## 2NR

#### Filter this debate through precision—the words of the topic are the only objective, stable stasis point. The topic was determined in advance and is what everyone looks to when doing prep. If the aff doesn’t have a definitional defense of their model, they should lose regardless of any other portion of the debate including limits—their offense just proves that debating a different topic would be good, not that their plan is topical.

#### Letting the aff deviate from the topic or be tangentially related to it is arbitrary—once you say that the aff isn’t bound by the topic, it’s a slippery slope to infinite, unpredictable tweaks. They could change “private appropriation” to “national appropriation”, defend “immoral” instead of “unjust”, read an aff about the Sun, and much, much more—these affs might be educational but there’s no way the neg can prepare to answer them cuz they aren’t part of the topic. Even if the topic isn’t perfect, having some limit is better than no limit at all—the alternative to precision-based topicality is anything-goes, letting the aff take whatever unpredictable adventure they want, which outweighs their offense on magnitude.

### A2 Pragmatics

#### Obviously not – there’s a clear distinction between what it means to be pragmatically good and semantically correct. Even if they win their model is good for limits, that just means debating a different topic would be good, not that their plan is topical. For example, even if they win that every aff ending military aid to Saudi Arabia is good for neg prep, it doesn’t make the Saudi aff topical.

### A2 PICs

#### 1] Limits outweighs on probability – people don’t read PICs that often under nebel but people read a hyperspec aff every time under their interp – size of link determines size of impact so even if they’re winning PICs are way worse than plans, it’s not frequent enough to make up the link differential

#### 2] Turn – when the neg has no specific prep they’re incentivized to rely on silly backfile word pics, or random open evidence process pics that moot the 1AC and destroy core topic ed

#### 3] 1AR theory checks PICs—if they’re so abusive you should be able to win the theory debate.

#### 4] This is a non-sequitur—just because the neg could hypothetically be abusive doesn’t justify the aff pre-emptively being abusive to compensate—this creates an absurd norm where the aff can justify reading 40 a prioris because the neg could read 50 condo pics, which outweighs their offense on magnitude

#### 5] The abuse is inevitable – it stems from forcing a 1AR restart, but any strategic neg does that regardless with things like a K.

#### 6] Turn – forces better education since you learn to defend your aff vs specific PICs and that occurs thru deep research and strategic thinking

#### 7] Quality of ground – I’ll just be reading bad args that barely link which means you can just answer them – proves that your underlimiting of affs kills good ground

#### 8] Neg ground – the aff has infinite prep to craft an AC with strategic angles against PICs like perception advantages, perms, etc. and can always straight turn the net benefit, but the neg is inherently reactive so the skew is much harder when they have no ability to effectively prep the aff

#### 9] Use competing interps. Evaluation of the debate comes from the models, not each specific round. Competing Interps solve models and disincentivize trying to win fringe 1AR theories outweigh.

#### 10] Extend Magnitude Weighing: They cause more abuse solely based on the speeches, because aff advocacies influence all future speeches. Aff advocacies kill neg ground which is comparatively more, since the aff bases the entire case solely on the advocacy, while the neg doesn’t base the entire argument on 1 off.

### A2 Reasonability

#### 1] It’s arbitrary. They don’t provide a line of reasonability on the T, which justifies judge intervention. This causes abusive plans using the argument that it’s “reasonable enough”

#### 2] Can’t be semi-topical or almost topical. It’s topical or it’s not.

### Pragmatics

#### Limits o/w their pragmatic offense – preserving a vision of the topic that maximizes clash and equitable debate for the negative should be the nexus question of your decision. The only unique benefit to the activity is the neg’s ability to rigorously contest the claims of the aff. Every other impact: topic education, aff ground, and innovation are all secondary to the ability to preserve a reasonable expectation of neg prep by accepting a hard cap on the number of affs. Winning a small risk of a link to the limits disad is sufficient to vote negative because it makes debate fundamentally unfair.

#### They kill limits --- they can defend mining, space tourism, lunar control, etc.. which makes neg prep impossible cuz they make existing affs way narrower to get out of neg args which leads to less in-depth debates and arsenal of the week burner affs.

#### Here are a few weighing arguments that should make you err heavily negative on the limits claim:

#### 1] Negs are getting smacked on this topic—the topic is huge—the marginal benefit of allowing single, specific entities is very low, while the corresponding prep burden for a bunch of different private entitites is very high. This flips reasonability because it proves its try or die for a balanced version of the topic. Today it's the SpaceX aff, tomorrow is CASC aff. Any uncertainty means you should default to depth first.

#### 2] TVA solves their offense—reading mining as an advantage allows for their education but also forces the aff to strategically select their plan and advantages to respond to PICs and circumvention arguments. Hyper specificity allows them to bypass major topic generics and effectively fiat solvency.

### A2: Functional Limits

#### 1] Doesn’t check—you can find solvency advocates for basically any appropriation because of random bloggers and EVERYBODY works

#### 2] Doesn’t solve reciprocal prep burdens—it’s way easier for the aff to prep specific answers to a generic but much harder for the neg to have specifics to an aff. Any generic argument is destroyed by “they don’t have a piece of evidence specific to our aff” –

#### 3] this was the words “functional limits” not a real argument they haven’t explained how it solves our caselist

### FW

#### The standard is maximizing expected wellbeing.

#### Prefer it:

#### 1] Actor specificity:

#### ‘A] Aggregation – every policy benefits some and harms others, which also means side constraints freeze action.

#### B] No act-omission distinction – choosing to omit is an act itself – governments decide not to act which means being presented with the aff creates a choice between two actions, neither of which is an omission

#### C] No intent-foresight distinction – If we foresee a consequence, then it becomes part of our deliberation which makes it intrinsic to our action since we intend it to happen

o/w

#### 2] Lexical pre-requisite: threats to bodily security preclude the ability for moral actors to effectively act upon other moral theories since they are in a constant state of crisis that inhibits the ideal moral conditions which other theories presuppose

#### 3] Only consequentialism explains degrees of wrongness—if I break a promise to meet up for lunch, that is not as bad as breaking a promise to take a dying person to the hospital. Only the consequences of breaking the promise explain why the second one is much worse than the first. Intuitions outweigh—they’re the foundational basis for any argument and theories that contradict our intuitions are most likely false even if we can’t deductively determine why.

