

Alcimed

Press Release

China: the emergence of a space giant

Alcimed, a consulting company specializing in innovation and new market development, reports on the emergence of China, a player in the rapidly changing space industry, and its impact on historical players.

Toulouse, November 2, 2017 - China's in-depth knowledge of many space technologies and its positioning throughout the industrial value chain make it a serious competitor on the international scene. What are China's space ambitions today? What changes will they bring for the traditional actors, and how can we envisage Sino-foreign space cooperation?

A three-stage spatial development

Like many other countries, China began its space adventure **in the 1950s** with military and political motivations. **Despite its difficult beginnings, China quickly achieved remarkable success**, with the successful launch of ballistic missiles and the launch of satellites in orbit as early as the 1960s and 1970s.

From the 1980s to the 2000s, the opening to the market economy and economic growth led to a major reorganization of the space industry, which at the same time was **refocusing on a few priority projects**. **After a series of failures, the successes multiplied in the 2000s**: successful launches of Long March 2/3, entry into the international launcher market, development of the DFH-4 satellites, being the 3rd country to send men into space by their own means, robotic explorers on the Moon...

The decade 2010-2020 marks China's emergence as a new space giant. The diversity of China's space activities now allows it to offer services along the entire value chain: **a complete range of launchers, the production of satellites** with high technological functionalities, **satellite operator services**, etc., sometimes in head-to-head competition with the historical players. Chinese activities are also emerging in areas such as **satellite navigation** (Beidou constellation, operational in 2020) or **space exploration** (Tiangong station, men on the moon by 2030). In addition, Chinese players are now positioning themselves on **emerging issues** such as the reuse of launchers and constellations of communication satellites.

An industrial sector directly managed by the Chinese State

China's space industry is almost exclusively state-run, through the Ministry of Industry (MIIT), the State Agency for Public Enterprises (SASAC), and the People's Liberation Army (PLA). **Two large state conglomerates: CASC** (China Aerospace Science and Technology Corporation) and **CASIC** (China Aerospace Science & Industry Corporation), share a very significant part of this industry, with civil and commercial activity for the CASC (see box) and a more military positioning for the CASIC.

The complete flowchart of space actors in China is on **very complex**. *"Nevertheless, the main trends are known thanks to the directions established in the five-year plans, the spatial white papers, as well as the more targeted development plans such as Broadband China for telecoms."*, specifies Jean Deville, a consultant at the ALCIMED Toulouse office. Since the 2000s, there has been a trend towards the specialization of entities, the gradual withdrawal of the State from management in order to boost competitiveness, and a (very) gradual liberalization of certain space activities such as satellite connectivity services.

Historical space players in face of new Chinese entrants

	Launchers	Satellites	Operators
Traditional players	ArianeGroup (<i>Ariane V</i>) 	Thales Alenia Space 	Eutelsat 
	SpaceX (<i>Falcon 9</i>) 	Airbus DS 	SES 
	United Launch Alliance (<i>Atlas V, Delta IV</i>) 	Boeing 	Intelsat 
	International Launch Services (<i>Proton, Angara</i>) 	Orbital ATK 	Inmarsat 
		Lockheed Martin 	...
Chinese players	CGWIC ¹ (China Great Wall Industry Corporation) 	CAST ¹ (China Academy of Science and Technology) 	APT Satellite ¹ 
			China Satcom ¹ 

¹ CGWIC, CAST, China Satcom and APT Satellite are different entities of CASC, which has more than 170,000 employees and revenues of €40 billion in 2014.

What opportunities for Sino-foreign space cooperation?

Space cooperation between Western countries and China is not new: France, for example, signed an intergovernmental space cooperation agreement in 1997. **However, it is mainly limited to the scientific field** for European actors and has been almost non-existent with the United States since the implementation of a space embargo in the 2000s. **In the private sector, initiatives by foreign players such as Inmarsat (satellite telecom operator) or Gilat (satellite ground terminals) in order to take advantage of the vast Chinese market are becoming more and more numerous, often in the form of joint ventures.**

However, Sino-foreign cooperation in the space sector remains difficult. Beyond the cultural and historical problems that are common to all sectors, the main obstacle remains the Chinese State which, through its desire for industrial independence, voluntarily chooses not to depend on any foreign partner. This generates **mistrust among Western actors when setting up strategic partnerships;** mistrust shared by other similar sectors with the recent emergence of Chinese industrial giants (CRRC in high-speed trains, AECC in aircraft engines, AVIC and COMAC in aircraft construction...). However, the arrival of Chinese players on Western markets and the strong interest of Western players in the highly regulated but lucrative Chinese market will lead to **compromises that could result in an increased presence of players on both sides in certain markets,** such as satellite telecom services.

"Scientific cooperation between space agencies (particularly European and Chinese) should continue to intensify thanks to smaller sovereignty issues and a real willingness on the part of Beijing to involve foreign partners in its space exploration projects, led by the future Chinese space station Tiangong", explains Alexandre Savin, Director of the ALCIMED Toulouse Office.

About ALCIMED - www.alcimed.com

Founded in 1993, Alcimed is an Innovation and New Business Consulting firm specialized in sectors driven by innovation: life sciences (food, biotech, healthcare), energy, environment, aeronautics, chemicals, cosmetics, materials, building, transportation, space and defense. Our purpose is to help both private and public decision-makers exploring and developing uncharted territories, dealing with new technologies, new offers, new geographies, possible futures, and new ways to innovate. Alcimed's clients are: industrial leaders, start-ups, SMEs, major companies, private equity players and public institutions. Alcimed's team is made up of 200 highly-skilled, multicultural, passionate individuals with a double culture in science/technology and business. ALCIMED is headquartered in Paris and has offices in Lyon & Toulouse in France, in Germany, Belgium, Switzerland, the UK, the USA and in Singapore.

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