

## IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)

Flight & Ground Operations aspects of Human Spaceflight - Joint Session of the IAF Human Spaceflight and IAF Space Operations Symposia (4-B6.4)

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## UAE ASTRONAUT PROGRAM – OPERATION AND EXECUTION OVERVIEW

**Abstract**

The UAE Astronaut Program was launched in April 2017 by the UAE leadership to prepare the first Emirati Astronaut Corp to participate and contribute in global space exploration missions by 2019. It is one of the most important National Space Program projects in term of establishing an infrastructure for the UAE space industry through building a collaborative partnership with International Space Agencies and industries. The program as well focuses on inspiring the youth with distinguished capabilities in terms of scientific standards and personal skills. The UAE Astronaut Program targets to develop national astronauts according to the highest space international standards. In line with the national strategy, the program also aims to fulfil the UAE's ambitions in contributing to the scientific missions and manned space exploration missions. Mohammed bin Rashid Space Centre (MBRSC) runs and develops the program to achieve the country's ambition goals in developing the space sector. UAE Astronaut Mission -1, also known as "Zayed's Ambition" is the first Astronaut Mission in the program as part of an agreement made between MBRSC and the State Space Corporation ROSCOSMOS, to send the first Emirati Astronaut to the International Space Station (ISS), aboard a Soyuz-MS spacecraft. The Mission included several agreements and partnerships with the National Aeronautics and Space Administration (NASA), the European Space Agency (ESA) and the Japan Aerospace Exploration Agency (JAXA). Hazzaa Al Mansoori was selected to be the first Arab and Emirati astronaut to travel to the ISS on a short duration mission (8 days) on 25 September 2019. The Mission involved scientific experiments and educational and outreach activities that were planned and scheduled in coordination with the International Partners. The Mission Operations integration was done in coordination with NASA, JAXA, ROSCOSMOS and ESA, each International Partner took responsibility of supporting the activities execution related to their operational entities. ESA provided technical support in establishing the UAE Operations Support Center (UAE-OSC) in Dubai, operations preparations and real-time support of UAE Education and Public Outreach (EPO) activities, as well as monitoring the execution of ESA experiments conducted by Hazzaa Al Mansoori. The UAE-OSC was in direct contact with the other team members located in different ISS Mission Control Centers to provide the required support needed for the Mission. This paper will cover the Operations Concept for the UAE Astronaut Mission -1, emphasizing the development of the ground segment, and the operational overview during the mission. It will include the daily operations process, as well as the roles and responsibilities of the operations team.