-call with ready-to-field assets Days to weeks
Tier 3	<b>“Develop it”</b>
	Rapid transition from development to delivery of new or modified capabilities Months (not years)



## ORS Capabilities

Reconstitute lost capabilities

Augment/Surge existing capabilities

Fill Unanticipated Gaps in capabilities

Exploit new technical/operational innovations

Respond to unforeseen or episodic events

Enhance survivability and deterrence

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# ORS Office

# ORS Office Stand-Up 21 May 2007—Kirtland AFB, NM

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New office driven by  
USSTRATCOM requirements

Initial ORS CONOPs approved  
by the Commander  
USSTRATCOM on 7 May 2007

**ORS = Assured space power  
focused on timely satisfaction of  
Joint Force Commanders' needs**



# ORS Implementation Status

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- **STRATCOM ORS Initial Concept of Operations – 7 May 2007**
- **DEPSECDEF ORS Memo – 17 May 2007**
  - Established ORS Office under EA for Space
  - Director of the ORS Office reports directly to EA for Space
- **EA/Space ORS Memo – 20 May 2007**
  - Identifies Col Kevin McLaughlin as ORS Director
  - Col McLaughlin dual-hatted as ORS Director and SDTW/CC
  - Further detail and additional authorities will follow
- **ORS Office Ribbon Cutting – 21 May 2007**
  - Public event to officially stand up the ORS Office
  - Attendees included key congressional and military leaders

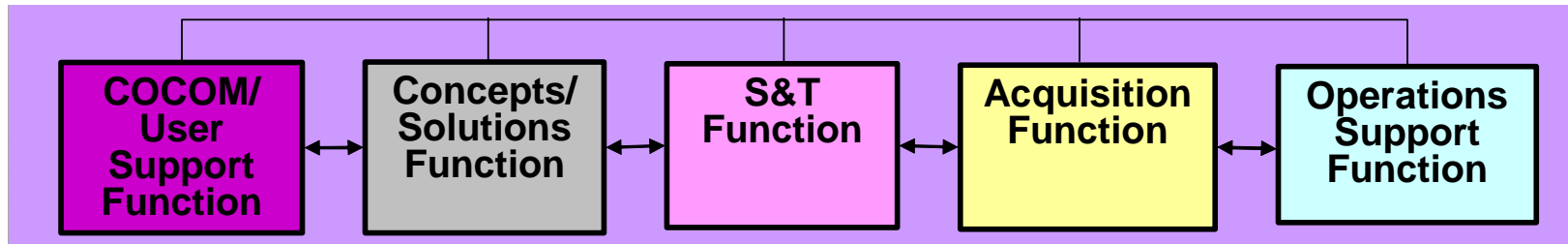
# ORS Office

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- **Joint organization**
- **Led by an ORS Office Director reporting directly to the DoD EA for Space**
- **10-20 military and government civilian staff**
  - Augmented by ~20-30 supporting FFRDC/SETA contractors
- **Location: Kirtland AFB, New Mexico**
- **Liaisons with key stakeholder organizations**
- **Emphasis on unity of effort across community**

