

TEM UM CARRO NO ESPAÇO!

A composite image showing a red sports car in space. The car is positioned in the lower-left foreground, with its front wheel and part of the hood visible. An astronaut in a white spacesuit is seated in the driver's seat, looking out towards the Earth. The background is a large, curved view of the Earth from space, showing blue oceans, white clouds, and brown landmasses. The overall scene is set against the blackness of space.

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A long-exposure photograph of a rocket launch at night. A bright orange arc of light curves across the dark sky, starting from the bottom left and ending near the top right. The word "MOTIVAÇÃO" is written in white, bold, uppercase letters across the middle of the image.

MOTIVAÇÃO

0 QUE ACONTECEU:

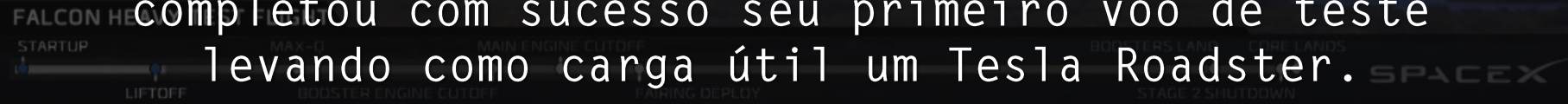


T+ 00:00:09

STAGE 2	TELEMETRY
SPEED	ALTITUDE
00115 km/h	00.1 km
UPCOMING	MAX-Q
LIFTOFF THE HOLDDOWN CLAMPS HAVE RELEASED FALCON HEAVY AND WE HAVE BEGUN OUR TEST FLIGHT	

06 de Fevereiro de 2018:

0 Falcon Heavy, foguete mais potente da atualidade, completou com sucesso seu primeiro voo de teste levando como carga útil um Tesla Roadster.



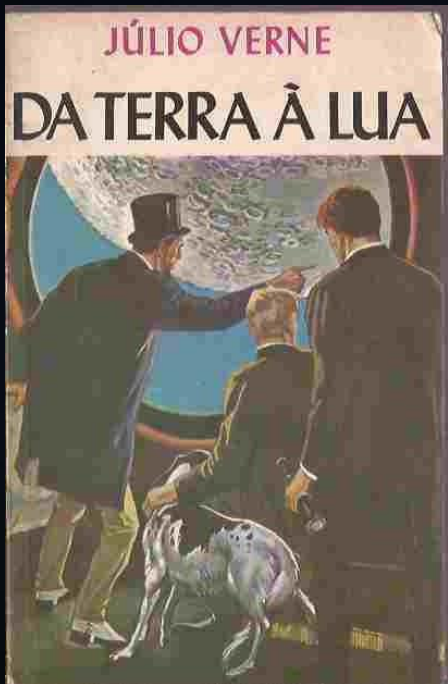
COMO FOI NOTICIADO:



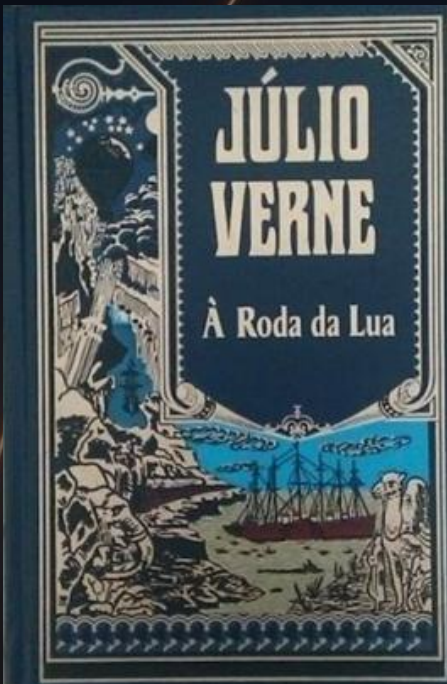
A rocket launch is shown against a dark night sky. A bright orange and yellow trail of fire and smoke curves upwards from the bottom left towards the top right. The text is overlaid on the lower half of the image.

**FOGUETES MODERNOS:
RESUMO MUITO RESUMIDO**

VIAGEM ESPACIAL???



