

*United States Space Command*

**VISION**

**FOR**

**2020**

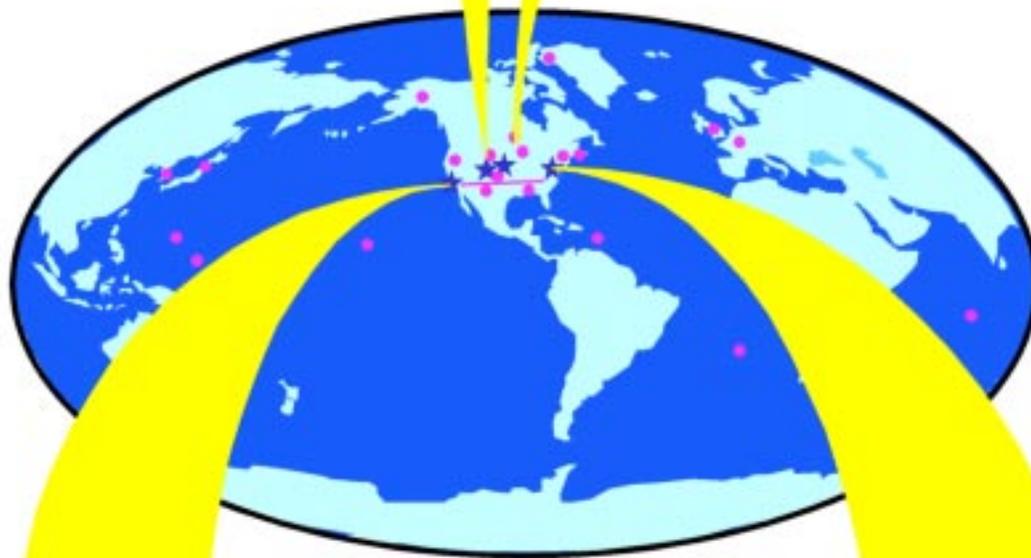




Howell M. Estes III  
General, USAF  
Commander in Chief



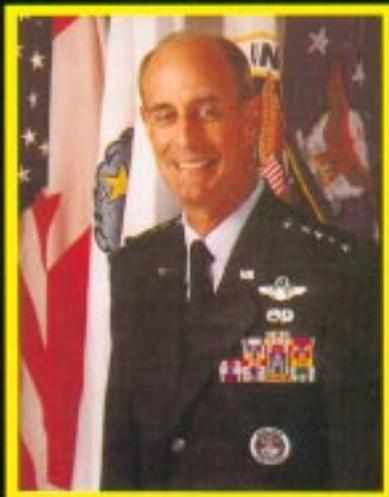
Edward G. Anderson III  
Lieutenant General, USA  
Commanding



David L. Vesely  
Major General, USAF  
Commander



K. A. Laughton  
Rear Admiral, USN  
Commander



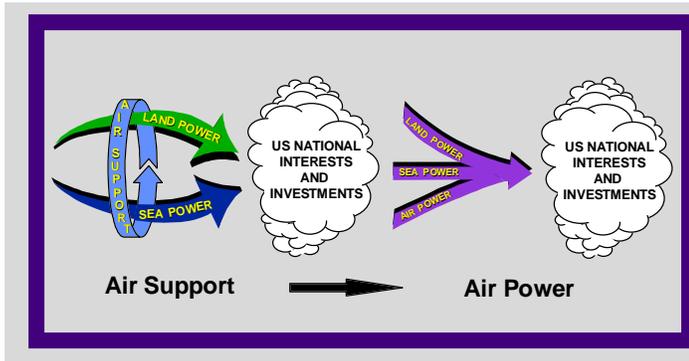
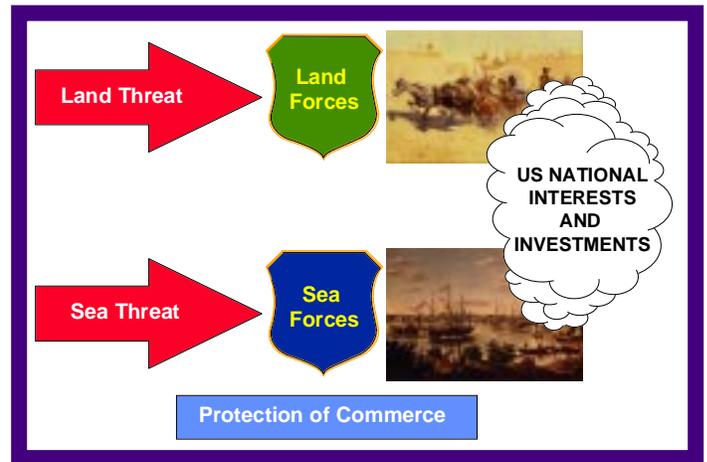
## GENERAL HOWELL M. ESTES III

"The increasing reliance of US military forces upon space power combined with the explosive proliferation of global space capabilities makes a space vision essential. As stewards for military space, we must be prepared to exploit the advantages of the space medium. This Vision serves as a bridge in the evolution of military space into the 21st century and is the standard by which United States Space Command and its Components will measure progress into the future."

