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UAE MAKES ANOTHER GIANT LEAP INTO SPACE

President leads nation in wishing luck to Al Neyadi for today's historic launch

DUBAI
BY SAJILA SASEENDRAN
Senior Reporter

All of the UAE is saying good luck to the "Sultan of Space" as the country's second astronaut, Sultan Al Neyadi, gets all set to embark on the historic space mission scheduled at 10.45am (UAE time) today.

UAE President His Highness Shaikh Mohammad Bin Zayed Al Nahyan yesterday held a tele-conversation with Al Neyadi ahead of the lift-off, wishing him good luck in his historic space mission.

Meanwhile, landmarks such as Dubai Frame and Dubai Mall as well as Road and Transport Authority's automated service kiosks and installations outside prominent locations are displaying messages about the UAE Mission 2, advertising the live coverage that is expected to begin from 7.15am today.

Shaikh Hamdan Bin Mohammad Bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of The Executive Council of Dubai, tweeted: "Inspired by the late Shaikh Zayed's vision, Emirati astronaut Sultan Al Neyadi is set to embark on a 6-month mission to the International Space Station. We are proud of Sultan, MBRSC and everyone who aspires to achieve the best for the UAE."

"All of the UAE is ready for the launch of the longest Arab space mission in history. All hearts are with astronaut Sultan Al Neyadi, who will be carrying out the mission," the Mohammed Bin Rashid Space Centre (MBRSC) tweeted.

SEE ALSO PS



UAE TODAY EMBARKS ON THE FIRST ARAB LONG-DURATION ASTRONAUT MISSION



Emirati astronaut Sultan Al Neyadi

10.45am

UAE time today

Lift-off of Nasa's SpaceX Crew-6 mission

11.38am

UAE time Tuesday

Crew-6 mission is expected to dock into ISS

28,000km/h

speed at which ISS travels through space at an altitude of about 400km



182 days

Al Neyadi's Crew-6 mission will spend on International Space Station

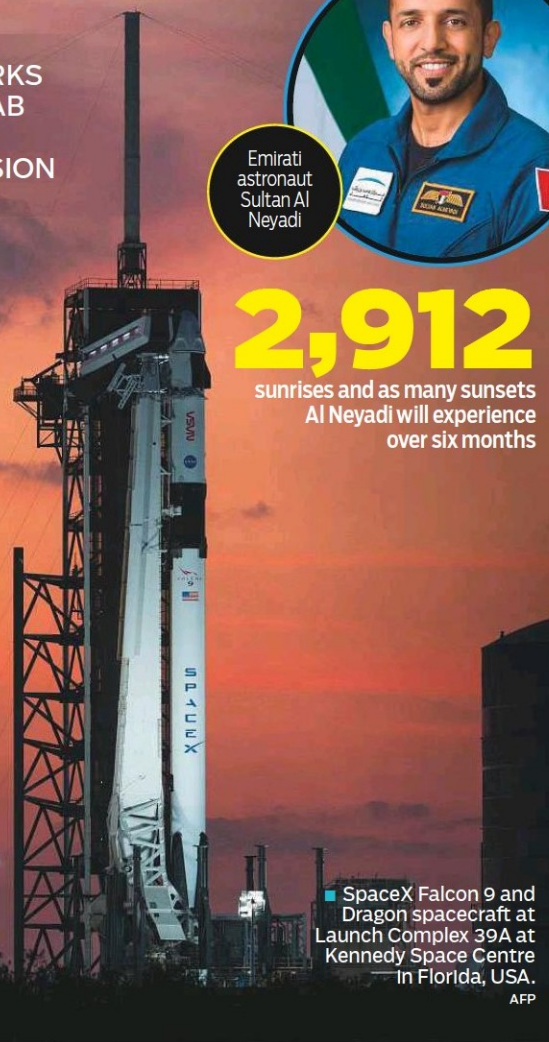
90 minutes — time taken by ISS to orbit the earth once. There are approximately 16 orbits per day

16

sun rises and 16 sun sets Al Neyadi will see every day

2,912

sunrises and as many sunsets Al Neyadi will experience over six months



SpaceX Falcon 9 and Dragon spacecraft at Launch Complex 39A at Kennedy Space Centre in Florida, USA.

