SPACE RAPID CAPABILITIES OFFICE AND DYNAMIC SPACE OPERATIONS

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OVERVIEW

- Space RCO 101: The Basics
- Program Updates
- Partnerships for Rapid Fielding
- Working With Us

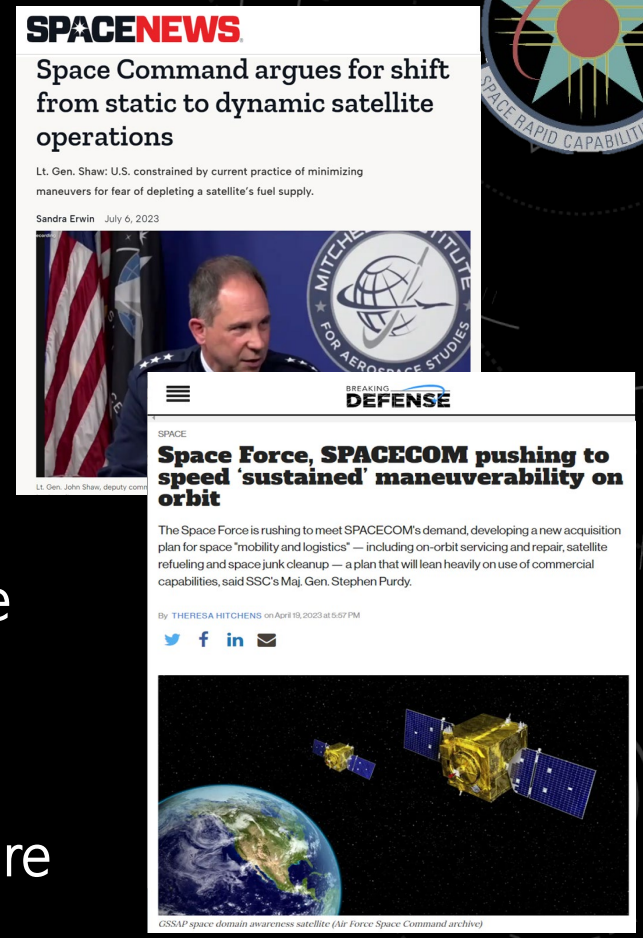
SPACE RCO 101: WHO WE ARE, WHAT WE DO

- We are one of three acquisition organizations for the United States Space Force (USSF)
  - A small (~200 people), independent unit in the USSF acquisition ecosystem, based in Albuquerque, NM
  - Charged with rapidly delivering first-of-their-kind operational space capabilities to stay ahead of threats
  - Programs assigned only by our Board-of-Directors, chaired by the Secretary of the Air Force
  - Exempt from the Joint Capabilities Integration and Development System (JCIDS)

Space RCO Mission: "Deliver timely and operationally relevant space superiority and resilience capabilities to the warfighter."

SPACE RCO 101: FIRST-OF CAPABILITIES FOR DYNAMIC SPACE OPERATIONS

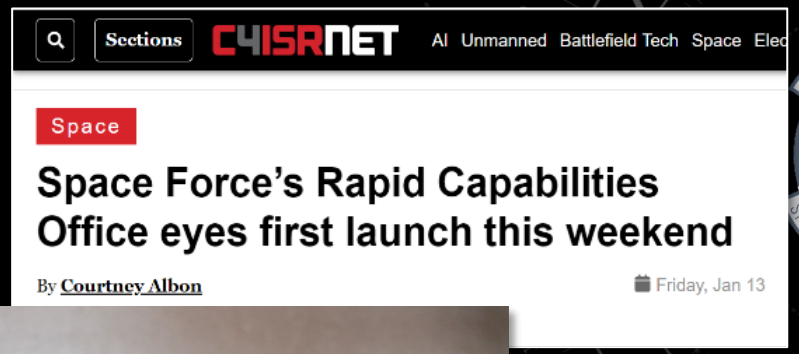
- Senior military space leaders calling for a pivot in space operations and capabilities:
  - Be able to deny first-mover advantage and responsibly hold threat assets at risk to protect forces from space-enabled attack
  - To shift from "positional"/static space operations to dynamic space operations, characterized by sustained maneuver without regret
  - Redefining space mobility to achieve surprise and gain the initiative
- There's a need to think about and acquire space capabilities differently
  - May include a wide range of "first-of" capabilities whose missions are "within the domain itself"



Space RCO is organizationally optimized to meet these needs from outside traditional acquisition processes yet still integrated within the USSF acquisition ecosystem

PROGRAMS:
SPACE PROTECTION PAYLOADS

- Space RCO launched 3 rideshare payloads in January 2023 on USSF-67:
  - Two threat awareness sensors & one operational prototype crypto/interface encryption payload
  - All support on-board protection and resilience
- Thirty-nine months from contracts to launch



