

Drawing the new Iron Curtain in the Final Frontier of Space

Contextualising the Geopolitical Scenario with the ILRS Program and the Artemis Accords

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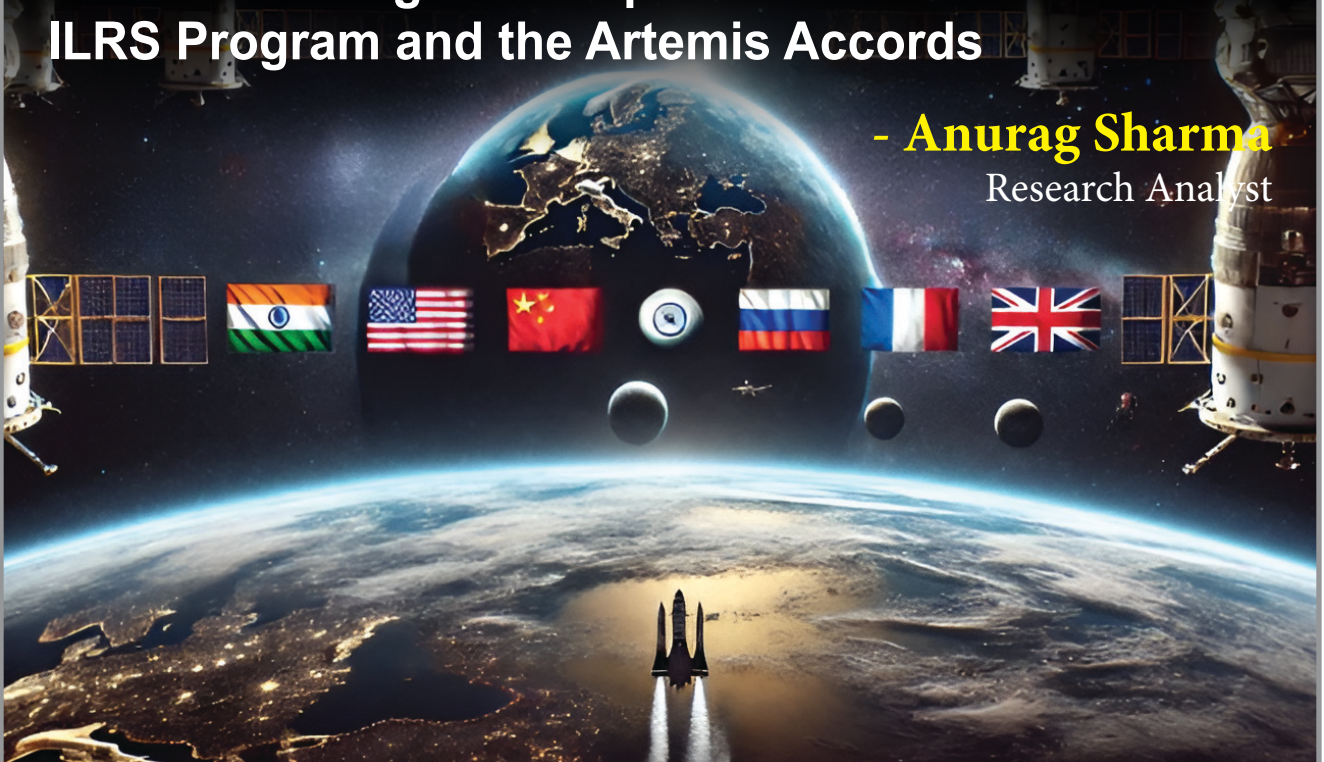


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Key Takeaways

▶ **Space Domination Competition**

The space race is intensifying with a focus on Moon colonization, driven by two major initiatives: the U.S.-led Artemis Program and the China-Russia International Lunar Research Station (ILRS).

▶ **Geopolitical Bipolarity**

These programs reflect the global competition, with countries aligning with either the U.S.-France-India axis or the Russia-China alliance, creating a new form of "bipolarity."

▶ **New "Iron Curtain"**

The division between Artemis and ILRS participants mirrors Cold War divisions, complicating future space cooperation.

▶ **Strategic Alignments**

Beyond exploration, these initiatives are seen as efforts to influence future space governance and extend geopolitical influence through space asset creation and governance principles, driving a "space-centric" perspective.

▶ **India's Strategic Position**

India's space diplomacy emphasizes

multipolarity, multilateralism, and strategic autonomy, creating flexibility for future engagement in global space initiatives.

▶ **Artemis vs ILRS**

India's accession to the U.S.-led Artemis program contrasts with its distance from the China-Russia ILRS alliance, influenced by tensions with China and past cooperation with Russia.

▶ **Bipolarity and Neutrality**

India's neutrality and robust space capabilities position it as a potential mediator in the space race, particularly between the US, Europe, Russia, and China.

▶ **India-France Cooperation**

India's space cooperation with France and the European Space Agency (ESA) could benefit from the shifting geopolitical landscape, especially in light of tensions in Eastern Europe.

▶ **Russia-China Dynamics**

While China and Russia strengthen ties, India maintains distance, aligning more closely with the U.S.

