# National Security Space Strategy

# The strategic environment has changed

> *"Changes in the space environment over the last decade challenge our operations in space."*
>
> - Secretary of Defense Robert M. Gates
> Statement on release of National Space Policy

- **Congested**

  - DoD tracks roughly 22,000 man-made objects in orbit

  - Likely 100,000s more objects too small to track, but still a threat to satellites

  - 9,000 transponders expected on-orbit by 2015
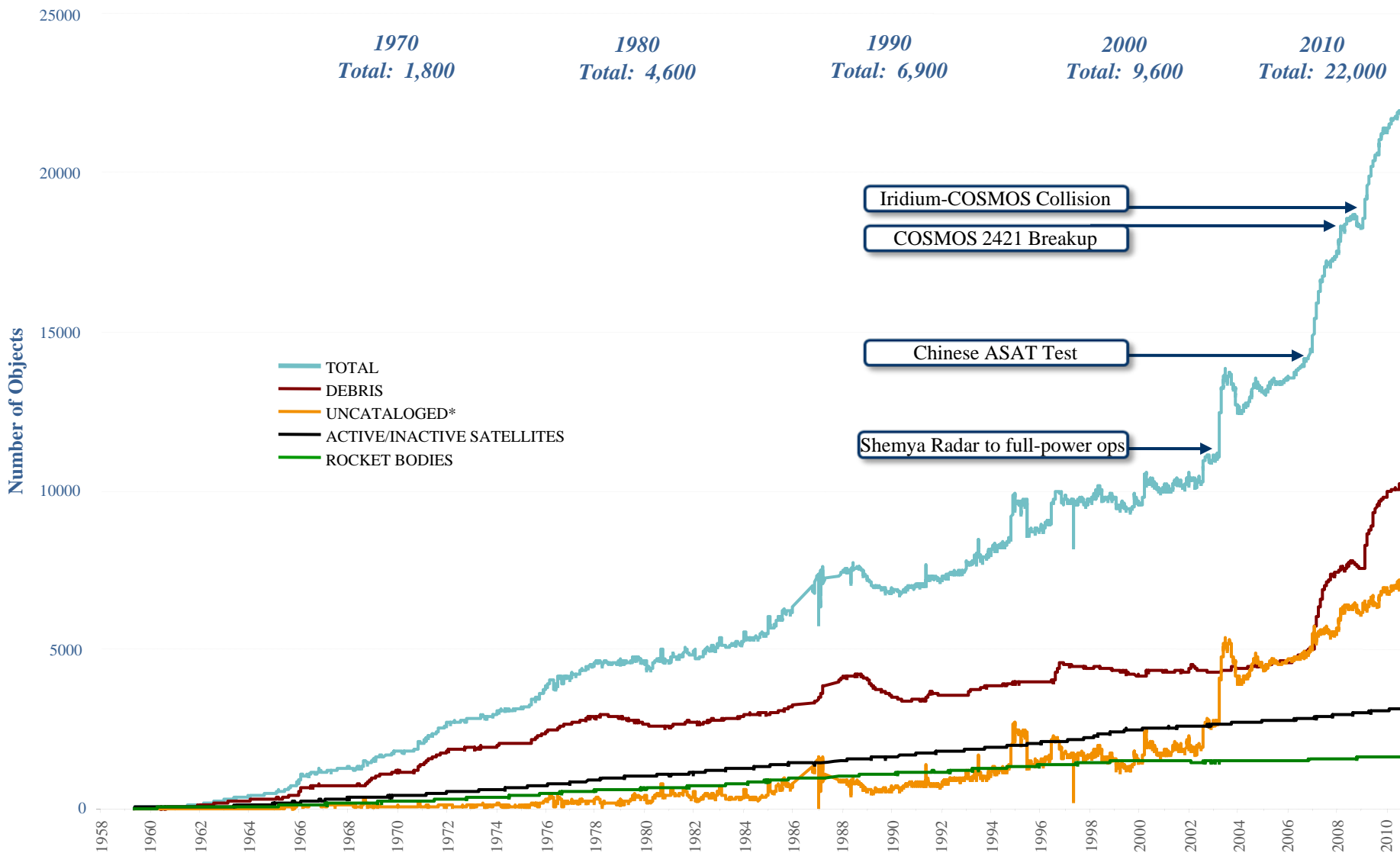
- **Contested**

  - There is a range of threats that can purposefully interfere with satellites

  - The threat is not limited to high-end anti-access; jammers are proliferating too