#### Theory first – determines the validity of substance. Prefer util:

#### A] Ground – every impact functions under util whereas other ethics flow to one side exclusively. Kills fairness since we both need arguments to win and

#### B] Topic lit – most articles are written through the lens of util because they’re crafted for policymakers and the general public who take consequences to be important, not philosophy majors. Key to fairness and education – the lit is where we do research and determines how we engage in the round.

#### Extinction comes first!

**Pummer 15** [Theron, Junior Research Fellow in Philosophy at St. Anne's College, University of Oxford. “Moral Agreement on Saving the World” Practical Ethics, University of Oxford. May 18, 2015] AT

**There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe there is at least one thing it is reasonable to agree on right now**, whatever general moral view we adopt**: that it is very important to reduce the risk that all intelligent beings on this planet are eliminated by an enormous catastrophe, such as a nuclear war.** How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that **we – whether we’re consequentialists, deontologists, or virtue ethicists – should all agree that we should try to save the world.** According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. **Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here.** If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how **reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. There are so many possible future people that reducing existential risk is arguably the most important thing in the world, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people.** Even on a wholly person-affecting view – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – the case for reducing existential risk is very strong. As noted in this seminal paper, **this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. You might think what I have just argued applies to consequentialists only. There is a tendency to assume that, if an argument appeals to consequentialist considerations (the goodness of outcomes), it is irrelevant to non-consequentialists. But that is a huge mistake.** **Non-consequentialism is the view that there’s more that determines rightness than the goodness of consequences or outcomes; it is not the view that the latter don’t matter.** Even John Rawls wrote, “**All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy.**” **Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good, from an impartial point of view.** **They’d thus imply very strong reasons to reduce existential risk**, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. **Even egoism, the view that each agent should maximize her own good, might imply strong reasons to reduce existential risk.** It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). **To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being.** To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – **suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being**, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But **once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk.** Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that most of what makes our lives go well would be undermined if there were no future generations of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. So obviously if Scheffler were right I’d have very strong reason to reduce existential risk. **We should also take into account moral uncertainty.** **What is it reasonable for one to do, when one is uncertain not (only) about the empirical facts, but also about the moral facts?** I’ve just argued that **there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree.** But **even those (hedonistic egoists) who disagree should have a significant level of confidence that they are mistaken, and that one of the above views is correct. Even if they were 90% sure that their view is the correct one** (and 10% sure that one of these other ones is correct), **they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk.** Perhaps most disturbingly still, **even if we are only 1% sure that the well-being of possible future people matters, it is at least arguable that, from the standpoint of moral uncertainty, reducing existential risk is the most important thing in the world.** Again, this is largely for the reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation). Of course, it is uncertain whether these untold trillions would, in general, have good lives. It’s possible they’ll be miserable. **It is enough for my claim that there is moral agreement in the relevant sense if**, at least given certain empirical claims about what future lives would most likely be like, **all minimally plausible moral views would converge on the conclusion that we should try to save the world.** While there are some non-crazy **views that place significantly greater moral weight on avoiding suffering than on promoting happiness**, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless **seem to be fairly implausible views.** And **even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to. I suspect that most of us alive today – at least those of us not suffering from extreme illness or poverty – have lives that are well worth living, and that things will continue to improve.** Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. **Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast.** We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. **If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period.** Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. **Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.**” (From chapter 36 of On What Matters)

### 1

#### Interpretation – the affirmative must defend the resolution through governmental implementation

#### The text of the resolution calls for debate on hypothetical government action: “Resolved” means to enact a policy by law.

**Words & Phrases ’64**(Words and Phrases; 1964; Permanent Edition)

Definition of the word “**resolve**,” given by Webster **is “to express** an opinion or **determination by resolution or vote**; as ‘it was resolved **by the legislature**;” It is of similar force to the word “enact,” which is defined by Bouvier as **meaning “to establish by law”.**

#### Government action is necessary to regulate private entities.

**Blaustein 18** (Blaustein, Richard. “Private-Sector Space Activities Require Government Regulation, Says US Report.” Physics World, IOP Publishing, 4 July 2018, physicsworld.com/a/private-sector-space-activities-require-government-regulation-says-us-report/.)//DebateDrills AY

**The US Congress must introduce legislation to regulate the activities of private companies operating in space.** That is according to a new report by the US National Academies of Sciences, Engineering and Medicine, which says **the need for reform has been heightened by the “burgeoning” commercial space sector** in the US. One leader in the booming US private space sector is [Space X](http://www.spacex.com/), which was founded by Tesla head Elon Musk in 2002. The firm, which has had a number of recent high-profile rocket launches, is setting its sights on missions to Mars. Even Jeff Bezos, who founded the online shopping giant Amazon, is getting in on the act with plans for his firm Blue Origin to send a manned mission to the Moon.