Introduction

Outer Space has been a curious domain for humankind, also referred to as Ether or 'Akash-tattva' in Meta-physical narration. In the global power dynamics, outer space presents a vast expanse to explore, where every space on Earth is being consolidated by charting borders in the land, sea, and air. As the entropy of geopolitical influence increases with

the emergence of multiple power poles in the shifting world order, Space is the ultimate limit. The practical realities are contrasting, with very few countries among the established and emerging Space powers possessing the technical capabilities to exert and expand their influence on the global Great Game of Space domination. To put things in perspective, the United States, Russia, China, France and India are the only Space Powers, possessing all-round

space capabilities. Meanwhile, new entrants like Japan, and Australia along with many countries from Europe, Africa, Asia and the Americas are also trying to catch up. The occupants are thus limited in unlimited Space, and so is their power potential.

Among the Space capable nations, the United States and Russia (former Soviet Union) hold their stature as the established space powers, while India, China, and France (in conjunction with the collective Europe) are still the emerging space powers. In terms of Comprehensive Power Positioning, a unique virtue is involved with each in their posturing. The United States holds the hegemonic position, being the first country to land on the moon and win the Space race, whereas Russia has a revisionist status. Challenging the same China has a revivalist and expansionist approach. In contrast, France-led collective Europe has a Globalist outlook, and India endorses an autonomous and balanced stance with a tilt towards Multilateralism. By their positioning, a perceived struggle is building up for the Final Frontier of Space. The United States and China accompanied by Russia and at the core of this struggle with France and India as the balancing powers.

In this strategic competition for establishing space dominance every domain of the space enterprise is up for bid, be it the satellites, launch services or deep space exploration and commercial activity like space mining. It is important to consider that a vessel floating in the ocean doesn't establish permanent domination, filling the space with the national objects won't make

it either. Ultimately, something of a stationary nature is necessitated for the permanent presence. Thereby, Celestial bodies' colonisation is what every space power is aspiring for, beginning with the Moon. In pursuance of the same, 'The Artemis Program' led by the United States, and 'The International Lunar Research Station' (ILRS) led by China and supported by Russia, are two competing programs dedicated to Moon colonisation (NASA, 2020; CNSA 2021). Over the years, either of these programs has subsequently been joined by countries around the world with space-faring ambitions, including India and most of Europe (joining the Artemis program).

On the face of it, the multilateral involvement of countries makes moon colonisation a global venture. The ground realities of great power competition suggest something different. The United States on the one side and China-Russia on the other, highlights the perceived alignment of the Power poles in two different groupings. The membership expansion of the Artemis and the ILRS programs complicates this situation even more as no country so far is subscribed to both programs, practically making them two isolated ventures. Moreover, considering the aspect of the Space Power, France and India being a member state of the Artemis Program creates a situation where among the five poles, three are aligned together including the US on one side, while the other two China and Russia are aligned on the other being together in the ILRS.

It is important to note here that the strict reference to the term 'alignment' may

(Image Credit: NASA)



not be appropriate while discussing the geopolitical developments from the geo-centric perspective. A space-centric perspective would better serve the purpose. Bringing it forward, about the ancient Indian texts, as the 'Bhu' (Geo) converges with 'Antariksh' (Space/Ether), the inflexion point is termed as 'Dyaus' (Chavan, 2017). Therefore in the context of Space, the 'Dyaus' perspective might be considered to suit the terminology. This would simply mean, looking at the geopolitics from the inflection point between the earth and space. In this perspective, the alignment shaped by Artemis and ILRS inadvertently creates a situation of perceived bipolarity superimposed on the multipolar clusters of Space powers, in the set of three (US-France-India), and two (Russia-China). Unless and until, any significant change takes place affecting this alignment, this superimposed bipolarity is likely to persist. It is going to solidify further, with the ongoing developments, where the

great power competition is aggravating.

In such a scenario, the expansion of exclusive membership to ILRS and Artemis Programs as a means of exerting influence on friendly and strategically valuable countries draws a new Iron Curtain. It creates complex conditionalities for the future of International Space cooperation where Outer Space is politicised. To better contextualise this argument, the original concept of the Iron Curtain must be realised to understand how it is being equated with the Space colonisation endeavour in the present. The Iron Curtain was a political metaphor and physical boundary that divided Europe into two areas during the Cold War. The term was used by Winston Churchill in his "Iron Curtain Speech" given at Westminster College in Fulton, Missouri on 5 March 1946 (Britannica, 2024). The Iron Curtain made it very difficult to travel into or out of Eastern Europe. Thus, the term is primarily

associated with the restriction of mobility between the regions, collectivised together and conditioned in a particular socio-economic, and geopolitical setup. Thereby, the new Iron Curtain drawn through the Space program, in a geopolitical context signifies the hurdles being created for the mutual engagement among the countries aligned with the competing factions, that is the Artemis and ILRS.

Shaping the Multilateral Alignment for the Conquest of the Fifth Pole

Now, while the concept of the Iron Curtain is redefined in the context of Space rivalry, how the multilateral alignment might take shape is particularly important. This will bring about a holistic picture of the potential realities of the ensuing global world order and the overtures that the countries integral to the setup might take or consider. Countries like India and France are particularly relevant in this regard and must require greater attention. Before going into that, especially for India, the nuances with the anticipation of the Iron Curtain must be understood carefully by looking into the mandates of IRLS and Artemis Programs and, more importantly, how they are being channelled to exert influence in this new space race.

