

INSPIRING FUTURE STEM WOMEN

THE VALUE OF REALISTIC ROLE MODELS

UN Women & UNOOSA | New York | October 2017

Abbie Hutty *MEng (Hons) CEng FIMechE MIET*

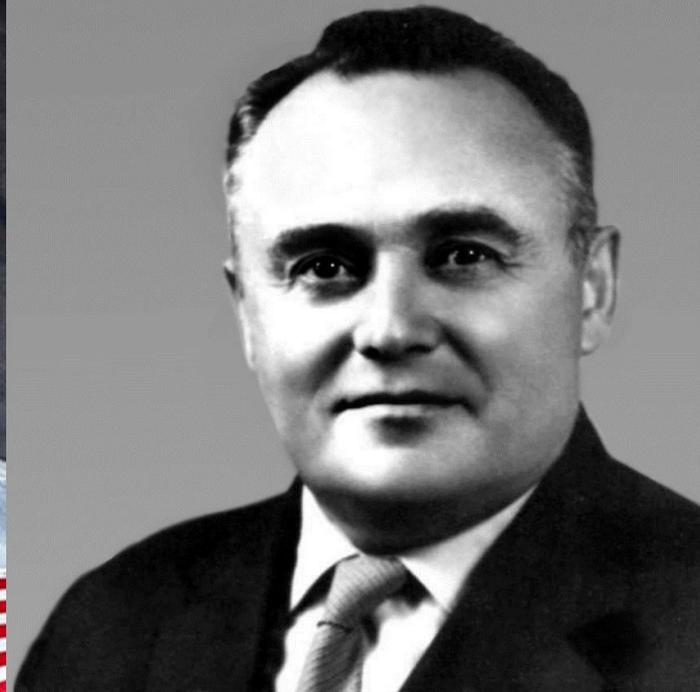
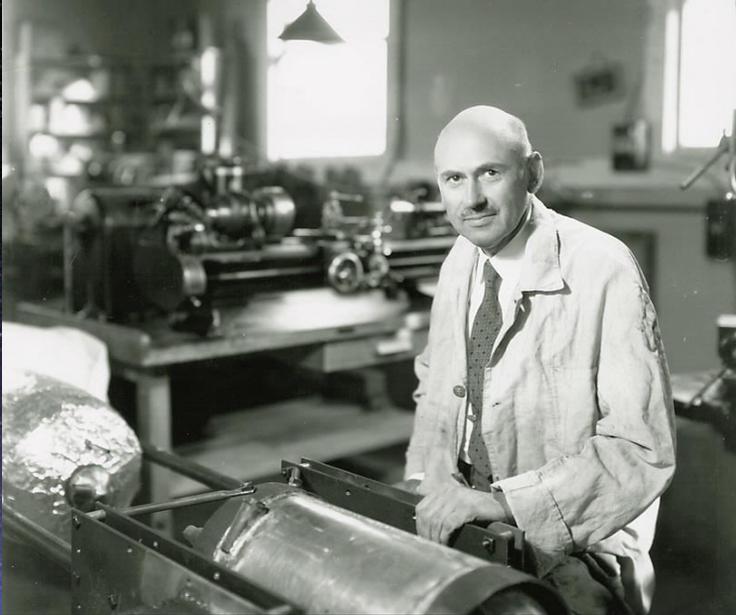
Delivery Manager, ExoMars Rover Project, Airbus

