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How DMSat-1 will fight climate change

Three instruments to monitor greenhouse gases



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Stars back in new Disney+ series *The Falcon and the Winter Soldier*

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FNC passes draft law to regulate procedures



Special livery

The Russian-made Soyuz-2.1a rocket has been given a white and blue livery to mark 60 years since Yuri Gagarin's pioneering trip to space on April 12, 1961.

Historic launch

The rocket carrying DMSat-1 will be launched from the Baikonur Cosmodrome in Kazakhstan, near Site 1 where Gagarin lifted off aboard Vostok 60 years ago.

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satellites from 17 other countries will be carried by Soyuz-2.1a apart from DMSat-1

10.07am scheduled launch in UAE time. The first signal from DMSat-1 is expected at 3pm

Courtesy: Dubai Media Office

■ The Soyuz 2.1a rocket that will carry Dubai's Municipality's DMSat-1 nano satellite to space on Saturday at its launch site at the Baikonur Cosmodrome in Kazakhstan yesterday.

How DMSat-1 will fight climate change

THREE INSTRUMENTS TO MONITOR GREENHOUSE GASES

NANO SATELLITE

DUBAI
BY ANGEL TESORERO
Senior Reporter

The Russian-made Soyuz 2.1a rocket that will carry Dubai's Municipality's DMSat-1 nano satellite to space on Saturday was yesterday rolled out to its launch site at the Baikonur Cosmodrome in Kazakhstan.

DMSat-1 is not only the region's first low-orbit environmental satellite, but will help the UAE fulfil its commitments to the Paris Agreement signed in 2016 within the United Nations Framework Convention on Climate Change.

The satellite is scheduled to be launched at 10.07am (UAE time) on Saturday. The Soyuz 2.1a rocket is also carrying 37 other satellites from 17 countries, including the CAS500-1 Earth observation satellite for the Korea Aerospace Research Institute and smaller payloads for UK, Russia, Japan, Italy, Netherlands, Germany, Canada, Thailand, Spain, Slovakia, Argentina, Israel, Brazil, Hungary, Tunisia and Saudi Arabia.

Paris Agreement

Alia Al Harmoudi, director of environment department at Dubai Municipality, told *Gulf News* on Tuesday that DMSat-1 will provide data on greenhouse gas emissions and build the UAE's capacity to study global warming. Under the Paris Agreement, each country must determine, plan, and regularly report on the contribution that it undertakes to mitigate global warming.

MBRSC will manage the collection and delivery of data for Dubai Municipality. The data will be shared with academic institutions globally, in compliance with the Paris Agreement, Al Harmoudi said.

Why DMSat-1 matters

Adnan Al Rais, DMSat-1 programme director and senior director at MBRSC's Remote Sensing Department, said DMSat-1 will monitor, collect and analyse environmental data as well as measure air pollutants and greenhouse gases in the UAE.

According to Al Harmoudi, DMSat-1 is vital in studying the phenomenon of sandstor. It will be also be used to de-



Courtesy: Dubai Media Office

■ A team of UAE engineers and project supervisors have been based at Baikonur Cosmodrome since February 25.



Courtesy: Dubai Media Office

■ DMSat-1 was placed on the rocket on March 7 for initial preparations and tests were conducted until March 12.

ABOUT DMSAT-1

■ **DMSat-1 weighs 15kg** and has a dimension of 20X30X40cm with a solar panel spanning 50cm.

■ It has three instruments, including a **multispectral polarimeter** used to monitor air quality and detect fine particles in the atmosphere and a **pair of spectrometers** used to detect greenhouse gases.

■ **It will cover an area of up to 80,000 square km a day** and monitor a single site from seven angles.

■ **It will orbit Earth at an altitude of 550km, 14 times a day** and will pass over the MBRSC ground station 4-5 times daily to receive instructions and download data.

tect greenhouse gases and the data generated data will support environmental research and climate change studies.

Its multispectral polarime-

ter, in particular, is a relatively new technology, used for remote sensing to collect improved characterisation of atmospheric aerosol. DMSat-1's polarimeter will monitor and measure air pollutants, develop an air quality map, study seasonal changes and levels of air pollutants, and study the sources of air pollutants.

International project

The DMSat-1 project was announced in 2019. It was built by engineers at the Space Flight Laboratory in the University of Toronto, in a collaboration between MBRSC and Dubai Municipality. DMSat-1 will be the fourth satellite in orbit that will be operated by MBRSC, after DubaiSat 2, KhalifaSat and Hope Probe.

The DMSat-1 was placed on the rocket on March 7 for initial preparations and tests were conducted until March 12. On Saturday, the satellite is expected to separate from the rocket and go into its orbit at 2.20pm (UAE time) and send its first signal at 3pm.