The IRLS program was proposed in 2021 during a joint press announcement by the Russian space agency Roscosmos and the Chinese space agency CNSA (CNSA, 2021). Later, China outlined an extensive plan for complementary alignment of both countries' space endeavours for the next ten years,

intending to set up a permanent base station on the Moon by 2030. This plan proposes an alternate mission series to the Moon with China's Chang' E- 4, 6, 7, and 8 missions and Russia's LUNA-25, 26, 27, and 28 missions (CNSA, 2021). This 10-year period would be the reconnaissance phase, while the next five years would undertake the construction phase, during which multiple research facilities would be built corresponding to five ILRS missions (CNSA, 2021).

In contrast, the Artemis Program led by NASA is aimed at returning to the Moon by the year 2024 and establishing a sustainable human presence on the Moon (NASA, 2020). The Artemis has a more comprehensive program mandate, including a permanent base station, the commercial exploitation of lunar resources, and the potential launch station for interplanetary missions like Mars (NASA, 2020). The project involves different phases, beginning with Artemis-1, which is an uncrewed mission, and Artemis-2, which is a crewed mission (NASA, 2024).

These two missions will conduct orbital reconnaissance around the Lunar trajectory before the actual landing, which will be attempted with the Artemis-3 mission (NASA, 2024). The landing would embark on the construction phase involving five additional missions carrying different equipment and instruments to the Moon (NASA, 2020). The two projects are distinct but competing in different aspects, with Artemis having a much broader mandate of utilising the Moon for further interplanetary exploration.

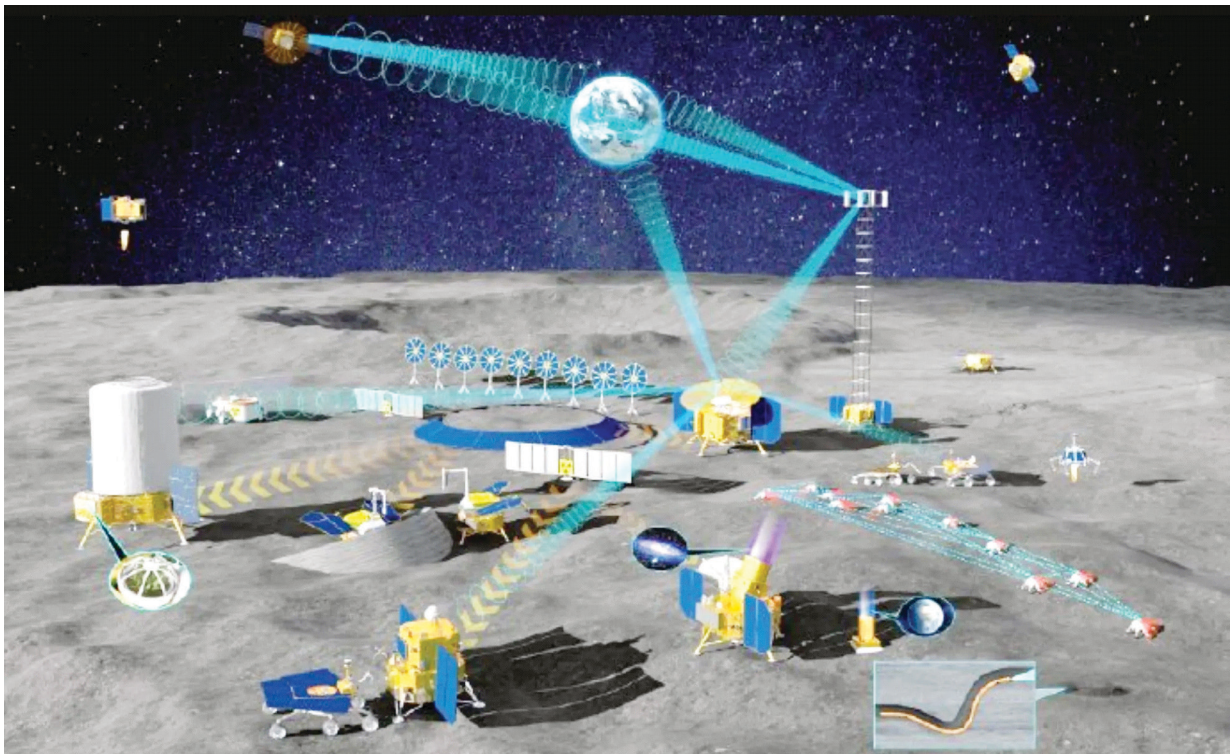


Illustration displaying the China-led ILRS concept (Image Credit: DSEL)

Beyond the scientific mission statement, the projects elaborate on the aspects of International collaboration and Space governance (US State Department, 2020). The international collaboration focuses mainly on involving strategically significant and friendly countries in different segments of space activities like space asset creation with their deployment and utilisation. Space activity employs different verticals like space mission architecture, launch segment, space segment (spacecraft, orbiter, lander, and rover), ground segment (tracking, data collection, and scientific research), space equipment, and subsystems (payload, propulsion, and power supply) (NASA, 2020). Subsequently, space governance is oriented towards the alignment of the values and principles in the management of those assets in dealing with the said countries. This includes acceding to the International treaty obligations and adhering to the principles of good

governance. With the Artemis Accords, the signatories must accede to the peaceful use of outer space, registration convention, and deconfliction of space activities as per international law (State Department, 2020). Likewise, they must also adhere to values of transparency, protecting heritage, and use of space resources for the benefit of humankind (State Department, 2020). They are also expected to be involved in managing space debris, emergency assistance, and sharing scientific data with the global community (State Department, 2020).

