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Rashid Rover to
be launched on
November 30

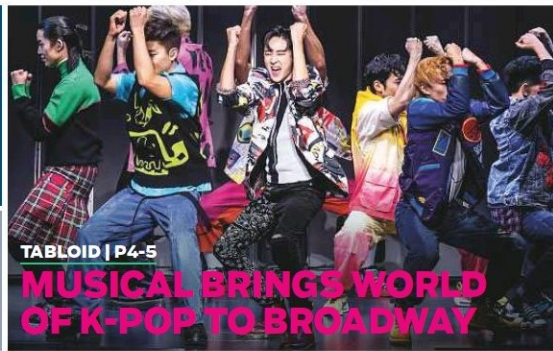
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UAE's moon-bound Rashid Rover launch on November 30

SPACECRAFT WILL TAKE FUEL-SAVING ROUTE TO REACH MOON IN APRIL

DUBAI

BY ANGEL TESORERO

Senior Reporter

The new launch date of moon-bound Rashid Rover will be on Wednesday, November 30, at 12.39pm UAE time, the Mohammed Bin Rashid Space Centre (MBRSC) has confirmed yesterday.

"In collaboration with the partners - SpaceX and ispace, the integrated launch vehicle will start rolling out to the launch pad Space Launch Complex 40, Cape Canaveral Space Force Station in Florida ahead of launch," MBRSC added.

A team from MBRSC is already at Kennedy Space Centre in Cape Canaveral, Florida for the launch of Rashid Rover.

MBRSC announced last week the launch date was November 28 but "is subject to change, depending on weather and other conditions at the launch site."

MBRSC also confirmed Atlas Crater, located at 47.5°N, 44.4°E on the moon's southeastern outer edge of Mare Frigoris ('Sea of Cold'), as the rover's landing site.

Shortest path

Once launched, the integrated spacecraft Hakuto-R MI that will carry Rashid Rover and other payload to the moon will take a low-energy route to the moon rather than a direct approach, which means the landing will take about five months after launch, in April 2023.

Dr Hamad Al Marzooqi, project manager of Emirates Lu-



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■ Rashid Rover's core scientific mission is to better understand how lunar dust and rocks vary across the moon. A team from MBRSC is already at Kennedy Space Centre in Cape Canaveral, Florida, for the launch of Rashid Rover.

nar Mission at MBRSC, earlier told *Gulf News* the rationale for the fuel-saving but long route. He said: "Main factor is the cost of the mission. The cost comes from the volume and mass of the spacecraft. In order to reach to the moon within six days which is the shortest path, you would need to burn a lot of fuel which means that you need a big tank and a big propulsion system to do that."

"But it will have a huge impact in cost so, in order to reduce the cost of the mission, ispace has selected their approach that they can reach to the lunar surface

within five months but it will be less costly because it will burn much less fuel. They will use a smaller tank and propulsion system, therefore the launch cost and the cost of developing the developing system will be lower."

Dimitra Atri, astrophysicist at New York University in Abu Dhabi, added: "In order to keep the prices of payload delivery attractive to customers, private companies reduce their expenses by choosing the lower cost option, which consumes less energy but takes much longer."

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MOON MISSION POINTS TO UAE'S SPIRIT OF INNOVATION

Nation's space programme an investment in future economy and our place in global community

BY OMAR M. AL MAHMOUD | *Special to Gulf News*

With the recent announcement of the launch date of the UAE Moon mission, it is timely to discuss the impact of space programmes on national economies and globalisation. Space programmes have had a profound impact on both. The UAE has always been a country that looks towards the future. From becoming the first country in the Middle East to send a probe to Mars, or build a Moon Rover or investing in Human Space Exploration Programmes, the UAE is always working on ways to better itself.

However, some people may question the wisdom of investing money into space programmes when there are so many other things that could be done with that money, what they don't realise is that space programmes have a number of spillover effects that benefit not just UAE, but the world as a whole.

