

**Statement of the Atlantic International Research Centre (AIR Centre) at
the Fifty-ninth session of the Scientific and Technical Subcommittee of the
Committee on the Peaceful Uses of Outer Space**

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Madam Chair, distinguished delegates,

We want to thank the United Nations Office for Outer Space Affairs for this invitation as observers to this Scientific and Technical Subcommittee, we are grateful that we can gather with all of you and contribute to the discussions.

It is my great honour to speak for the first time to you on behalf of the Atlantic International Research Centre (the AIR Centre) which is an international non-profit organization for the development of scientific and technological applications in the Atlantic region with the objective of promoting the creation of knowledge-based jobs, paying special attention to the study of ocean-space interactions and the development of sustainability solutions using Earth Observation from the outer space.

The AIR Centre, headquartered on Terceira Island – Azores, Portugal, is an institution established as a distributed network which already includes several countries in the Americas (Brazil, Colombia, Mexico, United States, Dominican Republic). Europe (Portugal, Spain, United Kingdom, Norway), and Africa (South Africa, Nigeria, Angola, Namibia, Cape Verde, São Tomé and Príncipe, Morocco). The AIR Centre's mission includes activities in areas of enormous scientific, economic and social impact.

The main actions are oriented towards the use of Earth Observation satellites for five selected thematic missions:

- Clean and productive bays and estuaries
- Resilience to coastal natural hazards



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- Sustainable food production
- Improved management of marine and coastal resources
- Improved environmental and maritime monitoring

Thanks to a Memorandum of Collaboration with the European Space Agency and the Portuguese Space Agency, signed in 2019, the AIR Centre hosts the ESA Lab@Azores, an open platform of collaboration which is embedded within ESA as part of its ESA Lab@Initiative.

The AIR Centre EO Lab has already started more than 20 projects in consortium with entities from associated countries (companies, Universities, Research Centres), won in international competitions (national, European and intercontinental programs) on issues related to the oceans such as desalination, off-shore renewable energy, protection of marine ecosystems, detection of plastics in the oceans using satellites, ports of the future, coastal cities sustainability, biodiversity or aquaculture.

The use of satellites for above objectives is fundamental, because it is an observation system that provides synoptic measurements of the ocean due to its very long field of view. Existing satellites in Europe, like the Copernicus program with the Sentinel Satellites are extensively used for ocean observation at AIR Centre.

In addition, a Direct Receiving Station has been installed at the AIR Centre Headquarter in the Terceira Island, Azores, able to receive direct broadcast data from NOAA and NASA satellites.

Above satellites are very valuable, but there is an important gap, as they do not provide very high resolution data. The AIR Centre is one of the shareholders of the Earth Observation satellite operator GEOSAT, which operates the satellites GEOSAT 1 and GEOSAT 2 providing images of our planet at very high resolution (down to 75 cm) to help developing scientific projects and technological applications towards sustainability and help solving the global challenges that we are facing.

There is another important gap in ocean observation from the space, it is the observation with high time resolution. Above presented satellites are very large and sophisticated,



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which provide measurements with a low frequency (normally days) and there is an urgent need to obtain space with a higher frequency (every 2-3 hours) and lower latency (less 1 hour) for applications such as monitoring of natural disasters and extreme weather events, fisheries protection, search and rescue operations or detailed modelling of ocean phenomena, among others. The only way to provide space data with high frequency is with a constellation of satellites.

Therefore, the AIR Centre is promoting a “flagship” project for the development of a constellation of small satellites designated Atlantic Constellation, intending to unify its partners of the Atlantic network with a vision of transatlantic partnership for a constellation that will provide important measurements with a frequency without precedents, that will allow to develop innovative applications from the space for the ocean, land, climate and atmosphere. The objective of the Atlantic Constellation is to cover the existing gap today of very frequent ocean data, and it is composed of 16 satellites with multispectral, hyperspectral, and Internet of Things sensors. This system will be able to provide data of the ocean with a frequency of 2-3 hours.

The AIR Centre's commitment to the United Nations and its sustainable development goals is once again demonstrated in the recent Partnership Agreement to be signed in the coming days to make the AIR Centre one of the nodes of the United Nations Environment program (UNEP), within its UNEP GRID network.

Lastly, we would like to take this opportunity to offer our collaboration on other top priority issues for this Subcommittee. Although the main activity of the AIR Centre is the development of Earth Observation applications for the welfare of citizens, we are also concerned about problems that may make the use of outer space unfeasible, problems such as space debris or space weather. As well as problems that can pose a serious risk to the entire planet, such as the possibility of collision with near-Earth objects (NEOs). We also offer the collaboration of our international network on those issues.

I thank you, Madame Chair, and distinguished delegates, for your attention. At the AIR Centre we are looking forward to continue the international collaboration on the use of outer space for the benefit of our citizens.