#### Governments have responsibility over non-government (private) entity actions in outer space.

**UNOOSA** (UNOOSA. “United Nations Office for Outer Space Affairs.” Outer Space Treaty, UNOOSA, [www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html.)//DebateDrills](http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html.)//DebateDrills)AY

ARTICLE VI **States** Parties to the Treaty **shall bear international responsibility for national activities in outer space**, including the moon and other celestial bodies, **whether such activities are carried on by governmental agencies or by non-governmental entities**, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. **The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.** When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization

#### Violation: they only defend private action

#### Standards:

#### 1] predictable limits – there are more than 10,000 private companies investing in space

**Keotsier 21**

John Koetsier, [Journalist, analyst, and tech executive. He is a senior contributor for Forbes, hosts the top-50 podcast TechFirst with John Koetsier(among others), and consults with Silicon Valley companies.], 22 May 2021, “Space Inc: 10,000 Companies, $4T Value ... And 52% American”, <https://www.forbes.com/sites/johnkoetsier/2021/05/22/space-inc-10000-companies-4t-value--and-52-american/?sh=42d1bb0755ac> // AK

It’s not just SpaceX. Elon Musk’s SpaceX might get all the headlines, but there are now a huge number of companies who are competing to open up an unprecedented level of human access to space. **The U.S. now has 5,582 space-focused companies, almost ten times more than the next country, the UK, which has 615. And there are more than 10,000 total, globally**. Competition between these companies has led the value of space-focused companies to cross the $4 trillion USD mark for the first time ever, and is a key factor in reducing launch to orbit cost by almost two orders of magnitude in the past 20 years.

#### That forces the neg to research every company and their specific investments and destroys neg prep bc we can’t predict every single possible combination or company the aff could choose.

#### 2] Policymaking – fiating companies into doing specific actions is utopian fiat, which isn’t realistic, only through a policymaking model can students learn how governments set obligations for companies, which is how the resolution would be implemented.

### 2

#### CP: Do the aff except for private entities registered within The Republic of India.

#### The Republic of India should limit the Indian Space Research Organization’s market share to 7.5%

#### Private appropriation for Indian private entities is key for investor confidence.

**Sen 20** [Nilanjan Sen, who is an experienced lawyer, specialising in International Law and Arbitration, 07-26-2020,Business Insider,https://www.businessinsider.in/science/space/news/the-fault-in-our-stars-indias-bid-at-privatizing-space/articleshow/77182064.cms, 12-7-2021 amrita]

With the creation of the Indian National Committee for Space Research (now ISRO) in 1962, India has been an active patron to mankind’s space efforts. From Aryabhata to Chandrayaan-2, India has launched 113 satellites, including the first privately built and funded satellite ExceedSat-1 which was launched from USA, as a part of Elon Musk’s Space X project Falcon-9. Up **until 2016, India’**s space activities **have been the exclusive domain of the State, however, the launch of the IRNSS-1H** in 2017 was the herald of a new era in India’s Space endeavours. The IRNSS-1H **marked the** beginning of **privatisation in this area** by being the first Indian satellite, to be designed in collaboration with the private parties. In the following year, the ExseedSat-1 was to become the first privately funded and built satellite launched in collaboration with the private Space X project. Interestingly, **up until now**, all **missions have been conducted for** purposes of research, reconnaissance as well as for augmenting communication systems since there wa**s a substantial State monopoly**. With the recent announcement ofthe creation of the Indian National Space Promotion and Authorization Centre or IN-SPACeby the Government of India as part of its atma nirbhar Bharat scheme, which aims at providing a “level playing field” and a supportive regulatory regime to allow Indian private enterprises to grow and carve their own niche in the so-called “fast-growing global space sector”**, India has** in fact **shown an inclination to capitalise** on the US strategy of opening up the avidly touted space “sector” to private participation. While the initiative **sounds exhilarating** and will definitely go a long way in defining India’s image as an emerging global technology powerhouse**, it is** extremely **difficult to fathom why private players, would** be willing to readily come forward and **invest billions,** by confining their activities for research purposes alone, **without any expectation of commercial gains** or simply, return on their investment. This is so because, matters concerning space and space exploration are subject of a special branch of customary international law, that are mainly centred around five treaties and eleven agreements. The most significant of these is the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies or the Outer Space Treaty (OST) which India ratified in 1967, and which specifically lays down under Article I that outer space and space exploration including that on the moon and other celestial bodies, are to be carried out solely for, and in the interest of all countries, and that they are the province of all mankind. **Article II restricts** claims of sovereignty and national **appropriation** by any means whatsoever, Article VI **places international responsibility on all activities carried on by** governmental or by **non-governmental entities**, as well as mandates authorization and continuing supervision by the appropriate State Party. While there is considerable debate surrounding the applicability of the OST especially Article VI to private parties, since the US Supreme Court ‘s ruling in Medellin v Texas (2008) which held that Article VI is not self-executing in nature, regard must be had to the fact that these are domestic Court rulings and the fact that Space law is part of Customary International law which is affirmed by decades of State practise, cannot be denied, and neither can the fact that it is settled principle of international law that a State cannot, under the excuse of changes in domestic law, including subsequent Court rulings, renege from treaty obligations once ratified. In effect, the OST places strict checks upon the objectives behind exploring this uncharted territory by State and Non-State actors, far less allowing the possibility of even claiming rights of any kind. Moreover, it is no secret that **private corporations operate predominantly with** the object of individual gains **and** unless driven by the zeal to serve mankind and share profits with all countries, **chances are** that the **investments** made by private parties **will have little** to nil **returns,** far less any substantive protection**.**

#### Investor confidence is necessary for strong Indian private space-tech—that spills over, boosts Indian military heg, and turns case.