  - Strategy / doctrine for counterspace use is shifting the nature of the threat

- **Competitive**

  - U.S. satellite manufacturing market share ~65% in 1997 → ~30% in 2008

  - Inconsistent acquisition and production rates, long development cycles, and consolidation of suppliers under first tier prime contractors

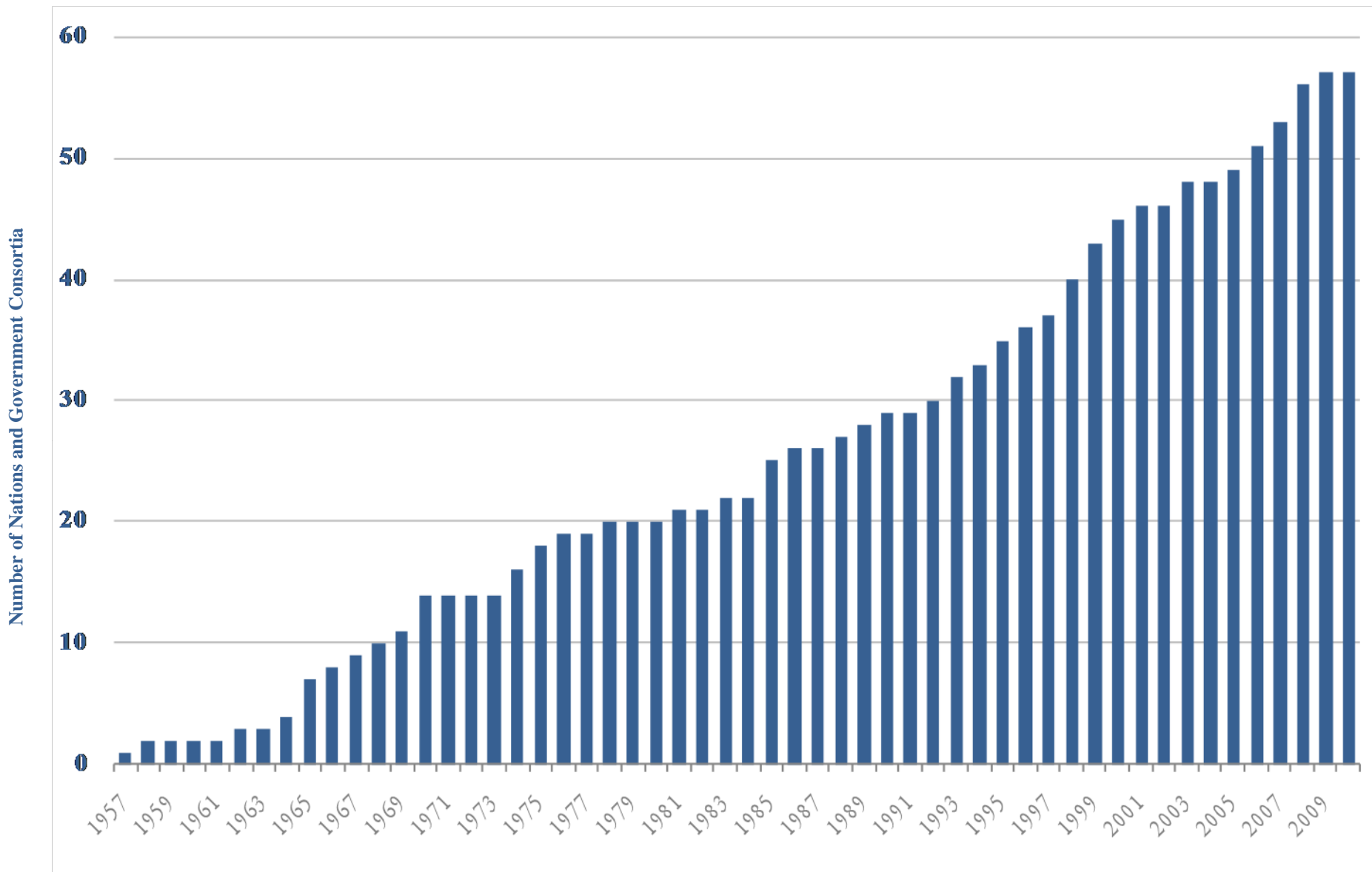  - Challenges recruiting, developing, and retaining a qualified workforce

# Satellite Catalog Growth



| 1970 Total: 1,800 | 1980 Total: 4,600 | 1990 Total: 6,900 | 2000 Total: 9,600 | 2010 Total: 22,000 |

Legend:
- TOTAL
- DEBRIS
- UNCATALOGED*
- ACTIVE/INACTIVE SATELLITES
- ROCKET BODIES

Annotations:
- Iridium-COSMOS Collision
- COSMOS 2421 Breakup
- Chinese ASAT Test
- Shemya Radar to full-power ops