DEFENCE AND SPACE

AIRBUS

AIRBUS



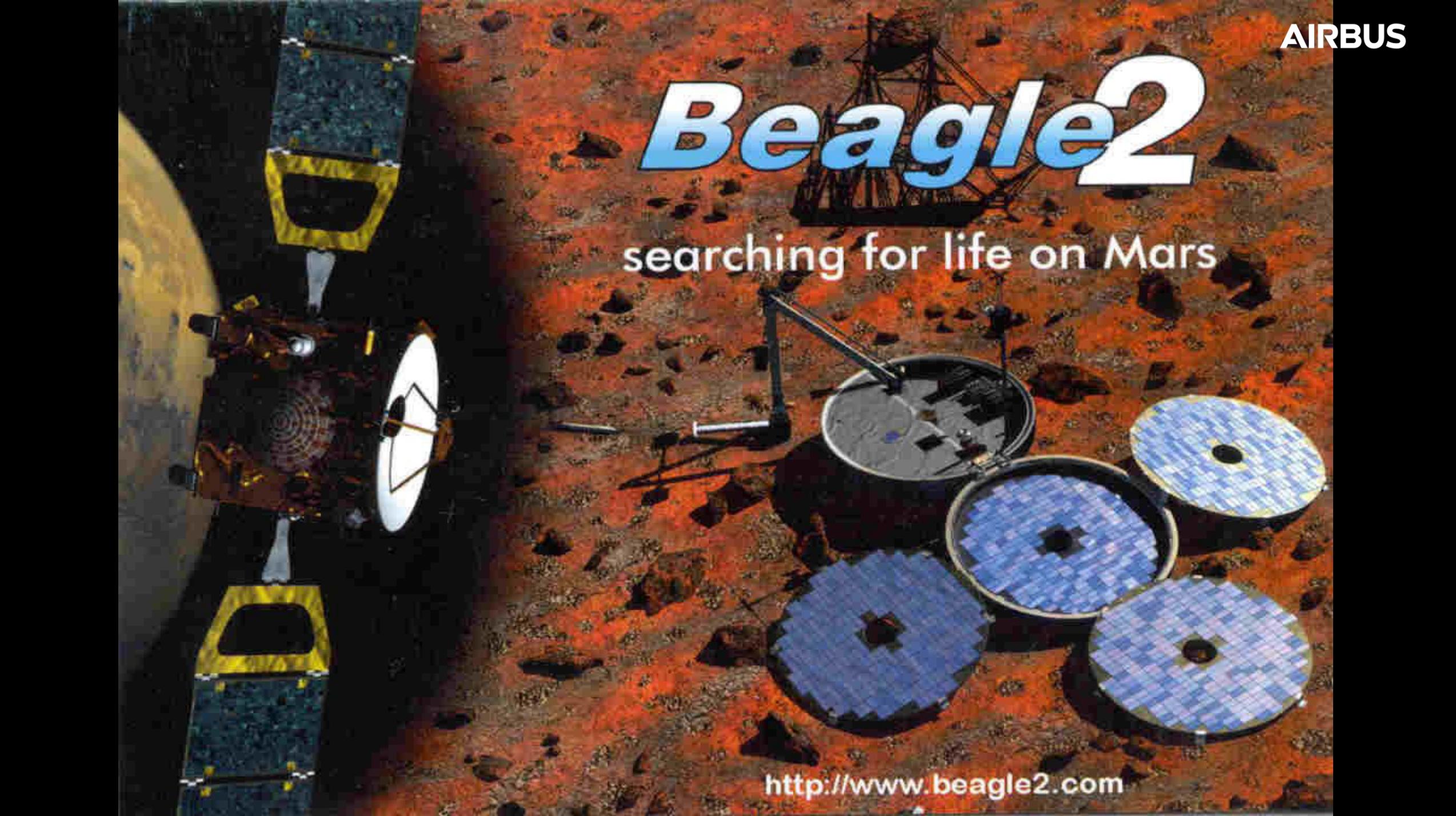


AIRBUS

Beagle2

searching for life on Mars

<http://www.beagle2.com>



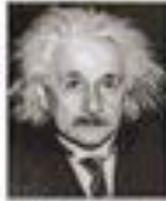






Albert Einstein

Albert Einstein was born on March 14, 1879 in Germany. He is known throughout the world as one of the greatest scientists. He was a genius.



Albert Einstein

When he was born his head was bigger than the rest of his body. His mother was very frightened because her son's head was so strangely big. As he grew up it became less noticeable. Another strange thing about Einstein was that he only started to speak when he was three years old and was very quiet even then until he was nine years old. Einstein was indeed a very strange child compared to most other children.

At age twelve Einstein learned complex mathematics on his own. He was very bored with the simple work at school. He always wanted to learn more and more. So, besides learning at school, he loved studying on his own. He read a lot of books that were not in the school course. A lot of people began to think Einstein was very stupid because he did not do so well in his school subjects. What they did not know was that he was too intelligent for the school work they gave him.

He loved studying physics and maths the best and loved to play the violin in his free time. He became world famous when he came up with the scientific formula $E=mc^2$.