AFP

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WHAT AL NEYADI WILL EXPERIENCE OVER SIX MONTHS

Here are some quirky facts and figures that UAE's second astronaut will face living on International Space Station

DUBAI
BY SAJILA SASEENDRAN
Senior Reporter

From feeling a giant gorilla sitting on his chest to seeing 16 sunsets and 16 sunrises every day, several quirky space experiences await UAE's second astronaut Sultan Al Neyadi who is set for lift-off today.

The International Space Station (ISS) travels through space at 17,500 miles or 28,000km/h at an altitude of around 400km. It orbits the Earth about once every 90 minutes.

During the orbit of the Earth, astronauts on board are in daylight for about 45 minutes and darkness for about 45 minutes. There are approximately 16 orbits per day (in 24 hours). That means the astronauts can witness 16 sunrises and 16 sunsets every day.

Al Neyadi's Crew-6 mission is slated to last for six months or 182 days. If he stays that long on ISS, he will have the opportunity to witness 2,912 sunrises and as many sunsets.

Unusual experiences

According to Nasa, the unusual life of astronauts in fact begins from the time they board the launch vehicle. Here are some facts that will be part of the experiences that await Al Neyadi during the UAE's Mission 2, the longest space expedition by an Arab.

Shortly before the time of launch, astronauts start hearing different noises below and they feel a giant beast is waking up.

As they move up and away from the launch pad, speed builds up very quickly and the g-load, or the force of gravity or acceleration on a body, increases.

Eight and a half minutes after launch, there is a loud bang and jerk and the last section of the rocket is jettisoned from the spacecraft. That is when astronauts reach space and they will feel like they are hanging upside down in their shoulder harness.

Gorilla on chest

"As you get higher into the thinning atmosphere and burn off most of the fuel, the vehicle accelerates faster and you are pressed back into your seat with three times your weight for the last two and a half minutes of the ride. This two and a

16 orbits of Earth made by ISS daily. This means one every 90 minutes

8 minutes after liftoff is when spacecraft will be clear of the rocket

half g's feels like a giant gorilla is sitting on your chest, making it more difficult to breathe.

Eight and a half total minutes after liftoff, the main engines stop and immediately you go from the being squashed by the gorilla to being weightless," explains NASA.

The space station has the volume of a five-bedroom house or two Boeing 747 jetliners. On Earth, the space station would weigh almost a million pounds. Measured from the edges of its solar arrays, the station covers the area of a football field including the end zones.

Body's reaction to zero gravity

A 'normal' body will adapt to the 'abnormal' environment of space in many ways. Immediately upon entering zero gravity, fluids in your legs and the lower part of your body move upwards towards your head. In fact, your face will feel and look swollen.

Except for the occasional headache and congestion, astronauts are not bothered by this fluid shift. Some astronauts feel dizzy and have an upset stomach during the first few days of a space flight as they get used to zero gravity. This feeling usually goes away after three or four days. After a few days almost everyone is used to zero gravity and feels great. If they do not exercise, their bones and muscles will get weak.

Food and toilets on ISS

There is no freezer, refrigerator, stove or microwave on ISS. Most of the food for astronauts has already been cooked, then freeze-dried and vacuum-packed (meaning the water and air has been taken out of it), or it is thermally stabilised (meaning treated and sealed in a package to prevent spoiling), much like camping food. These packages of freeze-dried food can be reconstituted by adding water and then warmed up in a small warming oven.

Al Neyadi has said he will carry some Emirati delicacies and will share them, especially dates, with his colleagues on board ISS during Ramadan.

The space toilet is a little different than the Earth toilet. It uses suction, not water, to 'flush.' To keep from floating away, astronauts must use foot-loops or straps while 'sitting' on the seat. This holds them on to the seat, sort of like a seat belt.



Sultan Al Neyadi (right) at Nasa's Kennedy Space Centre in Florida with his Crew-6 team — Nasa mission commander Stephen Bowen and Pilot Warren Hoburg and Roscosmos cosmonaut Andrey Fedyaev.



We are with you. We are proud of you. You were part of the first mission and now we are part of the second mission. We are all one team with one shared goal, which is to raise UAE's flag in space.

Hazza Al Mansoori | UAE's first astronaut in a message to Sultan Al Neyadi

All of UAE wishes 'Sultan of Space' good luck ahead of today's launch

Landmarks, malls display UAE Mission 2 messages as ministers and officials wish Al Neyadi success

DUBAI
BY SAJILA SASEENDRAN
Senior Reporter

Landmarks such as Dubai Frame and Dubai Mall as well as Road Land Transport Authority's automated service kiosks and installations outside prominent locations yesterday displayed messages about the UAE Space Mission 2, advertising the live coverage expected to begin from 7.15am today.