*Y-axis: Number of Objects*

*X-axis: 1958–2010*

*Uncataloged = unknown object and/or unknown origin*

Source: Joint Space Operations Center

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# Decline in U.S. Share of Global Satellite Manufacturing Market
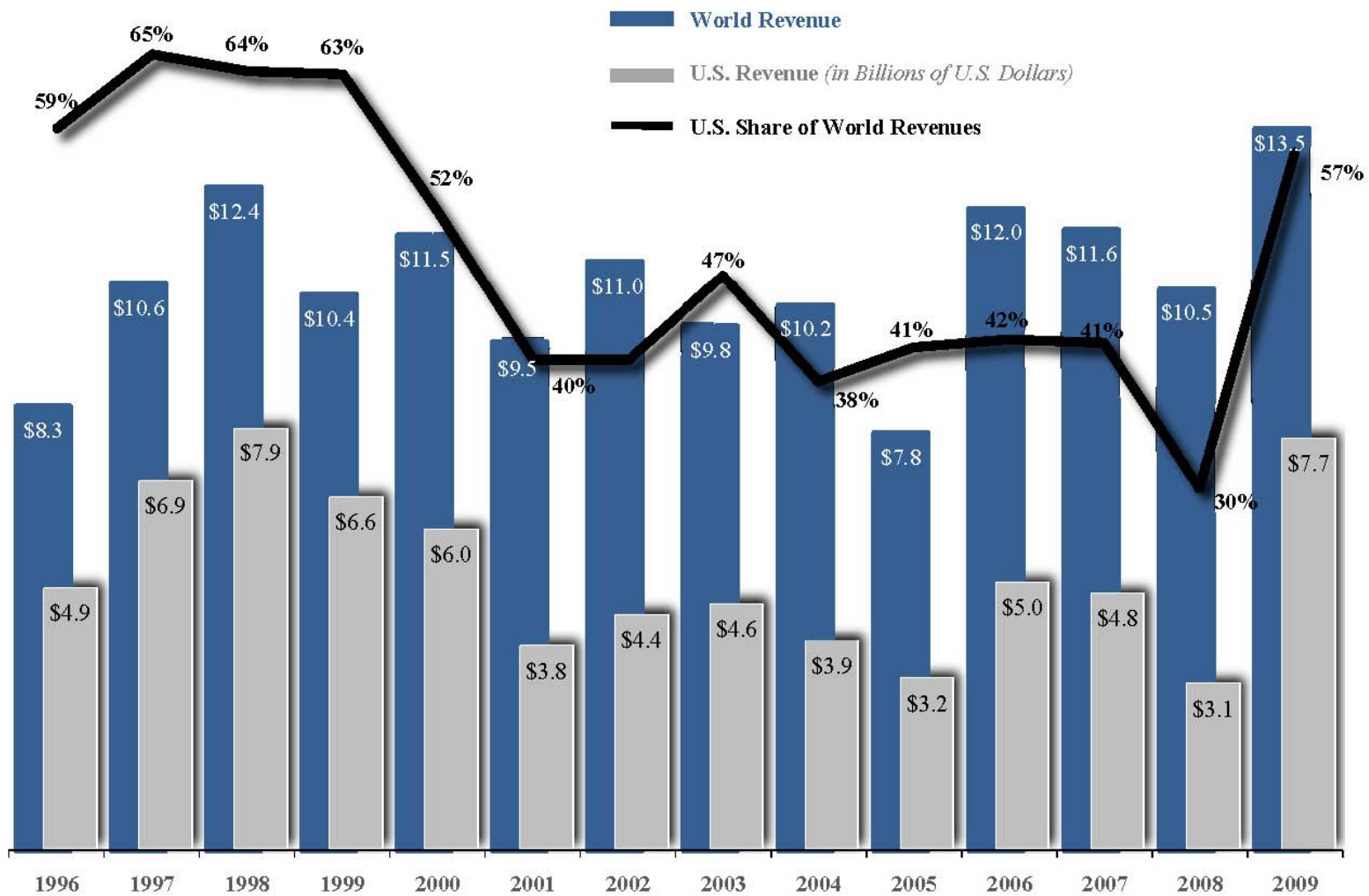


Notes: Revenue figures are in-year estimates, not adjusted for inflation over time. Satellite Manufacturing revenues are recorded in the year the satellite is delivered/launched, not when contract is awarded or interim payments are transacted. World revenue includes U.S. revenue.

