CSIS BRIEFS

Orbital Dynamics

The Domestic and Foreign Policy Forces Shaping Latin American Engagement in Space

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THE ISSUE

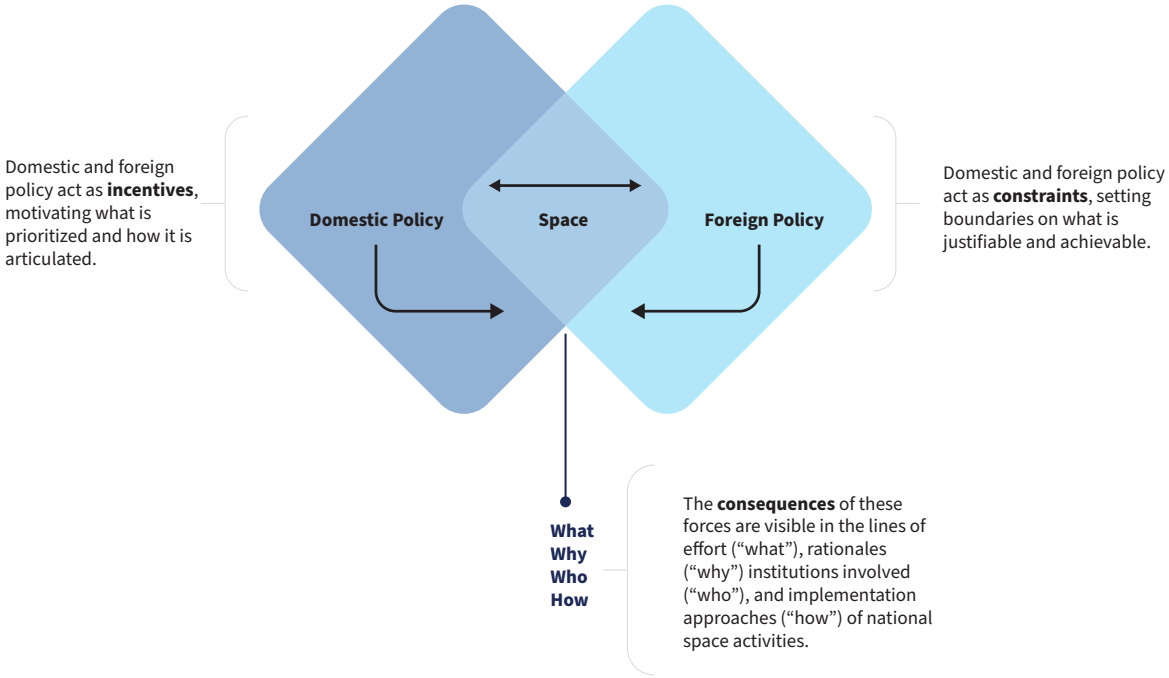
Today's space activities in Latin America are built on decades of government activity and involve a variety of countries and non-governmental actors. An understudied topic, these efforts have involved extensive international cooperation and largely focus on activities tied to societal benefits. China has been a leading partner in many Latin American space projects and the primary focus of U.S. interest in space activities in the region. While important in the context of U.S.-China competition, this approach proves limiting in understanding the real imperatives and constraints behind international space engagement in the region, whether with China or the many other nations with which Latin American countries collaborate in space. Understanding the complex domestic and foreign policy factors impacting these choices is essential for developing U.S. engagement strategies and policies that fully leverage the vital opportunities afforded by space activities in the context of U.S.–Latin American relations.

INTRODUCTION

Space developments in Latin America remain relatively unknown to U.S. analysts and policymakers. One reason is that the outsized presence of China—responsible for the launch of over a dozen satellites on behalf of Latin American countries—is so often the focal point of English-language **study** of this topic. This analytical approach is typically framed as a chapter in the larger story of great power competition, with emphasis on **strategic and security concerns** given **relative U.S. disengagement** with the region. Yet it does little to explain why Latin American countries choose space-related partnerships with China—or, just as importantly, because the world has multiple spheres of influence and nations do not split cleanly into two sides, why they choose many other international partners.

It is not just about great power politics. Latin American actors operate in space as they do in other domains, with complex moves in both the domestic and foreign policy **realms**. When placed in a broader context that considers domestic constraints, as well as international foreign policy objectives, the complex modalities of international space engagement in the region—featuring civil and defense actors, civil society, academia, and industry—start to make more sense. For example, **extensive** Chinese-Brazilian collaboration to develop and operate the China-Brazil Earth Resources Satellite (CBERS) program has not prevented Brazil from making its proposed **contributions** to the United States' Moon exploration program Artemis or participating in space security **exchanges** with the U.S. military. Instead, these reflect Brazil's "universalist" approach to space cooperation, which echoes a foreign policy **tradition** of active nonalignment to keep all avenues of collaboration open.

