



Orbiting the White House: Space as a Cybersecurity Imperative

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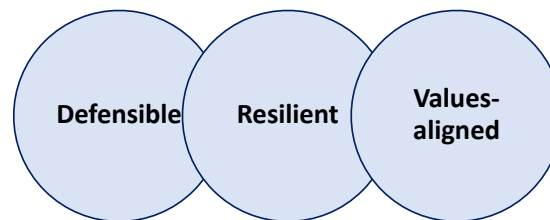
August 11, 2023

National Cybersecurity Strategy – March 2023

VISION

The Biden-Harris Administration's National Cybersecurity Strategy lays the digital foundation for a more equitable economy, a clean energy transition, a renewal of our national infrastructure, a strengthened democracy, and a more competitive workforce.

Together with its allies and partners, the United States will make our digital ecosystem:



OBJECTIVES

This Strategy is organized around **FIVE PILLARS:**



March 28, 2023 - Titans of the Space Industry and Federal Government Leaders Convene at the White House



Space Policy Directive-5: *Cybersecurity Principles for Space Systems*

“...Executive departments and agencies will foster practices within Government space operations and across the commercial space industry that protect space assets and their supporting infrastructure from cyber threats and ensure continuity of operations.”

- September 2020

Space Systems Owners/Operators Should:

- Develop and operate space systems using **risk-based, cybersecurity-informed engineering**;
- Have **integrated cybersecurity plans** that can retain/recover space assets and integrity, confidentiality, and availability of data;
- Leverage **widely-adopted best practices and norms of behavior**;
- **Collaborate** to promote the development of best practices and mitigations; and
- Design space systems to be **effective and able to manage risks**.

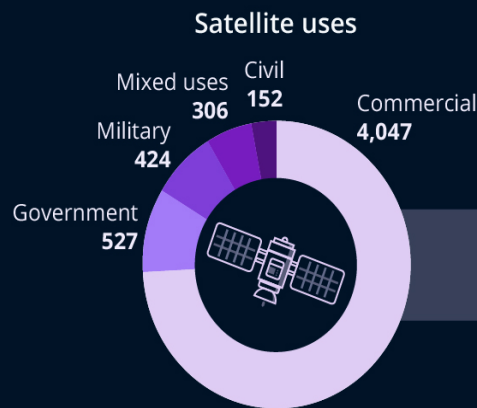
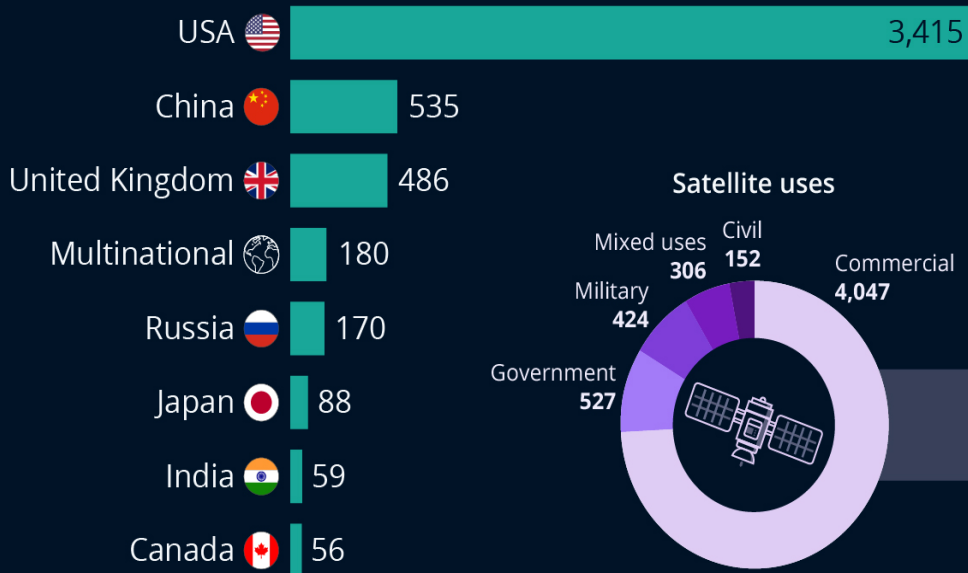
“The Administration remains committed to enhancing the security and resilience of U.S. space systems, including by implementing Space Policy Directive 5..”