Source: Satellite Industry Association

*"To promote security and stability in space, we will pursue activities consistent with the inherent right of self-defense, deepen cooperation with allies and friends, and work with all nations toward the responsible and peaceful use of space."*

- National Space Policy

- **Strengthen safety, stability, and security in space**

  ➢ Nations exercise shared responsibility for space domain

- **Maintain and enhance the strategic national security advantages afforded to the United States by space**

  ➢ Meet needs of space users, even if space environment is degraded

- **Energize the space industrial base that supports U.S. national security**

  ➢ Improve foundations of the space enterprise – people, process, and industry
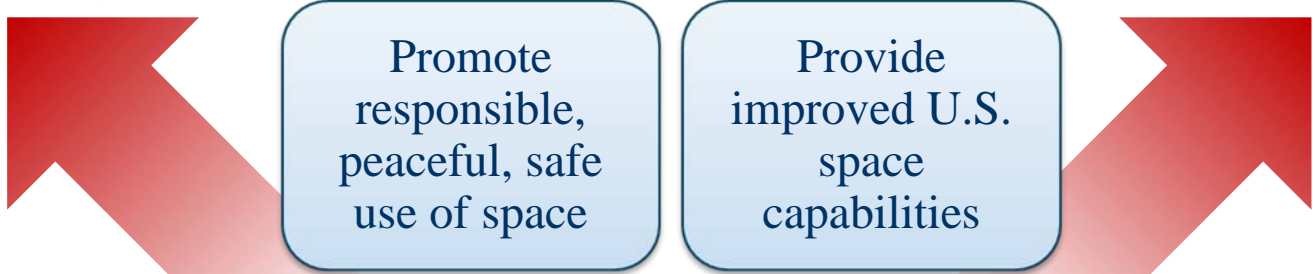
# We will pursue 5 related approaches

- **Promote** responsible, peaceful and safe use of space
  - Lead by example, supporting development of transparency and confidence-building measures (TCBMs), norms, standards, and best practices
  - Foster cooperative space situational awareness (SSA) and support safe space operations

- **Provide** improved U.S. space capabilities
  - Continue improving space acquisition, technology development, and space cadre
  - Foster robust, competitive, flexible, and healthy space industrial base

- **Partner** with responsible nations, international organizations, and commercial firms
  - Operate in coalitions of like-minded spacefaring nations; pursue opportunities for cost- and risk-sharing
  - Explore sharing space-derived information as "global utilities" with partnered nations

- **Prevent and deter** aggression against space infrastructure that supports U.S. national security
  - Multilayered approach: shape the international environment, encourage potential adversary restraint, improve our intelligence posture, and develop a range of response options

- **Prepare** to defeat attacks and to operate in a degraded environment
  - Improve resilience of systems and constellations
  - Develop tactics, techniques, and procedures to operate in a degraded or denied space environment

**Congested**

**Competitive**

Norms

TCBMs

Standards

SSA

Information
Sharing

Resilient
Architecture

Protection

Cross-domain
Solutions

Promote
responsible,
peaceful, safe
use of space

Provide
improved U.S.
space
capabilities

Prepare to
defeat attacks
and to operate
in a degraded
environment

Prevent and
deter aggression
against space
infrastructure

Partner with
responsible
nations, firms,
international
organizations

Acquisition

Technology

Industrial Base

Space Cadre

Sharing U.S.
Capabilities

Collaboration

**Contested**

Coalitions and Alliances
Attribution
Foundational Intelligence
Response Options

# This concludes the Space Posture Review

- **2009 National Defense Authorization Act directed Secretary of Defense and Director of National Intelligence jointly to conduct a comprehensive review of the U.S. space posture, to include:**

  - Definition, policy, and requirements for seven focus areas

  - Description of current and planned space acquisition programs

  - Description of future space systems and technology development

  - Assessment of relationship among various policies

  - Assessment of the effect of U.S. policy on foreign counterspace development

- **OSD and ODNI released an interim report in March 2010**

  - Contained programmatic descriptions and assessments required

  - Delayed production of overarching guidance until after release of the new National Space Policy in June 2010

- **The NSSS concludes the Space Posture Review by providing the overarching strategic guidance requested by Congress**

*"We have the most to lose from this changing environment of space, and we have the most to gain if we adapt our strategy and process."*

- Deputy Secretary of Defense William J. Lynn
Speech to 2010 Strategic Space Symposium

- **The strategic environment has changed … our strategy must change accordingly**

- **Department of Defense and Intelligence Community will implement the NSSS by evolving policies, strategies, and doctrine for national security space**

- **Success requires innovation and new ways of doing business**

*The NSSS is a pragmatic approach to maintain the advantages we derive from space while confronting the challenges of an evolving strategic environment.*