*US Space Command--dominating  
the space dimension of military operations  
to protect US interests and investment.  
Integrating Space Forces into warfighting  
capabilities across the full spectrum  
of conflict.*

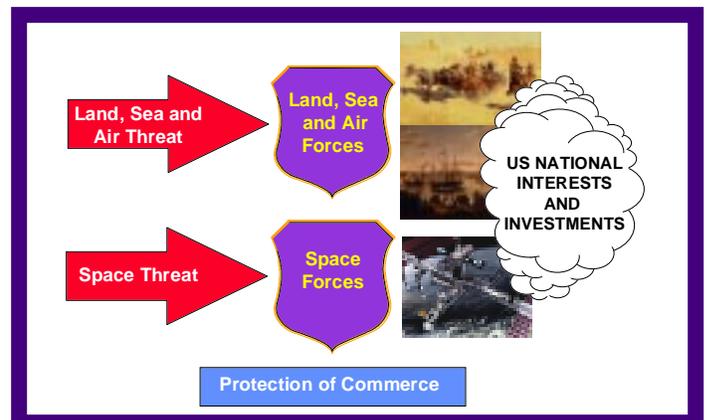
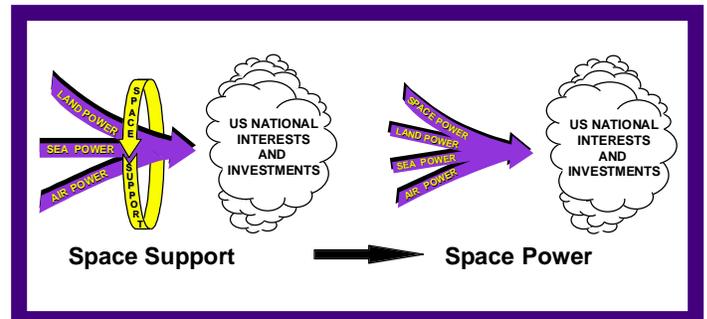
# A Historic Perspective—the Evolution of Space

Historically, military forces have evolved to protect national interests and investments -- both military and economic. During the rise of sea commerce, nations built navies to protect and enhance their commercial interests. During the westward expansion of the continental United States, military outposts and the cavalry emerged to protect our wagon trains, settlements, and railroads.



As air power developed, its primary purpose was to support and enhance land and sea operations. However, over time, air power evolved into a separate and equal medium of warfare.

The emergence of space power follows both of these models. Over the past several decades, space power has primarily supported land, sea, and air operations--strategically and operationally. During the early portion of the 21st century, space power will also evolve into a separate and equal medium of warfare. Likewise, space forces will emerge to protect military and commercial national interests and investment in the space medium due to their increasing importance.



***“Joint Vision 2010 provides an operationally based template for the evolution of the Armed Forces for a challenging and uncertain future. It must become a benchmark for Service and Unified Command visions.”***

