

IAF EARTH OBSERVATION SYMPOSIUM (B1)  
Future Earth Observation Systems (2)

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THE DESIGN AND DEVELOPMENT OF THE 813 SATELLITE FOR EARTH OBSERVATION

**Abstract**

The UAE has launched a regional space collaboration program that aims to empower the Arab world in the global space industry. The Arab countries will build the 813 satellite named after the date that marked the beginning of prosperity for the House of Wisdom in Baghdad under the reign of Al-Ma'mun. Representing the region, the House embraced scientists, translated notable texts and produced scientific capabilities. The development of the satellite is expected to take 4 years and have a nominal lifetime of five years at a Sun-Synchronous Orbit of 640km. The 813 Satellite will have a hyperspectral payload in the Visible and Near Infrared (VNIR) as well as in the Shortwave Infrared (SWIR) with more than 200 spectral bands. The aim of the satellite is to monitor vegetation, soil types, minerals and water sources, greenhouse gases, pollution and dust levels. The development of the satellite is funded by the UAE Space Agency and will be developed in the state-of-the-art facilities of the National Space Science and Technology Center (NSSTC) at the United Arab Emirates University in Al Ain. This paper will outline the overall novel design of the satellite and development plan for the satellite in the Assembly, Integration and Testing facilities at the NSSTC.