



Hello, Earthlings! Would you consider living on Mars? We're not *quite* ready to move to the red planet, of course. But if it's up to Elon Musk, we'll set up a colony there in two decades.

As a first step, Mr. Musk's Space Exploration Technologies Corporation (SpaceX) will launch the world's most powerful rocket in early 2018. Named Falcon Heavy, it will have commercial uses. It will deliver large satellites and other **payloads** into orbit, for example. But the main goal of Falcon Heavy – and SpaceX – is to enable people to live on other planets.

ELON MUSK AND SPACEX

Who is Elon Musk? He's a 46-year-old American engineer and inventor. He's also a tech genius, an **entrepreneur**, a promoter, and billionaire.

He's logical, yet he's also a **visionary**. His revolutionary ideas and products could transform our world. He thinks big, and he takes big risks.

Take SpaceX, for example. Today it is worth \$21 billion. But the company had a rough start. Its first rocket crashed 33 seconds after launch. A year later, another launch failed. A third rocket fell into the sea.

By late 2008, the firm was almost **bankrupt**. It had one rocket left.

SpaceX could have gone down in history as an **epic** failure. Instead, the fourth rocket soared into orbit, and the firm won a \$1.6 billion NASA contract.

Today, Falcon 9 rockets deliver satellites into space and supplies to the **International Space Station** (ISS). SpaceX has 30 space missions scheduled for 2018, including the first flight ferrying crew to the ISS.

INTERPLANETARY ENTREPRENEUR

Elon Musk was born in South Africa. He was lonely and bullied as a child. At age 17, he came to Canada by himself. He went to Queens University in Kingston for two years, then moved to the U.S. to study.

DEFINITIONS

BANKRUPT: financially ruined

ENTREPRENEUR: a person who organizes and operates businesses, taking on financial risks in order to do so

EPIC: huge or impressive

INTERNATIONAL SPACE STATION: an orbiting science lab, built between 1998 and 2011 by five different space agencies representing 15 countries at a cost of \$100 billion

PAYLOAD: an aircraft's passengers and cargo

VISIONARY: a person with original ideas about what the future will or could be like



Mr. Musk made his fortune on two Internet companies. They are Zip2 (city guide software for newspapers) and PayPal (an online payment system). He then turned his attention to big challenges facing humanity.

He believes that if things go badly here on Earth, humanity has no plan B... no *planet B*. That's why he wants to "make humanity interplanetary" by establishing a colony on Mars.

MEANWHILE, HERE ON EARTH...

His second big goal? To get the world to rely less on the fossil fuels that drive climate change.

In 2004, he invested in a new electric car company, Tesla Motors. Later, he became its CEO. At first, the company made luxury models. Now it's focussing on more affordable ones.

In 2016, Tesla bought SolarCity, which builds and installs solar roofs. Energy gathered in solar roof panels is stored in batteries for later use.

Recently, the firm also built the world's largest lithium-ion battery. It stores and distributes energy generated at an Australian wind farm to 3000 homes.

In 2017, SolarCity powered up a hospital in Puerto Rico after Hurricane Maria destroyed the region's energy supply. It is also outfitting all the houses of a suburb of Melbourne, Australia with solar roofs and home battery packs.

MORE PLANS FOR THE FUTURE

Elon Musk is the dreamer behind Hyperloop, too. He came up with the concept while stuck in highway traffic. He decided the world needed a better way to get around. What about a bullet train to whoosh travellers at over a thousand kilometres per hour through a vacuum tube? Mr. Musk isn't building Hyperloop, though. Instead, he has invited others to develop **prototypes**.

Mr. Musk also founded the Boring Company. It aims to dig tunnels and lay tracks that will zip cars from city to city.

"I try to do useful things," Mr. Musk says. "I think we should try to make the future better."

WORKING TO IMPROVE

Key to Elon Musk's success? He's not afraid to make mistakes. In 2016, a Falcon rocket exploded two minutes into its flight.

OPEN AI

Artificial intelligence (AI) is a hot topic. Some people are excited about how intelligent machines could transform our lives. Others, including Elon Musk, warn of the dangers. What if we invent powerful, self-evolving software that runs **amok**, and turns on humanity?

So Mr. Musk helped found OpenAI. It's a non-profit company working towards safer artificial intelligence. It has hired some of the world's brightest computer engineers and scientists. Their mission is to further AI technology, then share it openly. That way, the future of AI will not be controlled by one or two large companies such as Google.

That destroyed a \$200 million Facebook satellite onboard. Mr. Musk halted all launches, then got to work trying to figure out what went wrong.

He warns that Falcon Heavy may also fail. If it does, he'll lose his car – his own Tesla Roadster is the payload! But that's okay – Mr. Musk says will just take it as a sign that he needs to re-visit his strategy on the way to designing a better future. ★

DEFINITIONS

AMOK: wildly; without control

CEO: Chief Executive Officer – the highest-ranking executive in a company

PROTOTYPE: the first form of something new, made before it is produced in large quantities



ON THE LINES

Answer the following in complete sentences:

1. List at least three interesting facts or qualities about Elon Musk.

2. How did Mr. Musk first become wealthy?

3. Describe the early years of Elon Musk's Space Exploration Technologies Corporation.

4. What happened after SpaceX launched its fourth rocket?

5. What is **Falcon Heavy**?

6. List the two ways SpaceX intends to use this new rocket.

7. What is Mr. Musk's second big goal?

8. List one example of how he is working towards this objective.