Figure 1: Domestic and Foreign Policy Considerations as Drivers and Constraints of Space Activities



Source: Author's design.

It matters why and how Latin American space actors engage internationally. While Latin American countries' choices in space partners are not simply an indication of attitudes toward the United States, these developments do have implications for U.S. strategic objectives, both in space and beyond. Oversimplifying these choices and failing to understand the drivers and constraints of space activities in the region risks the development of partnership strategies that fail to meet the needs of potential partners and are thus not seen as viable alternatives. It could also close the door on other opportunities beyond the realm of space. Efforts to advance U.S. objectives in the region would thus prove challenging and ineffective, with significant geopolitical implications.

More broadly, space activities are linked to some of the most pressing issues facing decisionmakers today, from national security to agricultural production in the face of climate change. Latin American countries have observed the experience of actors such as India, which has successfully integrated space into its national development agenda, and thus see the potential for space to serve as a cross-cutting tool to address national priorities. The successful integration of space tools and applications is therefore pivotal in addressing the key Latin American issues of today, whether to support efforts to curb **illegal fishing**, understand the Venezuela-Guyana **territorial border** dispute, or assess recovery after Rio Grande do Sul's **devastating floods**.

This brief captures findings from a yearlong study of the international engagement efforts of a subset of Latin American space actors through the lens of both domestic and foreign policy. It draws on extensive reading of primary and secondary sources in English, Spanish, and Portuguese; analysis of presentations and public remarks; and not-for-attribution interviews with government officials and other experts. The study fills a gap in the literature by shedding light on the broader context of space development in Latin America, where international cooperation has been central. Ultimately, this work seeks to contribute to the development of U.S. engagement strategies and policies that fully leverage the vital opportunities afforded by space activities in U.S.–Latin American relations.

The brief first paints a broad picture of space development and international space engagement in Latin America. It then examines three case studies that exemplify different types of international engagement, discussing the domestic and foreign policy drivers and constraints impacting these efforts. The brief then closes by assessing the implications for U.S. policymakers, offering several recommendations.

AN "EMERGING" SPACE REGION

Space activities are not new to Latin American countries. Space development in Latin America can be grouped into **three general periods**. The first began in the 1960s with

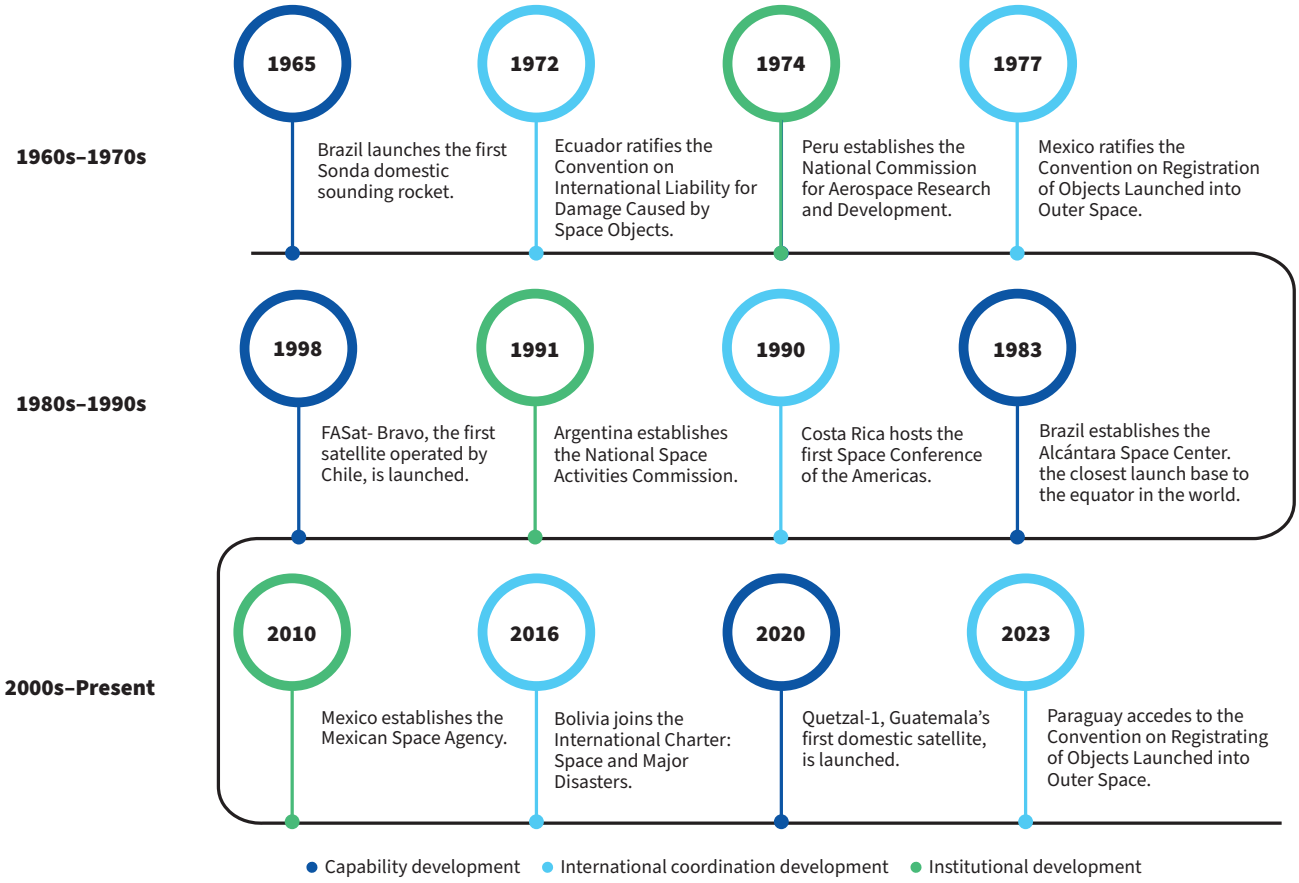
Argentina and Brazil establishing space-focused entities and adopting a similar strategic approach to space as that of the United States, China, and the Soviet Union. Next, these early, largely military-led programs shifted to wholly civil or dual-use approaches in the 1990s amid the post-Cold War security landscape. The third and current phase exhibits important milestones across a wider set of countries and actors, such as universities and private companies.

