

SpaceX Interplanetary Transportation System

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SpaceX w/ Elon Musk press conference YouTube May 3, 2017
SpaceX developing a Space Transportation System similar to Trans Union Pacific Railroad to California
Pay to go to Mars get a return trip if wanted FREE
Looking for Entrepreneurs going to Mars to develop Mars infrastructure
SpaceX developing Gulf Coast manufacturing & launch sites
Launch Timeline to Mars: 2022, 2024, 2027, 2029, 2031, 2033, 2035, 2037
Mars flights starting in 2022
Probability of death HIGH on first mission to Mars
Cost of Ticket - \$ _____
Trip from Earth to Mars 6-8 months, potential of down to 3 months (new rocket technology)
100 person +/- per Starship Crew, 1000 starships potential in fleet
Rocket Propellant - refueling in Earth orbit, propellant production on Mars, Refueling in Mars orbit (video marker 1:34:46 graphic)
Refueling in orbit - send tanker into orbit, send Mars vehicle into orbit, refuel Mars vehicle, , transfer crew to re-fueled ship
In orbit - starships re-fueled by propellant tankers, cargo loaded from cargo
$2H_2O + CO_2$ (abundant on Mars) --> $(2)O_2 + CH_4$ (propellant created on Mars)
CH ₄ /O ₂ propellant - Deep Cryo. Methanol, Methane
10 Billion Invested overall to established Mars Transportation System
Team up with SpaceX - wanting additional companies putting space craft up Mars colonial fleet - hundreds of starships waiting in orbit
All will launch in mass during the Mars Launch Window that occurs every 26 months
Astronaut Core - scientist, engineers, construction specialists, n cargo loaded with personal luggage

<u>Starship Launch System</u>		
<u>Starship Rocket Name</u>	<u>Function</u>	<u>Destination / Payload</u>
Crew	Crew of (5) & Passenger Quarters and Habitat for 100 persons	Moon, Mars, Beyond
Tanker	Refueling in orbit	On-orbit refueling
Cargo	Crew of (5) quarters & habitat, primary storage for cargo	~1000 m3 usable volume
Lunar	Lunar Orbit and landing	NASA Artemis HLS, will never re-enter Earth's atmos.
Deep Space	Stripped down for deep space. No re-entry hardware	