"Sultan of Space" — the country's second astronaut Sultan Al Neyadi — is set to embark on his historic space mission at 10.45am (UAE time).

'May Allah bless you'

Shaikh Abdullah Bin Zayed Al Nahyan, Minister of Foreign Affairs and International Cooperation, posted: "May Allah bless you." Several of his followers also shared wishes of success for Al Neyadi, who has been flooded with wishes on his own social media channels as well.

Sarah Al Amiri, Minister of State for Public Education and Advanced Technology, also tweeted: "Best of luck to @Astro_Alneyadi and the Crew-6 team as they embark on their journey to the @Space_Station.



MBRSC released a video showing students and professionals of various nationalities wishing Al Neyadi success on his mission.



Video: Landmarks, malls display 'UAE Mission 2' message as Al Neyadi is showered with wishes

We are proud of your hard work and dedication, and eagerly await your safe return home. You have shown that with perseverance and a strong spirit, nothing is impossible!"

MBRSC released a video showing students and professionals of various nationalities wishing him. MBRSC also tweeted photos of its top officials and team members who are present at the launch site to cheer Al Neyadi and his backup crew Hazzaa Al Mansoori.

Almost all family members and extended family members of Al Neyadi are also present in Florida, US, to witness the historic achievement.

Salem Humaid Al Marri shared a photo of a group of around 30 male members of Al Neyadi's family posing in front of the Nasa logo at the Kennedy Space Centre.

Kuwait-based Dr Mohamed Qasem, who has been named one of the top science communicators in the Arab world, also shared a photo with the "respected and beautiful" Al Neyadi family at KSC.

Al Neyadi arrived with three of his children and spoke to those awaiting him in Arabic. He could be seen discussing about the mission and spending Ramadan in space.

MBRSC has been tweeting videos of Al Mansoori giving updates about Al Neyadi's training sessions and explaining how things will unfold on the big day for his colleague who was once his backup when he became the first UAE astronaut to go to ISS in 2019. He also shared his best wishes to Al Neyadi and advised him to enjoy the gravity of Earth as he will miss it for the next six months.

Al Mansoori also expressed his pride in Al Neyadi and wished him all the best for his upcoming mission, stating that "We are with you. We are proud of you. You were part of the first mission and now we are part of the second mission. We are all one team with one shared goal, which is to raise UAE's flag in space."



The SpaceX Dragon spacecraft Endeavour atop a Falcon 9 rocket ready for launch at Kennedy Space Centre in Florida.

Will Al Neyadi get to perform a space walk?

He has talked of work being done on space station's robotic arms

DUBAI
BY SAJILA SASEENDRAN
Senior Reporter

Will he walk in space? This is the big question that most people have when they discuss about what UAE astronaut Sultan Al Neyadi will do in space during the six-month long Crew-6 mission. Well, he could be the first

Arab astronaut, also referred to as 'Najmonaut' to do a space-walk. Mission specialist of Crew-6, Al Neyadi is set to become the flight engineer for Expedition 69 once aboard the ISS.

In a video, Al Neyadi said: "We will have the possibility to carry on EVA [extravehicular activities], work on Canadarm robotic arm and many scientific experiments."

Canadarm is the name given to a series of robotic arms designed by the Canadian Space Agency (CSA) and installed on Nasa space shuttle orbiters. On

the ISS, Canadarm (shuttle-based) and Canadarm2 (ISS-based) help assemble, grow, and repair the space station. Apart from these, there will be plenty of experiments that Al Neyadi and his three crewmates will conduct onboard the ISS.

222 experiments

According to Nasa, 222 science experiments and technology demonstrations will be carried out in total by Crew-6.

These include Al Neyadi conducting about 20 experiments. According to MBRSC, some of

the main fields of experiments that Al Neyadi will be part of include: cardiovascular system, epigenetics, plant biology, radiation, back pain, immune system, materials science, sleep analysis, fluid science and technical demonstration.

Al Neyadi had earlier spoken about the experiments on heart tissues as one of the most exciting ones. MBRSC and the Emirates Literature Foundation have partnered to organise student interaction sessions with Al Neyadi every Thursday during his six-month mission.