

Opinion: Challenges and Opportunities for Brazil in Space¹

Lucas Fonseca and Sidney Nakahodo

The recent discussions about opening the Alcantara base to commercial activities have occurred in an era of rapid transformations in the global space sector. The theme acquires additional relevance in the face of bilateral negotiations between Brazil and the United States involving technology transfer and development.

In parallel, the agreement between aircraft manufacturers Embraer and Boeing brings to the public debate issues such as sovereignty and competitive strategy in high technology sectors. The subject is relevant due to the growing impact of space activities on society, the rapid expansion of the space sector leveraged by private participation, and changes in the international space scenario.

Although they occupy a prominent place in the contemporary world, space activities often go unnoticed. Telecommunications, GPS, and weather forecast are just some areas dependent on space infrastructure. In the coming years, its importance will accelerate with the demand for broadband access and applications related to the Internet of Things (IoT).

Furthermore, the new perspectives for the sector, which range from tourism to capturing valuable resources in abundance beyond Earth's orbit, will make it a multi-billion market. The absence of a long-term action plan compromises not only the space industry but the entire present and future value chain associated with it.

In recent years, private participation has advanced by leaps and bounds. Previously restricted to large conglomerates, NewSpace, characterized by commercial activities carried out by entrepreneurs and startups, has become increasingly relevant. The innovative mindset inspired by the Silicon Valley experience has enabled the rapid evolution of the space sector.

Companies like SpaceX, founded by Elon Musk, and Blue Origin, by Amazon creator Jeff Bezos, two of the richest individuals on the planet, have been rapidly reducing the cost of access to space. At the same time, roughly one hundred startups are creating launch solutions with different capabilities.

¹ The original article was published in Portuguese as “Opinião: desafios e oportunidades do Brasil no espaço.” Revista Galileu, January 4, 2019.
<https://revistagalileu.globo.com/Ciencia/Espaco/noticia/2019/01/opiniao-desafios-e-oportunidades-do-brasil-no-espaco.html>.

Besides the US and Europe, China and India have long offered launch options on the international scene. Countries like Luxembourg and New Zealand are developing policies to attract certain segments within the space infrastructure — mining of space resources and assembly of small launchers, respectively — serving as a benchmark for other nations and luring entrepreneurs in niche areas. NewSpace is a large umbrella that covers different verticals, offering opportunities for countries of all sizes and at different development stages to effectively participate in building the global space economy.

It would be naive to imagine that private investment might replace public funding in the short term. Even in the US, where the NewSpace ecosystem is advancing rapidly, there is a perception that the space industry will only grow at the expected pace with public sector participation through investment and regulatory frameworks favorable to commercial activities. With that in mind, we can avoid making past mistakes, including trying to reinvent the wheel, as happened in the '80s with laws that attempted to promote an indigenous computer industry while preventing access to the latest technology. It will continue to be up to the State to define national priorities considering the existing global reality.

Despite having one of the oldest space programs, Brazil continues to seek its vocation in the sector. For a country with few accomplishments in the area, it is necessary to concentrate efforts on areas in which it is naturally endowed and has comparative advantages.

Promoting a commercial launch center in Alcântara — the best site for launching rockets on the planet — that benefits private companies or even contribute to the expansion of space infrastructure to the benefit of sectors such as agribusiness represents practical actions that seize opportunities from competitive differentiation already available in the country. It is also worth pointing out that building space system capabilities depends on a whole set of technologies and a productive ecosystem, which ranges from the construction of satellites to the qualification of the information that reaches the end user.

Therefore, Brazil's initiative to seek alternatives to make the commercial exploitation of the Alcântara base is a step in the right direction. Understandably, there are those who argue in favor of prioritizing other issues, given the moment of institutional uncertainty and the need to address high crime rates and low economic growth.

In contrast, few strategic sectors, like space, demand long-term thinking. The renewed interest creates an opportunity to advance on a subject of political, economic, and social relevance in the present, allowing us to begin to deconstruct

the image of the "country of the future," whose optimistic message hides the unrealized potential that perennially plagues us. It is up to Brazil to decide its place in this new context: actor or audience.