***GEN John M. Shalikashvili  
Chairman of the Joint Chiefs of Staff***

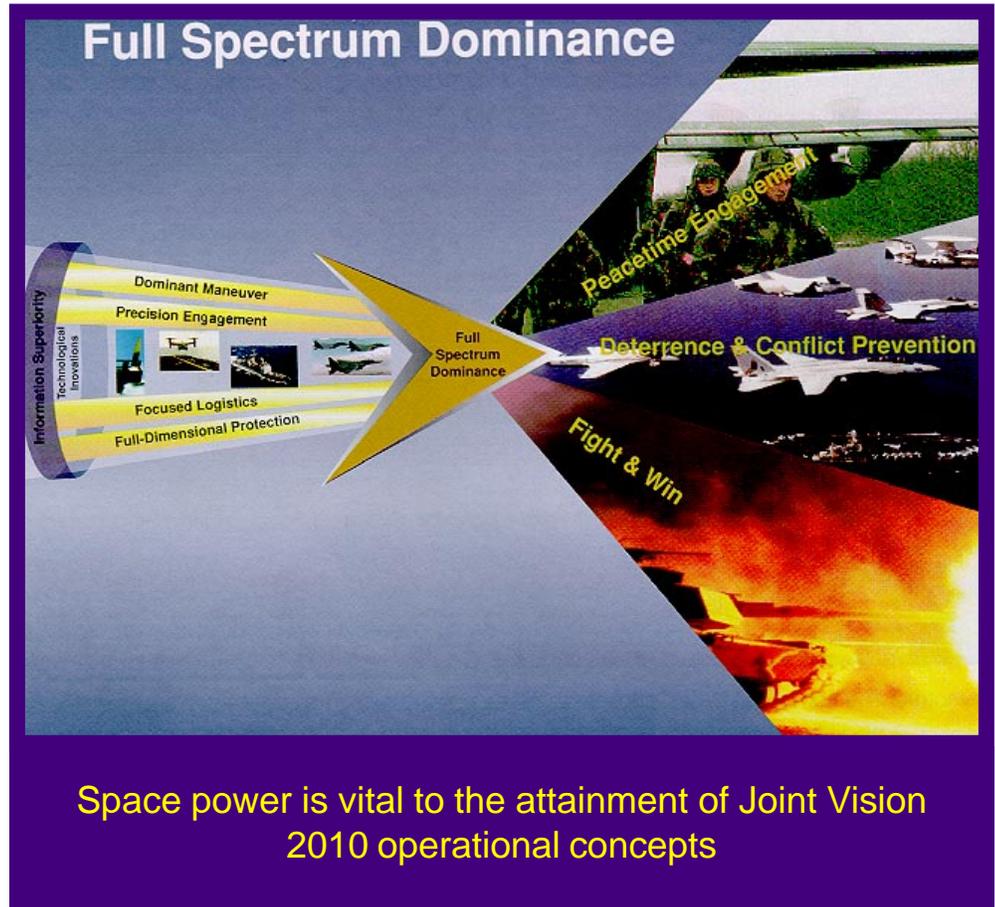
## **Joint Vision 2010**

The medium of space is the fourth medium of warfare--along with land, sea, and air. Space power (systems, capabilities, and forces) will be increasingly leveraged to close the ever-widening gap between diminishing resources and increasing military commitments.

The Joint Vision 2010 operational concepts of **dominant maneuver, precision engagement, full-dimensional protection, and focused logistics** are enabled by information superiority and technological innovation. The end result of these enablers and concepts is **Full Spectrum Dominance**. **Information superiority** relies heavily

upon space capabilities to collect, process, and disseminate an uninterrupted flow of information while denying an adversary's ability to fully leverage the same.

The emerging synergy of space superiority with land, sea, and air superiority, will lead to Full Spectrum Dominance. Space forces play an increasingly critical role in providing situational awareness (e.g., global communications; precise navigation; timely and



accurate missile warning and weather; and intelligence, surveillance, and reconnaissance [ISR]) to US forces.

Space doctrine, organizations, training, materiel, leadership, and personnel will evolve to fully realize the potential of space power. Space power

is a vital element in moving towards the Joint Vision goal of being **persuasive in peace, decisive in war, and preeminent in any form of conflict**.

**Information superiority  
relies heavily upon space  
capabilities**

## Future Trends

Although unlikely to be challenged by a global peer competitor, the United States will continue to be challenged regionally. The globalization of the world economy will also continue, with a widening between “haves” and “have-nots.” Accelerating rates of technological development will be increasingly driven by the commercial sector -- not the military. Increased weapons lethality and precision will lead to new operational doctrine. Information-intensive military force structures will lead to a highly dynamic operations tempo.



## Space Trends

Space systems, commercial and military, are proliferating throughout the world. Space commerce is becoming increasingly important to the global economy. Likewise, the importance of space capabilities to military operations is being widely embraced by many nations.

Indeed, so important are space systems to military operations that it is unrealistic to imagine that they will never become targets. Just as land dominance, sea control, and air superiority have become critical elements of current military strategy, space superiority is emerging as an essential element of battlefield success and future warfare.



The challenge extends to space

# Implications for US Space Command

The political, economic, technological, and military trends hold significant implications for USSPACECOM. An increased dependence upon space capabilities may lead to increased vulnerabilities. As space systems become lucrative military targets, there will be a critical need to control the space medium to ensure US dominance on future battlefields. Robust capabilities to ensure space superiority must be developed--just as they have been for land, sea, and air.

Our adversaries can be expected to attain ready access to space-derived information through the proliferation of space systems. Turn-key space systems are available to nations with the necessary resources allowing for significant increases in capabilities in a relatively short time. Military use of civil, commercial, and international

space systems will continue to increase. However, the military must preserve certain core space capabilities, e.g., missile warning, assured space communications, and large portions of ISR. Other space capabilities, once the domain of the military, can reasonably migrate to the civil and commercial sectors, e.g., weather, GPS, and multi-spectral imagery.

