

# SpaceX

**Essay by Team VRC High-school Alpha Entity**

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Space X in full is space exploration. It is an American spacecraft launcher, manufacturer and a satellite communications corporation headquartered in Hawthorne California. Space X was founded in 2002 by the world's greatest entrepreneur Elon Musk with a stated goal of reducing space transportation costs to enable the colonization of Mars.



### WHAT SPACE X CAN DO:

For security, technology is a critical component in making companies more secure and for the case of skills it has long stood as a valuable tool for helping STEM companies like SpaceX accomplish goals more efficiently. The rise of robotics and technology has enabled the homosapien to understand more about the universe and the earth it lives within. It is with proof that SpaceX has improved on the way people live, the astronauts are able to learn more beyond what they study in geography.

SpaceX is working or building on the achievements of Falcon 9, its working on a next generation of fully reusable launch vehicles capable of transporting people to Mars and other far destinations around the solar system, SpaceX has employed very many people hence improving on the way people live.

It has been a source of government revenue hence attracts tourism that brings in income which is collected and later paid to the government.



It works hand in hand with NASA to do the space exploitation. SpaceX is known for being a private company that can return a space craft from low earth orbit.

### CHALLENGES THEY FACE

Commercial market stagnations. Stagnation is a term that describes an economy with little or no growth for a prolonged period of time. The overall market for space launches is not big. And although SpaceX has dominated the market, demand for geo satcom launches has stagnated. Lower demand has been widely viewed as the new normal, which explains why suppliers are beginning to bail.

Civil space safety. NASA Administrator James Bridgestone went ballistic when he heard that Elon Musk had smoked marijuana on a podcast, and ordered a safety review of Musk's two companies. Bridgestone has a reason to be nervous, because U.S. astronauts have been hitching rides on Russian rockets since the Space Shuttle was retired in 2011.

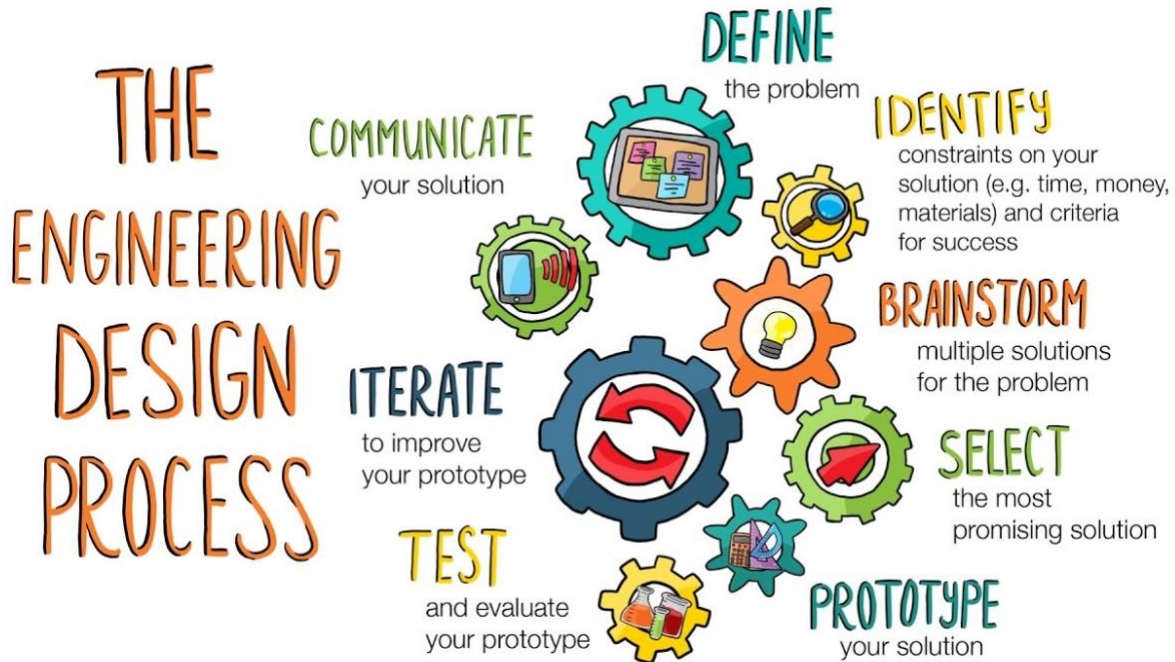


Weak enterprise profitability. A Bloomberg account of the debt placement noted that the company included prepayments by customers in its earnings calculations while excluding some research expenditures. Without those adjustments, it said, the company would have sustained a loss. And a lot of money has been invested and profitability lies solely on their ability to launch successfully.



Oversized capital requirements. Going to Mars is expensive. It requires all sorts of costly equipment that doesn't currently exist, SpaceX was hoping that the Air Force would pay the bill for developing its Super Heavy Starship (capable of lifting a hundred astronauts at once), so SpaceX will have to

generate the necessary funding internally or seek outside financing due to the outcome of the recent military launch.



We as a team chose to review SpaceX because the STEM careers they hire comprise mainly of engineers, whether software, electrical, mechanical or technical engineers. They also use the engineering design process to implement Elon Musk's idea of flying to and colonizing planet Mars at a low cost. And despite failing quite a number of times and almost facing bankruptcy, they are one of the most successful STEM companies today.



According to many reports written on them, SpaceX uses the “iterative design” process, building vehicles, testing them and flying them as quickly as possible, whereas other aerospace organizations would rather spend years refining the vehicle’s design before actually building and testing. Most of the professionals in this company are engineers and innovators so naturally they know the importance of the engineering design process but due to the use of their iterative design, they also know how to accept failure, such as their very own Falcon 1 failing all three flights, due to engine failure in one flight and failure to reach the orbit in another.



Their professional approach doesn’t differ from ours that much, as we are a team that also prefers to build and test, then correct any mistakes. In our team we have a variety of aspirations, from software engineers, to biomedical engineers, to neurosurgeons, and participation in VEX Robotics has definitely made us more aware of the importance on the engineering design process and therefore better prepared us for any future STEM careers that we may take interest in.