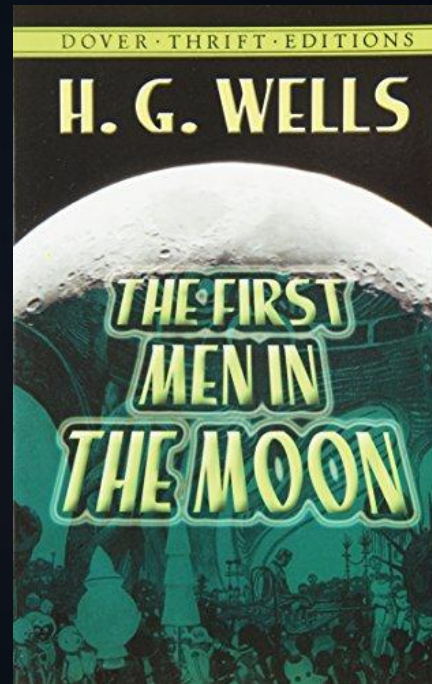
1865



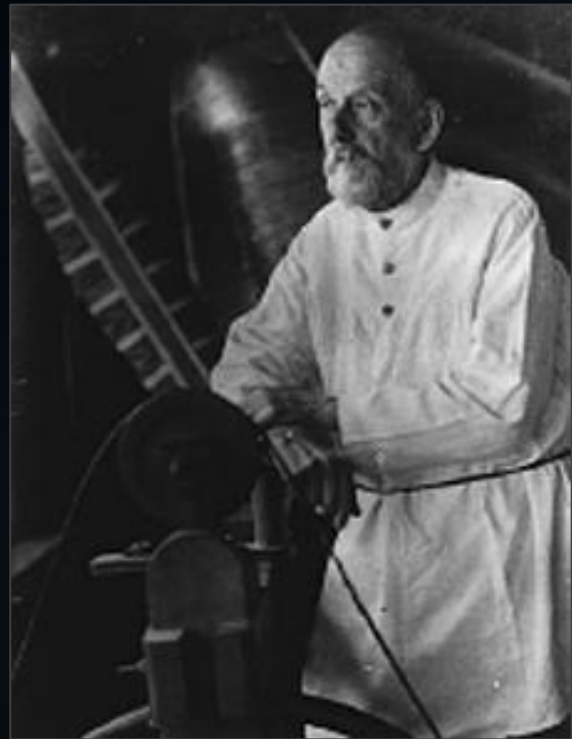
1870



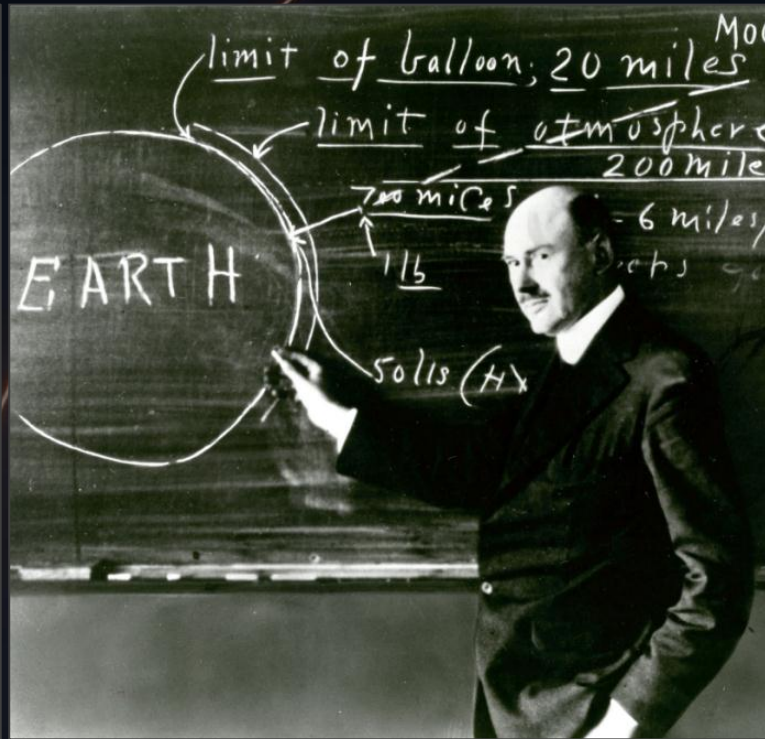
1897



1901



Konstantin Tsiolkovsky
(1857 - 1935)
“Pai dos foguetes”



Robert Goddard
(1882 - 1945)
“Pai dos foguetes modernos”



