



## **Establishment of a NRT service at DLR for supporting sea ice and iceberg monitoring for the Antarctic Peninsula**

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The navigation of a ship through a defined area between South America and the Antarctic Peninsula will be facilitated by an uninterrupted monitoring of sea ice in near real time. To this end, DLR will develop an NRT processing chain over the next few years that will be installed at GARS O'Higgins, the DLR Antarctic station. At the northern tip of the Antarctic Peninsula, the German Remote Sensing Data Center (DFD) of the German Aerospace Center (DLR) has been running GARS O'Higgins since 1991, and has kept it manned year-round since 2010.

High-resolution radar data provides the foundation for this project. The data is received at GARS O'Higgins and processed on location within a short period of time, thereby generating pertinent and reliable information products about sea ice coverage, iceberg recognition, wind fields and wave movements. Ultimately, this vital information will be distributed to customers as a service in near real time (NRT).

The challenge lies in adapting the existing processors developed by DLR to the specific demands of the Antarctic region, and then further developing them as needed. Upon installation with the customer, special consideration should be given to achieve and maintain the near real time capacity of the product. This involves the optimization of the process chain and of the information format, which will be tailor-made for the customer.

Currently, this is a R&D activity at DLR. It may be enlarged to an operational service in future. Initially, the potential of this service needs to be broadly demonstrated. If possible, the pilot users of the NRT service, as well as the secondary use of this data in demonstration pilot projects and case studies will be assessed. Aside from the acquisition of data from the German satellite TerraSAR-X, additional data from the Sentinel-1 and/or Radarsat-2 satellites will also be evaluated.