KG-505 Flight Hardware

Update:

- Two rounds of payload testing completed in July
- Production versions of those units are being built now - with first deliveries to USSF satellite programs this fall and next spring

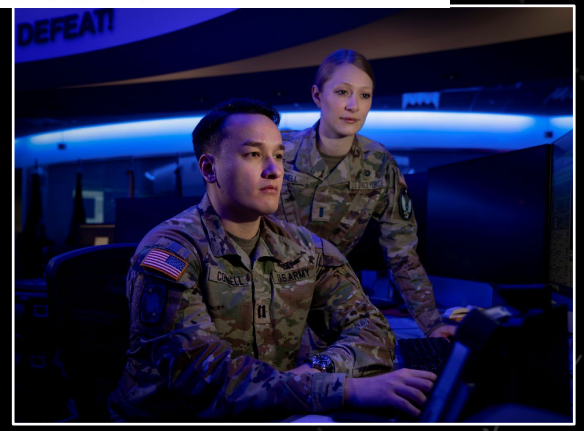
PROGRAMS: SATELLITE COMMUNICATIONS AUGMENTATION RESOURCE (SCAR)

- Acquiring phased-array antennas to expand satellite command and control bandwidth and flexibility
- First-of elements:
  - Each SCAR system is designed to make contacts with ~a dozen different satellites simultaneously
  - *Relocatable* system with flexible tasking to support dynamic space operations (DSO)
- Significant reduction in maintenance and operating cost expected
- Sub-scale technology demo completed August 2023
- Development and delivery of first unit in CY2025

Image credits: BlueHalo

PROGRAMS: RAPID RESILIENT COMMAND AND CONTROL (R2C2)

- Combined Space RCO/Space Systems Command (SSC) program
  - Stood up Feb 2023 to build off experience and products of legacy programs from both offices
  - Space RCO leads R2C2 with staff and funding from both orgs
- First-of elements:
  - Focusing on delivery of integrated, tactical satellite C2 capabilities to support first-of dynamic space operations (DSO)
    - DSO growing expectations for in-orbit agility and sustained maneuverability
    - Associated C2 must allow operators to rapidly respond using automation with a common user experience across diverse and dynamic satellite missions
- Finalizing acquisition requirements with feedback from RFIs, Industry Day



(U.S. Space Force photo by Dennis Roger

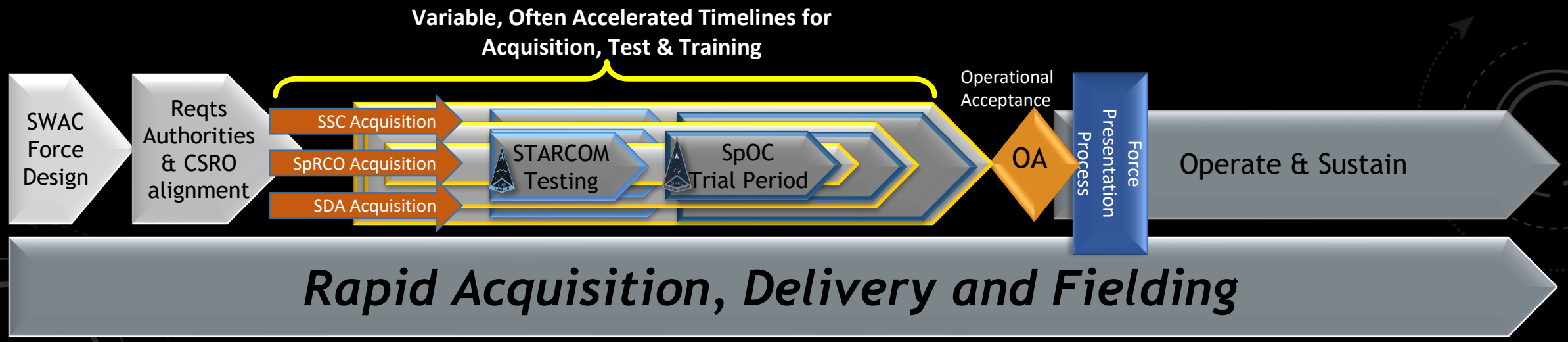
PROGRAMS: REMOTE MODULAR TERMINALS

- Ground-based electronic warfare system that provides low cost, flexible, satellite communications jamming to help protect joint forces from space-enabled attack
- First-of elements:
  - RMTs are small transportable systems that can be emplaced in both garrison and austere environments
  - Modular and remotely controlled, operate semi-autonomously, and provide maximum frequency agility
- The prime contract for RMT was awarded to a small business in Sep 2022 taking just 38 business days from receipt of proposals to the final contract award and start of work
- Received first four units in September