Space operations must be fully integrated with land, sea, and air operations. USSPACECOM must assume a dynamic role in planning and executing joint military operations. Included in that planning should be the prospects for space defense and even space warfare.

Development of ballistic missile defenses using space systems and planning for precision strike from space offers a counter to the worldwide proliferation of WMD.

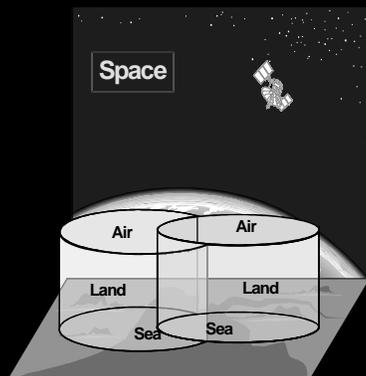
**Space systems will be targets**



**Space superiority is essential**

## Space as an Area of Responsibility (AOR)

**Space is a region with increasing commercial, civil, international, and military interests and investments. The threat to these vital systems is also increasing. The space AOR is global and requires a combatant commander with a global perspective to conduct military operations and support regional warfighting CINCs. USSPACECOM is the only military organization with operational forces in space. Establishing space as an AOR merely states an operational reality.**



## Vision

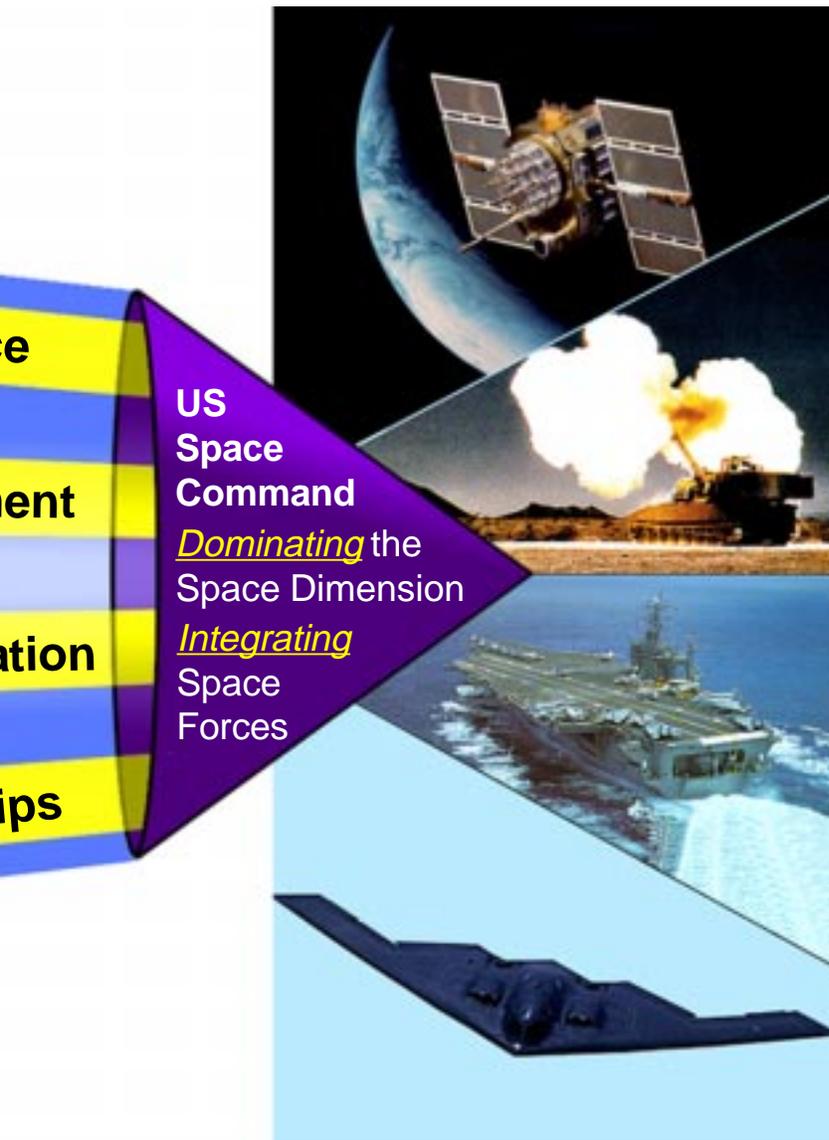
Just as land, sea, and air warfare has evolved, USSPACECOM, operating in the space medium, will evolve to perform the missions required by the future environment foreseen in the trends and implications on the preceding pages. This Vision charts a course to purposeful and orderly change.

