DOSTAG QSR

Coastal Erosion 2: Coastal Change from Space (Argans, UK, 1.5 M€) includes a service provider group of ARGANS Ltd (UK), isardSAT (ES) and adwiasEO (LU) and a multinational group of public agency authoritative end users including: British Geological Survey, BGS (UK); Geological Survey of Ireland GSI (IE); IHCantabria (providing technical validation of EO products in the Spanish coast in collaboration with the Instituto Geográfico Nacional (IGN) and the Instituto Hidrográfico de la Marina (IHM) on behalf of the Ministerio para la Transición Ecológica y el Reto Demográfico (MTERD); Arctus (CAN) (representing the governmental agencies of Quebec, Canada) and IGN-FI (France, but representing potential export in Africa).

The past Quarter has seen the successful conclusion of the initial "feasibility" Phase 1 of the Coastal Erosion project: 6 processors, with 2 additions in progress have been developed, and a portfolio of 26 EO products grouped into 4 product lines, which can be chosen by the users for each site, with 2 more in development have been designed and prototyped, ready for distribution; with 5 sites in phase 1 and a further16 additional sites in phase 2 selected for production verification with all the related EO products available on an FTP server; the processing chains have been implemented on the private cloud of adwäisEO-ACRI ST-Argans in Luxembourg in a Tier4 data centre, next to the Luxembourg Collaborative Ground Segment.

This milestone was accompanied by the delivery of the Validation Plan and the Webservices Plan at the Mid Term Review hosted at the ARGANS French office in Sophia-Antipolis with all partners represented. The review was presented to the Technical Officer, Mr Olivier Arino and Fabrizio Ramoino, the SERCO SPA support to ESA EO R&D Section. This MTR was also preceded by a workshop where national and site-specific erosion issues were discussed, highlighting that to some the loss of coast line and the associated buildings and infrastructure are of vital importance whilst others the economic cost to beach replenishment to support vital tourism is equally important. Mr Roberto Diaz from the Spanish MTERD was a very welcomed guest. All DOSTAG members from the participating nations were invited to attend, however none could make the MTR. The Coastal Change Consortium have been requested by all four space agencies or reps to ESA (UK, Ireland, Spain, Canada) to back brief them on our progress to date and this will be arranged once the Covid-19 constraints have passed.

The project is very much now in a production mindset and has designed a regular drumbeat approach that will enable a deep focus on each nation in turn on a rotational basis, starting with Ireland. The unique approach by the consortium is the colocation of Sentinel-2 images of the shoreline at a 2.5 m relative accuracy to reach 1 to1.5 m using VHR Third Party Mission Data. The first results were encouraging, and ESA TPM support must be acknowledged.
It would be remiss not to mention the Corona Virus and its effect on the project, however due to the nature of working in international consortia, the group has really bonded as a partnership and is already well versed in communication via teleworking. This quarter has also fortunately coincided with the planned automating of the processors/processes and the proper allocation of remote virtual machines to ensure production is maintained on track.

However, the significant effect has been felt across our Outreach programme with all events being either postponed or cancelled. GSI were due to present Coastal Erosion (as part of the GSI coastal initiatives) at the 36th International Geological Congress IGC36 in New Delhi- March 2020 but this has been postponed until Nov. The Coastal Erosion presentation at UKs GEO Business due May 21 has also been postponed until September. The consortium have provided an abstract for the 8th Symposium Monitoring of Mediterranean Coastal Areas: Problem and Measurement Techniques which was due to take place in Livorno, June 2020, but this has now been postponed as well. A paper on the work prior to the ESA contract "New Perspectives in the Monitoring of Marine Sedimentary Transport by Satellites" has been published in "Estuaries and Coastal Zones in Times of Global Changes", eds. K.D. Nguyen, S. Guillou, Ph. Gourbesville and J. Thiebotn, Springer Water, 2020.

As part of the phase 2 deliverables, each of the four nations will host a Workshop which will both report on the project aims & achievements and also deliver educational courses on the strengths and weaknesses of remote sensing as they apply to coastal erosion, the specifics of the products that have been developed and the analysis and exploitation that the users will evolve. All these workshops have now been postponed and are now being planned for after September this year. It is recognised that the Quarter 3 period will be a busy one as everyone attempts to catch up and return some normality, so some joining of some events is anticipated.

On the positive front within the UK Chanel Coastal Observatory newsletter a reference has been made to this project https://mailchi.mp/d0b21b759439/channel-coast-news-1926009 and a Sentinel Success story based on this project has been forwarded and is expected to be published soon. A link will be made to the Coastal Erosion website.