Image Credit: Northstrat

CRITICAL PARTNERSHIPS FOR RAPID FIELDING

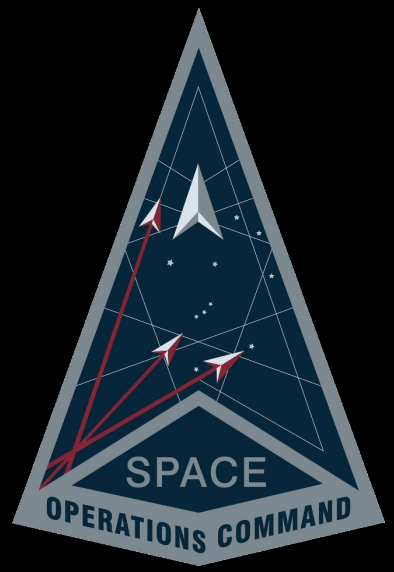
- Delivering *and fielding* a space capability to the USSF goes far beyond Space RCO
- Space RCO is one part of the broader capability development ecosystem, much of which is still in relative organizational infancy
- Coordination has been extensive and continues:
  - Must ensure both front end (requirements) and back end (training, integrated test, operational transition, & acquisition transfer) processes support Space RCO timelines for "first-of" capabilities



RAPID FIELDING PARTNERSHIPS

- Space RCO rapidly delivers systems—but the benefits of rapid delivery are only realized with strong Field Command partnerships for testing, training, transition and transfer

Primary Test and Training Partner



Primary Transition Partner

Primary Transfer Partner

DOING BUSINESS WITH US: WHAT'S SPACE RCO LIKE AS A CUSTOMER?

- We seek innovation that can be applied to first-of capabilities; we know commercial industry leads innovation!
- We can help companies make connections—with other potential govt customers and/or with current Space RCO vendors
- We are focused and know what capabilities we are looking for
- We have many delegated authorities – and <u>we use them all to go FAST</u>

Working with Industry as ONE TEAM, we are developing the most time critical needs for the Nation to gain or maintain space superiority. It just doesn't get any cooler than that.

DOING BUSINESS WITH US: WHY MIGHT ENGAGING WITH US BE CHALLENGING?

- We have relatively few, relatively large opportunities
- We typically don't fund tech development (but we sometimes partner with those that do)
- We are *rapidly* acquiring systems for operational capabilities – which can be demanding
- Parts, or all, of a new program may be classified

DOING BUSINESS WITH US: OUTREACH

Space RCO maintains a robust and broad industry engagement effort of continuous market research and tech scouting

SpaceRCO.Innovations@spaceforce.mil

Private meetings @ Trade Shows, e.g. Space Symposium, AFA Warfare

Company Briefings to Space RCO personnel

General Briefings for Industry: PACA BFI, SSC Industry Days

Tech Accelerator Exposure Events

Collaboration with other Offices

Our dedicated Industry Outreach lead conducts initial engagement and advises on further engagement paths

DOING BUSINESS WITH US: OPPORTUNITIES

- We expect to have (at most) a few specific opportunities in the next year
- Space RCO tailors every acquisition and acquisition strategy
- For most acquisitions, we will publish Requests For Information – to aid in refining acquisition strategy and to assess the industry base
- Often, our specific opportunities are classified – even the RFIs and RFPs might be classified. For these efforts, we need to work with companies who have the ability to manage classified programs
  - Facility Clearance Letter (FCL) (allows companies to hold and manage clearances)
  - Staff with security clearances (or readily clearable)

DOING BUSINESS WITH US: WHAT WE ARE (MOST) INTERESTED IN

- We are acquiring and delivering full systems – not individual technologies, components or subsystems
- Mature tech (TRL 6+)—but okay with putting together multiple higher TRL components that have not yet been demo'd together
- Modular approaches to design (for satellite busses, payloads, ground systems)
- Products and services that can support "dynamic space operations" missions; general concepts for agile and maneuverable space-based and space-focused systems

LOOKING FORWARD: DYNAMIC SPACE OPERATIONS

Space RCO is talking with companies with proven track records and mature technologies for dynamic space operations:

- Sensing Technologies
- Decision Support and Vehicle Autonomy
- Space Vehicle Lifespan and Maneuverability

Space RCO is part of AFRL's Hyperspace Challenge partnership accelerator building relationships with innovative companies

- Phase Four, Hawthorne CA
- Dawn AeroSpace, Christchurch, New Zealand
- Lexset.ai, Brooklyn New York
- Magdrive, Harwell Innovation Campus, UK
- TRL11, Irvine California,
- High Earth Robotics, Haymarket, NSW, Australia

CONNECT WITH US!

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