**Prasad 16** [Narayan Prasad has a Master of Space & Telecommunications Law, May 2016, National Academy of Legal Studies and Research University of Law Hyderabad, https://www.researchgate.net/publication/305402089\_A\_POLICY\_REVIEW\_TOWARDS\_THE\_DEVELOPMENT\_OF\_A\_SPACE\_INDUSTRY\_ECOSYSTEM\_IN\_INDIA/link/578dbd2908ae5c86c9a65d05/download, 12-8-2021 amrita]

As India ramps up its space defence capabilities, **lack of a mature space industrial base will** potentially **hurt** its ambitions**.** **India** counts among the top nations in the world in terms of government space investment 4 , but **is far behind** when it comes to **creating successful private industry** that is globally reputed. India’s space budget has increased in size (Figure 2) and is one of the largest space budgets in the world; however, the lack of an active space industry at turnkey level might have an immense opportunity cost for India in manufacturing satellites and launch vehicles to service the global market.5 This in effect is also due to absence of a single Indian company among the top space companies in the world (which in itself is an alarming statistic) that needs to be addressed urgently through policy push under the several grand schemes announced by the current government, such as ‘Make in India’ and ‘Digital India’. Most of **the apprehensions** for private investment in space industry **come from** the **requirements** of high capital investment, **and** the long gestation periods of space projects to get substantial Return on Investment (RoI) for the investors. These trends have been put aside by a new breed of space companies calling themselves ‘NewSpace’, which thrive on new business models of low cost access to space by capitalising on the advancements made in recent years in small satellite technology, consumer electronics, and computing power. Tiny modular satellites called ‘CubeSats’, weighing 1-4 kgs and costing under $100,000 have revolutionised the way space products and services are delivered to end users. The movement began in Europe and US simultaneously as a by-product of university and space agency collaborated research, but it was the US which took the lead in successfully commercialising these technologies developed in laboratories. Figure 3 shows the forecast of nano satellites weighing between 1-50 kg, which are scheduled to be launched during 2014-16 globally.6The high number arises from the fact that such nano satellites have short development timelines, and provide the necessary agility for satellite operators to develop large constellations that can cater to a larger customer base with high service quality. These NewSpace companies have ushered in widespread changes in the traditional satellite manufacturing and launch services industry, with companies like RocketLabs and Firefly Systems building new launchers cheaply using innovative techniques like additive manufacturing, to reduce the cost to orbit for these satellites. The impact of these companies has been felt within the space industry, as practices from these ‘NewSpace’companies have been adopted to keep the costs low and have a factory type approach in building systems in order to cater to the increasing demand. The NewSpace revolution has now led to companies such as Google, Virgin, and Qualcomm investing in small satellite-based communication technologies. India, however, has remained shielded from the rapid changes that have happened in the global space industry over the past decade. **ISRO** has been **slow to respond on** both **commercial** and academic **fronts,** with only a handful of university-level small satellite missions being launched during the same period, none of which could transform into a full-fledged commercial opportunity for the people involved in these projects. Lack of clarity on space policy in India is to blame, and partly the lack of willingness of DoS to take up additional responsibility of creating an ecosystem that disrupts their own traditional one, without any visible incentives. In the following sections, the need and motivation to develop a strong private industry ecosystem is detailed with necessary arguments. 1.2 Motivations to Develop a Private Industry Ecosystem in India Presently, **India has inherent advantages** over other countries **due** the availability of **skilled workforce**, a stable and business friendly **government,** positive investor climate and low cost of operations**.** Because India was an early mover in space technology, it is **poised to become a major space power albeit** slight policy push towards **greater commercialisation** of the industry. Table 1 shows the PESTLE analysis of India, in lieu of the motivation to develop a strong private space industry. The PESTLE analysis shows high suitability for services-based business models to operate out of India. The government’s encouragement for private space industry within the country to develop capacity and capability in pursuing space activities should thereby be directed to both the spectrums across the industry value chain. A focused space policy mandate can have multiple direct and fringe benefits to the government, especially in the defence sector which has been the current government’s area of interest through its ‘Make in India’ initiative. Some of the direct and indirect benefits of space technology include: Civilian and Commercial **Space industry has the potential to emerge as the third** technological **success** front following the successes of the Information Technology (IT) and Biotechnology in the country. Space **has an important role in** the overall **economic development** of the country **and** in the success of the government initiatives such as Digital India and Make in India. The development of the private space industry shall **aid in rural connectivity, e-governance and** setting up of **manufacturing facilities** base for products of high technology in India, creating headways in the overall emergence of the country at the world stage. The success of the space industry will enhance capacities within the country and complement the government-driven programme, which has been historically proven in advanced space faring countries such as the US. Capacity building in the private industry at a turnkey level for both upstream and downstream shall assist theeconomic development of the country by keeping up to the pace of requirement of the marketplace (e.g. Direct-to-Home TV, Broadband Internet), while reducing the inherent dependence on foreign assets. For example, as per a recent Comptroller and Auditor General (CAG) report, only one among the seven DTH providers is leasing transponder from the INSAT system**. The** primary **reason for this disparity is** the **slow pace** at which **ISRO has added** satellite transponders **to the commercial market.** The net effect is that the DTH providers are incurring higher transponder costs on foreign satellites when INSAT could have been an equally reliable, and more cost efficient, alternative. Space has its bearings over the imagination of youth and a strong emerging local industry can revolutionise the mindset of the national talent pool and can potentially aid in reversal of brain drain from the country. Public outreach, awareness, and STEM education are some of the intangible impact that investment in space technology produces. The capacity built up within the industry shall foster Business-to-Business (B2B) collaborations within the country and with enterprises across the globe and create also a strong focus on Business-to-Customer (B2C) applications which moves from the traditional Government-to-Government (G2G) flow of development of capacity and application of technology. The B2B, B2C ecosystem in the space industry has immense potential of tapping the much successful IT infrastructure of the country and extending the IT knowledge base to core software based applications of spacebased information such as Geographical Information Systems (GIS).It shall create an environment of technological innovation which when supported and encouraged can sustain to create a secondary source of development of high-tech hardware, software and applications for the government. An ecosystem of technological innovation in space technology has the potential of creating the next generation Small and Medium Scale Enterprises (SMEs) in India which shall 17 leverage the frugal nature of engineering and can create products and services independently for local and global requirements. Military **In the development of space technology with several dual use capabilities, there exists a case for the building up a sustained indigenous industry ecosystem that shall support the safety and security apparatus of the country**. These range **from development of capabilities in upstream** such as satellite, launch vehicle development **to** creating specific downstream applicationssuch as Automatic Identification of Ships (AIS), Electronic Intelligence (ELINIT), Communication Intelligence (COMMINT) and other Command, Control, Communications, Computers, Intelligence, Information, Surveillance, and Reconnaissance (C4I2SR) applications. Space Situational Awareness (SSA) is **the ability to view, understand and predict the physical location of natural and man-made objects orbiting the Earth. SSA is a prominent concern for both military and commercial systems, mainly because of the increasing military reliance on space assets**. The debris created by the anti-satellite testing by China in 2007 and the Kosmos-Iridium collision in 2009 has raised additional concerns about the safety of space assets. India currently relies on NASA’s data, and will operationalise its own system of Multi Object Tracking Radar (MOTR) by 2017.7 Meanwhile in the US, commercial operators have established the Space Data Association (SDA) for providing satellite operators reliable and efficient data for increased safety of satellite operations; this is in addition to the Department of Defense’s (DoD) own surveillance network. **The changing space security environment and the rising international concerns over the rapid growth of military assets in space makes space security one of the most important issues to address.** The need to have a space security policy is being 7 increasingly debated in India **and** the IDSA Task force in 2009 produced a report which attempted to conceptualise such a policy. However, there is reluctance to talk about use of space for national security needs including its military applications. Though efforts are being made to synchronize the activities of ISRO which is responsible for India’s civilian space programme and the Defence Research and Development Organisation (DRDO) which works on the use of space for national security needs, **the lack of a strong private industry that can meet heightened needs for such sophisticated missions hampers the progress in this direction,** apart from the bureaucratic delay that is normally associated when two high security government agencies interact. Capacity building within the space industry shall not only drive commercial applications, but shall aid the government in situations of emergencies (e.g. natural disasters, intelligence gathering for fighting against terrorism) and can eventually develop into a foundation that could potentially contribute as a part of a strong foreign policy drive. Studying the impact of space technology on civilian life is a complicated task, especially when it comes to quantifying the tangible and intangible impact. **The spill-over of space technology is in sectors as varied as defence, agriculture and education.** There exist many ways to show the impact of investment in space technology; some of them illustrated above. **Thus, the technological and knowledge backbone for space technology creates opportunities in the marketplace to create and explore commercial applications on a global scale, which** traditionally might not be the fundamental focus a governmental space agency, as well as **create multiple intangible impacts** across various sectors such as defence, education, agriculture, energy, transportation and environment**.** India has made substantial investment in its government space programme over the years, but it is **a sustained policy push towards investments in the private space industry ecosystem that will create commercial space applications**, complementing the societal benefits motivation currently being pursued by the government.