Collating the three aspects together gives a sense of greater ambition for gaining geopolitical influence through Moon projects for space domination. This follows a process of technical-level planning, thereafter incorporating international partners and then outlaying the governance conditions for them to manage their space activity within the

system. The whole activity can also be seen as a bid to create a lobbying mechanism for future negotiations in the space activity regulation in support of their versions, alongside extending the ambit of the existing space governance framework. It may thus be inferred that the Geopoliticization of the Artemis and ILRS programs is driving this new Space race. As a result of which, it is solidifying the superimposed bipolarity with the new Iron Curtain being drawn.

Now, it must be noted that since Outer Space concerns every country and each country is equally important in the grand geopolitical game, three key developments correspond to all of them that are visible in international affairs regarding the two Moon projects. It involves the strategic competition between the US and China-Russia nexus, virtual exclusivity in the membership expansion, and leveraging the avenues of multilateral Intuitions for sideline negotiations.

The strategic competition concerns the acts of technology denial through trade barriers and sanctions, intending

to regulate the behaviour of the other country. Certain policy decisions have been particularly significant concerning Outer Space, like the imposition of restrictions on exports of space technologies such as rocket engines by Russia to Europe, as well as the termination of the joint space programs by ESA planned with Russia following the Ukraine crisis (ESA, 2024; Posaner, 2024). Likewise, pulling out of the International Space Station project, which was jointly built and managed by Russia and the US, suggests the same (The Register, 2024). A similar situation can be seen with China, against which the US has imposed restrictions on technology export and labour employment in the space sector (Daniels, 2024). These developments have prompted the circumstantial closeness of Russia with China, assuming jointness in big-ticket ventures like the Space Station and the ILRS. For the countries willing to partner with either of them, this mutual tussle is going to have a significant impact, and it will be even more difficult to deal with both sides.



The developments with the membership expansion are also significant, given the rate at which new countries are joining, especially the ones with little to no experience in the space program. ILRS, for instance, has 13 member states as parties, including China, Russia, Azerbaijan, Belarus, Egypt, Nicaragua, Serbia, Pakistan, South Africa, Thailand, Venezuela, Kazakhstan, and Senegal (ILRS, 2024). Russia and China, being the pioneer countries, joined in 2021. Thereafter, five countries joined in 2023, and six countries joined in 2024. Among the members, only China and Russia have experience with space launches and missions, except for Kazakhstan, which has some experience with launch operations and hosts the Baikonur launch site (Malik, 2024). The rest of the countries have no prior experience. They might find some utility in supporting activities like hosting ground station sites, tracking space objects, and data processing like Venezuela (CGWIC, 2024). Otherwise, they may also be involved in the equipment delivery and subsystems segment in the future. This highlights the fact that the inclusion of such countries is necessitated more due to political proximity than their actual capacity to contribute to space endeavours from a technical point of view.

In contrast, Artemis program membership is quite versatile, with 43 countries having joined so far (NASA, 2024a). The program has had a gradual increase of members, with nine countries pioneering in 2020; thereafter, five countries joined in 2021, nine in 2022, ten in 2023, and another ten in 2024 (Artemis Accords,

2024). This includes Angola, Argentina, Armenia, Australia, Bahrain, Belgium, Brazil, Bulgaria, Canada, Colombia, Czech Republic, Ecuador, France, Germany, Greece, Iceland, India, Israel, Italy, Japan, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Nigeria, Peru, Poland, the Republic of Korea, Romania, Rwanda, Saudi Arabia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Arab Emirates, the United Kingdom, the United States, and Uruguay (NASA, 2024a). Unlike the ILRS program, Artemis has more space-capable powers that have utility for the program. This includes the USA, France, India, Japan, and Italy, having the launch capabilities, alongside the European Space Agency like Germany, Bulgaria, and Sweden, having a successful history with various deep space missions involving instruments for the Moon (Buchholz, 2022; ISRO, 2008). Also, countries like Argentina, Australia, Belgium, Netherlands, and Spain have active ground station capabilities and contribute to ESA's global Estrack network (ESA, 2024a). Some other member countries also possess capabilities in the space segment, subsystems, and equipment with successful track records in Israel and Switzerland (Herman, 2024; SBFI, 2024). Nevertheless, there are also many fresh entrants, mainly from West Asia, Europe, Africa, and the Americas, like UAE, Bahrain, Saudi Arabia, Poland, Romania, Lithuania, Peru, Ecuador, Mexico, Uruguay, Nigeria, and Rwanda. This versatility, with capabilities and experiences, provides a better standing for the Artemis program when it comes to Space Diplomacy and advocacy of

a globally accepted space governance framework, as well as the future membership expansion.

It is also important to understand here that exclusivity in the membership that is being discussed doesn't arise from any restrictions imposed on the member countries, prohibiting them from joining the other program. Countries are free to join either or both of them, as some countries like the United Arab Emirates are considering (Dangwal, 2023). However, the factors of technical interoperability, geopolitical pressures, and contradiction in the principles and values concerning space governance pose a significant hindrance to countries willing to be in both programs. This is remarkably concerning as it inadvertently solidifies the Iron Curtain. In such regard, leveraging the standing platforms of multilateral negotiations for the membership expansion drive is an important development to look at.