Some of Einstein's ideas were used by other scientists to make bombs. However, Einstein himself was a peaceful man. He talked very much about how the world is better without bombs and war. He will be known forever as one of the greatest minds of the world.

Einstein died on April 18th 1955.



Einstein

$$E=mc^2$$

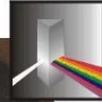
Einstein made this famous scientific formula and this is his signature!

World's Greatest 1000 Creation Scientists 2000

SIR ISAAC NEWTON

1642 - 1727

Physics · Optics · Mechanics
Astronomy · Mathematics



- Co-inventor of calculus
- Law of universal gravity
- Three laws of motion
- Reflecting telescope
- His *Principia* the most significant science work
- Wrote more on theology than on science

"Most scholars who have studied the question have judged Sir Isaac Newton to have been the greatest scientist who ever lived. . . This man of giant intellect was also a genuine believer in Christ. . . He wrote strong papers refuting atheism and defending creation and the Bible." – Dr. Henry M. Morris



"I have a fundamental belief in the Bible as the Word of God, written by men who were inspired. I study the Bible daily."



"All my discoveries have been made in an answer to prayer."

– Sir Isaac Newton



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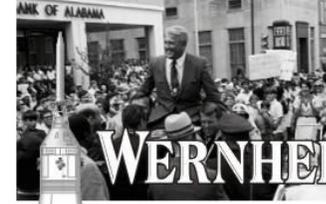
World's Greatest 1000 Creation Scientists 2000

WERNHER VON BRAUN

1912 - 1977

World's Most Famous Rocket Scientist

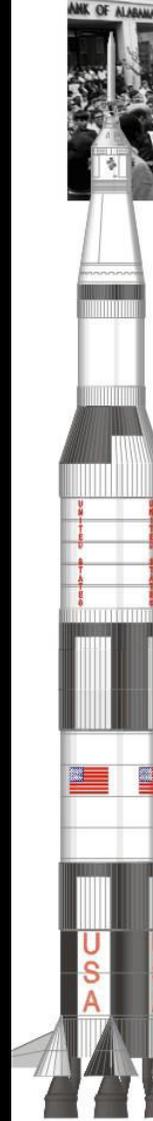
- Visionary pioneer of space exploration
- Mastermind of the Apollo moon rocket
- Ushered in the era of planetary exploration
- 25 honorary doctorates and numerous awards
- Dedicated Christian



"Future historians may well note this century (or millennium) as significant in that mankind took its first tentative steps into space. In accomplishing these steps to the moon and beyond, Wernher von Braun was an eminent leader. He not only had a dream, but he made his dream come true for all of us." – Frederick C. Durant III



"It is as difficult for me to understand a scientist who does not acknowledge the presence of a superior rationality behind the existence of the universe as it is to comprehend a theologian who would deny the advances of science." – Wernher von Braun



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The Nobel Assembly at Karolinska Institutet has today decided to award the
**2017 NOBEL PRIZE IN
PHYSIOLOGY OR MEDICINE**



Illustrations: Mikael Elomaa, Niels-Erik Petersen, Yoshinori Ohsumi

The Royal Swedish Academy of Sciences has decided to award the
2017 NOBEL PRIZE IN PHYSICS



Illustrations: Mikael Elomaa, Niels-Erik Petersen, Yoshinori Ohsumi

AIRBUS

BASED ON THE UNTOLD TRUE STORY
MEET THE WOMEN YOU DON'T KNOW, BEHIND THE MISSION YOU DO.