Herman Potočnik
(1892 - 1929)
Estação espacial

1944: MÍSSIL BALÍSTICO V2 🙄



*Wernher von Braun
(1912 - 1977)*



FOGUETES “MULTI-ESTÁGIO”

SATURN V LAUNCH VEHICLE

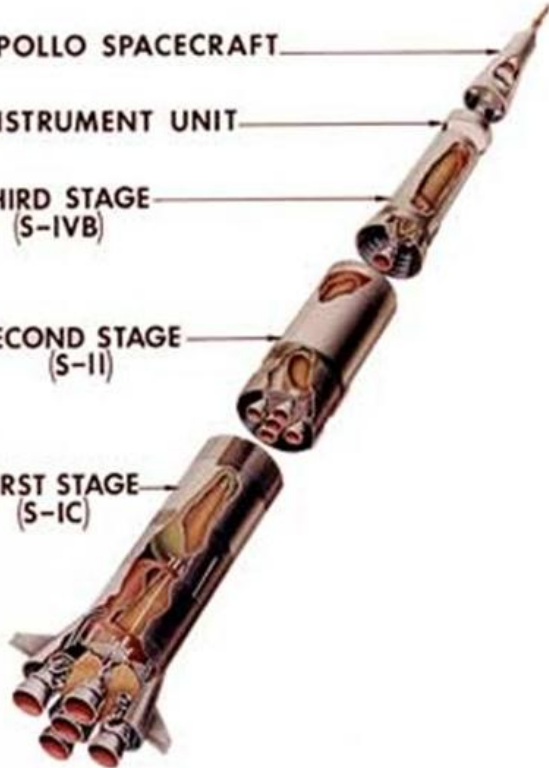
APOLLO SPACECRAFT

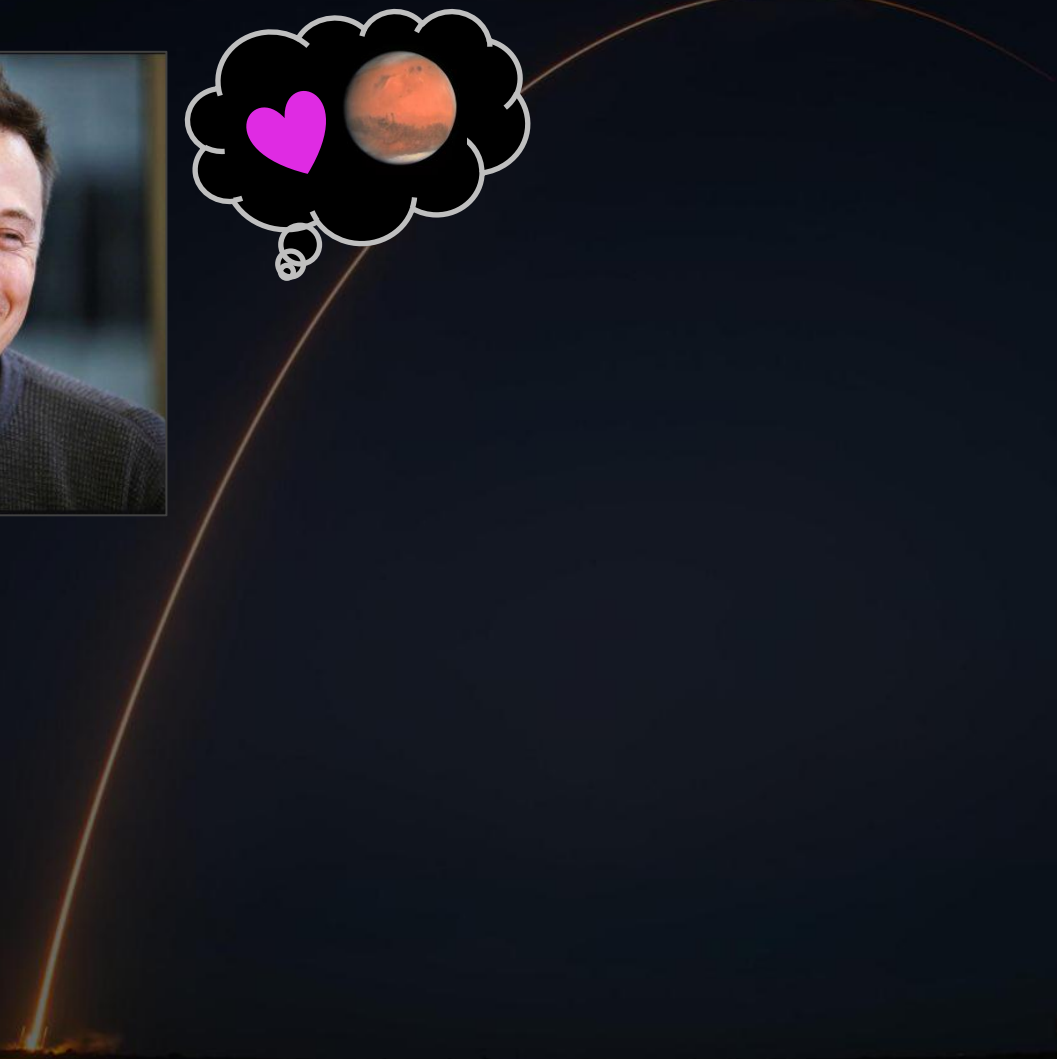
INSTRUMENT UNIT

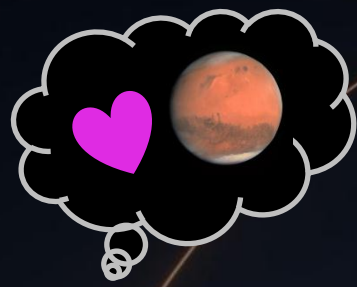
THIRD STAGE
(S-IVB)

SECOND STAGE
(S-II)

FIRST STAGE
(S-IC)