Stated priorities continue to focus on acquiring, leveraging, or developing space technologies for societal need, with a particular emphasis on telecommunications and Earth observation rather than human spaceflight. For instance, the head of the Brazilian Space Agency (AEB), commenting on potential Brazilian contributions to the National Aeronautics and Space Administration (NASA)'s Artemis program, noted that while sending an astronaut to space "generates visibility," it is "not the most important thing in the Brazilian space program. Its primary objective, from the beginning, is to generate benefits for society."

There is "profound heterogeneity" in the region's space activities, which nevertheless share basic principles–such as support for the core international space treaties–and often retain an operational and leadership role for the military. A discussion of the space-related milestones achieved by the many Latin American countries is beyond the scope of this paper. It is important to note, however, that these have included activity across the technology, institutional, and international cooperation domains since the beginning–such as Ecuador ratifying the Convention on International Liability for Damage Caused by Space Objects (one of the core international space treaties) in 1972 and Costa Rica hosting the first Space Conference of the Americas in 1990. The diversity and breadth of activity in Latin America exhibits the limitations of simply describing it as an "emerging" space region, which implies that there has been very little activity and only very recently.

Latin American countries' international engagement on space issues has been a core tenet since the 1960s. As

Figure 2: Select Major Milestones in Latin American Space Development



Source: Author's research based on multiple sources, including the UN Accessing Space Treaty Resources Online (ASTRO) platform and others cited throughout this report.

reflected in Brazil's **National Program for Space Activities, PNAE 2022–2031**, international cooperation is both a means (to advance national space development) as well as an end (to strengthen strategic alliances). In addition, every one of the projects of Argentina's National Space Activities Commission (CONAE) has been developed through international cooperation, **according** to its director.

Whereas discussion of international cooperation tends to highlight joint projects or bilateral development efforts, Latin American space engagement has notably featured leadership in international coordination and cooperation bodies. Argentina, Brazil, and Mexico were among the 18 member states of the 1958 UN ad hoc **Committee on the Peaceful Uses of Outer Space** (COPUOS), which later become a permanent committee and remains central for information exchange and cooperation in the peaceful use of space. Via national subject-matter experts and through the UN Group of Latin American Countries, the region has had significant weight in multilateral space governance efforts. This includes Brazil chairing a 2019 COPUOS session at which members adopted a set of **voluntary best practices** for space activities and Chile chairing the 2022 UN-convened working group on **space threats**, which saw active engagement from several other countries in the region.

Finally, today's space activities in Latin America are increasingly spreading to the nongovernment realm, with new business ventures, including **start-ups**, being stood up even in countries with **no national space programs**. Presenting a new set of challenges for how to govern space activities, multiple civil society and advocacy organizations have formed to support the Latin American space industry and address the constraints on entry into the global space market. Worthy of future research, this is yet another dynamic that illustrates shared regional conditions and challenges. Taken as a whole, the Latin American space landscape is complex, full of energy, and hosts a diverse set of space actors who continue to advance international partnerships and engagement.

