

# Chinese Startup Wants to Replace Chemical Rocket with Electromagnetic Power to Launch Satellites

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Guangzhou-based company Guoyao Tech announced a roadmap to complete a prototype launch of 10 kg by 2022 and short-range tonnage launch by electromagnetic by 2023. The company is developing a novel launch system - based on electromagnetic technology that would essentially bring satellite and human into space.

The company was founded in 2017 and emerged into the public eye in 2018 after acquiring seed funding and hired Dr Yadong Zhang as the Chief Technology Officer. In October 2019, after the company successfully completed the prototype electromagnetic launcher, it secured \$1.5 million in Series A funding.

Dr Yadong Zhang, spokesperson and Chief Technology Officer at Guoyao said that the electromagnetic launching technology has a huge potential in Aerospace but not just limited to rocket launch. It can also be applied to various forms of civil rescue and field exploration scenarios. "In early 2020, our team has successfully produced the world's first electromagnetic thrower for commercial use. The rescue equipment product has been granted 20 innovation patents in China. And by August, the production capacity can reach up to 150,000 units a year," Zhang added.

Guoyao is attempting to cut the cost of manned, low Earth orbit (LEO) launch to \$2.6 million per launch by 2025. It will be the only electromagnetic launch system that will be capable of sending human into orbit without the traditional use of chemical rockets.

Zhang further explained that "Our team has a strong background in electromagnetic launching technology and can quickly start the technology validation phase. And just to talk about a few advantages of the electromagnetic launch.

- The operation is flexible and can allow multiple payloads per day into Low Earth orbit, which can fully meet the launching demand of future commercial and military satellites.
- No environmental damage from electromagnetic launch and low risk of storage management
- The use of electromagnetic launch technology could eventually replace the first stage of rocket propulsion. The electromagnetic launch can be done without the need for staged propulsion, and can throw satellite directly into near-Earth orbit.
- Electromagnetic launch is inexpensive compared to conventional chemical rockets. We aim to cut the launch cost to \$600 per kilogram of payload."

## About Guoyao Tech

Guoyao Technology aims to reshape space launch by innovating electromagnetic technology to create an electromagnetic coil system that can launch rocket and accelerate the launch vehicle to First Universal Velocity. The company is planning for a lab-sized launch platform and aims to set up a terrestrial-base launch platform by 2025.

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