

NEW SPACE

NEXUS

20

23

NATIONAL RECONNAISSANCE OFFICE

8-16-2023



Partnership with FUSE Makerspace

- **Non-exhaustive list includes**

- Band Saw (2, one large and small)
- [Belt/Disc Sander](#)
- [Bosch 12" Dual Bevel Sliding Compound Miter Saw](#)
- Large Drill Presses (2)
- [Powermatic 8" Jointer](#)
- [Powermatic Planer 22"](#)
- [SawStop Industrial Cabinet Saw Table Saw](#)
- [SawStop RT-TGP 27" In-Line Cast Iron Router Table](#)
- Scroll Saw

Metal Fabrication

- Bead Blaster
- [Dake Manual Cold Saw](#)
- [Finger Brake](#)
- [Horizontal Bandsaw](#)
- [Manual Lathe](#)
- [Knee Mill \(Manual Mill\)](#)
- Pedestal Grinder
- Powder Coating
- [Scotchman 50 Ton Hydraulic Ironworker](#)
- Spray Booth
- Stomp Shear
- Surface Grinder
- [MIG Welders \(2\)](#)
- [Stick/TIG Welder](#)
- Hand-Held Plasma Cutter

Digital Fabrication

- [AP Lazer Engraver and Cutter \(48"x36"\)](#)
- [Epilog Laser Engraver and Cutter \(24" x 18"\)](#)
- [Epilog Zing](#)
- [Othermill Pro Desktop CNC Mill](#)

- [Roland Camm-1 Pro Vinyl Cutter \(36"\)](#)
- [Roland SG True Vision SG-540 54"](#)
- [CNC Mill \(Haas\)](#)
- [CNC Plasma Cutter](#)
- [ShopBot PRSalpha \(Alpha\) CNC Spindle Router 4' x 8'](#)
- [Form3 SLA Resin Printer](#)
- [Form2 SLA Resin Printer](#)
- [Ultimaker 3 Extends Forced Filament Fabrication Printer \(FFF\)](#)
- [Ultimaker3 Forced Filament Fabrication Printer \(FFF\)](#)
- [Wazer \(Water Jet\)](#)
- [XCarve CNC Router](#)

Screen Printing



© Jane Phillips Photography

08/17/23 **T5 (Third Thirsty Thursday Tech Talks)** – Nexus Brewery ,4730 Pan American Fwy NE or virtual

08/23/23 **Level Up! Event: Arrowhead**

08/29-31/23 **PACA BFI Event**

09/7-8/23 **New Mexico Tech Council Tech Summit**

NATIONAL RECONNAISSANCE OFFICE

The National Reconnaissance Office is responsible for designing, building, launching, and maintaining intelligence satellites.

The National Reconnaissance Office makes the world a better, safer, stronger place and ensures America remains the undisputed leader in space.



COLIN A. BETTIS

DIRECTOR OF OUTREACH, COMMERCIAL SYSTEMS PROGRAM OFFICE, NRO



Mr. Colin A. Bettis is the Director of Outreach, Commercial Systems Program Office (CSPO), National Reconnaissance Office, Chantilly, Virginia. In this role, Colin leads two distinct lines of effort supporting the Director of CSPO and Director of NRO, the first being the identification of emerging commercial space products & services for potential integration into the NRO's portfolio of capabilities, and second being the assessment of U.S. government stakeholders and mission needs which can be enhanced through the introduction & integration of commercial space capabilities.

Mr. Bettis received his commission as a U.S. Air Force officer from the University of Saint Thomas in Saint Paul, Minnesota in 2012, and transferred to the federal civilian service in 2019, joining the U.S. government's premier hypersonic missile program office, Conventional Prompt Strike, with the U.S. Navy. Throughout his career, he gained extensive hands-on experience in flight test operations, engineering, and acquisitions for both unmanned aircraft and ballistic missile systems, as well as technical intelligence collection, operations, and analysis methods & processes across the intelligence community.