THREE LOOKS AT INTERNATIONAL SPACE ENGAGEMENT IN LATIN AMERICA

Foreign and domestic policy considerations motivate and constrain the space activities of Latin American nations in ways that impact the priorities and lines of effort ("what"), rationales ("why"), institutions involved ("who"), and implementation approaches ("how") of such efforts. The following case studies examine different types of international engagement among several actors. Selected collaborations do not include China and cannot be explained by great power politics, thereby highlighting the complexities at play in Latin American space decisions beyond strategic rivalry. Additionally, while these efforts began with decisions made decades ago, they represent important developments shaping space activities today.

AUTONOMY AND DEPENDENCY IN CHILE'S NATIONAL SATELLITES

Unique among its neighbors, Chile opted to meet national security needs for data about its territory by sourcing Earth observation satellites commercially. The Chilean Air Force (FACh) used technology transfer contracts to procure its first national Earth observation satellites, FASat-Alpha and FASat-Bravo, from the United Kingdom's Surrey Satellite Technology Ltd. (SSTL), then the lead manufacturer of commercial small satellites for international customers. In 1998, it **successfully** orbited FASat-Bravo after FASat-Alpha **failed** to deploy in 1995. The satellite's successor, FASat-Charlie, was procured from Europe's Astrium (now Airbus Defence and Space, which owns SSTL) and **launched** in 2011. Registered under the Chilean flag, the satellites added highly prized **experience** in satellite operations to Chile's existing knowledge base on the interpretation and use of images and data from air- and space-borne remote sensing systems.

In 2019, Chile **announced** a new national space effort. The National Satellite System (SNSat) would not just replace the aging FASat-Charlie but also include a national development component so that Chilean engineers would build the bulk of a new constellation of **10 small satellites**. SNSat also includes plans to spread infrastructure and capacity **more widely** across Chile, helping address the development gap between Santiago and outer regions. Supported by an **interministerial** space council and a draft national space policy released for **public comment** in November 2023, SNSat attempts to address **earlier calls** for a national space program that meets **national needs**.

The differing narratives behind these efforts, however, demonstrate the disconnects among the major Chilean institutions involved in space activities and the limitations of a program housed in a branch of the armed services. In August 2023, the Ministry of Defense, FACh, and

FACh brigadier general Luis Felipe Sáez speaking at the Space Summit during FIDAE 2024.

Photo: Laura Delgado López/CSIS.

Senate of Chile hosted a conference on "**national space sovereignty**." While this makes sense from a military standpoint, this was criticized by several Chilean experts interviewed because speaking of "sovereignty" is at odds with international space law, which Chilean diplomats have long promoted and which explicitly prohibits sovereignty claims in space. Rather than a concerted shift in policy, inconsistencies such as this reflect domestic divides between operational/military voices and diplomatic voices speaking independently.

The utilization of FASat-Charlie is also telling. A recent article **found** that Chile's National Forestry Corporation (CONAF) did not use images from Charlie during the 2019–21 wildfire seasons, as had earlier been **reported**. Conversations with experts pointed to a combination of issues, including limited awareness of actual distribution channels, military restrictions on access, and the lack of a governance system to facilitate wider use. For example, FASat-Charlie was procured under a now-defunct law that allocated revenues from copper mining to purchases of materiel. With the satellite classified as a weapons system, it was required to remain within military control. In addition, the initial absence of guidelines to determine satellite tasking priority and distribution protocols for nonmilitary users frustrated civilians requesting imagery from FACh's **Aerophotogrammetric Service** (SAF). Compounded by required user fees for SAF-processed data products, which added to both costs and delays, Chileans "turned elsewhere" to meet their satellite imagery needs, according to a former SAF official. Many governmental and private users turned to international sources of data, which could at times be acquired more quickly and cheaply. For example, **Copernicus Chile**, an imagery hub at the University of Chile, provides private and public institutions with data from the European satellite system Copernicus.

This complicated landscape has shaped the approach to SNSat, which is built on a **long-term ambition** of increased technical autonomy, including access to assets that Chile does not develop independently. Before the June 2023 **launch** of FASat-Delta—the first microsatellite under SNSat—Chile celebrated the first **successful download** of images from a virtual constellation of 200 foreign satellites. Providing access to different data types (e.g., radar and multispectral images beyond the visible range), the arrangement provides continuity to FASat-Charlie while better serving nonmilitary applications such as scientific research.