Some considerable examples include negotiating ILRS membership of Kazakhstan on the sidelines of the SCO Summit held in July 2024 (Omirgazy, 2024). Similarly, Senegal became a member state of ILRS right after the Forum on China-Africa Cooperation (FOCAC) summit in September 2024 (CNSA, 2024). Conversely, membership in the program can also be leveraged to solidify the individual position of a country in the multilateral forum. For instance, South Africa joined the ILRS program in December 2023; thereafter, in the BRICS Heads of Space Agencies meeting, it reaffirmed its support for the Russia-led proposal to create the BRICS Space Council (SANSA, 2023; Headland, 2024). Similarly, China has managed to downplay Russia and establish itself in Central Asia by involving Kazakhstan in ILRS free riding over Russia's troubled relationship with Kazakhstan. The relations have



deteriorated following Russia's CSTO invoked intervention in 2022 in response to the violent internal unrest threatening the Kazakh establishment (Hedenskog & von Essen, 2022). This incident happened due to the Ukraine crisis-induced economic turmoil in Kazakhstan concerning currency depreciation, and the Kazakhstan government seized the Russian space assets in the Baikonur Station (Agenzia Nova, 2023).

Such developments also raise the question of high politics concerning global affairs comprehensively. Now, this may be interpreted in many ways. In one interpretation, it could be termed as a 'hole in the Iron Curtain' when there is a breach in the backyard of a great power. Kazakhstan may be considered as one such example in the case of Russia. Likewise, some other instances involve Venezuela and Nicaragua joining the ILRS, which concerns the United States or Senegal joining the ILRS, which is an ECOWAS country in West Africa where France has been in a difficult position lately. Another interpretation could be the solidification of the Iron Curtain, which involves strengthening the great power position in their traditional areas of influence. For instance, in the case of the United States with the Artemis Program, involving Latin American countries like Argentina, Colombia, Mexico, Peru, and Uruguay; Eastern European Countries like Lithuania, Poland, Romania, and Ukraine; and other strategically important countries like Israel. In terms of strategic considerations, Saudi Arabia, UAE, and Bahrain in West Asia and India, Australia, South Korea, and Japan hold great significance in the Indo-Pacific

region. Similar inferences can be made for Angola, Nigeria, and Rwanda for the United Kingdom. In other cases, this can be looked at as the come-back or towing away practice. Typical examples of the comeback could be Egypt and Kazakhstan with the ILRS program, where Russia is making inroads again with the support of China. Conversely, the towing away strategy could be seen in the case of Azerbaijan and Pakistan, which otherwise have no intrinsic value to the Space program.

With these different interpretations directed at the great power competition in the superimposed bipolarity, one fact is clear: Space programs are not just scientific or commercial endeavours but have far-reaching long-term prospects concerning geopolitical necessities and developments. With the anticipation of the new Iron Curtain being drawn, every country is involved in some way or another. Collective space programs like Artemis and IRLS must, therefore, not be seen as an isolated venture but as a greater construct for the conquest of the Fifth Pole, which is the Moon.

Assessing the Developments from India's Position

As mentioned above, while discussing the construct of Superimposed bipolarity over the multi-polar world order, the two space power poles, India and France, are going to play a particularly significant role given their all-around capability. While France has significant diplomatic weight of its own, it is also a key stakeholder and power broker at the policy-making table at the European

Space Agency (ESA). It is a proponent of Multipolarity, Multilateralism, and Globalism by its position in the EU construct. In this regard, however, its freedom to influence decisions is also restricted substantially. Given the recent events involving Russia and China in the Eastern European crisis and the Ukraine situation, France has a natural tilt towards the United States in collective Europe.

Therefore, as a space power, the French position as a balance pole is severely affected. In such a situation, assessment of India's position as the balancing power space attracts special attention. Indian policy has been going through a transformation phase for almost

two decades. In accordance, India is a firm advocate for Multipolarity and Multilateralism while maintaining its stance on Strategic Autonomy. Thus far, being absent in any multilateral setup like the European Union like France, she enjoys a comfortable position in terms of seeking future engagements. At the same time, India has also been long devoid of opportunities to engage with large-scale multilateral programs involving multi-agency collaboration. In such light, exploring India's options is important and simultaneously interesting, with regard both to the Artemis Program and ILRS, where it has already acceded to the Artemis accords in 2023 (NASA, 2023). This is going to have profound and far-reaching

implications, considering the ongoing geopolitical developments given the superimposed bipolarity. This may set the unsaid but evident conditions for the long-term Space partnerships. Therefore, the Indian position must be conceptualised, and the best way to do that is through assessing the geopolitical environment corresponding to the multi-agency engagement with each other.