2001: Mars Oasis



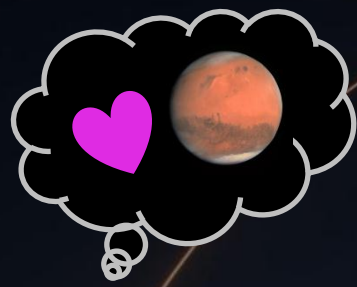
Atenção para exploração espacial



Mais \$\$ para a NASA



Porém, \$\$\$



2001: Mars Oasis



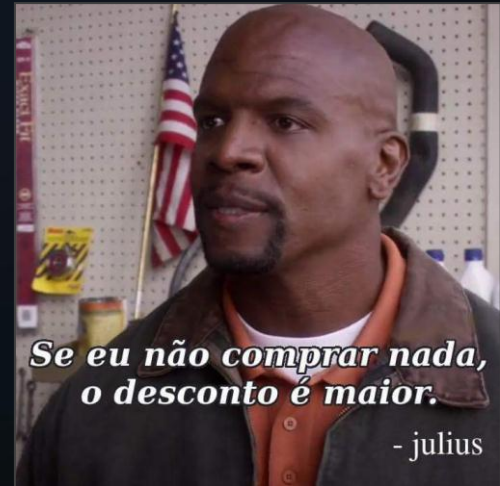
Atenção para exploração espacial



Mais \$\$ para a NASA



Porém, \$\$\$





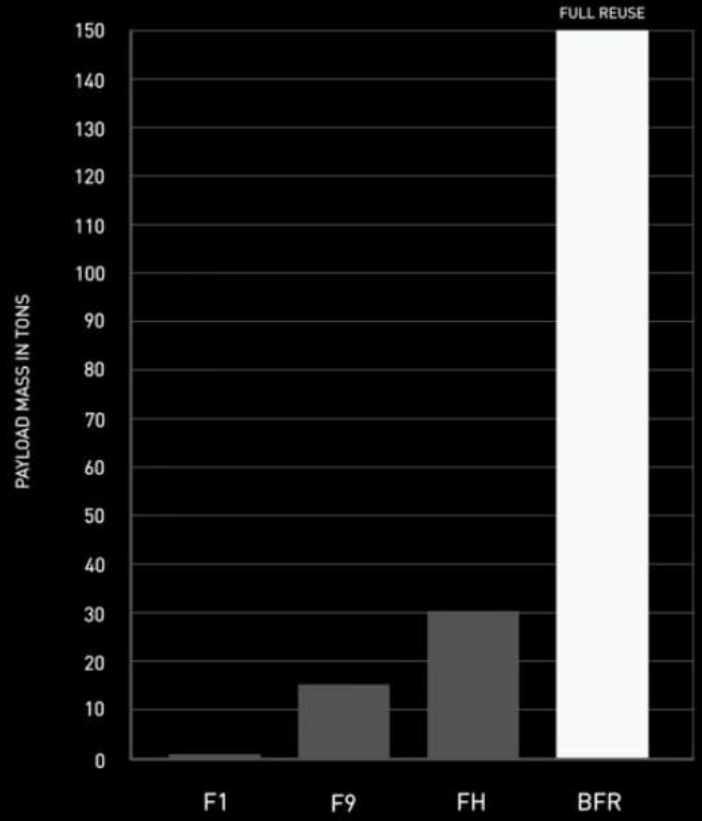