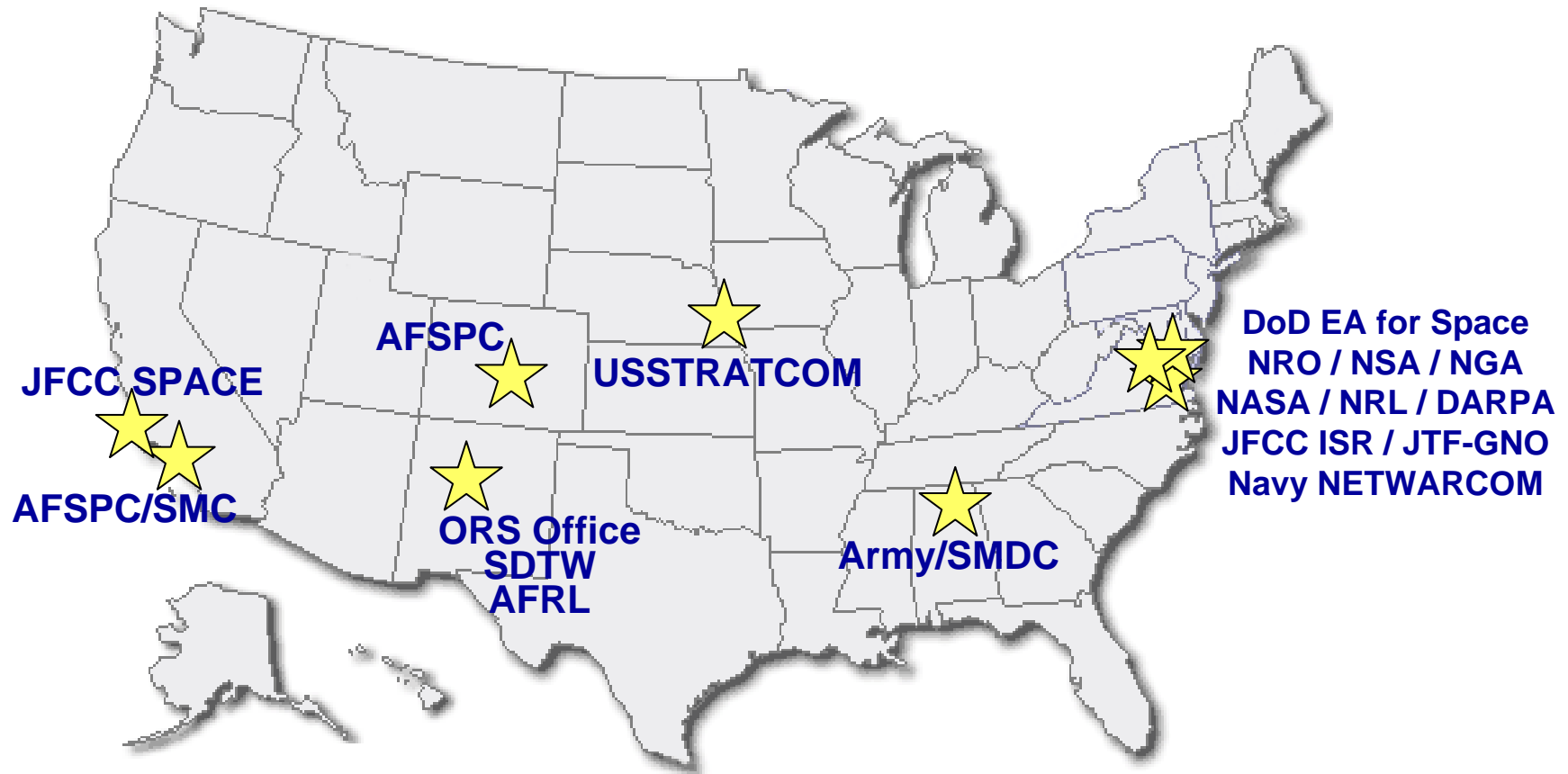
**ORS Office – at the hub of a national initiative for  
Operationally Responsive Space**

# DoD Plan for ORS Office: Key Functions



- **COCOM/User Support:** Identify, advocate, and plan for desired ORS capabilities by supporting USSTRATCOM; Provide interface between JFC/User and ORS Office
- **Concepts/Solutions:** Develop ORS conceptual solutions; Plan operational experimentation; Develop budgetary recommendations
- **Science & Technology:** Plan and coordinate ORS S&T efforts; Conduct operational experimentation; Expedite technology transition to ORS operational solutions
- **Acquisition:** Lead timely acquisition and lifecycle sustainment of ORS capabilities
- **Operations Support:** Coordinate transition of ORS capabilities into operations by supporting USSTRATCOM; Support operational experimentation and military utility assessment

# ORS – A National Initiative



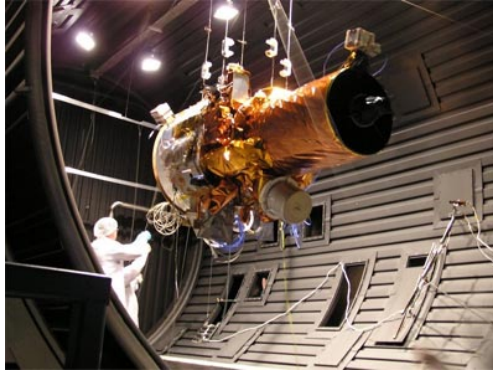
**Other key players from the Services and Agencies, Labs, Intelligence Community, NASA, and Industry – throughout the United States**