(Image Credit: ISRO)

In this effort, the national space agencies of major space powers may be classified into different clusters, formed based on their track record at the agency level. In the first cluster, NASA, ESA, and ISRO may be put together in one set, while Roscosmos and CNSA may be placed in the other. In this format, India has collaborated with the US and Europe in Chandrayaan 1, Chandrayaan 3, and Aditya L-1 missions planned and sponsored by ISRO (Sharma, 2024). Alongside, it has also partnered at the bilateral levels, either through joint missions or having secondary engagement in terms of ground stations, payload delivery, and instrumentation, with countries like France, Italy, Sweden, Bulgaria,

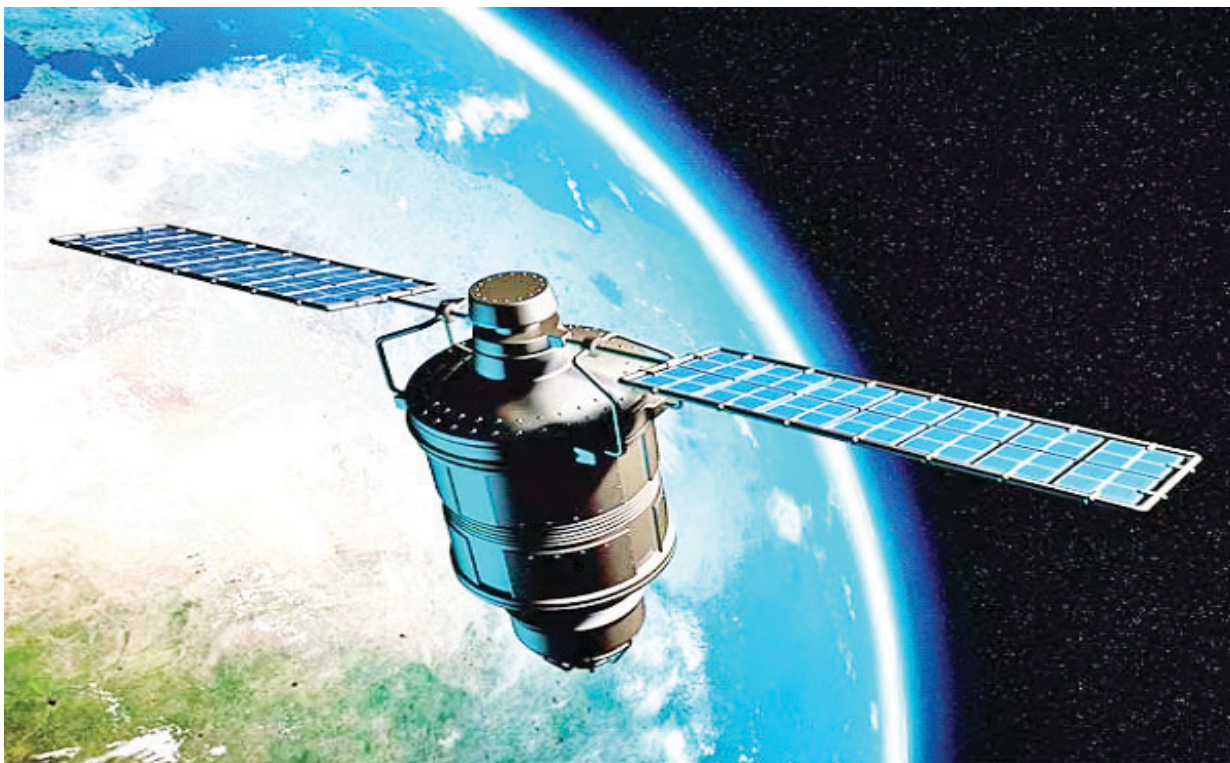
Germany, and the UK (Sharma, 2024). At the same time, this relationship has also faced hurdles in terms of limited cooperation with large-scale missions like the Cornerstones, where India has been kept at a distance by both the ESA and NASA (Sharma, 2024). Artemis program is an Icebreaker in such regard, establishing a platform for a full-fledged engagement with India. Meanwhile, in the joint Roscosmos and CNSA setup, India has remained disengaged as well as disinterested, given the recurring skirmishes and political tensions with China. However, it had enjoyed good relations with Roscosmos at the bilateral level in the past, sharing exploration data and being offered critical technologies like cryogenic engines in the initial years (Sharma, 2024). Nonetheless, over the recent years, there hasn't been any significant breakthrough in space relations. Meanwhile, for strategic reasons, the space programs of India and China have always remained competing in nature rather than collaborative due to persistent mutual distrust. The heightened tensions with China while Russia's increasing proximity with China, where Russia tends to remain a neutral party, has pushed India further closer to the United States and its European allies. In such considerations, there tends to be a natural push away for India from the engagement with Roscosmos and CNSA jointness, shadowing the prospects with IRLS as well. However, there may still be scope for Russia at the bilateral level, provided the cordial relations India enjoyed in the past.

In the second cluster, the Roscosmos and ESA relationship may be assumed

together in one set while Roscosmos and CNSA may be kept in the other. The ties between Roscosmos and ESA have been mending over the past two decades, with European countries joining the ISS program along with the joint interplanetary missions together for Mars. This relationship with Russia also benefited China, with its incorporation into ESA's S-class cornerstones for Solar winds studies scheduled in 2025 (Wang & Branduardi-Raymont, 2020). At the bilateral level, China has partnered with France for joint missions, successfully conducting the recent Space Variable Monitoring Mission (SWOM) in June 2024 (Xin, 2024). While multiple missions might have been on board for the discussion, the Ukraine crisis has created a serious situation and is causing irreversible damage to the mending ties. The potential threat of escalation in Eastern Europe has led to the suspension of space ties between the ESA and Roscosmos, which have been built over the years. The Chinese involvement has also gravely threatened the security situation in Europe, entering 'No Limits Partnership' with Russia and supporting its aggression through hardcore means, including military supplies, ground troops, and space assets (Blanchard, 2024; Lau, 2024; Eruygur, 2024). This unrestrained support risks inviting secondary sanctions, jeopardising ongoing projects, and threatening future space engagement with ESA and France. This also brings in the dimension of CNES-CNSA relations, where France is facing strategic competition from Russia in West Africa. Senegal's inclusion in the IRLS, supported by China, is a clear-cut indication of space diplomacy being