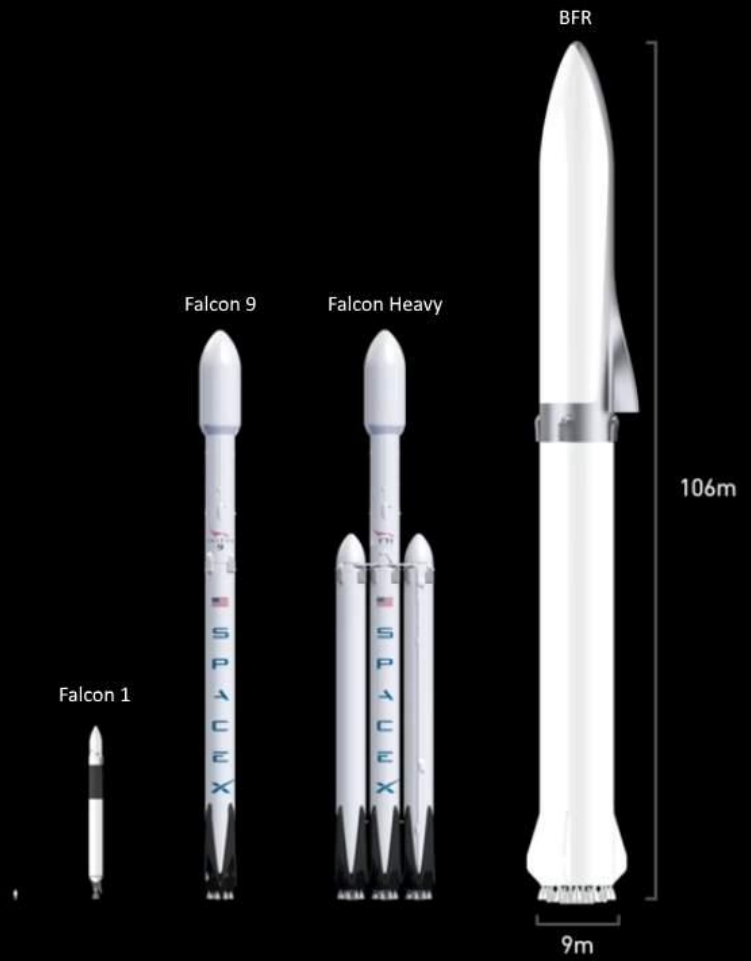
Principal objetivo:
Diminuir o custo do acesso ao espaço
com foguetes reutilizáveis.



Primeiro/a:

- Empresa a lançar e recuperar uma cápsula.
- Empresa a enviar uma cápsula à ISS.
- Empresa a lançar um satélite em órbita geossíncrona.
- Pouso em terra do primeiro estágio.
- Pouso em mar do primeiro estágio.





