

## **Statement of DLR (German Aerospace Center)**

**By Pascale Ehrenfreund,  
Chair of the Board, DLR**

Dear Ministers,

Dear Heads of Delegations,

Dear colleagues,

It is a pleasure for me as Chair of the Executive Board of the German Aerospace, DLR, to be here today at this “third International Space Forum - The Latin American and Caribbean Chapter” focusing on the “Space Science and Academia for better Solutions to Latin America and Caribbean’s Challenges”.

Ladies and gentlemen,

The space sector is in transition. It has evolved from a domain of activities of few countries with mainly science and technology motives to a sector allowing direct socio-economic benefits for the involved countries.

With the on-going internationalisation and globalisation of the space sector with new institutional and private actors emerging across all continents, today you do not need to master the whole chain of space activities to be able to reap the benefit of space.

This is a chance for Latin American and the Caribbean countries since space is definitely part of the answer to challenges the continent is facing.

We all agree around this table that Space technology and its applications can contribute to solve societal challenges like food security; sustainable agriculture and forestry; Management of natural Resources and Prevention of Disasters; clean and efficient energy; smart, green and integrated transport; climate change and its consequences – just to name a few.

By tackling those and other challenges Space can create a considerable positive socio-economics benefit for Latin America and the Caribbean region and help achieving the United Nations Sustainable Developments Goals.

Ladies and Gentlemen,

The German Aerospace Center, DLR, is the biggest European space research organisations with a majority of our 8500 staff and 40 Institute being involved in space research.

We are involved in all fields of space research and in particular in the domains of Space Applications and Space science that are the topics of today's discussion. We are also cooperating with actors from over the world as our activities are embedded in international networks of partnerships.

I would like here to highlight a few examples of DLR activities providing solutions for Latin America and the Caribbean region, activities done in partnership with local partners.

DLR cooperates with actors from the North of the Latin America and the Caribbean region to the South.

For instance, DLR is cooperating with Mexico on a data reception station in Chetumal on the Yucatan peninsula where information transmitted by satellites can be received and evaluated. In 2014 the ground receiving station has being transferred by DLR and it became the property of the Mexican space agency AEM. AEM is now responsible for the operation and use of the station while DLR continues to support its research activities. We will also renew and extend our cooperation agreement next year.

In 2018, we celebrate the 1-year existence of the 3-year project RIESGOS (Multi-risk analysis and information system components for the Andes region) that aims to develop for the Andes region an innovative research in risk analysis of the various natural hazards and associated cascade effects and the integration of the results into a modular multi-risk information system. This includes data collection through innovative monitoring tools (new satellite missions and automated in-situ surveys), the development of novel analysis tools and the provision of system components that can be flexibly used and connected to existing systems.

Natural hazards do not stop at certain national borders, which is why RIESGOS cooperates across borders. The German Consortium is working together with 25 South American partners from Chile, Ecuador and Peru, in RIESGOS to provide and integrate innovative research methods and ideas into existing components.

The project is developing “What if-scenarios” thus contributing to the pro-active phase of the preparation for disaster events. By this means we contribute to the objectives of the SENDAI Framework.

Another example of cooperation is on the utilization of Firebird data to monitor fires on the Continent. The Center for Satellite based Crisis Information (ZKI) that is an institution of the German Remote Sensing Data Center (DFD) at the German Aerospace Center has prepared fires situation maps in Chile. On 25 January 2017, the Chilean National Office for Emergency (Oficina Nacional de Emergencia del Ministerio del Interior; ONEMI) activated the International Charter Space and Major Disasters to obtain up-to-date situation images of the disaster area to assist emergency services. ZKI was tasked with coordinating the entire Charter activation. The fires in Chile were the most devastating in years. The fires had affected a surface area of over 366 000 hectares and destroyed 1047 buildings. Unlike other current satellites, FireBIRD has the capability to detect smaller fires in particular. This enables more precise mapping, and therefore analysis of their impact on the climate. Moreover, exact registration of forest and bush fires is highly relevant due to the economic loss they entail.

DLR is also cooperation with Brazil in the fields of sounding rockets, rocket motors and Earth observation with AEB or INPE. The use of Brazilian rocket motors for sounding rockets is essential for the German and European sounding rocket programmes. We also cooperate with Brazilian universities in the fields of space medicine, communication and navigation.

One of DLR research planes the High Altitude and Long Range Research Aircraft (HALO) is used for atmospheric research and Earth observation. Its scientific flight campaigns are used as joint or coordinated missions with other airborne platforms or satellite and model activities.

For instance HALO in 201, measured the emergence, development and properties of tropical clouds in Brazil. The “ACRIDICON” (Aerosol, Cloud, Precipitation, and Radiation Interactions and Dynamics of Convective Cloud Systems) researchers launched the mission to better understand the microphysical mechanisms that prevail within these towering clouds and that determine their climate impact.

From 2019 to 2022 we will also at least for HALO campaign in Latin America and the Caribbean region with “EUREC4A” over the Barbados, “CAFE Brazil & SCOOP” over Brazil, “COMET 2.0 Tropical” in Brazil and the northern South America.

In Argentina, we are also in discussions with CONAE on the topic of small satellites both for their developments and operations and access to FireBird data for selected areas in the country.

DLR is also a platform for collaboration with Latin American Universities in its other fields of research. Just last year DLR approved a cooperation agreement with the Adolfo Ibáñez University in Chile with the purpose to cooperate in joint research and development on concentrating solar systems.

Solar energy which can be used versatile, is a major renewable power source with many benefits for people and the environment.

Ladies and gentlemen,

As you can see there are many instruments and opportunities to strengthen DLR ties with Latin American and Caribbean stakeholders such as universities, academia, research organisations, companies and Space Agencies. I encourage you to contact us to set up new R&D partnerships.

Thank you for your attention.