The two principal themes of the USSPACECOM Vision are **dominating the space medium** and **integrating space power** throughout military operations. Today, the United States is the preeminent military space power. Our Vision is one of maintaining that preeminence -- providing a solid foundation for our national security.



**US Space Command**  
**space dimension of**  
**to protect US nation**  
**investment. Integra**  
**into warfighting cap**  
**full spectrum**

# COM Vision



**d - Dominating the  
military operations  
onal interests and  
ating Space Forces  
capabilities across the  
n of conflict.**

## Operational Concepts

To move towards the attainment of our Vision, we have adopted four operational concepts:

- **Control of Space**
- **Global Engagement**
- **Full Force Integration**
- **Global Partnerships**

These operational concepts provide the conceptual framework to transform the Vision into capabilities.

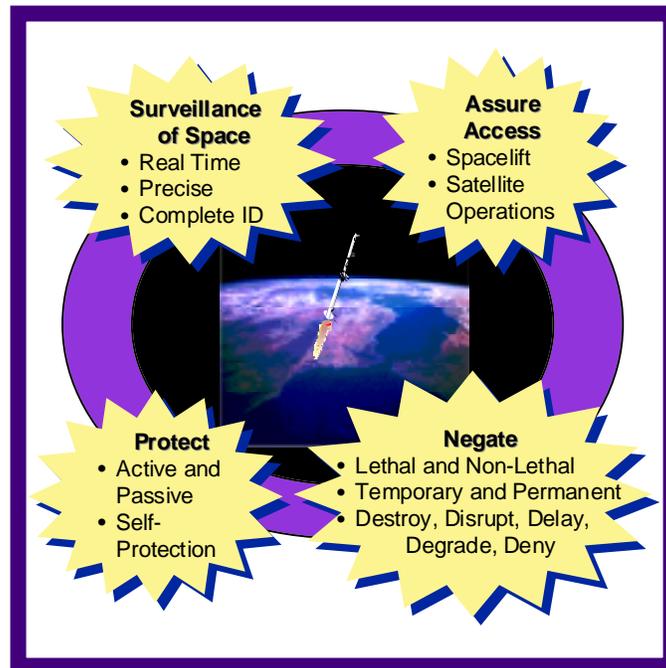
## Dominating the space dimension of military operations Integrating Space Forces into warfighting

### Control of Space

**Control of Space is the ability to assure access to space, freedom of operations within the space medium, and an ability to deny others the use of space, if required.**

The medium of space is recognized as the fourth medium of warfare. Joint operations require the **Control of Space** to achieve overall campaign objectives. The **Control of Space** will encompass protecting US military, civil, and commercial investments in space.

As commercial space systems provide global



**The ability to dominate space**

information and nations tap into this source for military purposes, protecting (as well as negating) these non-military space systems will become more difficult. Due to the importance of commerce and its effects on national security, the United States may evolve into the guardian of space commerce--similar to the historical example of navies protecting sea commerce.

**Control of Space** is a complex mission that casts USCINCSpace in a classic warfighter role and mandates an established AOR.

### **Control of Space Capabilities**

- **Real-time space surveillance**
- **Timely and responsive spacelift**
- **Enhanced protection (military and commercial systems)**
- **Robust negation systems**

# Command

to protect US national interests and investment. capabilities across the full spectrum of conflict.

## Global Engagement

**Global Engagement is the application of precision force from, to, and through space.** USSPACECOM will have a greatly expanded role as an active warfighter in the years ahead as the combatant command responsible for National Missile Defense (NMD) and space force application. **Global Engagement** combines global surveillance with the potential for a space-based global precision strike capability.

The requirement for **Global Engagement** is based upon the increasing proliferation of missile systems, the requirement for precision strike, and



### Strategic Deterrent and Precision Strike

the need for effective forward presence with reduced forward basing.

The proliferation of missiles and weapons of mass destruction (WMD) requires an NMD. NMD will evolve into a mix of ground and space sensors and weapons.

Existing land, sea, and air missions will be enhanced by space systems. Current sea and air strategic attack missions will be augmented by the deployment of space force application systems. Likewise, surface and air surveillance systems (e.g., AWACS and JSTARS) will be augmented by space-based surveillance systems.