- NCS, March 2023



The Countries With the Most Satellites in Space

Satellites currently orbiting Earth by country* (as of May 2022)



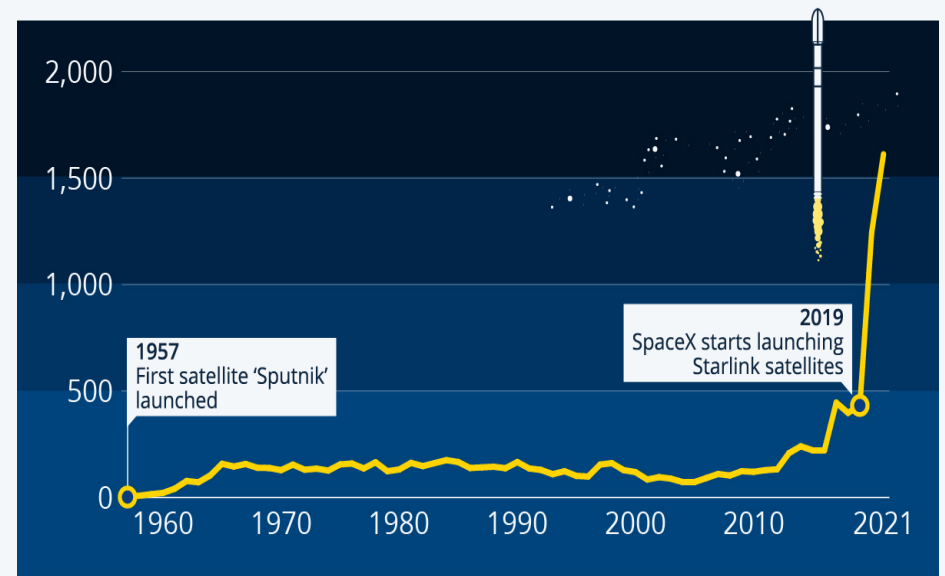
* Country of operator/owner

Source: Union of Concerned Scientists Satellite Database

statista

From Sputnik to Starlink – Earth’s Orbit is Getting Crowded

Total payloads launched into space from 1957 to 2021*



* Payloads refer to space objects (satellites, space probes etc.) designed to perform a specific function

Source: OECD



statista

Russia hacked an American satellite company invasion

New Internet Satellite Constellations: Cybersecurity Implications of Off The Shelf (COTS) Equipment
Infrastructure Cyber-Worthiness and Cyber-Resilience of Satellites
Cybersecurity Protections for Space Approach

Need for a Cyber Resilience Framework for Critical Space Infrastructure

Syed Shahzad, Li Qiao and Keith Joiner
Research Paper

David Livingstone and Patricia Lewis
International Security Department | September 2016

Space, the Final Frontier for Cybersecurity?

The Growing Risk of a Major Satellite Cyber

Defending Small Satellites from Malicious Cybersecurity Threats

The Washington Post [+ Follow](#)

Cyberattack knocks out satellite communications for Russian military

Story by Joseph Menn • 4w

Airforce Institute of Technology, Wright-Patterson AFB, USA

Published Online: 2 Nov 2020 • <https://doi.org/10.2514/6.2020-4013>

Space Cybersecurity Lessons from a Cyberattack

Nicolò Boschetti, Nathaniel G. Gordon and Gregory Falco

Published Online: 15 Oct 2022 • <https://doi.org/10.2514/6.2022-1000>

The Protection of Space from Cyber Threats

[Stefano Zatti](#)

