

IAF EARTH OBSERVATION SYMPOSIUM (B1)  
Interactive Presentations - IAF EARTH OBSERVATION SYMPOSIUM (IP)

Author: Mr. Dongshik Won  
Telepix Co. Ltd., Korea, Republic of

Dr. Kyung woo Hong  
Telepix Co. Ltd., Korea, Republic of

Mr. Sangkwon Park  
Telepix Co. Ltd., Korea, Republic of

Mr. Seonghui Kim  
Telepix Co. Ltd., Korea, Republic of

ENABLING HIGH-PERFORMANCE ON-BOARD DATA PROCESSING FOR REAL-TIME  
OBSERVATION MISSIONS IN SPACE.

**Abstract**

As the demand for space and Earth observation data continues to grow, the urgency of rapid data delivery and management has become increasingly paramount. Presently, the computing capabilities of on-board data processing units are constrained by the available electrical power and the challenging space environment. Furthermore, the limited uplink and downlink bandwidth for satellite communication pose constraints on the deployment of advanced real-time image data analysis and rapid decision-making processes. In this talk, we will explore innovative approaches such as resource-aware data processing methods to enable real-time decision making with edge computing capability of optical payload.