actively employed in high politics. In the event of a prolonged crisis in Eastern Europe with China providing unrestrained support for the aggression, France might have to reconsider the prospect of future space projects with China. Considering the Artemis and ILRS projects, these situations also overshadow the prospect of ESA joining the ILRS while already in the Artemis. In this overall scenario, being a neutral party in the crisis, India may assume the role of mediator and peacemaker. Meanwhile, by its space capabilities and steadfast trustworthiness, she may be seen as a suitable alternative for the resumption of suspended projects and considering partnership in future projects. More importantly, India's role as the balancing power pole is going to be even more significant as far as the strategic competition in the superimposed bipolarity is concerned. India- France and ISRO-ESA relations may benefit immensely from this situation.

Finally, in the third cluster, the prospects of the bilateral level engagement can be analysed in multiple sets. In the first set, NASA conflicts with CNSA, provided China's aggressive expansionist ambitions pose a severe threat to US security. In the second set, India is faced with a similar situation, already in constant and recurring conflict with China. At the same time, in the third set, NASA-Roscosmos relations are going down the drain, while in the fourth set, ISRO-NASA relations are taking an upward trajectory. Russia has significant strategic interests and longstanding ties with India, so it must be considered to put the balancing weight. She may do so, provided it could offer India something substantial in terms of technology breakthroughs for the space sector. At the same time, it must also reduce its dependence on China somehow while taking a tilt towards India in the long term to resolve its security concerns with China. Otherwise, in the current situation, India



and the USA are naturally aligned in the pursuit of common interests.

In addition to these cluster situations, some other considerable factors also need to be looked into concerning the overall global scenario to assess India's position more precisely. There are some brownie points with the ISRO and ESA-NASA dynamics, which have shifted dramatically in the past two decades. It has moved from the policy of seclusion to welcoming mutual association, seeking trustworthy and reliable partnerships. This attitude change is welcoming to India's drive towards Multilateralism. Nonetheless, there are also some red flags in terms of structural geopolitical fault lines. These tend to intersect the other two vertices of India's golden triangle in addition to Multilateralism, which involves Multipolarity and Strategic Autonomy. These fault lines consist of the frozen conflicts, be it the active theatres like Ukraine, Israel, Nagorno-Karabakh, and the Red Sea, or the potential flashpoints like the South China Sea. It is a misery as it complicates prudence in Science with the dogmatic rhetoric in Social Science by employing measures like sanctions, technology denial, and systematic disruptions across the different socio-economic channels. The scientific approach of neutrality in multipolarity with strategic autonomy may not necessarily coincide with multilateralism in an equilateral triangle of social science, thereby bringing India into a difficult position against globalist interests. This also calls out the enemy, adversary, and systematic competitor nexus that could be seriously troublesome for multilateral engagement. This effect

is pretty much apparent in the Artemis and ILRS membership where Ukraine, Israel, Poland, Armenia, and India side with the Artemis program, while their respective adversarial counterparts are incorporated into the ILRS program, like Russia, Egypt, Belarus, Azerbaijan, and Pakistan.

About these realities, where the symptoms of the Iron Curtain being drawn are already starting to surface, India's standing can be anticipated and well understood. It is evident as the Fifth power pole, where a natural tilt towards the United States joined by France is apparent, in the superimposed bipolarity over the multipolarity of the Space powers for the conquest of the Fifth geographic pole: The Moon.

The Way Forward

Theoretically, for India, the Space race, concerning the Iron Curtain, corresponds to the construct of Heartland- Rimland- Periphery, proposed by Halford Mackinder (Alcenat & Scott, 2008). According to this construct, the world is divided into three grand geographic regions: the Asian Heartland of the Old World, the Oceanic Rimland of the Atlantic-Indo-Pacific link, and the Periphery of the New World and Lower Africa. This theory suggests that whoever controls the heartland shall control the world. From the 'Dyau's' perspective, the entire Rimland extending from Europe to the Far East is sandwiched between the Heartland and the Periphery. With the US at the core of the Periphery and China at the centre of the heartland, there is constant pressure from either direction on the Rimland as both of them struggle to

expand their influence. The Iron Curtain is undesirable for the long-term stability of the Rimland. In extreme situations, this might spurt a Cheese burst out of the Rimland if pressured too much or otherwise rip apart the heartland and periphery buns on either side, provided the Rim remains solid.

In this situation, with India situated at the epicentre of the Rimland and being a capable space power, it must take responsibility for coming up with its alternative while working alongside the existing space networks and frameworks like Artemis and ILRS. To do that successfully, it must set the narrative right with a clear-headed perspective on the situation at the tactical, operational, strategic, and grand strategy levels. It must weigh between the factions carefully, between the Artemis and the ILRS, or to be in both. At the same time, India should consider its format of consolidating international

partnerships for the Moon as well as the interplanetary exploration and Celestial bodies like the Sun, Venus, and Saturn. In its strategic thought, it must consider diligently whether to extend the existing visionary ideas and leverage the existing multilateral forums like SCO, BRICS, G7, or G20 or to bring a new format incorporating strategic partners/nations capable of undertaking Space operations. India's call for 'Vasudhaiva Kutumbakam' involving Global South-Global North Convergence while emphasising the G-20 format must be weighed against the Strategic realities where 'Alliances and Partnerships' may serve the national interests better. However, in such a setup, India should remain considerate of 'Out of alliance pressures' Vis a Vis 'Intra-alliance resistance' and vice versa. In such considerations, some thoughtful ideas may be proposed that can be thoroughly introspective in a more properly simulated organisational setup.