#### Indian space military heg checks and limits Chinese heg in the Indo-Pacific.

**Bommakanti 7-15-20**[Kartik Bommakanti is a Fellow with the Strategic Studies Programme. Kartik specialises in space military issues and his research is primarily centred on the Indo-Pacific region. He also works on emerging technologies as well as nuclear, conventional and sub-conventional coercion, particularly in the context of the Indian subcontinent and the role of great powers in the subcontinent’s strategic dynamics. He has published in peer reviewed journals., The enduring significance of space weapons for India, 7-15-2020,ORF,https://www.orfonline.org/expert-speak/the-enduring-significance-of-space-weapons-for-india/, 12-8-2021 amrita]

Regardless of the Americans protestations about the Russian test**, there are important underlying implications for India particularly in the context of Chinas’ growing space and counterspace capabilities as well as the repercussions that are likely to ensue if New Delhi were to pursue a weak response to Chinese space military power.** India will need a whole set of additional KEW tests. This author made the case for sea-launched and air launched KEWs in an extensive analysis. However, it was focused mostly on earth to space KEW systems and Directed Energy Weapons (DEWs). Confining India to the acquisition of KEWS and Directed Energy Weapons (DEWs) or cyber and electronic weapons can be expanded to include co-orbital KEWs. The Russian test also illustrates why co-orbital KEWs are also critical. Investment in additional KEW capabilities assumes considerable importance especially for India because of the long-term defence related challenges presented by the People’s Republic of China (PRC). **The ongoing boundary crisis should only lend greater urgency to India’s space weapons programme, simply because space assets in India’s inventory are vital to the prosecution of a potential military campaign whether on land, sea or air against the People’s Republic China (PRC).** The PRC is known to have developed the accoutrements necessary to conduct co-orbital test. For instance, in 2008 the Chinese BX-1 microsatellite while orbiting in close proximity to its mother satellite, executed a maneuver within 45 kilometers of the International Space Station (ISS). While BX-1 did not definitively establish a PRC co-orbital ASAT capability, it did indicate the PRC’s latent capability to conduct co-orbital kinetic tests and mount attacks against a potential adversary’ space assets. India must avoid what one leading Indian space analyst prior to India’s March 2019 KEW test observed: “To date, India’s interests in space have been restricted to using space assets for reconnaissance, navigation and communication. However, China’s ASAT test could influence India’s policies in the field of counter-space capabilities. To address the concerns raised at the regional and global level about this Chinese bravado, the best option for India could be to follow the disarmament and arms control route.” The statement is a non-sequitur, **while India has conducted only but one direct ascent KEW test, it has not matched China** in developing and executing non-destructive earth to space KEW tests, let alone fully match Chinese KEW, DEW, electronic and cyber weapon capabilities to target space assets. **Pursuing the arms control and disarmament route by India will be premature** in response to the PRC’s extensive development of space **and** counterspace capabilities**.** Reinforcing this point is that the PRC’s current and evolving space weapons programme deserve a sustained response. Bringing closure to the development of space and counterspace capabilities **would imply surrender that is completely unwarranted in light of Beijing’s recent and ongoing aggressiveness,** which India is evidently bearing the brunt. Very likely Beijing will be emboldened even more in deducing that India’s skittish response to its space weapons programme should be treated as weakness **and India subjected to further aggression, not just terrestrially, but equally in space.** The External Affairs Minister S. Jaishankar stated there is an imperative for India and China to achieve some “equilibrium”, although he never fully elaborated what exactly it would look like. However, if equilibrium or more precisely a stable balance of power is to be achieved in the Indo-Pacific, military power is crucial. **Space military power has grown in importance** from reconnaissance, navigation and communications to space weapons **and will be crucial to generating an equilibrium.** Ignoring the eventual deployment of weapons in space would be foolhardy for a state such as India when pitted against the PRC**. Consequently, space military power is a key constituent element in India’s capacity to contribute to the Asian balance of power**. Thus, **investing in a direct ascent and co-orbital KEWs as well as DEWS and cyber and electronic weapons geared for destroying or disabling spacecraft is crucial**. If India were to deprive itself of offensive space weapons to take Chinese or other enemy spacecraft, New Delhi would be putting itself at a considerable disadvantage by leaving it at the mercy of a wide variety of Chinese counterspace capabilities and measures against its Imagery Intelligence (IMINT), Communications (COMMINT), Electronic Intelligence (ELINT) and Synthetic Aperture Radar (SAR) satellites. Indeed, it is perplexing to see arguments that call for India to restrain itself, strive for disarmament and arms control when China makes no significant effort to do so beyond rhetorical commitments. The Russian co-orbital test has underlined the importance of space borne weapons despite entreaties for the non-weaponisation of space. The Modi government must see the emerging space military competition as an opportunity to bolster India’s counterspace capabilities. **It will help cement India as a major space military power and prevent Chinese hegemony over the Indo-Pacific.** Chinese hegemony on the other hand will become a certainty, if New Delhi lapses into self-doubt and remains unduly restrained in the testing, integration and deployment of space weapons.

