

53. Starship

In 2018-2019, Elon Musk was not satisfied with just SpaceX's success with its Falcon rockets; his vision was to enable human life on Mars, an ambition the Falcon 9 and Falcon Heavy could not fulfill. Thus, he embarked on developing a more formidable, reusable rocket named initially as the BFR (Big F**king Rocket), which was later renamed to "Starship." This rocket, towering at 390 feet with a two-stage system, promised to deliver more than a hundred tons of payload into orbit and eventually transport a hundred passengers to Mars. Despite the intense demands at Tesla, Musk dedicated time to conceptualizing the aesthetics and functionalities required for a nine-month journey to Mars in the Starship.

Musk's interest in materials led him to appreciate stainless steel for its resilience and affordability compared to other materials like carbon fiber, which was initially considered for Starship. Challenges with carbon fiber, including its susceptibility to wrinkling and high costs, pushed Musk towards stainless steel, a material historically used in early Atlas rockets and planned for the Cybertruck. His team, led by engineer Bill Riley, faced skepticism but eventually proved that stainless steel was advantageous due to its strength at low temperatures and its cost-efficiency in manufacture.

The innovation didn't stop at material selection. Musk's approach was hands-on and practical, favoring direct input from workers on the ground over theoretical expertise. This approach led to the development of a thinner, yet reliable, stainless steel structure for Starship, challenging conventional expectations and leading to the successful assembly of a prototype known as Starhopper.

Musk's aggressive project management style included controversial decisions, like the moment he considered halting the Falcon Heavy program to focus resources on Starship. However, Gwynne Shotwell, a top executive at SpaceX, convinced him otherwise, showcasing the tension and high stakes involved in SpaceX's ambitious projects.

Ultimately, Musk chose Boca Chica, Texas, for Starship's development, transforming the quiet locale into a bustling hub of innovation named "Starbase." The site featured manufacturing facilities and amenities for the team, underlined by Musk's belief in the critical importance of their mission for humanity's future in space. This chapter from SpaceX's history illustrates Musk's unrelenting drive to push the boundaries of space exploration, marked by his willingness to rethink conventional wisdom and embrace bold engineering and management practices.