### Global Engagement Capabilities

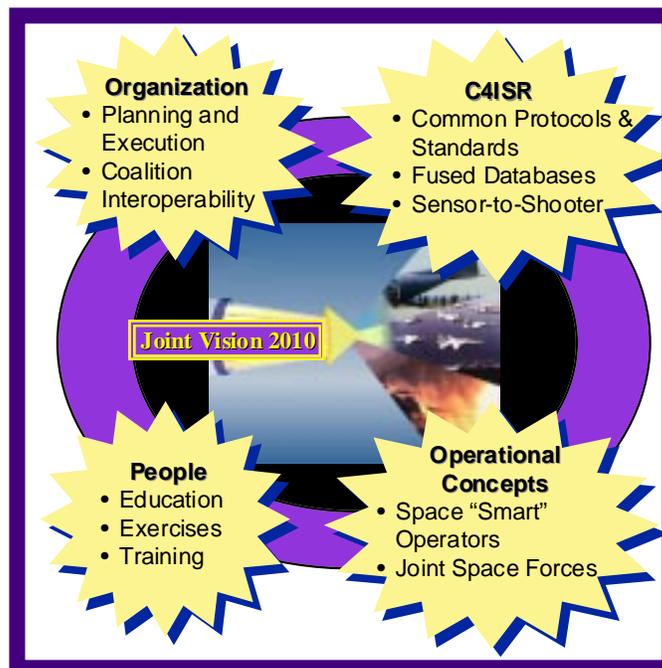
- Non-intrusive global surveillance
- Key to National Missile Defense
- Enhanced C2
- Space-based strike weapons

## Dominating the space dimension of military operations Integrating Space Forces into warfighting

### Full Force Integration

**Full Force Integration** is the integration of space forces and space-derived information with land, sea, and air forces and their information. The bottom line is that space power will contribute to getting the right military capability and information to the right people, at the right place, at the right time.

Space forces must be fully integrated in all planning, training, exercises, and operations. **Full Force Integration** in-



cludes the merging of information and information systems into a "system of systems" approach. The goal is to achieve the same level of joint operations between space and the other mediums of war-fighting as land, sea, and air currently enjoy today. Innovative organizations, operational concepts, information flows, and people are key elements of **Full Force Integration**. Of these, the dedicated professionals that fill our ranks are our most indispensable assets.

Truly joint military forces require fully integrated space power

### Full Force Integration Capabilities

- Enhanced "sensor-to-shooter"
- Common protocols, communications standards, and fused databases
- Precise modeling and simulation
- "One-stop shop" for space support

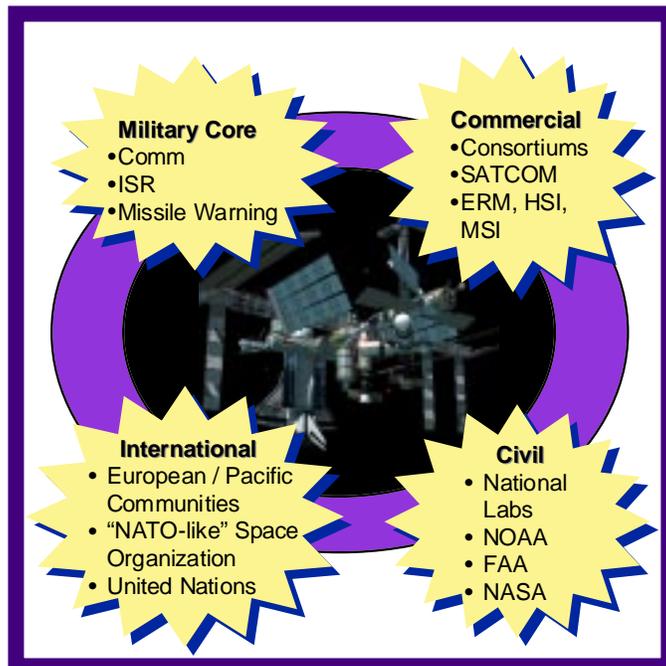
# Command to protect US national interests and investment. capabilities across the full spectrum of conflict.

## Global Partnerships

**Global Partnerships augments military space capabilities through the leveraging of civil, commercial, and international space systems.** The growth of non-US military space systems provides the opportunity for the United States to gain increased battlespace awareness and information connectivity in a cost-effective manner. These partnerships provide shared costs, shared risks, and increased opportunities.

**Global Partnerships** is based upon these factors:

- Dramatic growth in commercial and international space-based capabilities. The development



**A fundamental change in space operations**

of advanced space systems will be primarily driven by the commercial sector

- Constrained military spending
- Growth in multi-national operations and alliances

The most evident benefit of **Global Partnerships** will be decreased pressure on existing military infrastructure and operations, and reduced maintenance costs by off loading functions to civil and commercial providers. The military can no longer rely solely upon DoD owned and operated capabilities.