#### China heg is revisionist and offensive-- in the Indo-Pacific that causes draw-in.

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The responsible-stakeholder paradigm offered a coherent “theory of victory”: It identified a desired outcome and employed all elements of American power to bring about that outcome. Over time, the strategy produced greater Sino-American cooperation on a range of issues, from counter-piracy to climate change. **It is increasingly clear, however, that the responsible-stakeholder strategy failed. Two of its core assumptions now appear misplaced: the idea that China’s intentions would become more benign over time, and the belief that Washington had the power to keep Chinese ambitions in check until that shift occurred.** What happened instead was that, as China rose, the Chinese Communist Party became more willing to use its newfound power in coercive and disruptive ways.3 Confounding Western hopes that China would liberalize, **the Chinese Communist Party embraced more repressive policies**, especially after Xi Jinping became general secretary in 2012. **Meanwhile, Beijing sought to control the Indo-Pacific region by** coercing its neighbors, undermining U.S. alliances, practicing mercantilist policies, steadily **increasing its presence** and influence in the South China Sea**, and modernizing its military. In the Indo-Pacific and beyond, moreover, China has engaged in a range of behaviors that challenge American interests: supporting authoritarian regimes, engaging in widespread corruption, pursuing predatory trade practices and major geo-economic projects meant to project Chinese influence further afield,** seeking to stifle international criticism of its human rights abuses, practicing massive intellectual property theft, and striving for technological dominance in critical emerging fields such as artificial intelligence.Recently, China’s confidence has been on display, with Xi stating in 2018 that “no one is in a position to dictate to the Chinese people,” after declaring in 2017 that China is ready to “take center stage in the world.”4 Rather than becoming a responsible stakeholder in a U.S.-led system, **China appears increasingly determined to compete with Washington for primacy in the Indo-Pacific and beyond.** These more assertive policies have been made possible by China’s surprisingly rapid growth**.** Between 1990 and 2016, China’s constant-dollar gross domestic product increased roughly twelve-fold and its military spending grew tenfold.5 The People’s Liberation Army rapidly developed the tools — anti-ship missiles, quiet submarines, advanced fighter aircraft, and integrated air defenses — needed to contest American supremacy in the Western Pacific and give China greater ability to shape events in its region and beyond. Surging national wealth also led to an explosion of Chinese trade, lending, and investment abroad, which enabled far more ambitious geo-economic statecraft**.** All told, **this expansion of Chinese national power is unprecedented in modern history.** It has dramatically narrowed the gap between China and the United States and made it far more difficult for Washington to shape Beijing’s behavior. No strategy can survive the invalidation of its central premises: By the end of the Obama presidency, the responsible-stakeholder concept was living on borrowed time. The Trump administration drove the final stake through the concept in its 2017 National Security Strategy. The document slammed Beijing for attempting to “shape a world antithetical to U.S. values and interests” and declared the failure of China’s “integration into the post-war international order.”6 In particular, **China’s behavior increasingly threatens three enduring U.S. interests. First, the United States seeks to maintain a favorable balance of power in the Indo-Pacific region** and to deter a military conflict — over Taiwan, Korea, or maritime Asia — that could undermine the regional order and cost American or allied lives. Second, **U.S. leaders have an interest in ensuring an open international economy conducive to American prosperity and competitiveness.** Third, **the United States seeks to preserve an international environment in which democracy, human rights, and the rule of law can** flourish, and it seeks to **strengthen** — where possible — the prevalence of those practices abroad. As Chinese power has grown and Chinese behavior has become more assertive, U.S. policymakers have come to see all three of these interests as being imperiled.