Conference paper | [First Online: 02 December 2022](#)

of SATCOM Network Providers and

What the Russian Invasion Reveals About the Future of Cyber Warfare

JON BATEMAN, NICK BEECROFT, GAVIN WILDE

DECEMBER 19, 2022

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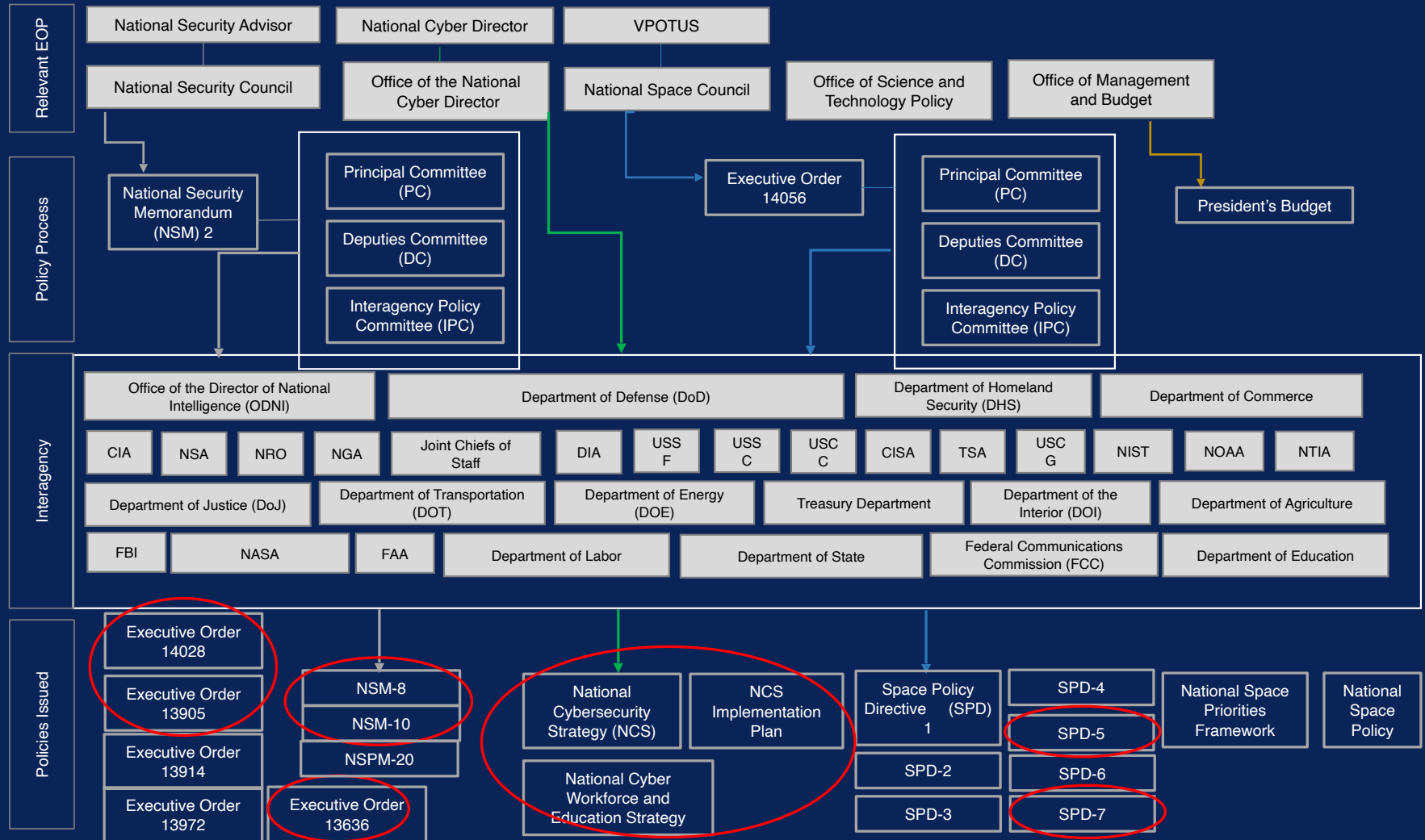
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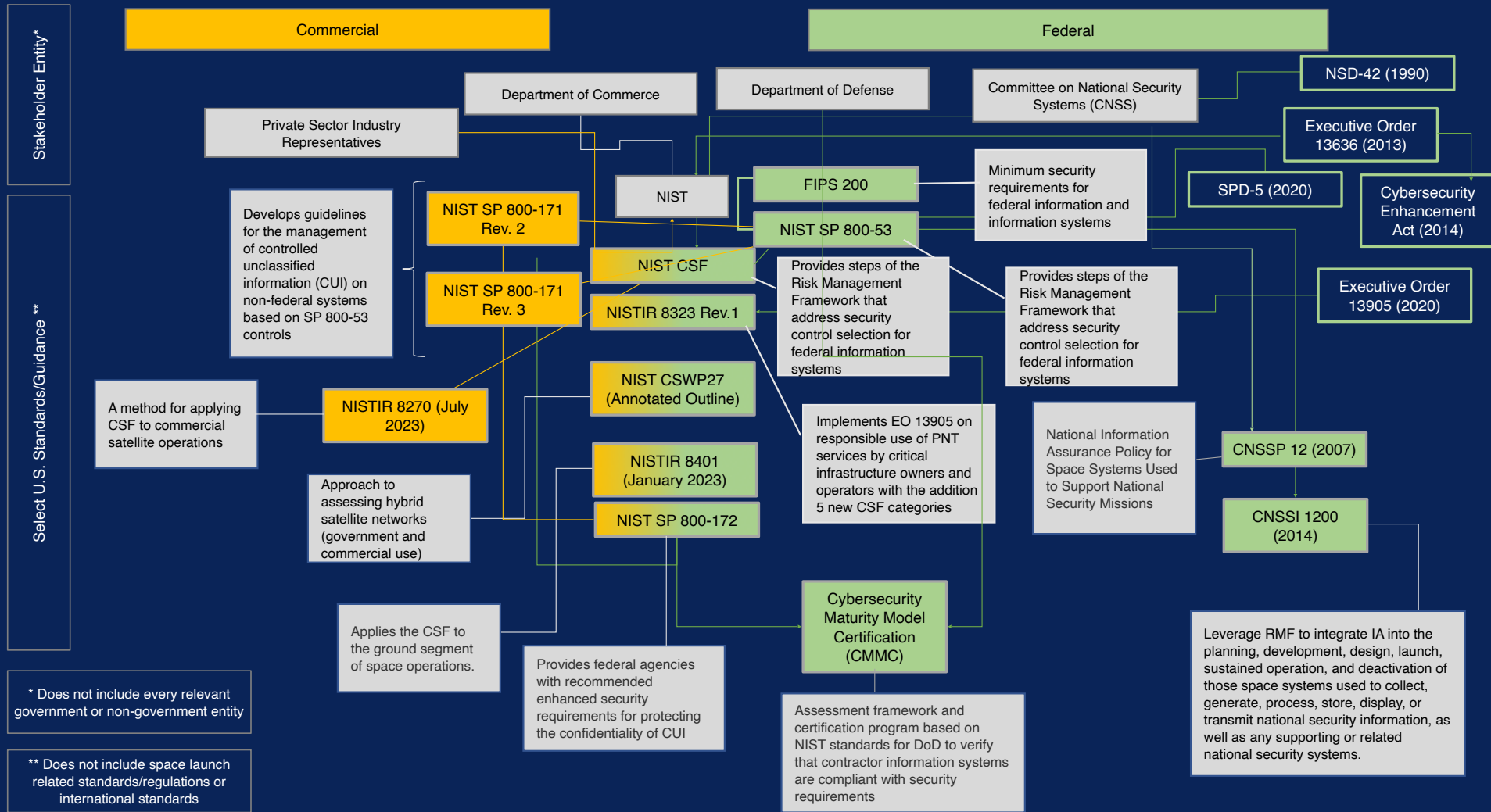
SpaceX shifts resources to cybersecurity to address Starlink jamming

