Space Governance Lab

Empowering the Peoples of Space.

THE SPACE FORCE: FROM RHETORIC & RIDICULE TO REALITY
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THE VIVID VS. THE PROBABLE
EMOTIONS ARE CONTAGIOUS

“As their actions make clear, our adversaries have transformed space into a warfighting domain”

V.P. Pence (Aug. 2018)

Source: Face Book
“language designed to have a persuasive or impressive effect on its audience, but often regarded as lacking in sincerity or meaningful content.”
Concern narrative of Space Force / War fighting domain has blurred the concept of combat support mission (accepted as peaceful use of space) with a combat offensive mission mandate. Jessica West, Project Ploughshares

Reality

“the state or quality of having existence or substance.”

Source: Duncan Blake, 2013
ELECTROMAGNETIC AND CYBER VULNERABILITIES

Electronic warfare features in terrestrial conflict
- Steps toward more secure satellite communications
- More evidence of cyber vulnerabilities and intrusions, some protection efforts
- Quantum-encrypted communications progress and gain significant funding

SPACE BASED NEGATION ENABLING CAPABILITIES

Inspector satellites, undisclosed spacecraft raise questions about co-orbital ASAT capabilities
- U.S. Department of Defense (DoD) directed to study space-based interceptor technologies, but no funding provided

EARTH BASED CAPABILITIES TO ATTACK SATELLITES

Russia resurrects direct ascent antisatellite legacy programs
- Continued development and testing of dual-capability exoatmospheric missile intercept systems
- Development of ground-based directed energy capabilities for possible ASAT systems

Source: 2018 Developments Space Security Index 2019
forms and Nuclear Forces

sweeping
will affect
mini-
control
Liberation
are the dual
control
ability to
among the
of the new
replaced the
controlling
level-based
Despite
new name
status, the

Rocket Force appears to be the service least affected by the reforms.

PLA-Wide Reforms
The Rocket Force's creation did not occur in isolation, but in the context of reforms that affected the missions and command arrangements for nearly all the Chinese military. The scope and significance of PLA reforms have been likened to those of the Goldwater-Nichols Department of Defense Reorganization Act of 1986.

The Rocket Force was created alongside other new organizations, including a PLA Army (PLAA) headquarters and the Strategic Rocket Force (SRF).

SPACE FORCES: NOT JUST THE U.S.
– Russia, China, Japan, France etc.

“the US action inevitably encourages other nations to feel compelled to create parallel space forces and as such a row of dominoes could fall to harm all nations.”

Jakhu/Pelton, 2018
Space Force is a bipartisan idea

U.S. Space Command was activated in 1982 due to missile threats. Space Command is re-designated as the Space Force – Sharper focus on new and emerging threats

TRUMPS’ CALL RALLIES SUPPORTERS

June 18, 2018, President Trump directed “the Department of Defense and Pentagon to immediately begin the process necessary to establish a Space Force as the sixth branch of the Armed Forces,” that is separate and equal to the other branches.

U.S. Code Title 10 activities activated that require tax dollars to be allocated to the threats

LEGISLATIVE SUPPORT

December 20, 2019, the National Defense Authorization Act (NDAA) for FY 2020 established the Space Force and the President’s vision has become a reality with support from Congress
Congress approved $40 million for Space Force Operations and Maintenance in the FY 2020 appropriations, mainly from the Air Force budget. (NOT A SEPARATE BRANCH)

The NDAA required that by **Feb 1, 2020** a “comprehensive plan” for the organizational structure and funding requirements through to FY 2025 be completed.

Future budget spread out over 10+ agencies (est.)

The **2020 Defense Bill** sets forth its duties to protect the interests of the United States in space; deter aggression in, from, and to space; and conduct space operations. And its functions are to provide freedom of operation for the United States in, from, and to space; and to provide prompt and sustained space operations.
It will take time before it is fully formed: 40 years for Airforce.
Would the creation of a national space force serve to **strengthen or potentially undermine** national security, human space safety and international cooperation and denuclearization of space?