#### That goes nuclear-- extinction :/

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During a post-hegemonic era, long-standing **nuclear alliances are** likely to be **replaced by** ad hoc nuclear **coalitions**, aligning and realigning around different congeries of threat and even actual nuclear wars, **with** much **higher levels of** uncertainty and **unpredictability** than was the case in the nuclear hegemonic system. There are a number of ways that this dynamic could play out during the interregnum, and these dynamics are likely to be inconsistent and contradictory. In some instances, the sheer momentum of past policy combined with bureaucratic inertia and the potency of political, military service and corporate interests, may ensure that residual aspects of the formerly hegemonic postures are adhered to even as formal nuclear alliances rupture. Even as they reach for the old anchors, these **states may be forced to adjust** and retrench **strategically, or start** to take their own nuclear risks by **making** increasingly explicit **nuclear threats** and deployments **against nuclear-armed adversaries** – as Japan has begun to do with reference to its “technological deterrent” since about 2012.9 This period could last for many years until and **when** nuclear **war breaks out** and leads to a post-nuclear war disorder; or **a** new, post-hegemonic strategic **framework is established** to manage and/or abolish nuclear threat. Under full-blown American nuclear hegemony, fewer states had nuclear weapons, the major nuclear weapons states entered into legally binding restraints on force levels and they learned from nuclear near-misses to promulgate rules of the road and tacit understandings. The lines drawn during full-blown collisions involving nuclear weapons were stark and concentrated the minds of leaders greatly. In a nuclear duel, it was clear that only one of two sides could fire first; the only question was which one. **Now, with nine** nuclear weapons **states, and conflicts** conceivably **involving** three, four or **more of them**, no matter how much leaders concentrate, **it will not be evident** who is aiming at who, **who may fire** first, and during a volley, who fired first and even who hit whom. In a highly proliferated world, **nuclear-armed states** may **feel driven to obtain larger** nuclear **forces** able **to deter multiple adversaries** at the same time, sufficient to conduct not only a few nuclear attacks but **configured to fight more than one** protracted **nuclear war at a time, especially in** nuclear **states torn apart by civil war** and post-nuclear attack reconstruction. The first time nuclear weapons are used since 1945 will be shocking, the second time, less so, the third time, the new normal.

# Case

## Space Wars

#### Legal frameworks such as the EU Horizon 2020 will be able to prevent space wars.

**Villarino 19**, José-Miguel Bello Y Villarino, 6-7-2019, "Preventing a Cold War in Space Using European Research and Innovation Programs," Science & Diplomacy,<https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs> Livingston RB

