

「Japan – India – US future space security cooperation」

(Preliminary, Not for Citation without Permission)

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1. Prologue (The current space world)

(1) The space age

After more than 60 years since the launch of Sputnik in 1957 by Soviet Union, many of the technological advances emerged in space.

We cannot imagine we spend our modern life without the use of space assets any more.

The strategic value of space to nation is not in question. Advanced space-faring nations are already reliant on space-derived services for activities across every sector of their societies.

(2) Military fields,

Space assets are also essential in national security area.

Space capabilities are now inextricably embedded in combat operation and play a key role (including missile warning, communications, weather, surveillance and reconnaissance, as well as positioning, navigation, and timing) –all in a major theater combat environment.

Nowadays, space power is an essential player at every point along the spectrum of conflict and provides force-multiplier capabilities.

The modern warfare is becoming highly ‘space-centric’.

2. The Japanese situation (on space in national security area)

Japan is the 4th nation which launches space assets in the world.

But, main area was scientific research such as planetary probe and earth observation.

Japan maintains a pure defense policy in national security.

In space domain, Japan also kept this policy and strictly restricted to operate military use space assets so far. But, Japan recently decided to release space assets for military use.

Japan will likely introduce some space systems for national security such as reconnaissance, communications, navigations, and early warning.

Anyway, Japan is at the starting line in this area.

3. The global trends in space domain

Outer space is obviously no more a sanctuary.

- (1) Of course, official positions of almost countries around the world ratify the 1967 UN Outer Space Treaty which clearly forbids the weaponization of outer space through forbidding to place any destructive devices in earth orbit.

Their concern is to keep outer space a zone of peace and tranquility .

- And in its first 50 years, the routine use of space was undisturbed and relatively unquestioned.

- (2) But, when two dominant space-faring powers go directly to war with each other with intense motives, both will find it critical to preserve their space systems and will consider it a dangerous liability to allow their enemy to exploit them. It is likely that space systems will be primary targets that will be negated in the opening moves of war.

- In case of the war between a dominant space-faring power and weak actor, the weak actor is far more likely to use space weapons against a powerful state as an asymmetric offensive move.

- (3) Chinese venture

Especially, China is clear in its perception that space is the battlefield of the future and dominating space capabilities. Space superiority is essential for decisive victory in the wars of the future.

China, which has been emphasizing the need to keep outer space a zone of peace, stunned the world in early 2007 by successfully demonstrating its satellite killer capability.

After that, China doesn't conceal its efforts to develop anti-satellite weapons and prepare for a space war.

- (4) Corresponding movements

In view of the developments and on-going efforts by Russia, China and USA to give a new edge to the space warfare, some other nations consider that they cannot afford to remain a silent spectator.

4. For maintaining the security in space domain : (Tri-lateral space cooperation and building an enduring space security architecture)

Today, I want to propose 3 ideas for Tri-lateral space cooperation for building an enduring space security architecture.

(1) Space Situation Awareness

- To exchange information on space situation awareness will be the first step and essential part of international cooperation.
- Space is so wide. We do need to exercise some measure of monitoring of what is actually going on. Keeping track of what objects in orbit are doing is a massive job and the core of a critical mission area called space situation awareness, SSA.
- SSA includes both space environment conditions and the actions of all nations in space. It means having knowledge about all the objects in orbit, what are they doing, both friendly as well as hostile systems.
- SSA is seen by all nations as the absolute precondition for taking any action in space.
- But even largely built US space surveillance network has some coverage gaps. It is difficult that only one nation could cover all area in space. Therefore, global cooperation in SSA is essential to upgrading and updating the capabilities. We should establish a tri-lateral network to exchange information about SSA.

(2) To enhance clear international norms of behavior in space

- We need a major effort to develop and enhance clear international norms of behavior in space and get it as a global consensus.
 - Establishing red lines, trip wires, and "keep-out" zones, as a way of warning an adversary away from tampering with our space assets.
 - What can they do? What can't they do?
 - The adversary needs to know when an attack on one is an attack on all. I think that is a very key part.
 - If the threat of retaliation is credible, deterrence might hold. We need much stronger and detailed clear policies about space.
 - With this international norm, we will get two clear results. Deterrence and quick reaction.
- First of all, we can deter the adversary's challenge and prevent that the

adversary seems to have frequently misunderstood our signals about what was or was not off-limits.

-- And, secondary, we can take a quick reaction.

- We can't afford to cope with enemy's attack ad hoc. For retaliation in space, we should have an automatic response. We need to give rules of engagement to our field commanders what can they do and what can't they do under global standards.

(3) Command Operation Center network

- In order to take quick reaction in space with tri-lateral close coordination, we should have a network or a hot-line between each nation's space command operation centers.
- It will contribute to avoid misunderstanding or miscalculation each other. And also, it will support the harmonized reaction to "take care of the rogue satellites"
- We should understand that counter-space capabilities have second-, third-, and fourth-order effects that cannot be completely anticipated. We expect this network will make this impact minimum.
- If possible, and even more important is further development of a so-called Combined Space Operations Center to coordinate space moves in a contingency. (It includes not only military officials but also civilian and commercial space officials too.)

5. Conclusions.

- Space is relatively new domain. But, strategic value of space to nations is not in question.
- We should effectively utilize space and will enjoy added prosperity and security. So, we should seek to ensure the tranquility of the final frontier.
- The best defense for a space system in 21st century may be the multi-system that is owned, operated, and used by broad international partners.
- India, US, and Japan are the most active space powers in Asia-pacific area. We are promoting many space projects. And, space capabilities are inextricably utilized in our societies now.
- So, India U.S. and Japan should cooperate in this area and carefully watch Chinese space projects.

Thank you for your attention.