

# **Extra-US Space Flight Economy: Less Known Private Companies Going to Space**



In the past decade the Space flight industry has seen a boom in media coverage mainly due to the involvement of private players in reaching above the sky with further goals. This coverage has been mainly concentrated on a few companies concentrated in the US, and this article's goal is to explore the work of other companies outside of the US and what it tells us about the landscape of space exploration.

Among the known American companies involved in space exploration, we can cite the most important ones, such as SpaceX, Blue Origin or Sierra Nevada Corporation. It is important to underline that this company work mainly through contracts with official American Agencies such as NASA or the USA air Force, which are prone to open certain projects to the private sector. In comparison, there are very few other countries that are as advanced in terms of technologies and ready to outsource parts of their most important objectives.

In order to assess the Extra-US space flight economy we will look at different regions and how the private sector contributes. There are three very active regions with certain similarities, namely Europe, with a unilateral approach, Russia with a historical competitiveness and Asian players such as China, India and Japan.

In Europe the space industry itself grew significantly, in an effort to strengthen the region in the International picture. Though it lacks private liberty as the space model is very much centralized around governmental space agencies such as the ESA (European Space Agency). While Airbus, the french multinational known for its airliner production, has a dedicated department called Defense and Space, it is very much linked to governmental activity, with the biggest part of their sales concerning the defense part. In 2007 they announced the plan to start a tourist flight in orbit but the project never reached the heights of its American counterparts. It is important to notice that Europe has put an emphasis on being independent in terms of space conquest. This means a heavy push from an intragovernmental institution, though it does not allow extravagant companies to push through with their own vision or aim for the future of space flight.

In this second part we chose to focus on the European neighbour, Russia. Given the importance of Russia, the natural successor of the USSR, in the importance of the space industry today, Russia is undeniably a place of potential. Today, in a country where the English Lingua franca is not yet a fact, prior expertise from the USSR as well as the pool of talent getting educated in some of the most renowned universities in the world. While the program shares with Europe the common goal of placing itself as autonomous and being able to grow independently from the US, it has more importance in its domestic land. For Russia the space sector is also important as a main tool to display its strength and the people are quite attached to it with Cosmonautics Day being celebrated by most people. This is important to understand the position of private companies in Russia who are mainly evolving through contracts with RosCosmos (the Russian NASA). Though most of the companies that are able to succeed in attaining those contracts are more than linked to the government, one of them is called RKK Energia and is responsible for a great number of Russian space launches and flight though it is undeniably linked to Russian politics. In addition to that, all other smaller companies involved in some part of the spaceflight industries are invested through joint ventures by the Russian government.

We will now look at the very important part of the world which we occidental media tends to often overlook, that is Asia. China is by far the most likely region to host the biggest contribution to spaceflight development, with investors looking at the future and a powerfully

growing economy. The similarity in the wideness of the projects and goals displayed by the likes of both regions (US and China) is observable. Non state run companies like LandSpace and i-Space which have both succeeded in reaching earth orbit. More than that there are several startups with extensive capital back up that are now emerging in the Chinese scene, this is mainly due to the domestic policy change to allow private actors into the market. Since then China has become one of the most important investors in the industry, reaching with the USA and Europe an 85% share of the entire space market.

Concerning Japan, we are looking at a landscape much more similar to that of Europe. Indeed, we can observe big companies, too important not to be, to a certain degree, seen as a public good taking an important role in the development of the industry. These companies, just like the one in France, are also involved in the security sector and to that regard cannot be described as independent from the state itself. Concerning the potential for newcomers in the industry, the barrier to entry is once again similar to the European one, but side doors are present.

Lastly but not least we have India, who while a small current player, displays a great interest, opening foreign investment to the sector and planning on reaching a share of 10% of the total terrestrial investment. Having a peculiar goal to the space race, India stays apart once again from the rest of the world with a space program different from its other industry. Indeed India is not promoting space as a security measure nor does it consider the industry vital to the country, but rather as a means to position itself for what it believes to be a future commercial industry. Once again in the race to reach orbit privately, India's Skyroot Aerospace, has made some promising advances and is looking to send its first satellite in the near future.

In conclusion the private space industry when looking at its most protected aspect, i.e the ownership of the launched vehicle is different by rights in every region. This is of course understandable as each country sees it as a security issue and a vital sector for their economies. Looking at it from this perspective we can see how different actors see in the private sector an opportunity to grow and be more efficient like China and the USA and how others like Europe or Japan are trying to reproduce their defence sector model. Through this article though we can observe a general trend in that the most successful companies and more importantly, projects tend to be the ones that are supported in terms of freedom. The main scale of success being reaching orbit and hence showing the world a hopeful and reachable future in space. Indeed, if a few decade ago the emptiness of space was reachable only through the cold competition of two belligerents, we can now be certain that space flight will be within range of some individuals and someday to more than some.