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

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NEAR REAL-TIME EARTH OBSERVATION SYSTEM BY HIGH-RESOLUTION SAR SMALL SATELLITE CONSTELLATION

Abstract

Institute for Q-shu Pioneers of Space, Inc. (iQPS) is a Japan-based space start-up founded in 2005. iQPS has successfully launched its first 1m resolution and 100kg small synthetic aperture radar (SAR) satellite which has a large-sized but compactly stored lightweight parabolic antenna. iQPS plans to establish 36 synthetic aperture radar (SAR) small satellite constellation which enables observation of interested points located almost anywhere in the world in around 10-minute intervals by 2024. By combining AI such as deep learning and machine learning with the accumulated observation data from the constellation, iQPS aims to create a new economic value by supporting the optimization of "agriculture", "marine/fishery", "infrastructure management", and the realization of "autonomous driving". iQPS's first SAR satellite IZANAGI was launched by PSLV-C48 in December 11th, 2019 and successfully deployed its parabolic antenna in December 16th, 2019. Its second satellite IZANAMI is scheduled to be launched in the second half of 2020. This paper introduces the overall plan and the current status.