Would the creation of a national space force serve to **undermine** the current international legal framework for outer space that has **served the world** for the past half century and provided economic benefits?

Would the creation of a national space force serve to **aid or undercut** the potential for space traffic management, effective ways to mitigate the problem of orbital space debris and the objective of achieving the long term sustainability of space?
WHAT OF THREAT TO THE SPACE ENVIRONMENT?

Currently 2000 Operational Satellites in Orbit

<table>
<thead>
<tr>
<th>Company name</th>
<th>Country</th>
<th>Number launched</th>
<th>Planned size</th>
<th>First launch</th>
<th>Purpose</th>
<th>Status</th>
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<tr>
<td>SpaceX</td>
<td>United States</td>
<td>62</td>
<td>4,425, 7,518</td>
<td>2018</td>
<td>Internet</td>
<td>Prototype(s) launched</td>
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<td>Amazon</td>
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<td>Earth Observation</td>
<td>Prototype(s) launched</td>
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<td>Galaxy Space</td>
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<td>Unknown</td>
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<td>OneWeb</td>
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<td>Internet</td>
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<td>EarthNow</td>
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<tr>
<td>Hongyan (CASC)</td>
<td>China</td>
<td>1</td>
<td>320</td>
<td>2018</td>
<td>Internet</td>
<td>Prototype(s) launched</td>
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<tr>
<td>KEO (Kaskelo, eightyLEO)</td>
<td>Germany</td>
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<td>300</td>
<td>N/A</td>
<td>IoT/M2M</td>
<td>Unknown</td>
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<tr>
<td>Efiri/Sfera</td>
<td>Russia</td>
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<td>288</td>
<td>N/A</td>
<td>Internet &amp; Earth Observation</td>
<td>Unknown</td>
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<tr>
<td>Telesat</td>
<td>Canada</td>
<td>2</td>
<td>117, 117</td>
<td>2017</td>
<td>Internet</td>
<td>Prototype development</td>
</tr>
<tr>
<td>Sky and Space Global</td>
<td>United Kingdom &amp; Israel</td>
<td>3</td>
<td>200</td>
<td>2017</td>
<td>IoT/M2M</td>
<td>Prototype(s) launched</td>
</tr>
</tbody>
</table>

Source: Space Security Index 2018
DOES RECURSE TO LAW WORK?

Insufficient to restrain the recourse to force to resolve contest

No detailed consideration of the application of the law of war because of political controversy

FOR

Impact of international law is in actions not taken: largely followed - Lack of rules causes paralysis in strategic decision making

International criticism reinforces existence of rule

AGAINST

Condemnation less likely and impactful if rule is uncertain

International law is an expression of the will of the sovereign

An Adequate Legal Framework is

Widely accepted, authoritative un-ambiguous
Verifiable norms of responsible behavior applicable to the decision to use of force or conduct of hostile activities
Compliance effectively enforced with consequences which States enforce
Legal measures designed to prevent warfare mostly unclear and unknown and does little to restrain.

International Law Manuals can be a useful practical way and means to reach consensus on basic legal principles that apply to international activities (e.g., Tallinn Manual on Cyber)

A manual is a neutral and objective restatement of international law as it is, produced by an international group of experts and scholars, providing evidence of custom and practice accepted as law by the international community.

Helps to clarify and strengthen the foundations for global space governance; act as a guide for operators, and be the basis for States for further discussion and adoption of instruments to strengthen space governance.
“Space is not a void, but a canvas for the human imagination”

Joey Escrich and Ed Finn
“Create a warfighting service for the 22nd century. What is war fighting going to look like at the end of this century and into the next?... “Technology will change on the fly, maybe even the second...its going to be highly technology dependent and not human capital dependent”


A PURE FOCUS ON TECHNOLOGY IS MISGUIDED – SOCIAL DIMENSIONS ARE FUNDAMENTAL
Thank you