However, SNSat involves difficult trade-offs. In contrast to its predecessors, FASat-Delta is not operated by FACh but by its contractor, Israeli company ImageSat International. As **co-owner**, FACh has priority access to data from the satellite—but only through a service arrangement, rather than direct satellite tasking. Recent diplomatic tensions between Chile and Israel have raised concerns about potential impacts. In March 2024, President Gabriel Boric **excluded** Israel from participating in the International Air and Space Fair (FIDAE) in Santiago. This was **consistent** with the president's criticisms of Israeli actions in Gaza, an issue that has drawn significant **domestic attention** in Chile, which has the largest Palestinian diaspora outside of the Middle East. Nevertheless, this move was **widely criticized** for risking the multidecadal **alliance** with Israel in the **scientific and defense** realm upon which Chile **relies**. "The government's decision could leave Chile without its satellites, which is very serious from the point of view of controlling the country's security," said former officials in an interview. While the Chilean government confirmed that it had no intentions of **severing** relations, Israel **pulled** its military attaché from its embassy in Santiago.

Beyond the diplomatic strife, FASat-Delta is already facing technical challenges. As of May 2024, 300 days after launch, Delta was **not yet operational** due to issues discovered during validation and testing. Furthermore, until a ground segment antenna is installed in Chilean territory, a required component for receiving signals from the satellite as it passes overhead, FACh will not be able to download images directly.

For the time being, the delay in operations will increase users' real and perceived reliance on external capabilities, complicating efforts to sustain the long-term political and resource investment required to execute the full vision for SNSat. In this landscape, leveraging frameworks such as the domestic space council to coordinate the apparently divergent national space communities will be essential for generating stakeholder buy-in. If successful at integrating space-related decisions into a larger **national discourse**, Chile's experience will be helpful for other Latin American countries navigating the delicate balance between autonomy and dependency in space capabilities.

SABIA-MAR: SOUTH-SOUTH COMPETITION AND COOPERATION

The relationship between Argentina and Brazil reflects broad **waves** of "advances and setbacks, comings and goings" as each country navigates its perceived regional and international standing and the dependencies of a shared border. Likewise, space is "a **lagging** (not leading) indicator of bilateral relations."

After a period of intense distrust over concerns that the other nation was developing nuclear weapons, Argentina and Brazil reached a **landmark** bilateral solution to the nuclear question that paved the way for other collaboration. In 1989, Argentina and Brazil (now both under civilian rule) issued a joint presidential **declaration** calling space cooperation a "multiplying factor" in sustainable development. In 1996, shortly after establishing their own civil space agencies, the parties signed a **framework agreement** that has been repeatedly expanded and still guides their overarching space cooperation. From early integration and testing of Argentina's Science Application Satellites series in Brazilian facilities to the use of Argentinean industry **components** on Brazil's first homegrown satellite, Amazonia-1, the partners' increasingly complex technical cooperation efforts are now focused on a major shared priority: water. With Argentina's CONAE marking over **30 years** of "looking at Earth from space" and Brazil's efforts to manage its strategic maritime territory known as the Blue Amazon, the ocean-focused effort is a "**natural partnership**."

During a **state visit** to Buenos Aires in 2008, Brazilian president Luiz Inácio "Lula" da Silva issued a joint statement with Argentinian president Cristina Fernández de Kirchner endorsing the satellite project and noting the "strategic" nature of the bilateral relationship. Having evolved from an initial concept in 1998 which was further fleshed out in **subsequent** agreements, the Satellite for Applications Based on Environmental Marine Information (SABIA-Mar) project **kicked off** with the goal of developing two identical satellites for ocean monitoring and mapping.

Yet each side did not make progress at the same rate. Significant resource constraints in Brazil were exacerbated by setbacks such as the delayed development of the Multi-Mission Platform (MMP), the satellite bus Brazil was to contribute to the project, and the 2013 failure of CBERS-3, a satellite in the joint program with China. To ensure the continuous flow of data, China and Brazil **accelerated** development of CBERS-4 by one year, drawing resources away from other projects. Thus, despite healthy relations between AEB and CONAE, Brazil had little to show for its part in SABIA-Mar a decade in, and its role in the project was uncertain. Tellingly, in the **PNAE**, Brazil's 10-year space plan released in late 2021, SABIA-Mar was listed as a "proposed project" that could potentially use "spare parts" from another satellite. According to an expert then working at AEB, the agency conducted an internal review in 2021 on what had happened with the project and came up with options for consideration, including formal withdrawal.

A combination of technical and political factors turned the tide in 2023. One of these was the success of Brazil's first fully domestic satellite, Amazonia-1, which launched in 2021 and demonstrated the maturity of the MMP. On the political side, President Lula's return to power in January 2023 overlapped with the end of President Alberto Fernán-

Lula and Fernández de Kirchner at an event in 2015.