NRO's Commercial Systems Program Office

Prepared for NewSpace Nexxus
24 July 2023

Mr. Colin Bettis
Director of Outreach, Commercial Systems Program Office
National Reconnaissance Office



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CSPO's Focus: Development of Commercial Remote Sensing Partnerships



*WorldView-3 image of aftermath of Russian airstrikes on Mariupol Theater, Mariupol, Ukraine
(Maxar, Mar 2022)*

Partnership based on how to address today's and tomorrow's challenges—national security and intelligence, environmental/natural disasters, humanitarian crises

Long-Term Service Level Agreements (SLA) *Anchored in Established Requirements*



Driven by GEOINT & SIGINT Functional Manager's validated requirements

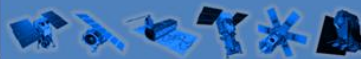
Substantial increase in requirements satisfied by commercial-class systems



Grounded in NRO commitment to fully leverage legacy and emerging commercial imagery capabilities

*Satisfy mission needs
Maximize efficiency and effectiveness of overhead architecture*

Executed via integrated architecture of national and commercial constellations



Electro-Optical Commercial Layer

BLACKSKY



BlackSky Global image of Hatay Airport in Turkey following February earthquake, 12 Feb 2023

MAXAR



WorldView-3 image of screen placed around damaged Mariupol Theater, 30 Nov 2022

planet.



SkySat image of damaged Kerch Bridge connecting Russia with Crimea; a strategic logistics and supply route, 8 Oct 2022

Emerging Requirements Driven Acquisitions

Assess and Utilize New and Emerging Data Sources

Commercial Radar

AIRBUS
U.S.



Capella Space

ICEYE U.S.



PredaSAR

UMBRA
LAB INC.

Novoozerne, Crimea, UKR
45.40073N 33.13954E
14FEB23 0234Z

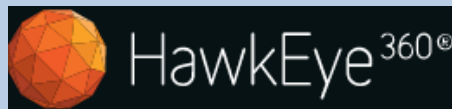


(©2023, Capella Space, USG Plus)

Capella Space radar of Novoozerne in western Crimea; large collection of vehicles near wharf may be related to an amphibious or transport operation
14 Feb 2023

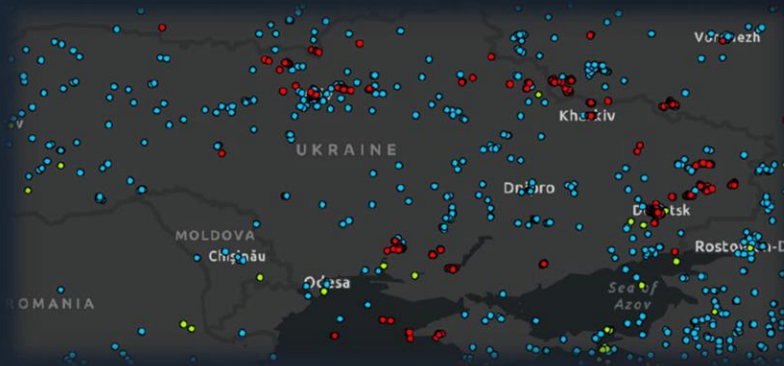
Emerging Requirements Driven Acquisitions

