



## Disaster relief – DLR to chair the International Charter 'Space and Major Disasters'

16 April 2013

Bureaucracy-free assistance in the event of an emergency – this is the aim of the 15 space agencies united within the International Charter 'Space and Major Disasters'. The German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) has been a member of this network since October 2010, and, on 16 April 2013, will take over as chair of the Charter for six months.

"With its expertise in Earth observation, Germany is an important contributor to disaster management on an international level, for instance in the 'Universal Access' initiative, launched by the Charter in the autumn of 2012. This was a milestone; until then, Charter assistance had only been available to authorised users from around 40 countries and United Nations agencies. 'Universal Access' effectively opens the door to every national disaster management authority around the world," emphasises Johann-Dietrich Wörner, Chairman of the DLR Executive Board and the most senior German representative on the Charter Board. "This is exactly what is needed to eliminate the large 'white areas' in Africa, parts of Asia, and South and Central America in particular."

Charter members come to the assistance of relief services in disaster areas in the wake of devastating natural catastrophes or major technological accidents; for instance, the earthquake in Haiti in January 2010 or the tsunami in Japan in March 2011. Members draw on space-age technology – images acquired using Earth observation satellites – to provide extremely detailed impressions of the extent of the damage. "With this information, relief workers are able to better coordinate their operations. For example, satellite maps show them which roads or bridges are still passable after the occurrence of an earthquake or flood, and which buildings or entire towns are damaged," explains Jens Danzeglocke. The geographer works as a researcher at the DLR Space Administration and, as Charter Secretary, coordinates German activities in this international network of space organisations for disaster relief. This includes preparing the four-day conference to be held in Berlin from 16 to 19 April 2013, marking the start of Germany chairing the Charter. All board members, that is, the most senior representatives of the member agencies, and their respective secretaries come together here to further develop Charter activities.

DLR provides the Charter with Earth observation data from the two German radar satellites TerraSAR-X and TanDEM-X. These satellites are able to quickly acquire very detailed images, regardless of cloud cover or availability of daylight. "Radar images are ideally suited to mapping flood disasters, as they clearly distinguish between expanses of water and land. But the information from TerraSAR-X can also be very helpful in other disasters, such as earthquakes," says Danzeglocke. In some cases, DLR also assists with optical data from the RapidEye satellites, for example in the event of forest fires or after particularly extensive incidents, such as the 2011 tsunami in Japan.

DLR has contributed to the Charter through the German ESA membership since 2002, becoming the eleventh full member in October 2010. The DLR Space Administration works closely with the Center for Satellite-Based Crisis Information (Zentrum für Satellitengestützte Kriseninformation; ZKI) within DLR in Oberpfaffenhofen. ZKI provides satellite data and acts in the important capacity of 'first responder', alternating with other Charter partners. This means that an operations coordinator is available around the clock in the event of any incident.

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This radar image, acquired by the German Earth observation satellite TerraSAR-X on 12 March 2011 at 21:43 CET, shows the impact of the tsunami on Higashi-Matsushima Airport and the port of Ishinomaki, near Sendai, on the east coast of Japan. The blue areas indicate the flooding; the magenta-coloured areas show the extent of the destroyed infrastructure.

Credit: DLR.

## **Members of the Charter Board**



The Charter Board members - the highest representatives of the member agencies - met in Berlin to discuss and further develop the Charter activities. Board members included Johann-Dietrich Wörner, Chairman of the DLR Executive Board (first from left) and Hans-Peter Lüttenberg, head of the Department of Earth observation at the DLR space Administration (second from left), also deputy on the Board.

Credit: DLR (CC-BY 3.0).

Secretaries of the International Charter 'Space and Major Disasters'



DLR's six-month Chair of the International Charter 'Space and Major Disasters' commenced at the Charter conference, which is being held in Berlin between 15 and 19 April 2013. This conference is being attended by the official representatives of all 15 Charter member agencies. In this photograph are the member agency secretaries, including Jens Danzeglocke (front row, third from right) from the DLR Space Administration, who will be coordinating the German Charter presidency.

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