

A SPACE ODYSSEY

It's 50 years since man first walked on the moon. As the first Emirati astronauts prepare for space, *Flashes* looks back on five key moments in space exploration over the decades

While it's been 50 years since Neil Armstrong made one small step for man and one giant leap for mankind, there's another 50-year anniversary looming that looks set to make its own mark on the calendar of key moments in the journey to conquer space.

In two years' time, the UAE will aim to celebrate the 50th anniversary of its founding in dramatic fashion, by attempting to land its first spacecraft on Mars. To do so, the rocket will have to blast off from Earth during a very brief launch window – to coincide with an alignment of Earth and Mars at their closest points that occurs just once every two years – and if the time slot is missed, a second chance will be a long time coming.

It's a high-pressure endeavour, but that's nothing unusual in the story of man's quest to conquer outer space. From the first satellite making it to space in 1957 to the first private spaceship to successfully leave Earth's atmosphere in 2004, through to today's battle to break

new ground into space tourism, space exploration is one of mankind's riskiest but most rewarding endeavours, something recognised by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE, and Ruler of Dubai, as he unveiled the country's Mars ambitions back in 2014.

"Our region is a region of civilisation. Our destiny is, once again, to explore, to create, to build and to civilise," he said at the time. "We chose the epic challenge of reaching Mars because epic challenges inspire and motivate us. The moment we stop taking on such challenges is the moment we stop moving forward."

Should it succeed, the Hope Mars Mission, as it is known, will become the most recent addition to a long line of remarkable achievements teaching mankind more and more about the galaxies lying beyond our own. Here are five of the top most influential moments in space exploration so far...



THE FIRST SATELLITE IN SPACE (1957)

It may well be the USA that has led the field in space exploration for decades, but it was Russia who single-handedly took the world into the space age with the launch of Sputnik 1, on 4 October, 1957.

The first satellite launched by man, Sputnik may have been only around the size of a beach ball, but the tiny space craft prompted mankind to begin looking to the sky in a new way, opening up the possibilities of a whole new frontier to explore.

It also marked a major turning point in international relations and the importance placed on the funding of space exploration, with Russia's success triggering a fear in the US that the country's technical expertise would next be turned to the development of weaponry. The US's response? It ploughed money into its own space programme and NASA was formed one year later.

THE FIRST MAN IN SPACE (1961)

While the USA might have stepped up funding, it was still Russia that led the space race into the 1960s, and on 2 April 1961 cosmonaut Yuri A. Gagarin became the first human to make it into space.

Travelling onboard the Vostok 1 spacecraft, his voyage entailed one orbit around Earth and ended 108 minutes after take-off when he landed safely to immediate worldwide fame.

His success turned up the heat in America's technological and intellectual battle with the Soviets, and America sent its own first human, astronaut Alan Shepard, into space just one month later. Success of a sort. But as with any race, it's first place that counts and it's Gagarin who became a household name while Shepard was relegated to a very distinct second place.



THE LUNAR LANDING (1969)

The USA redoubled its efforts and its Apollo 11 spaceflight, on 20 July 1969, achieved not only its goal of landing the first humans on the moon, but also successfully put all previous space successes into the shade, becoming arguably one of the most momentous events in 20th century human achievement.

Witnessed by hundreds of millions of people worldwide, the televised mission saw the Eagle lunar landing module, guided manually by Neil Armstrong, touch down on a plain near the southwestern edge of the moon's Sea of Tranquility, before Armstrong, having stepped from the Eagle onto the Moon's dusty surface, made history with the words: "That's one small step for man, one giant leap for mankind."

Armstrong and Edwin "Buzz" Aldrin left the module for more than two hours and deployed scientific instruments, collected surface samples, and took numerous photographs before returning to Earth, and eternal notoriety, three days later.



THE LAUNCH OF THE **HUBBLE SPACE TELESCOPE** (1990)

While space research and technological development continued apace after the moon landings, it was in 1990 with the launch of the Hubble Space Telescope that another truly huge leap forward was made.

Named after Edwin Powell Hubble, the first observatory in space, placed by the space shuttle Discovery, has helped mankind reach some of its greatest understandings of the universe we exist in.

Situated far above Earth's atmosphere, away from clouds or light pollution, the Hubble has since brought us hundreds of pictures of galaxies and stars far away, and is widely regarded as the biggest advancement in astronomy since Galileo invented the basic telescope itself in the 1600s.



THE FLIGHT OF THE **FIRST PRIVATE SPACECRAFT** (2004)

Richard Branson and Elon Musk might remain engaged in a battle for the custom of the world's first space tourists, but the gong for the first private spaceship to leave Earth's atmosphere has already been won. Back on 21 June 2004, after NASA opened the door to private space travel free of government assistance by ending its Shuttle programme, SpaceShipOne, designed and developed by an aerospace firm known as Scaled Composites from Mojave, California, became the first private manned space vehicle to leave Earth's atmosphere and cross the boundary of space.

Flown by South African-born American test pilot Mike Melvill, who successfully became the first commercial astronaut-pilot as a result of the mission, it landed the craft's developers the US\$10million Ansari X Prize the same year, thus starting the race for the space tourism dollar that persists today.