At the tactical level, it is in the interest of India to move with the policy of keeping all the options open, siding with the two-bucket theory. With this approach, she can leverage its 'out of alliance' positioning to avoid troubled waters and be selective in boycotting and sanctioning practices, especially concerning the zones of military crisis. Simultaneously, India may utilise its Space assets for peaceful and humanitarian engagement in the distressed and conflict-affected zones. On the other hand, it can leverage intra-alliance/partnership opportunities, given the cordial and friendly relations with countries that have shared interests, like QUAD in the Indo-Pacific and I2U2 in West Asia. Here, India can extend Technology partnerships with alliance partners as well as potential allies while strengthening the Space Security structure with the partner countries.

At the operational level, the optimal policy might be to extend the reach into strategically significant geographical constructs, assuming significant geopolitical stability like Southeast Asia, the Pacific Islands, Africa, Central Asia, and the Indian Ocean Rim. Meanwhile, India may consider maintaining distance in the troubled zones of West Africa and not undertaking any significant charge other than assuming the role of peace-maker. It can certainly do more in the lower and eastern African regions extending its space-based services, and a similar can be assumed for Central Asia in the employment of its Space diplomacy.

At the Strategic level, the preferable approach is with 'Saturn,' which signifies Rationale with pragmatism,

and 'Mars,' cautioning against security threats (Astrological connotation). This translates to employing a practical approach that leverages strategic partnerships through building a network of regional epicentres with France, UAE, Australia, and Japan. Consolidation of this network would ensure long-term stability and continuity for large-scale space endeavours while cushioning against the adverse consequences of superimposed bipolarity and the Heartland-Periphery effect amidst the Iron Curtain being drawn.

Finally, the Grand Strategy may be along the vision of Vasudhaiv Kutumbkam following the approach of 'Jupiter' (Astrological connotation), which refers to prudence and consistent hard work. Here, India needs to come up with alternatives, like the Artemis and the ILRS, for the Moon, Sun, and other Interplanetary and deep space exploration endeavours. It may consider incorporating Global South countries at various levels, envisioning long-term cornerstone space projects while converging with the Global North. Otherwise, it may come up with a completely different and new outlet, something like the partnership of the Sun explorer countries.

Now, it is also important to understand that the concept of Vasudhaiv Kutumbkam, in its root form, is successful only with the presence of a single universally accepted entity: 'Pratham Poojya,' which is respected by every single faction on the Earth. While such an entity has not yet manifested itself, building a consensus-based institutional framework is the closest that India may aspire to achieve in pursuance of its

Grand Strategy. Therefore, minimising conflict, maximising scientific rationale, and preserving Multipolarity is the Way Forward.

Conclusion

The Geopolitical aspect of Outer Space is as much explored as the Scientific aspects itself, which is negligible as Space is limitless to the inception of mankind, and the scope is unlimited, therefore. However, human nature has pretty much been studied, and general behaviour is well understood, thanks to the efforts of social scientists. The geopolitics of Outer Space thus becomes fascinating as Science converges with Social Science. For this reason, a different and blended approach may be desirable, which is to observe the social aspect of geopolitics from the nth dimension/ space itself or the earth-space convergence point. Human nature is repetitive also, and it is bred in a confined environment by gravity as well as electromagnetic and nuclear forces. For this reason, inferences can be made through the empirical relationship between human virtues and activities while observing the geopolitics of space. The current relationship suggests the tendency to consolidate power driven by the competing, compelling, and contrasting idea of reshaping the world order. In terms of real-time power dynamics, few have the power to do so, and even fewer are capable in Outer Space. Among the capable United States and China are the ones driving the space race, whereas Russia is tempted and necessitated simultaneously to make a comeback.

Meanwhile, France and India are the balancing powers that have contrasting ideas on the global outlook and are concerned more with how outer space activity might impact the power dynamics on the Earth than the space domination itself in the reshaping world order. Therefore, they are exploring multiple avenues already available to them to leverage the existing opportunities within their national policy outlooks and realise their global vision in accordance. In the meantime, US and China-Russia are leading their space endeavours with the Artemis and International Lunar Research Station programs, where they are looking to incorporate other countries who could be potential allies or have strategic importance, irrespective of their actual space capabilities. The role of new entrants and second-rate space powers is becoming important in such regard. This strategic competition is leading to the anticipation of the new Iron Curtain being drawn as the fault lines are griming between the contesting nations, and they face each other head to head in the Final Frontier of Space. In this superimposed bipolarity over the existing multipolar world order, India, being a considerate and responsible power that intends to preserve the Multipolarity, has an important role to play in defying the new Iron Curtain. It must, therefore, bring like-minded partners together as a leader, including France and others, bringing its alternative for space exploration, utilisation, and governance. At last, prudence must prevail over dogmas so that Humankind may free up the Space for the Outer Space.

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