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Enabling safe commercial spaceflight: vehicles and spaceports (3)

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A SAFETY AND COMPETITIVE ANALYSIS OF ALCANTARA SPACEPORT

**Abstract**

In the last ten years New Space had become even more a reality to the space market. The democratization of space is followed by the miniaturization of satellites and cheaper launches in a way that enables space exploration for companies, universities and even individuals. Data from the last 10 years shows that this movement on the space market had broken out several launch companies and launch vehicles. Not only this creates new opportunities for satellite companies but also stimulates the creation and commercialization of Spaceports. This scenario is not only happening in space's traditional markets but it is also happening in Brazil. In 2020, with the safeguard agreement, Brazil opened Alcantara Spaceport to commercial activities and it is now looking for companies to operate from its Space Launch Center, which raises the question: "What are the main advantages for a space company to launch from Alcantara Spaceport?". This work aims to answer this question by comparing Alcantara Spaceport with all other active commercial spaceports around the world. To do so, an analysis is needed focusing on three main subjects: Space Law, Costs and Safety. The analysis not only focuses on comparing these three topics between spaceports but also complement by correlating these topics to show how an operation in Alcantara is supported by a space regulation and a strategic location that enable an optimal level of safety with low costs. Into the analysis are also included the costs of operation, liability analysis, launch safety analysis and environment safety. By doing so, this work was able to show the main advantages for launching from Alcantara Spaceport and why the space operation from Brazil is a safe and cheaper option for launch companies.