**Global Partnerships--** a fundamental change in providing military space support to the warfighter.

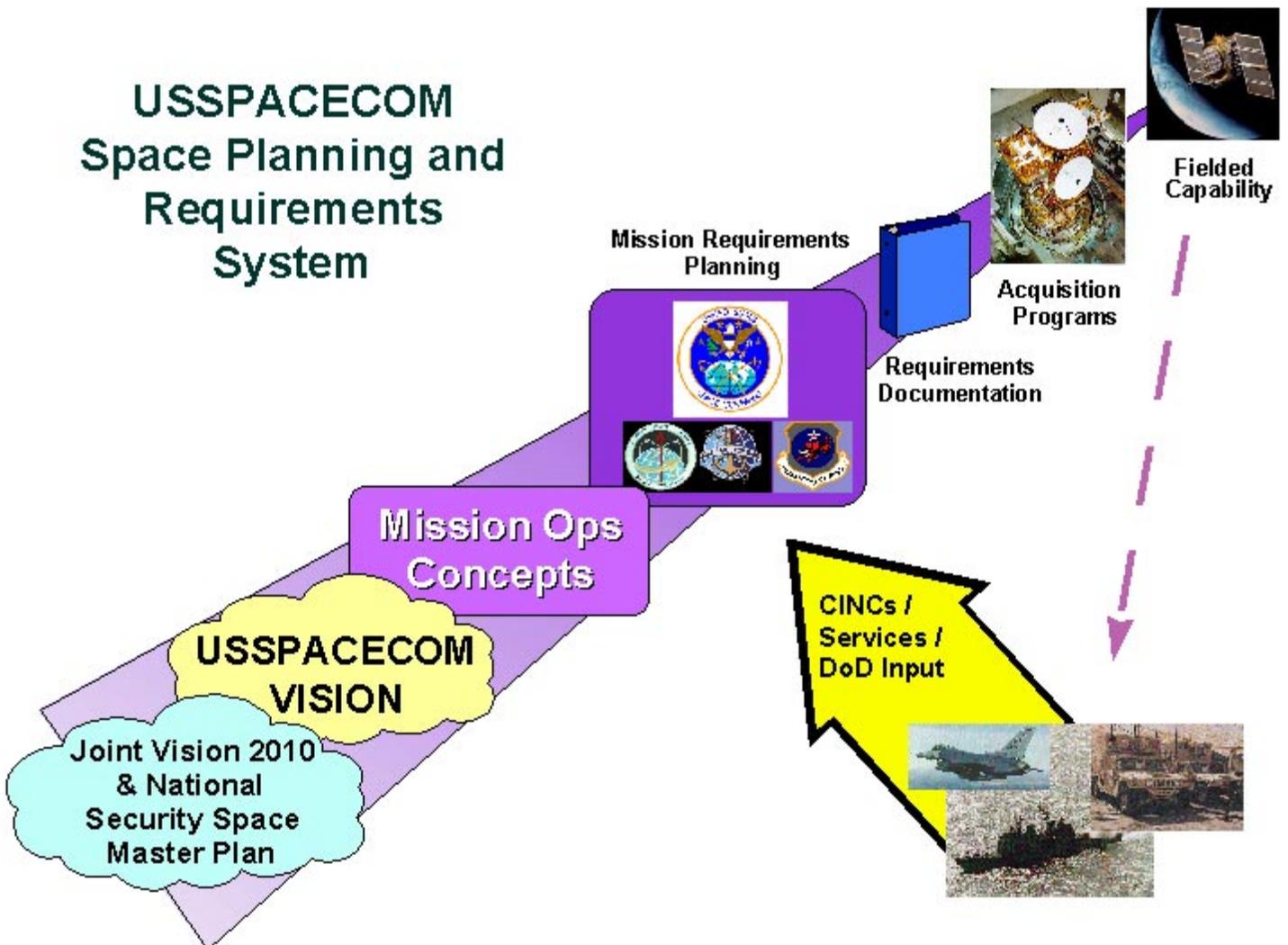
- ### Global Partnerships Concepts
- Sharing of space-based information
  - Influencing space system designs
  - Satellite sharing
  - Space system architectures to facilitate rapid flow of information
  - International standardization