US\$60mi

Falcon 1



Falcon 9



Falcon Heavy



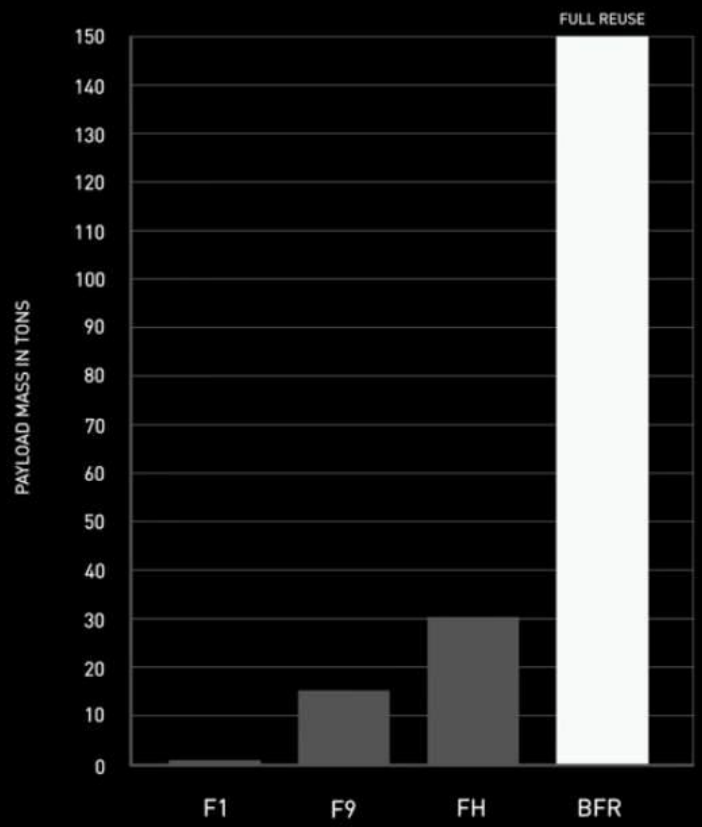
US\$90mi
3x carga

BFR



9m

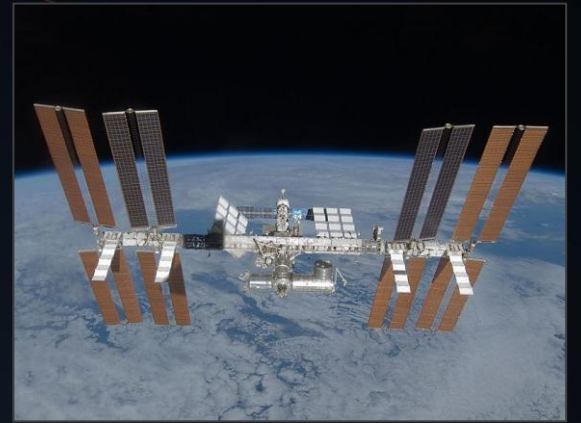
106m

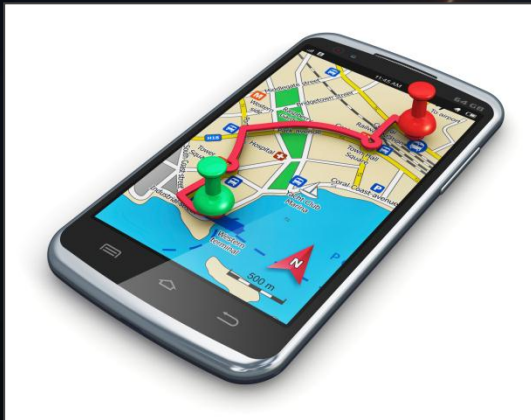
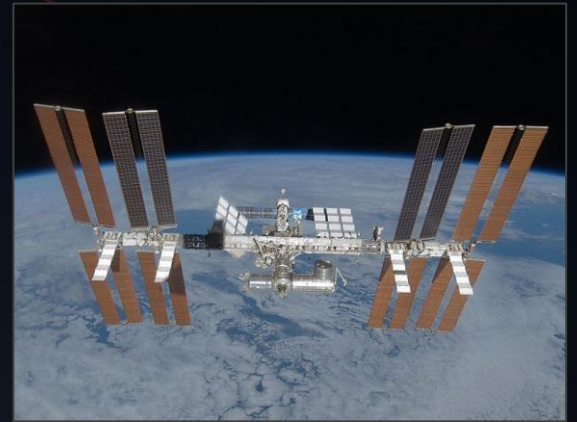




A photograph of a rocket launch at night. A bright orange arc of light curves across the dark sky, starting from a point on the ground and arching towards the top right. The text is overlaid on the lower half of the image.

“O QUE EU TENHO A VER
COM OS FOGUETES?”





“O QUE O FALCON HEAVY
FOI FAZER LÁ?”



A photograph of a rocket launch, showing a bright orange arc of light against a dark sky. The text is overlaid on the lower half of the image.