HIDDEN FIGURES

1.13.17



National Space Week 2004

AIRBUS

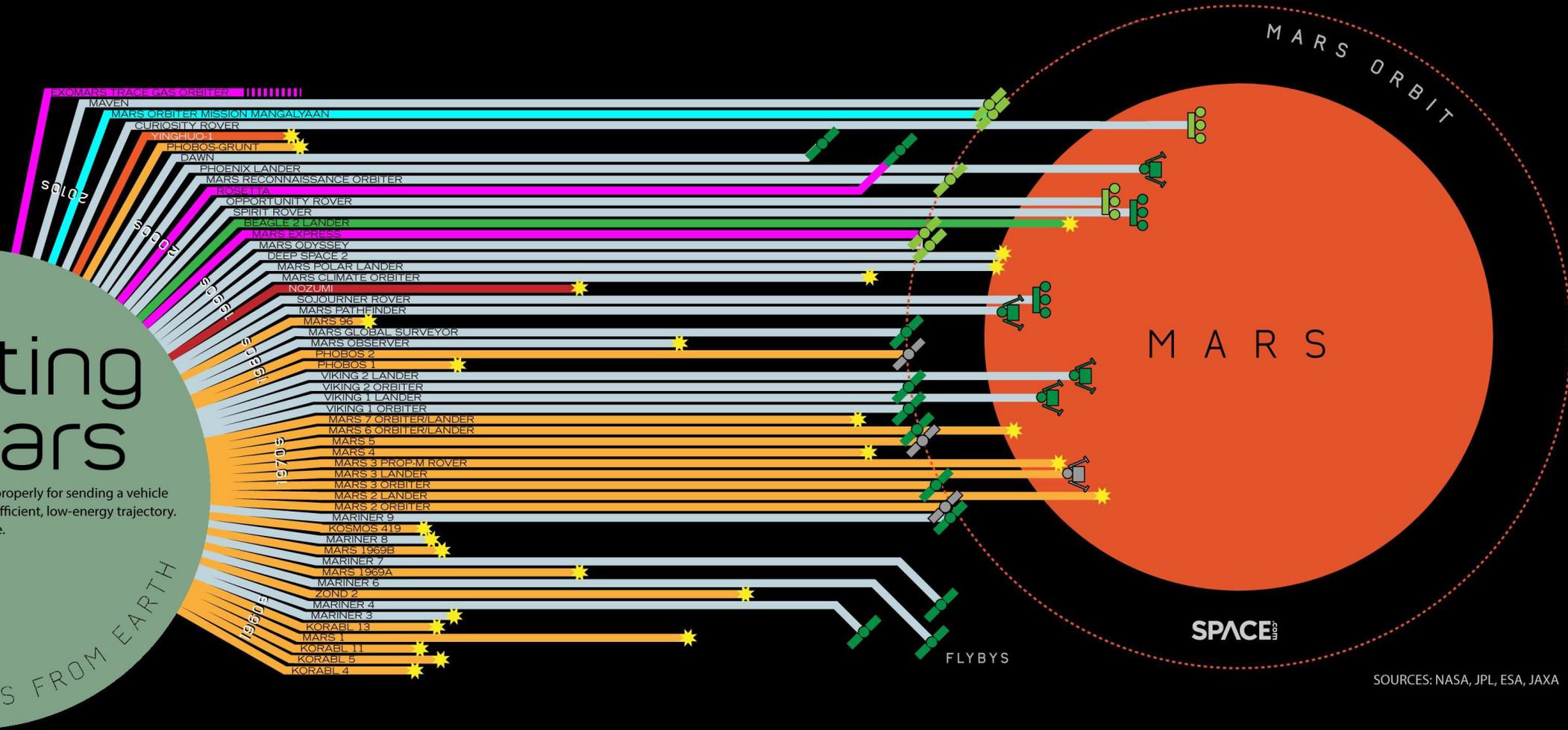


- SUCCESSFUL
- PARTIALLY SUCCESSFUL
- STILL OPERATIONAL
- FAILURE
- SOVIET UNION/RUSSIA
- UNITED STATES
- JAPAN
- EUROPE
- BRITAIN
- CHINA
- INDIA

Shooting For Mars

Every 26 months, the planets align properly for sending a vehicle from Earth to Mars along the most efficient, low-energy trajectory. The trip can take six months or more.

LAUNCHES FROM EARTH



SOURCES: NASA, JPL, ESA, JAXA

 **Earth**





SUGGESTIONS:

- Let Space do what it does best – Inspire
- Consider the self-efficacy gap – not just for geniuses! Use human role models from the full spectrum of industry, not just the heroes and icons. Tell their history and how they too were once a normal child.
- Emphasise that failure is a part of life, even in the space industry
- Find local links, industries, and space applications in the student's community to reinforce applicability to their lives, and reality of jobs they can access
- Media, film and fiction - Seek out stories of normal people history – Rise of the Rocket Girls by Nathalia Holt highly recommended!
- Role models who are not all extroverts
- Prizes for groups/labs/institutions rather than individuals