

Ice Movement Monitoring in the Arctic

e-GEOS (ASI/Telespazio), Italy, has signed a contract for setting up a COSMO-SkyMed Receiving Station in Sodankylä, Finland, to be operated by the Finnish Meteorological Institute (FMI) as a part of the Finnish Ministry of Transportation and to become operational before the end of 2012. This agreement will provide Finland with COSMO-SkyMed direct reception capabilities over the Baltic and a large part of the Arctic areas to monitor ice formation and movements, and Arctic changes.

The COSMO-SkyMed SAR Constellation, owned by the Italian Space Agency (ASI) and commercially exploited by e-GEOS, offers a revisit capability and rapid access that can support near-real time ice breaker's requirements for maritime safety and transportation activities during winter navigation, for example, but also oil and gas exploration activity monitoring. The COSMO-SkyMed constellation can provide a revisit which cannot be matched by any other systems (i.e. up to 16 acquisitions/day over a specific target at 70°N latitude).

Satellite imagery with X-band SAR allows better detection, measuring and tracking of ice floes on a daily basis. In addition, it gives better information on the size and movement of potential ice features, as well as increasing the ability to forecast their movements.

Thanks to this new partnership, FMI will receive from e-GEOS the rights to distribute COSMO-SkyMed SAR data and develop new and enhanced services for Finnish citizens and Government Authorities. In exchange, e-GEOS will have the right to use the new Arctic station to exploit COSMO-SkyMed monitoring capabilities with new near-real time services for its own key clients. Furthermore, while FMI will continue to serve its community and ice breakers with new and improved ice services, e-GEOS will be able to offer the same services to its world-wide customers, on an exclusive basis.

Furthermore, a joint research project over the North Pole can begin thanks to this new partnership: with the on-going global changes, the Arctic Community expects part of the North Pole to melt during the Summer and e-GEOS has already put in planning a routine monitoring activity to document the changes. COSMO-SkyMed is actually the only Constellation able to monitor the North Pole.

With the growing interests of the Oil and Gas sector in the Arctic, it's clear that there is a high business development potential behind such ice services for e-GEOS and the entire Arctic community. Business development, however, should not forget the environmental challenges that such new activities will bring as a consequence of an increased human traffic.