Photo: Juan Mabromata/AFP via Getty Images.

dez's term (and consequently Fernández de Kirchner's term as vice president), prompting a quick **warming** of relations. Intent on reengaging with allies after the "**radical departure**" of President Jair Bolsonaro, Brazil hurried to strengthen ties through high-level engagements that included cooperation on **science** and **space** in advance of a similarly dramatic change in leadership in Argentina later that year. At last, with Brazil **recommitting** to its participation in the project, the partners are **working to** field two satellites: SABIA-Mar 1 will be fully developed by Argentina and SABIA-Mar 2 will be Brazil's responsibility.

Despite these encouraging steps, SABIA-Mar's future is uncertain. Resource commitments are in no way a given in Brazil, which invested only about a third of the monies required to execute space activities envisioned in its previous 10-year plan. Now under President Javier Milei's administration, Argentina has significantly slashed government spending as part of austerity measures and maintains a tense relationship with Brazil—making it uncertain whether Argentina's satellite will complete **development** by the 2026 target launch date.

Back in 2008, during his **speech** in Buenos Aires, President Lula spoke of the bilateral alliance being "indispensable" to each country's national goals and to the need to emphasize areas of agreement over the differences he acknowledged would always exist. Today's tensions between Brazil's and Argentina's leaders increase the risk that these differences, while unlikely to threaten long-standing strategic interests, may overtake cooperative efforts, especially if problems arise that require diverting already limited resources. Analysts have pointed to the **risks** carried by recent visible, petty fights among Latin American leaders, noting that "multiple presidents fighting with each other as if they're trying to win a reality show means that governing and cooperation do not occur." While space is not going to play a leading role in the bilateral Argentina-Brazil relationship, the **latest** dispute between Presidents Milei and Lula could mean projects such as SABIA-Mar get caught in the crossfire as the relationship ebbs and flows over the coming years. Ultimately, if SABIA-Mar is successful, it will indeed be Latin America's "**most significant example of South–South cooperation**," not just because of complex technical demands but also due to the interplay of forces involved in maintaining this collaboration through the decades.

LATIN AMERICA'S ESA?

The Latin American and Caribbean Space Agency (ALCE) **was launched** in Mexico City in 2021 at a session of the Community of Latin American and Caribbean States (CELAC) presided by Mexico. Co-championed **by Argentina**, which has proposed a regional space entity in its national space plans since 2000, ALCE's roots can be **traced back** to the 1970s.

While much has been written about Latin America's **expectations** regarding the region's **long hoped-for** counterpart to the European Space Agency (ESA), ALCE is just now on the cusp of beginning formal operations. Written into ALCE's constitutive agreement is a requirement that at least 11 countries ratify it before it enters into force. Even as ALCE continues to garner signatories—21 countries as of May 2024—formal ratification has proven challenging. Reflecting on the challenges of clearing this "legal-diplomatic" hurdle, the Mexican representative to ALCE, Ambassador Gustavo Alonso Cabrera Rodríguez, lamented the confluence of institutional and political factors that has led to the significant delay. Speaking at **FIDAE** in April 2024, he wondered at the willingness of members to assign dedicated representatives, saying that without designated space institutions such issues default to the ministers of foreign relations and thus depend on "individual relationships." This has meant that supporters have needed to actively promote the agency even among countries that have already committed to joining, making the formalization step lengthier and less certain. Nevertheless, with ratifications **trickling in**, reaching 10 as of May 2024, experts close to the effort confirmed that ALCE intends to launch formal operations by the end of the year.

The issues Cabrera Rodríguez raised regarding the formalization of the agreement ironically point to a problem ALCE is itself intended to resolve: the absence of an entry point for sustained regional cooperation. Not unique to the space realm, the lack of sustained political integration has been a persistent challenge for Latin America, which hosts **over 30** regional organizations and forums, all with varying degrees of legitimacy. In contrast with **Africa**, which has rallied around the African Union as the most legitimate regional voice on several issues, Latin America has no such central representative body. Regional and subregional groups such as the Pacific Alliance and the Union of South American Nations

View of the CELAC summit in 2024. ALCE was announced during the 2021 CELAC summit.

Photo: Randy Brooks/AFP via Getty Images.

wax and wane in relevance and tend not to represent the region's views consistently or speak for all countries. CELAC itself was arguably created "as a counterweight to U.S. influence in the region," an alternative to the Organization of American States (OAS), which includes both Canada and the United States. Similarly, while the idea of a regional space agency is old, there has not been consensus on its membership. Analysts have faulted "**political grievances**" for the decades-long delay in establishing ALCE and note Brazil's absence—**blamed** on political differences—as a major weakness. Although Brazilian officials have spoken positively of ALCE, Brazil has not agreed to join on the basis that it was not a member of CELAC when it was negotiated.

