

A science article

- 1 Read the science article. Which countries have been important in the history of space travel?

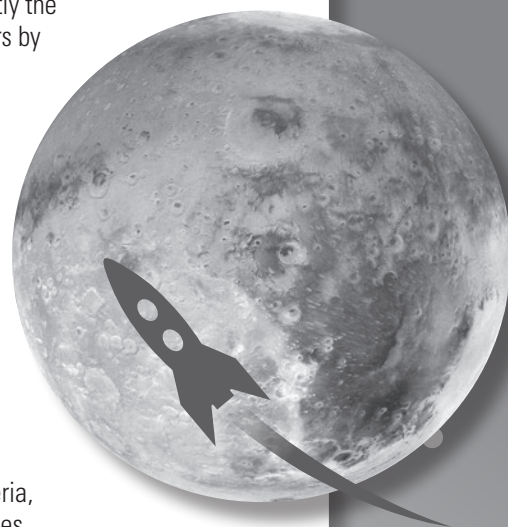
Reach for the stars

When we think about space exploration the usual names that come to mind are the US and Russia, and perhaps also the European Union. However, recently the United Arab Emirates has announced plans to launch a mission to Mars by 2021 and it is pushing for a Pan-Arab Space Agency. Investing in space activities is not new for the UAE. Its investment to date in space-related technology is around 5.4 billion US dollars. However, now the region is moving from satellite-based activity to space exploration, and it's an ambitious project.

However, it's not at all certain that the mission will succeed. The technology needed for a successful Mars mission has proved complicated. Many missions have so far failed, including the UK's Mars Beagle 2 Rover, which reached Mars in 2003, but is thought to have crash-landed on the planet's surface. We will therefore have to wait and see what plans the UAE has for its Martian probe, and what the project will ultimately achieve. But even if the mission to Mars does fail, it will succeed in encouraging the growth of technology within the Middle East and it will inspire scientific research in the region.

A number of other Middle Eastern and North African countries – for example Algeria, Tunisia, Egypt, Turkey and Iran – also have their own space agencies or programmes. Iran is one of the 24 founding members of the United Nations Committee on the Peaceful Uses of Outer Space, which was set up in 1958. They sent a monkey into space for the second time in 2013. The monkey returned safely to Earth, and they intend to send an astronaut into space in the next few years. There have also been several Muslim astronauts from around the world, including Saudi-born Prince Sultan bin Salman Al-Saud, who became the first Arab in space in 1985.

In another initiative, the Egyptian government is planning to establish a national space agency. Its main goal will be to study and manage Egypt's natural resources using satellite data, earth mapping and observation facilities. Practical uses are likely to include locating untapped groundwater in drier areas of the country, which would be hugely beneficial for agricultural production. It could also be used in urban planning, in locating mineral deposits, and in monitoring weather and the environment.



fact box

Commercially available products that were invented because of advances in space technology include:

- ★ space blankets – developed in 1964 these are lightweight and reflect infrared radiation. They are often included in first aid kits.
- ★ scratch-resistant glasses – a technology developed to protect space equipment from scratching in space, especially helmet visors. They are now used every day as a coating for glasses.
- ★ memory foam – designed to improve the safety of aircraft cushions. It's now used in mattresses, pillows, cars and motorbikes, sports safety equipment, amusement park rides, and much more.
- ★ water filters – developed for astronauts living on the international space station, these filters can transform wastewater from sweat and urine into drinkable water. This technology now benefits people all over the world who need clean water.

2 Read the science article again. Circle T (true), F (false) or NI (no information).

- | | | | |
|--|----------|----------|-----------|
| 1 Most people don't associate Europe and the Middle East with space exploration. | T | F | NI |
| 2 There have been some successful missions to Mars. | T | F | NI |
| 3 The Iranian monkey which travelled into space died. | T | F | NI |
| 4 Egypt has a space agency that uses satellite technology for practical purposes. | T | F | NI |
| 5 Everyday products, such as scratch-resistant glasses, have been developed from technology which was first used in space. | T | F | NI |

3 Answer the questions about the text.

- 1 What new direction is the UAE taking in its plans for space?

- 2 In what way is the Mars mission going to be a success for the UAE even if the project fails?

- 3 What is the next step for Iran in terms of space exploration?

- 4 How does Egypt plan to help the country using space technology?

- 5 Which kind of space technology is now being used commercially in the leisure industry?

4 Answer the questions with your own ideas.

- 1 What do you know about Mars? What are the main challenges in planning a manned mission there?

- 2 Do you think the amount of money countries spend on space exploration is justifiable? Why / Why not?

- 3 If you were living in a colony on another planet, can you imagine what a typical day would be like?

