European Space Agency (ESA) has chosen the Polar View consortium, lead by C-CORE in Canada, to build up the European GMES programme of operational services. Polar View is continuation for ICEMON and Northern View projects, and will build up e.g. sea ice and snow related services into fully operational by 2008. About 40 institutions from 9 countries are participating Polar View project. It is focused on both the Arctic and Antarctic.

ESA and the European Commission are financing the joint GMES programme (Global Monitoring of Environment and Security). In the second phase of the programme, ESA will finance GMES Service Element (GSE), where services are build into fully operational by 2008.

One of objectives of Polar View is to design and implement sea ice and snow related services for Polar regions, including the Baltic Sea, and thus increase European monitoring and forecasting capacity by building a cohesive international network, that meets: 1) engage a wide spectrum of end users who can be convinced of value of the services and products, 2) provide a suite of desirable Earth Observation related services and products to governmental and to industrial users, 3) interface a mutual beneficial way with the cryospheric science and climate change community, and 4) generate revues, either or direct, from the provision of suite of services to sustain Polar View.

By using satellite earth observation in combination with in situ observations and modeling methods, the service shall support many user segments, eg. Climate and weather services at high latitudes, management of marine environment and resources in polar seas, safety of sea transportation, fisheries, and other marine operations.

The Polar View service portfolio has evolved to meet the key information needs of polar stakeholders that can be addressed with EO data. At the moment the fifteen services are: iceberg monitoring, sea ice flow edge service, river ice monitoring, glacier monitoring, high-resolution ice charts, sea ice thickness charts, global ice monitoring, meteorological-ice ocean regional forecasting, routine oil spill monitoring...
(Canadian waters only), lake ice monitoring, near shore ice complex, snow monitoring, ice drift trajectories, medium resolution ice charts, and polar view climate change indicators.

Functionally Polar View is a highly integrated network of regional nodes structured somewhat like multi-national corporations. This Polar View structure has nodes for the Baltic Sea (snow and sea ice), Europe and Russia (the Euro-Arctic Node), North America, and Antarctic. Each node is a consortium in itself and managed by node manager.

One example of the service evaluation is the Baltic Sea. By 2008 the Finnish Institute of Marine Research (FIMR) will develop High-resolution Ice Thickness Chart products into fully operational. In cooperation with SMHI (Sweden) FIMR will develope new ice model forecast products and their services in the Baltic Sea. This requires that satellite products are used in combination with in situ data and models and that there are well-defined data providers and established service chains for the different data and modelling products.

There is a need for these kind of services, where products are reaching the ships’ scale. Ice thickness charts are provided in 500 m resolution, and ice forecasts down to one nautical mile resolution.

The marine transportation in the Baltic Sea is growing 30-40% every then years. At the moment at any given time there are at least 2000 large vessels sailing in the Baltic Sea. Polar View will help ships by providing user friendly products, which would reduce sailing times, and increase marine safety.

One of the benefits of GSE programme is a possibility to provide financing for those R&D projects, which have developed products almost to the edge of operational phase.

More information:

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