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DIPARTIMENTO DI
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EO-ALERT

Next Generation Satellite Processing Chain for Rapid Civil Alerts

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Abstract

Deimos Space presents the EO-ALERT, an European Commission H2020 project that proposes the definition and development of the next-generation Earth Observation (EO) data processing chain, based on a novel flight segment architecture that moves optimised key EO data processing elements from the ground segment to on-board the satellite: The EO-ALERT satellite concept is based on the establishment of an on-board data handling and processing capability, that enables the generation of EO products on-board the satellite and their direct transfer to the End User.

This strategy is expected to be the core of future autonomous EO satellites. The proposed EO-ALERT satellite data handling architecture is shown and discussed with application on ship detection and extreme weather observation\nowcasting.

The beneficial exploitation of AI-based technologies in some areas of the EO-ALERT are also shown, together with their challenges.

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