

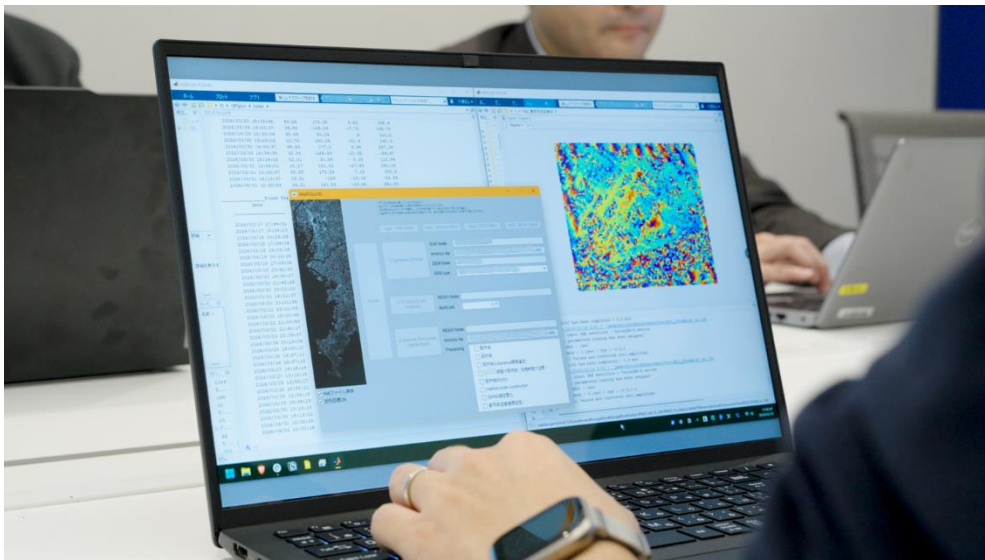
April 24, 2026

SKY Perfect JSAT Corporation

SKY Perfect JSAT Develops World's First Observation Opportunity Optimization System for Small SAR Satellites **Effective Data Acquisition Rate Improved by Approximately 12x**

SKY Perfect JSAT Corporation (Head Office: Tokyo; Representative Director, President & Chief Executive Officer: Eiichi Yonekura; “SKY Perfect JSAT”) has developed, for the first time in the world*, an Observation Opportunity Optimization System (patent pending) that enables the capture of observation opportunities essential for Interferometric Synthetic Aperture Radar (InSAR) analysis, allowing high-precision detection of subtle ground surface changes using small SAR satellite constellations.

The system has been successfully implemented within the small SAR satellite constellation operated by Institute for Q-shu Pioneers of Space, Inc. (Head Office: Fukuoka City, Fukuoka Prefecture; President and Representative Director CEO: Shunsuke Onishi; “iQPS”). By accurately capturing observation opportunities that were previously overlooked, the system has increased the data acquisition rate available for InSAR analysis by approximately 12 times compared to conventional methods.



InSAR analysis image

InSAR analysis is a technology that detects ground deformation on the order of several millimeters to centimeters by precisely comparing SAR data acquired at different times. It is expected to be widely applied to infrastructure monitoring as well as disaster prevention and mitigation by government agencies and local authorities.

However, high-precision InSAR analysis requires a very high degree of consistency in observation

conditions—such as satellite orbit, viewing angle, and observation position—between SAR images acquired at different times. Small satellites in low Earth orbit generally operate with minimal orbit control due to fuel constraints, making it difficult to repeatedly acquire images under identical conditions.

While small SAR satellite constellations, which have gained significant attention in recent years, enable near-real-time observation through the coordinated operation of multiple satellites, the acquisition of data suitable for InSAR analysis has largely relied on empirical observation planning and case-specific trials. This has posed a significant challenge to achieving stable and continuous InSAR analysis.

Recognizing that conventional approaches—which require routine orbit control to maintain repeat ground tracks even as observation frequency increases—would make continuous InSAR analysis difficult, SKY Perfect JSAT began developing a new system. Leveraging operational expertise accumulated through collaboration with iQPS, the system automatically and accurately identifies observation opportunities that satisfy the requirements for InSAR analysis from among a vast number of potential observations across a satellite constellation. The system also enables use of archived images, even across different satellites within the constellation.

As a result, the occurrence rate of usable pairs of observation data acquired at two different times for InSAR analysis rate improved dramatically, increasing from less than 1% prior to system implementation to approximately 12%, representing a roughly 12-fold increase in effective observation opportunities. In actual operations of iQPS's small SAR satellite constellation, the system has already demonstrated tangible results, including the successful execution of multiple InSAR analyses within short timeframes.

By enabling the stable acquisition of the data required for InSAR analysis, the newly developed system contributes to the provision of more reliable analysis results. As the number of Earth observation satellites continues to grow and the utilization of space further expands, SKY Perfect JSAT remains committed to advancing the societal implementation of high-value-added space data and exploring new business opportunities.

* According to SKY Perfect JSAT's survey of publicly available academic literature and patent disclosures (as of April 2026).