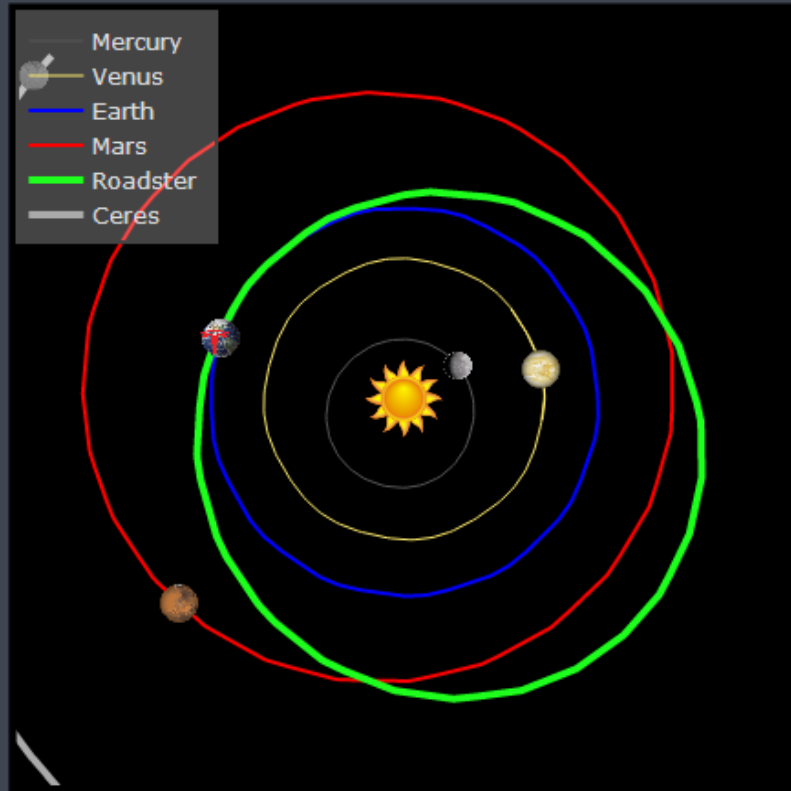
“ENTÃO A NASA ESTÁ
PERDENDO PARA A SPACEX?”



“E O CARRO?”



Solar System



March 2, 2018

“The random walk of cars and their collision probabilities with planets“

Aproximação Tesla-Terra
2091

Chance de colisão

Tesla-Terra: 6%

Tesla-Venus: 2.5%

No próximo 1 milhão
de anos

S/N

C3

Made on Earth by humans

TEST EV ASSY

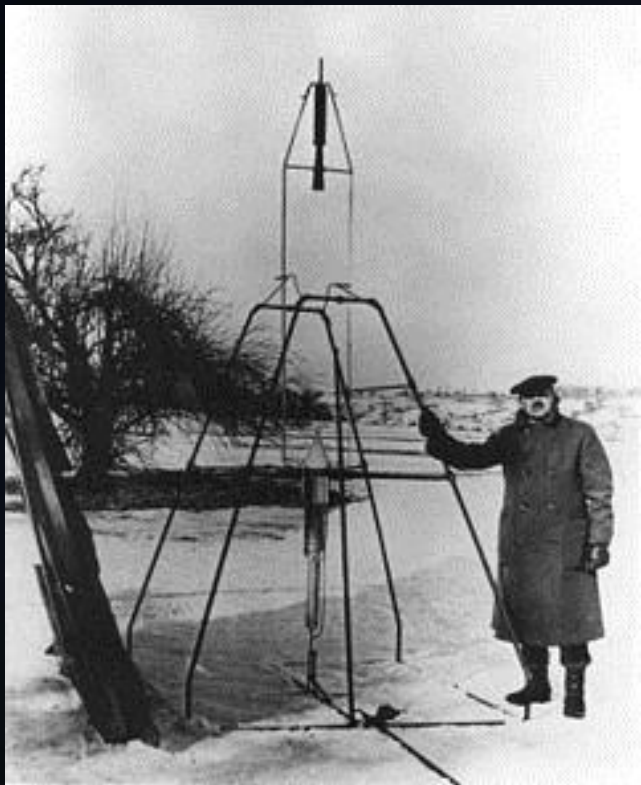


Última foto do Roadster
Fonte: <https://www.instagram.com/p/Be6VZEzgAEk/>





E O LANÇAMENTO?



REFERÊNCIAS

<http://www.spacex.com/>

<https://twitter.com/elonmusk>

<http://www.whereisroadster.com/index.html>

<http://www.spacex.com/news/2018/02/07/falcon-heavy-test-launch>

<https://www.instagram.com/p/Bf0JcpBnWc0/?taken-by=deluceart>

<https://www.nasa.gov/audience/foreducators/rocketry/home/konstantin-tsiolkovsky.html>

<https://twitter.com/elonmusk/status/960915618865274880>

<https://arxiv.org/abs/1802.04718>

<https://ourplnt.com/making-life-multiplanetary/evolution-of-spacex-rockets/>

https://upload.wikimedia.org/wikipedia/commons/b/b4/Comparison_satellite_navigation_orbits.svg