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# TacSat Series

# TacSat Demonstration Description

*Demonstrate affordable, responsive launch, checkout, and theater systems integration*



*Tactical Satellite-2 (TacSat-2)*

- **Multi-agency, multi-service experiments supporting ORS**
- **Operational experiments**
- **Theater use and/or surge, augmentation, and replenishment of more traditional space capabilities**
- **Includes spacecraft, launch vehicles, range, and operations**

Effort	TacSat Demonstration Program
<p>TacSat Demonstration Program</p>	<ul style="list-style-type: none"> <li>• Effort performs analysis and assesses alternative concepts / requirements and program support</li> <li>• Validates common interfaces, sub-systems, new payloads, and new concept of operations (CONOPS)</li> <li>• Facilitates the development of ORS requirements and future mission(s) planning</li> <li>• Leverages lessons learned, processes and mature technology</li> </ul>

# TacSat Missions Overview

- **TacSat-1 (Navy led experiment for OSD/OFT)**

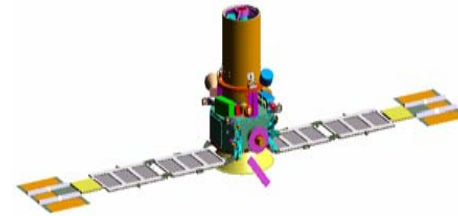
- Tactical RF payloads & UHF cross-platform link
- Low resolution visible (70m) & IR (850m) cameras
- SIPRNET exploitation using VMOC software
- Spacecraft completed May 04, within 1 Year
- Launcher: Space-X Falcon-1 (delayed since May 04)



Early 2008

- **TacSat-2 (AF led experiment)**

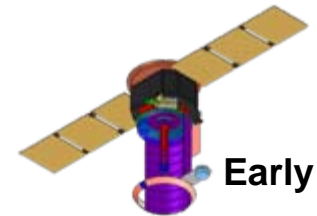
- USSTRATCOM sponsored ACTD)
- Tactical imaging & RF payloads
- Tactical CDL & UHF links
- Multiple science payloads



Launched Dec 06

- **TacSat-3 (Air Force led experiment—first joint selection)**

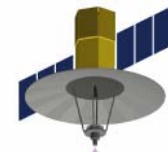
- AF/Army Hyperspectral primary payload
- Navy small payload for IP-based buoy data-X



Early 2008

- **TacSat-4 (Navy led experiment—joint selection in 2005)**

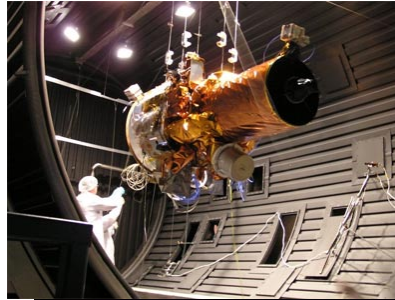
- Comms on the Move/Data-X/BFT mission
- PDR complete Apr 06



TBD Launch Date

# ORS Recent Accomplishments

- **TacSat-3 Hyperspectral Imager delivered 8 Dec 06**



- **TacSat-2 launch  
16 Dec 06**

- **SpaceX return to flight demo at Kwajalein — Mar 07**



**Shaping the Future of Responsive Space Operations**

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# Way Ahead

# ORS Director Early Priorities

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- **Urgent First Steps**
  - Assemble interim team
  - Build Strategic Framework and Plan
- **Implementation Planning**
  - ORS Office
  - Services and Agencies
  - Determine scope of permanent manning
- **Establish key partnerships to make this a success**
  - People
  - Money
  - Time
- **Turn plans into reality**
  - One step at a time

# Summary

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- ORS Plan in place – ready to execute
- Services/Labs heavily investing
- Community-wide team working details of ORS Office stand-up and relationships
- Warfighter needs and gap identification drive ORS Office activities
- Multi-tiered approach improves space responsiveness
- Congressional support is critical



**Shaping the Future of Operationally Responsive Space**