Jeff Foust and Brian Berger March 5, 2022

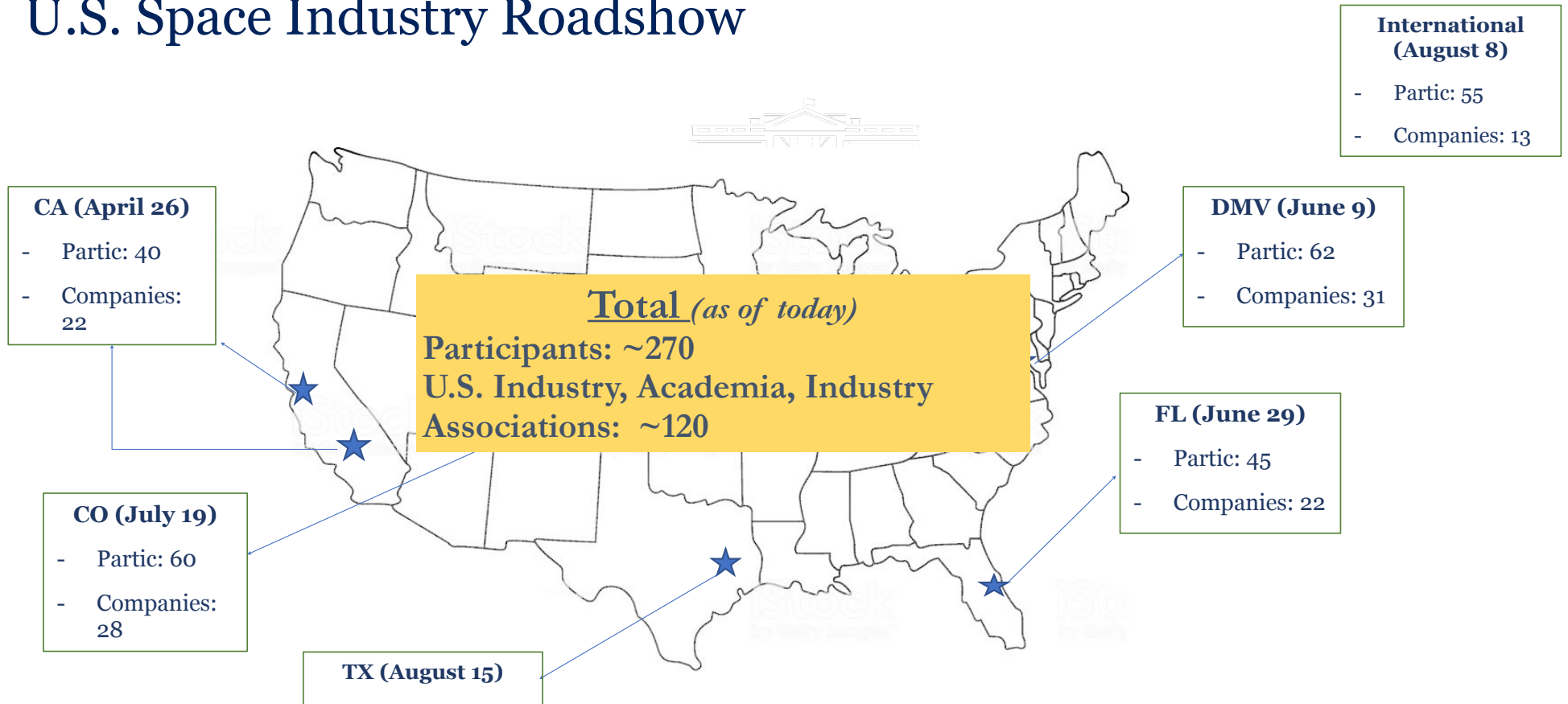
U.S. Space Players and Policy Processes (as of 8/2023)



U.S. Standards for Space Systems (or related) (as of 8/2023)



U.S. Space Industry Roadshow



How to Get Involved: White House Open Requests for Information (RFIs)

THE WHITE HOUSE



JULY 19, 2023

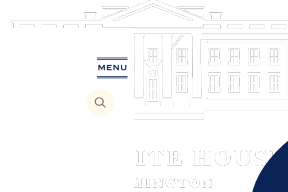
Fact Sheet: Office of the National
Cyber Director Requests Public
Comment on Harmonizing
Cybersecurity Regulations

ONCD › BRIEFING ROOM › PRESS RELEASE

AUGUST 10, 2023

Fact Sheet: Office of the National
Cyber Director Requests Public
Comment on Open-Source Software
Security and Memory Safe
Programming Languages

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[ONCD-Reg-Harm-RFI-Final-
July-19.2023.pdf
\(whitehouse.gov\)](#)

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