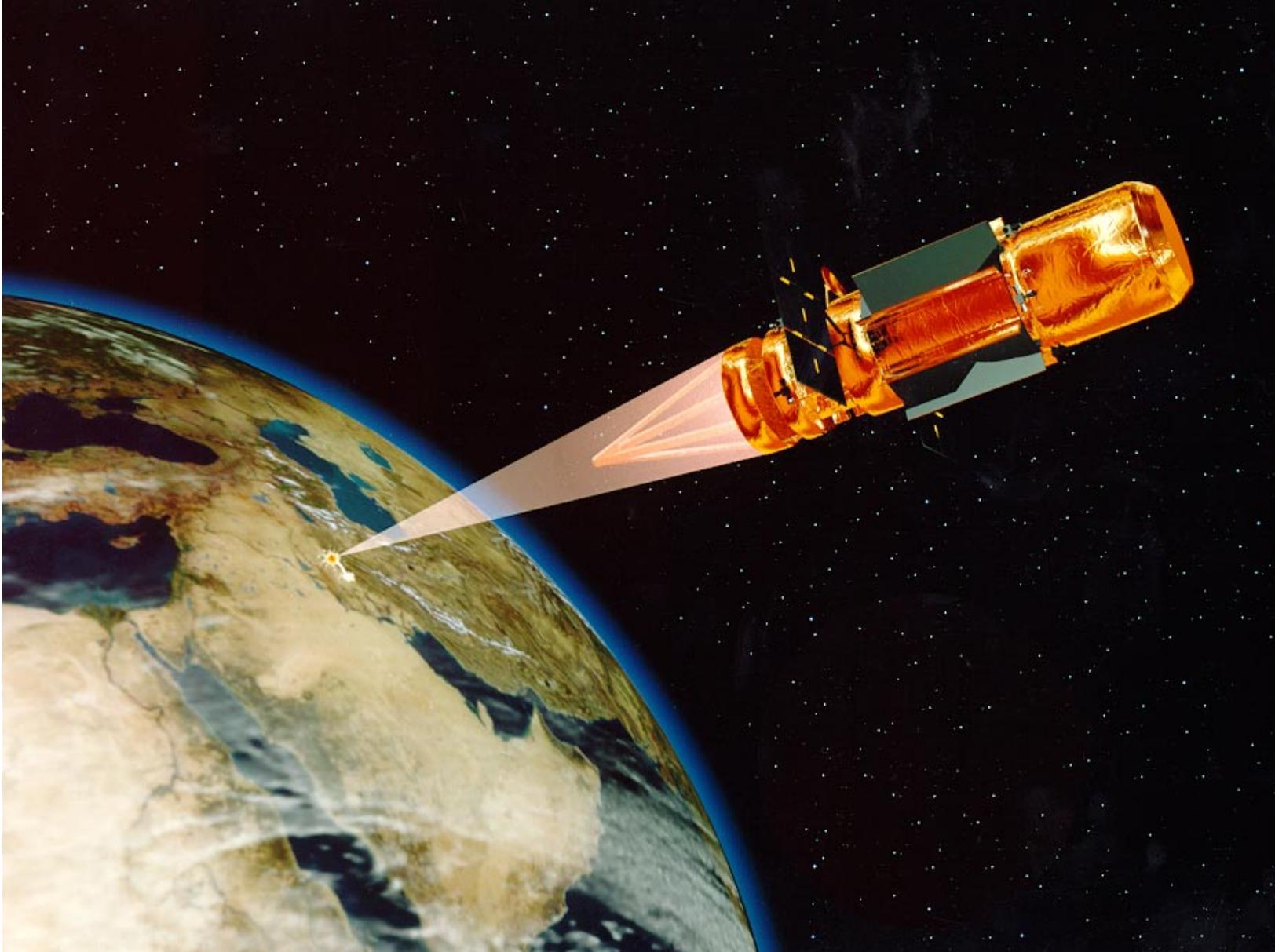
# Implementation

The United States Space Command's Space Planning and Requirements System (SPRS) is the established process that will be used to implement this Vision. This end-to-end planning system uses Joint Vision 2010, the National Security Space Master Plan, and the United States Space Command Vision as overarching guidance.

Annually, we assess current and future space requirements, capabilities, and shortfalls in sup-

port of all warfighters. With our Vision, we will extend our time horizons from the Future Years Defense Plan to 2020. External organizations (e.g., CINCs, Services, National and Defense organizations) provide valuable input throughout the SPRS process. We fully expect that our Vision and SPRS will drive long-term changes in space doctrine, organizations, training, materiel, leadership, and personnel.





For additional copies of this publication, or to comment on the Vision, contact:

US Space Command  
Director of Plans  
Peterson AFB, CO 80914-3110  
DSN 692-3498  
Comm (719) 554-3498

Visit our home page at [www.spacecom.af.mil/usspace](http://www.spacecom.af.mil/usspace)

# SPACE

*...the Warfighters' Edge*



