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### **JAXA and DLR Initiate Cooperation in Satellite Disaster Monitoring**

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JAXA-DLR signing on satellite-supported disaster monitoring

During a joint strategy dialogue being held in Tokyo on 21 August 2009, the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) and the Japan Aerospace Exploration Agency (JAXA) signed a Letter of Intent (LOI) establishing cooperation between the two organisations on satellite-supported disaster monitoring.

Spaceborne Synthetic Aperture Radar (SAR) has the ability to map the Earth during both day and night and under nearly all weather conditions. When timely observations of disastrous events on Earth, such as floods, earthquakes or volcano eruptions, are urgently required for mitigation of such disasters and to save human lives, spaceborne SAR systems are often used to monitor them.

DLR operates the German SAR satellite TerraSAR-X in a public-private partnership with InfoTerra GmbH, based in Friedrichshafen, Germany. In orbit since June 2007, TerraSAR-X has supported many international activities in disaster mapping around the world. The Center for Satellite Based Crisis Information (Zentrum für satellitengestützte Kriseninformation; ZKI) at DLR's German Remote Sensing Data Center (Deutsches Fernerkundungsdatenzentrum; DFD) in Oberpfaffenhofen frequently generates maps for the assessment of disasters, using TerraSAR-X data and other satellite information.

Likewise, JAXA operates the Advanced Land Observation Satellite (ALOS), which – along with other instruments – carries an L-band SAR. JAXA and DLR have used both ALOS and TerraSAR-X data for disaster monitoring purposes. Although the instruments complement each other in certain capabilities, further optimisation of the methods and algorithms employed is necessary in order to achieve their full potential for synergistic crisis monitoring. To achieve this, Dr Keiji Tachikawa, President of JAXA, and Prof. Dr Johann-Dietrich Wörner, Chairman of the Executive Board of DLR, signed the LOI for mutual cooperation on satellite-supported disaster monitoring.

In the LOI, both parties acknowledge the need to promote satellite applications, especially SAR satellites, to strengthen related applied research and to pursue such activities in an international manner. In addition, both parties confirmed their intention to establish a research and development cooperation, making the best use of their respective SAR satellites.

The research cooperation will address improvements in response to natural or man-made disasters using DLR and JAXA satellite systems, as well as the improved availability and exchange of data sets. In addition, the benefits of the synergistic use of X-band systems, operating at a wavelength of 3 centimetres, and L-band systems, operating at a wavelength of 30 centimetres, will be explored jointly.

After defining the detailed contents and time frame for this joint research, DLR and JAXA intent to establish a concrete agreement on the implementation of this cooperation.

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