Coletiva pós-Falcon Heavy: <https://www.youtube.com/watch?v=sytrrd0PYzA>

Vídeos na ordem mostrada nos slides:

<https://www.youtube.com/watch?v=bvim4rsNHkQ>

<https://www.youtube.com/watch?v=Tk338VXcb24>

<https://www.youtube.com/watch?v=aBr2kKAHN6M>

<https://www.youtube.com/watch?v=tXmZtjnWZKA>

<https://www.youtube.com/watch?v=wbSwFU6tY1c>

<https://www.youtube.com/watch?v=PLcE3AI9wwE>

Em português:

<http://meiobit.com/379858/>

<http://mensageirosideral.blogfolha.uol.com.br/2018/02/09/observatorio-brasileiro-registra-tesla-de-elon-musk-a-caminho-de-marte>

Cobertura Space Today TV: <https://www.youtube.com/watch?v=oT0YIUxVG0k>

Cobertura Tesla Space Today TV: <https://www.youtube.com/watch?v=2tTqzZ2sxXM>

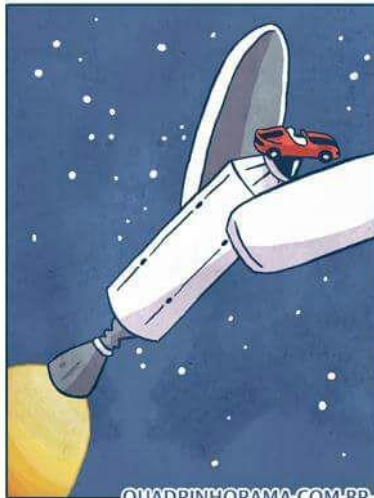
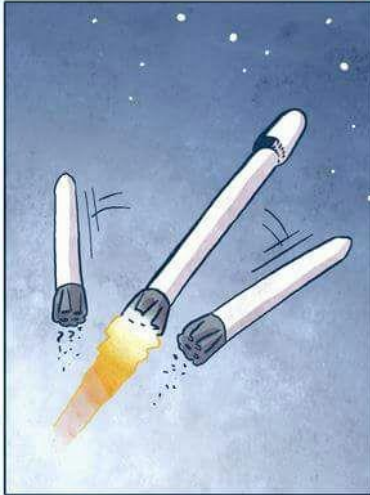
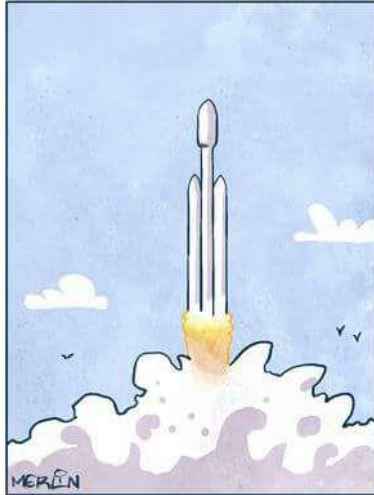
Cobertura Mensageiro Sideral: <https://www.youtube.com/watch?v=4t7yIuhdiOI>

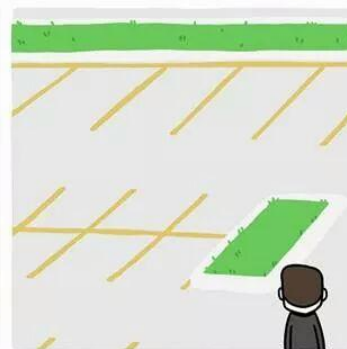
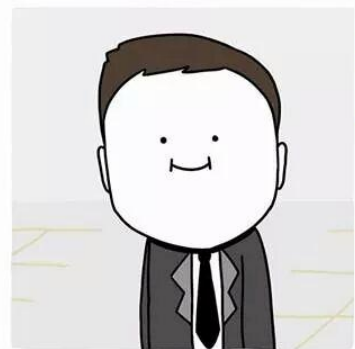
Cobertura Café e Ciência: <https://www.youtube.com/watch?v=8kcxDJchMAE>

Falcon 9 e Falcon Heavy canal Homem do Espaço: <https://www.youtube.com/watch?v=A8sj6sN8Ttw>

IMAGEM DO VERDADEIRO CARRO ENVIADO POR ELON MUSK PARA O ESPAÇO







OBRIGADA! 😊



Peter Dalmace 2019