Important questions regarding how ALCE will finance its activities remain tied to the problem of sustaining domestic political support for it within member countries. As Cabrera Rodríguez said, it will be difficult to make investment in the agency attractive in a "**scenario of scarcity or apparent scarcity**." **Related challenges**, such as the asymmetries of national space capabilities in the region, reflect a circular situation: ALCE may need to exist to create the necessary domestic support to sustain it. In some ways, it could help coordinate a space community with widely disconnected pockets of expertise, but only if national governments provide consistent support. ALCE is by nature a political effort and subject to the broader dynamics that have made regional integration a challenge—such as polarization and staunch support for sovereignty driven by a history of interventionism. There are already ideological **differences** that are reputedly preventing certain space nations, including Colombia and Ecuador, from joining ALCE. It is likely no accident that ALCE has been given a "**coordinator role** for regional space activities instead of a more political role."

The interest ALCE has garnered from external partners is significant and only likely to increase as formal operations begin. The ESA and the Korea Aerospace Research Institute, among other space agencies, have already proposed collaboration with ALCE. In addition, "China is very interested," said Cabrera Rodríguez in **April** and again in May during the first **China-CELAC** space forum, in Wuhan. ALCE has also been welcomed to the new **Ibero-American Network of Aerospace Agencies**, which is coordinated by the Organization of Ibero-American States and includes the Portuguese Space Agency. These nods of recognition, along with the persistent need for more stable institutions handling space topics, may continue to help boost the effort. ALCE is not Latin America's ESA—but it could fill at least some of the need for integration on space issues in a region fraught with fragmentation.

POLICY IMPLICATIONS AND RECOMMENDATIONS

These examples serve as a reminder that space activities do not exist in isolation. Chile's experiences with FASat and SNSat demonstrate how domestic constraints can create international positions and relationships that do not necessarily result from a determined foreign policy direction. SABIA-Mar shows an alternate scenario, wherein a project supported by a stable relationship at the institutional level is alternately buffeted and aided by higher-order shifts between the country's leaders. Finally, the journey to an operational regional space agency, ALCE, reflects Latin America's tortuous relationship with political integration even as it opens new avenues of external engagement.

With space activities thus naturally rooted in domestic and regional realities, the analysis of Latin American international space engagement benefits greatly from looking beyond great power politics. Overall, Latin American countries have many options to meet their space technology and application needs, and a mix of factors (e.g., eager partners, competing domestic stakeholders, and foreign policy strategies such as **hedging**) will continue to be reflected in space alliances.

Why does this matter for the United States? U.S. national space policy highlights the need to expand the country's space alliances. The bipartisan objectives articulated in

the **2020 National Space Policy**, the 2021 **U.S. Space Priorities Framework**, and the **2022 National Security Strategy** include diversifying strategic partnerships with emerging and middle space powers and strengthening global governance of space activities in line with U.S. principles. But the United States should change the way it approaches these issues with potential new partners. It cannot be guided solely on the assumption that geopolitical imperatives drive Latin American space partnerships, rendering space as just a way for nations to pick sides in the U.S.-China rivalry. The United States needs to recognize that the complex space alliances prevalent in Latin America are not simply a function of its own actions but a reflection of the interplay of numerous countries' domestic and foreign policy drivers.

In light of this, U.S. space engagement in the region should:

1. **Demonstrate a whole-of-government approach to bilateral engagement across Latin America.** Due to impermanent roles surrounding space, a single, national point of contact often does not exist among Latin American actors. Coupled with patchwork institutional frameworks that exacerbate gaps among the communities involved in space, U.S. partners may find that there are many different, even contradictory positions on space issues and that no single decisionmaker is able to drive forward an effort. Moreover, there is a proliferation of dual-use programs that serve both civil and defense needs, reflecting the already blurred lines between civil, defense, and commercial space efforts.

   Unfortunately, U.S. engagement with its Latin American counterparts tends to be siloed—with **civil space** visits on the one hand and **military-only** discussions on the other, even while both seek expanded collaboration. In nations such as Chile that lack a civil space agency comparable to NASA and that are pursuing dual-use programs involving civil and defense entities, limiting conversations to U.S. civil space agencies or to U.S. defense agencies is risky. This severely limits the effectiveness of relationship-building efforts intended to develop shared understanding on space issues and ultimately advance common priorities.