Assess and Utilize New and Emerging Data Sources



**Commercial
Hyperspectral**

Commercial Radio Frequency Remote Sensing



Commercial RF coarse locations over Ukraine region, 23 Feb- 23 Mar 2022

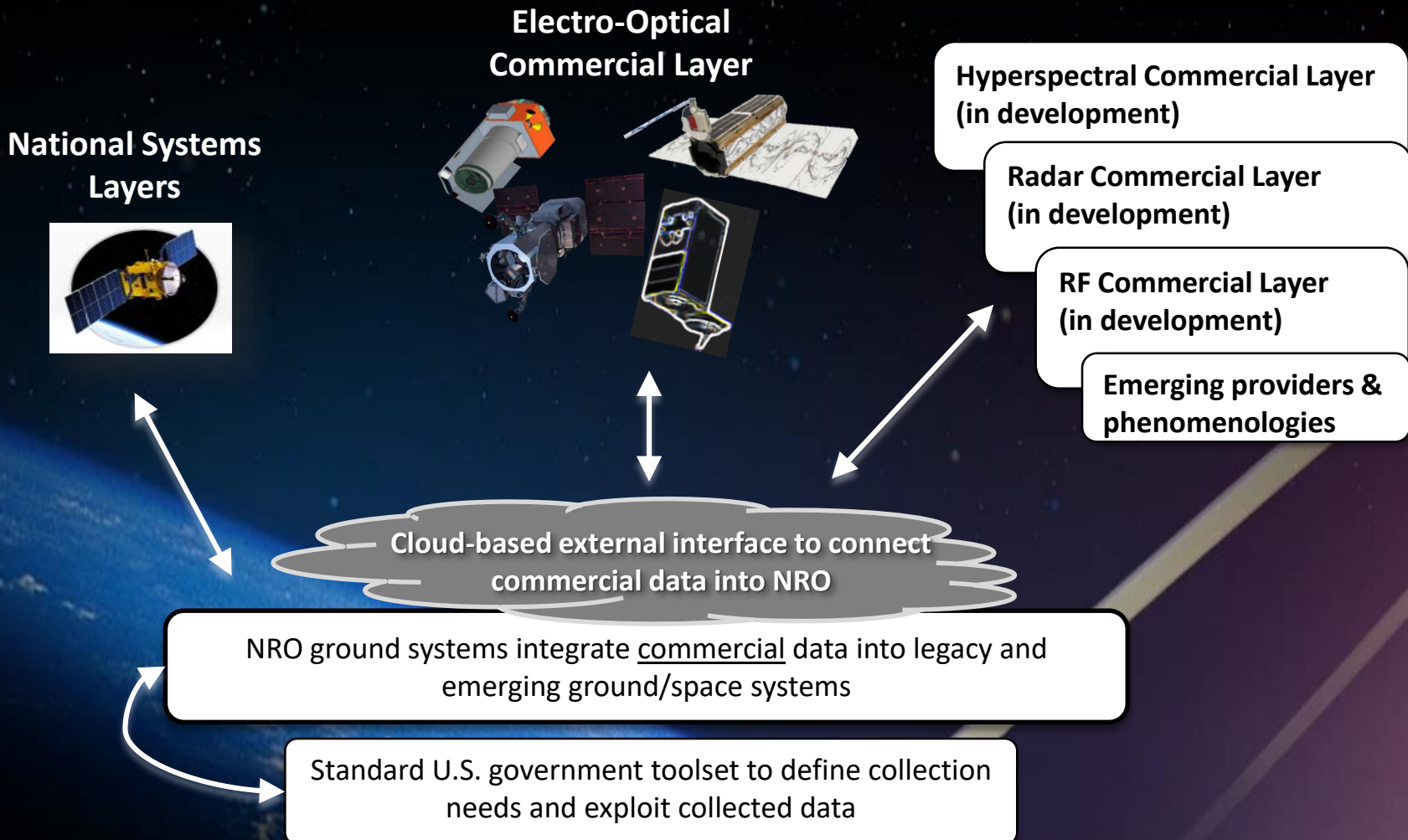


HYPERSAT



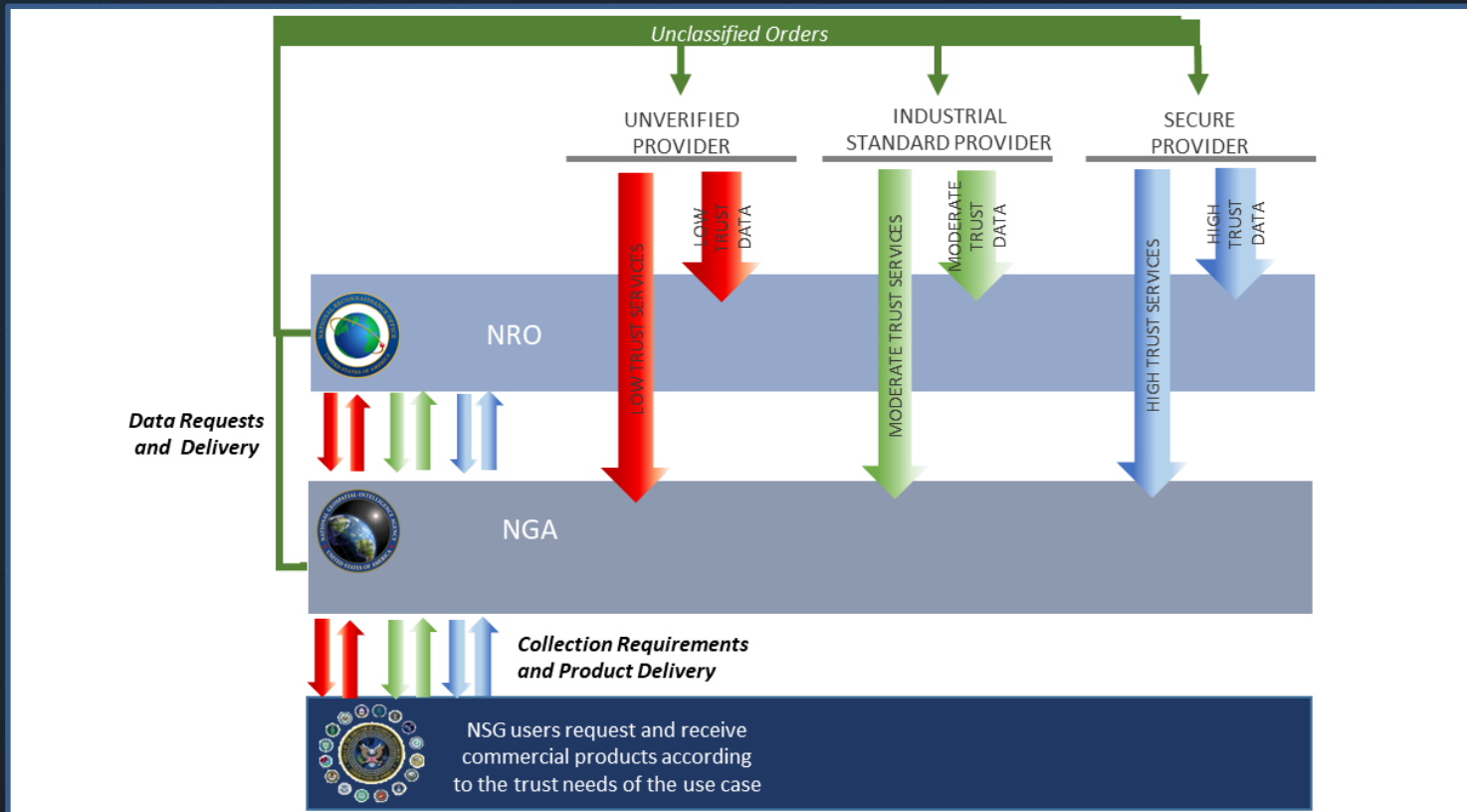
Integrated Architecture

INCREASED CAPACITY • GREATER RESILIENCE • MORE RESPONSIVE



Security is a Shared Responsibility

- ❖ The USG should not impose cybersecurity requirements that would obviate the innovative freedom of a commercial provider.
- ❖ Nor should the USG walk away from all responsibility for the cybersecurity of a partner.
- ❖ *Instead, the USG should walk alongside partners with reasonable and prudent cybersecurity controls and access to active assistance.*



Commercial cybersecurity framework developed by NRO and NGA

Our role, responsibility, and commitment...

- 1) Continuously deliver commercially collected overhead data to our DoD, IC, and civil government partners
- 2) Leverage emerging commercial data innovations
- 3) Fully integrate commercial as key part of overhead architecture
- 4) Foster partnerships that enhance U.S. commercial leadership

“Observe it all, observe it well,
observe it now, *and innovate faster.*”

Dr. Chris J. Scolese
Director, National Reconnaissance Office



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