In 2018, the United States President proposed a Space Force [1](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note1) as a sixth branch of the US military.[2](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note2) In 2019, the President of India announced that his country had shot down a low-orbit satellite,[3](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note3) becoming the fourth country to test an anti-satellite (ASAT) technology in a span of twelve years. These events should come as no surprise. **There is a space cold war in the making. Russia, China, and the United States are leading the way, racing to ensure that their space-related asset**s, which play an increasingly essential role in modern warfare, can match, surpass, or counterbalance the capabilities of others. These developments present a greater threat of military confrontation than the 1983 launch of the U.S. Strategic Defense Initiative, better known as “Star Wars”. Since 1983, there had been an unspoken Pax Americana in outer space. An informal global moratorium on the testing of anti-satellite weapons had been initiated by Russia[5](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note5) and generally supported by the international community. There was a global understanding of the benefits of avoiding a weapons escalation in, and towards, space.[6](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note6) Each year, the General Assembly of the United Nations (UNGA) passed nearly unanimous[7](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note7) resolutions on the “Prevention of an Arms Race in Outer Space” (PAROS) (Res. 36/97C). There were even attempts to give these efforts legal force. In 2008, Russia and China submitted a draft Treaty on the Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT) to the Conference on Disarmament. Article II is clear about the treaty’s objective: “The States Parties undertake not to place in orbit around the Earth any objects carrying any kinds of weapons, not to install such weapons on celestial bodies and not to place such weapons in outer space in any other manner, [and] not to resort to the threat or use of force against outer space objects”.[8](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note7) These declarations reflected a desire to keep space peaceful, meaning either “not militarised” [9](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note9) or “non aggressive”. Ironically, this proposal was tabled shortly after China’s confirmation in 2007 that it had destroyed one of its own satellites with a guided missile, as a test.[11](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note11) In addition to the resulting space debris problem that was generated, this action forced global powers to rethink the challenges of space security.[12](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note12) The United States quickly followed, demonstrating in 2008 its own anti-satellite system (Aegis Ballistic Missile Defense System) by shooting down its own errant spy satellite as it was falling out of orbit.[13](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note13) [14](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note14) The United States has since acknowledged having an anti-satellite system, the Counter Communications Satellite System, and it has several latent capabilities, notably its ground-based missile defense interceptors.[15](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note15) Russia has also repeatedly tested the PL-19 Nudol ballistic missile,[16](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note16) which can strike objects in orbit.[17](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note17) **There is also clear evidence that other capabilities are being developed to cripple space assets and make space infrastructure useless, including cyberattacks on satellites,**[18](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note18) lasers capable of knocking down space objects,[19](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note19) and methods to jam signals from space. As a result of this dynamic, we have today a militarized space, where a quarter of the active satellites have some military use.[21](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note21%20rel=) Space is today a theatre in war plans. From a legal point of view, this militarization was made possible through a particular interpretation of article IV of the 1967 Outer Space Treaty.[22](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note22%20rel=) This interpretation distinguishes between “peaceful purposes” – applicable to space in general – and “exclusively peaceful purposes” – restricted to certain celestial bodies. Military uses of the moon and other celestial bodies are then outrightly prohibited, but the “empty space” between celestial bodies can be militarized. This line of reasoning could also justify weaponization of that empty space, for example, placing weapons in a satellite. The only legal limit would be the ban on weapons of mass destruction in space established by the same article IV. To prevent it, the UN Assembly General passed in December 2014 UN Resolution 69/32 calling for “[n]o first placement of weapons in outer space”. This attempt to collectively agree on the non-weaponization of space received more limited support than previous PAROS resolutions. Four states voted against it and another forty-two abstained.[23,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note23%20rel=)[24](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note24%20rel=) It cannot even be excluded that militarization may have already happened. All of this is leading military actors to consider the Earth’s orbit a new “warfighting domain”.[26](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note26%20rel=) The U.S. Air Force’s “Transformation Flight Plan” of 2003 acknowledged that future adversaries could attack space assets, mainly from the ground, and that weapons in orbit may eventually be required to protect those assets.[27](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note27%20rel=) The current U.S. National Security Space Strategy refers to systems to “deny and defeat an adversary’s ability” to successfully carry out “attacks targeted at the U.S. space systems”.[28](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note28%20rel=) The most recent threat assessment of the U.S. intelligence community notes that both Russia and China “aim to have nondestructive and destructive counterspace weapons” to “reduce US and allied military effectiveness” and points to a military trend in China and Russia “designed to integrate attacks against space systems and services with military operations in other domains”. Some believed that the weaponization of space,[30](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note30%20rel=) the establishment of a space force,[31](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note31%20rel=) and other non-peaceful space-related activities were inevitable steps in the decades-long development of space warfare capabilities by the United States, China, and Russia. For these authors, this is not a race “to dominate space” but an incremental development of “a range of options to control or deny outer space in a time of open conflict”.[32](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note32%20rel=) Regardless of the view, space assets will doubtless play a role in future non-peaceful relations between space-faring nations and are already playing a deterrence role. However, a continued and escalating space-based cold war need not occur if more trust can be established among the key players. The European Union as a Broker of Trust. The mistrust that exists among China, Russia, and the United States regarding space-related activities is a logical consequence of the role of space in modern warfare described above. The inability of the participants in these weapons races to adequately assess one another’s capabilities and intentions is driving them to develop even greater capabilities to pre-empt potential adversaries. Yet it is possible to restore a certain degree of trust by allowing space powers to better assess risks, capabilities, and intentions, and break the cycle of escalation. This article contends that cooperation on space-related global challenges can build that trust. Unfortunately, leadership in the domain of space by any one of these three actors is unlikely to be accepted by the others, even if the potential results are beneficial for all. These countries too often present themselves using adversarial language, with media supporting such views.[33](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note33%20rel=) The European Union (EU) is the only global actor that has all of the tools necessary to assist in the establishment of confidence-building measures between China, Russia, and the US in the domain of space. The EU is a key actor in space [34,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note34%20rel=)[35](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note35%20rel=) despite lacking a space agency as such. Other international organization, the European Space Agency (ESA), provides technical support for the flagship EU programs.[36](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note36%20rel=) The EU has asserted its presence in international space-related policy-making and acted as a diplomatic hinge, for example, in the development of guidelines for an International Code of Conduct for Outer Space from 2008 onwards.[37](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note37%20rel=) Even though other global actors could offer similar or superior combinations of space-related technology, a skilled workforce, and budgetary capacity, only the EU has the appropriate institutional framework – a multi-country, compromise-driven system of governance – combined with a civilian-only research and innovation program.[38](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note38%20rel=) Other non-state entities, such as the ESA or the United Nations, are unable to undertake cooperative efforts to build trust among the three nations because they lack either the budgetary capacity or an adequate institutional framework to push forward a foreign affairs agenda. The EU in particular can offer a civilian, research-driven, diplomatic tool. Such a tool is already within its current legal and policy framework and would build upon previous EU-sponsored actions in space research and innovation. It would not require significant legislative change or a critical rise in expenditure. The main requirement is a clear commitment to its objectives and the political willingness to engage with international actors that may be seen as more inclined to hostile discourse or behavior than is normally promoted by the EU. An EU-driven approach would offer the image of a peace-loving, supranational entity reluctant to or incapable of acting militarily. Its decision-making process already builds in the different sensitivities among its members in relation to the other three actors. Among the EU countries some are closer to China,[39,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note39%20rel=)some to the United States,[40,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note40%20rel=)and some to Russia.[41,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note41%20rel=) While the EU might be expected to cooperate closely with the United States opposite China and Russia, the EU has in the past “recast problems the US interprets as solvable solely with the hammer of military intervention as problems of trade or diplomacy […] forging its own path in service of its ambition to be considered a global player”. [42,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note42%20rel=) Along with the ability to lead, the EU has every reason to act. Against the backdrop of escalating tensions in space, the EU and its member states appear to be peaceful bystanders. However, as one of the leaders in outer space activities, especially commercial satellite activities, the EU and its members have much to lose from an outright conflict. By bringing the three space powers together, the EU could achieve better security and reliability of space assets, which would benefit its population as well as the whole planet. Additionally, it could project its economic and research power as a powerful diplomatic tool, casting itself as a key international player and global broker in space affairs. The “smart” strategy[43,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note43%20rel=) envisioned here would combine both hard and soft power under a humble leadership that only the EU seems able to exercise. Europe would not be a resolute leader in the usual sense. Confrontation is beyond its power and not in its DNA. Instead, “[i]n a dangerous world, Europe is the holder of the balance”.[44,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note44%20rel=) In the context of space, the EU “represents a natural bridge between space competitors and possesses the track record and credibility to serve as the principal ‘middle diplomat’ of the global space community”.[45,](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note45%20rel=) The European Framework for Enhancing Cooperation. **The framework needed to foster cooperation in space between China, Russia, and the United States** (as well as other nations) **is already in place in the EU**. **The** EU’s official **position** regarding the international projection of its research and innovation **is formalized in Horizon 2020** (H2020), the Framework Programme for Research and Innovation (2014-2020).[46](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note46%20rel=) The H2020 Regulation envisions large-scale projects, carried out with international cooperation.[47](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note47%20rel=) It anticipates working with partners in third countries to address many of its objectives, particularly those relating to the Union’s external and development policies and international commitments.[48](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note48%20rel=) **It further establishes that space activities should “support the European research and innovation contribution to long term international space partnerships,” acknowledging that “space undertakings have a fundamentally global character”**.[49](https://www.sciencediplomacy.org/article/2019/preventing-cold-war-in-space-using-european-research-and-innovation-programs#note49%20rel=)