   The somewhat fractured nature of some of the space communities in Latin America should not deter U.S. engagement but instead invite an integrated whole-of-government approach, as called for in the **U.S. Strategic Framework for Space Diplomacy**. The United States should build on existing successes—such as the Space Force's bilateral data-sharing agreements on space situational awareness, as well as civil space agencies' leadership in the regional Earth observation collaboration framework, **AmeriGEO**—to better integrate space issues into its broader relations with regional partners. This engagement could be modeled after the **comprehensive dialogues** the United States has held on space with important allies such as France and Japan. Even if it is not appropriate to elevate certain Latin American relationships to that level, this approach could inform engagement with key security partners such as Colombia or economic partners such as Mexico and Chile. In addition to facilitating collaboration across the U.S. agencies already engaged in Latin America, this would enable the United States to contribute subject-matter expertise and resources from across the government, modeling the kind of effective institutional coordination that strengthens the U.S. space program.
2. **Expand engagement to other multilateral settings, even ones not dedicated to space.** The United States should better leverage other regional forums and venues, such as the OAS and the Summit of the Americas, to create sustained engagement on space topics. Knowing that the opportunities and risks associated with space technology are not widely recognized across the different decisionmaking communities in Latin America, U.S. decisionmakers should not assume that space capabilities are being leveraged or even considered as part of collective efforts on issues such as cybersecurity, public health, or food insecurity. More consistent integration of space-related applications by U.S. agencies involved in these efforts can help foster important stakeholder connections on the Latin American side, drawing leaders' attention to space and benefiting even communities with few or no dedicated space institutions.

A more intentional engagement strategy that takes space discussions beyond the usual venues also presents an opportunity to counter **China's extensive reach** in formal and informal regional forums. For instance, China's engagement with CELAC, an organization it prefers because it excludes the United States, includes a **space element**. The recently expanded BRICS alliance, which evolved from an economic-oriented grouping of Brazil, Russia, India, China, and South Africa into a larger political and economic forum, has also gained **relevance** in the space domain. From coordination projects such as the **BRICS Joint Committee on Space Cooperation**, which was announced in 2021 and is intended to enable satellite data sharing, to statements on **space sustainability and space security** in the 2024 BRICS declaration, it is clear that members see the alliance as a legitimate forum to align on space issues. To enhance coordination and collaboration with like-minded Latin American space nations, the United States should adopt a more agile engagement strategy that consistently includes space on the regional agenda.

3. **Expand collaboration on national space governance topics.** Since security considerations mean technology transfer arrangements may not be on the table for U.S.–Latin America collaboration, the United States should expand efforts in other substantive areas informed by the unique dynamics of the region. This should include national governance—the combination of policy, law, and regulation, supported by institutional frameworks—of space activities. The inconsistencies and misalignments referenced in this report sometimes result from gaps in these areas and threaten both the successful implementation of national programs and efforts to elevate space in the list of priorities. Licensing regimes for commercial space efforts, the development of mechanisms for regular engagement with nongovernment actors, and research-to-operations strategies that enhance adoption of government-funded science are among the many governance topics ripe for bilateral and multilateral dialogue.

   The United States can draw on its experience with Latin American nations but also involve partners such as Canada to share perspectives on adopting governance models tailored to a different government structure and that seek different goals. These topics—while not as headline-worthy as joint hardware development projects—are a natural extension of the region's substantial **support** for important U.S.-led space-governance efforts such as the Artemis Accords. In elaborating on how such principles are put into practice in a way that can account for the unique challenges of countries in the region, such collaboration could help advance national governance in Latin America, thereby advancing space development.

CONCLUSION

International space engagement in Latin America is not about apolitical calculations driven by technological needs, nor does it represent just another front in the U.S.-China great power rivalry. It is instead a landscape where complex domestic and foreign policy factors interact to both motivate and constrain the choices Latin American countries make about space activities.

The challenges at hand for the space programs in Latin America do not correspond simply to a lack of funding or technical know-how. Ultimately, for space activities to help advance national priorities, they should be rooted in the domestic and international policy strategies of each nation. To be a strong ally and meet its own strategic objectives in space and in Latin America, the United States should shift how it approaches its regional space engagement. The considerations and recommendations in this brief can inform enhanced strategic partnerships, including cooperation on new areas such as developing institutional frameworks and bringing space discussions outside of traditional space forums.

The Latin American space landscape is complex, but it is one that potential partners in the United States can navigate. As a leading regional expert argued recently, among the **advantages** the region presents for the United States is that it is both "far" from global conflicts and "near" U.S. markets. Space collaboration presents a valuable opportunity to bring the United States and Latin American partners closer—contributing to relationships that are stronger, more strategic, and better positioned to address the shared challenges of today and tomorrow. ■

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