The scope of this presentation is to feature the G-POD SARvatore service to users for the exploitation of CryoSat-2 and Sentinel-3 data, which was designed and developed by the Altimetry Team in the R&D division at ESA-ESRIN. The G-POD service coined SARvatore (SAR Versatile Altimetric Toolkit for Ocean Research & Exploitation) is a web platform that allows any scientist to process on-line, on-demand and with user-selectable configuration CryoSat-2 SAR/SARin and Sentinel-3 SAR data, from L1A (FBR) data products up to SAR/SARin Level-2 geophysical data products.

The G-POD graphical interface allows users to select a geographical area of interest within the time-frame related to the Cryosat-2 SAR/SARin FBR and Sentinel-3 L1A data products availability in the service catalogue. The processor prototype is versatile, allowing users to customize and to adapt the processing according to their specific requirements by setting a list of configurable options. Pre-defined processing configurations (Official CryoSat-2, Official Sentinel-3, Open Ocean, Coastal Zone, Inland Water (20Hz & 80Hz), Ice and Sea-Ice) are available. After the task submission, users can follow, in real time, the status of the processing. The output data products are generated in standard NetCDF format, therefore being compatible with the multi-mission “Broadview Radar Altimetry Toolbox” (BRAT, http://www.altimetry.info) and typical tools.

Initially, the processing was designed and optimized uniquely for open ocean studies. It was based on the SAMOSA model developed for the Sentinel-3 Ground Segment. However, since June 2015, the SAMOSA+ retracker is available as a dedicated retracker for coastal zone, inland water and sea-ice/ice-sheet. A new retracker (SAMOSA++) has been recently developed and will be made available in the future. The scope is to maximize the exploitation of CryoSat-2 and Sentinel-3 data over all surfaces providing user with specific processing options not available in the default processing chains.

Recent improvements include: 1) A Join & Share Forum to allow users to post questions and report issues (https://wiki.services.eoportal.org/tiki-custom_home.php); 2) A data repository to better support the growing Altimetry Community avoiding the redundant reprocessing of already
processed data (https://wiki.services.eoportal.org/tiki-index.php?page=SARvatore+Data+Repository&highlight=repository); 3) A new function in the GUI allowing users to compute the geodetic distance between selected points on the map; 4) A new function in the GUI to filter the products search to a specific RON (Relative Orbit Number) and to a specific pass direction (Ascending or Descending). Furthermore, users will find in the folder SUM_RESDIR of the output data package a short summary report with information on the products that have not been processed and instructions on how to eventually try to re-process the missing data.

To respond to the request of hydrologists, and simulate data that a river gauge would provide, SARvatore will soon include a post-processing service to convert water level estimates in L2 data to virtual station water level values, which are typically required by hydrologists. Validation of SARvatore data over river targets will be presented to demonstrate the potential of both the SAMOSA+/++ retrackers and the innovative processing configurations not available in the default CryoSat-2 and Sentinel-3 processing chains.