Impact

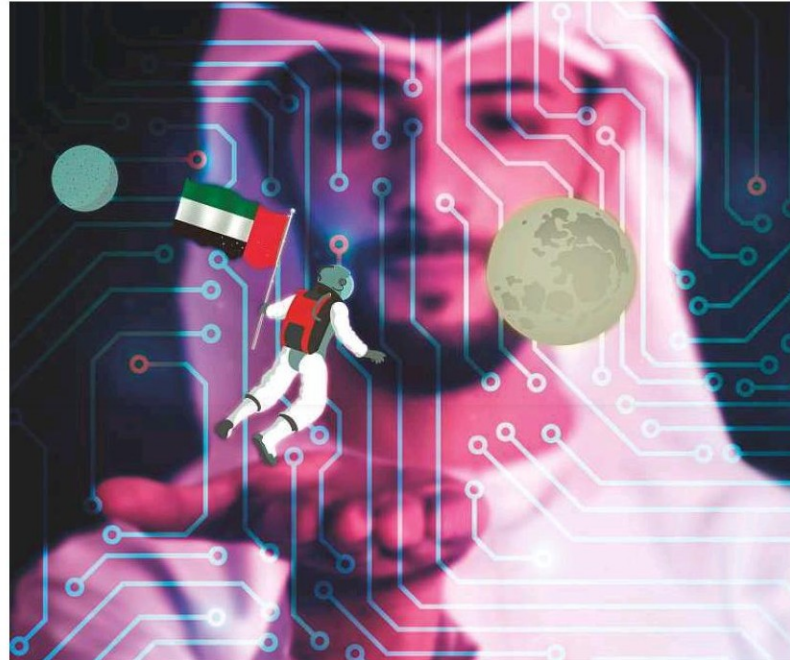
Here are six ways space programmes have impacted national economies and globalisation.

***They Help Us Understand Our World Better** — One of the main goals of any space programme is to learn more about our universe. By exploring space, we are able to understand our planet better. We can study stars, planets, and galaxies to learn more about where we came from and how everything works. Additionally, by studying other planets, we can learn more about how Earth evolved and what steps need to be taken to protect it.

***They Help Us Develop New Technology** — In order for a space programme to be successful, a lot of new technology has to be developed. This includes things like new propulsion systems, communications systems, and materials that can withstand the harsh conditions of space. However, once this technology is developed, it can then be used for other applications here on Earth. For example, the material used in space suits has been adapted for use in firefighter gear and bullet-proof vests.

***They Inspire Future Generations** — Space programmes capture the imagination of young people all over the world. By seeing humans achieve such amazing feats, it inspires them to do great things themselves. This is one of the reasons why UAE invests so much into its space programme; we want to inspire the next generation of leaders and innovators.

***They Enhance National and Planetary Interests** — Space programmes also have a number of national security benefits. For example, by having our own satellite network, we are less reliant on others for information about what's happening around the world.



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Additionally, by understanding more about outer space, we are better equipped to defend against things like asteroids and comets that could potentially damage our planet.

***They Help Us Work Together** — One of the most important aspects of any space programme is international cooperation. In order for any mission to be successful, it requires scientists and engineers from all over the world working together towards a common goal. This type of cooperation is essential in today's globalised world and helps build relationships between countries that might otherwise be hostile towards each other. For example, the International Space Station (ISS) is a joint venture between multiple nations, including the United States, Russia, Canada, Japan, and Europe. The ISS has served as a platform for scientific research and international collaboration and let us all hope it stays that way.

***Space Programmes Spur Economic Growth and Development** — Space programmes have often been associated with economic growth and development. One of the most notable examples is the United States' Apollo programme which led to the development of new technologies and industries, such as computer chip manufacturing and aerospace engineer-

ing. The Apollo programme also resulted in the creation of hundreds of thousands of jobs. More recent examples include China's growing space programme which has resulted in the development of new technologies as well as the creation of thousands of jobs.

Benefits

Space programmes offer a number of benefits that go beyond simply exploring outer space. They help us understand our world better, develop new technology, inspire future generations, enhance national security, and work together as an international community. These benefits make it a wise investment for any country serious about looking towards its future. The UAE's investment in its space programme is an investment in its future economy and its place in the global community. With the launch of our Mars and Moon missions in addition to the Astronaut Programme, the UAE is poised to make significant advances in all these areas.

■ Omar M. Al Mahmoud is the Chief Executive Officer of the ICT Fund, a federal development fund launched by the UAE's Telecommunications and Digital Government Regulatory Authority.