

Finnish Earth Observation in European programmes

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Finland started to use aerial photography early. The use of the Finnish air force aircraft fostered many natural resources measurements in Finland especially from the 1950's to the 1970's. In the 1970's satellite data was becoming to be utilised. Meteorology with its European and global connections was the first Finnish user but research on the use of satellite images on forestry soon followed. The advent of the SAR radar satellite was helping factor in a country where the weather is always cloudy.

In the 1980's Finland joined EUMETSAT and European Space Agency, which lead to a more coordinated national effort to develop satellite remote sensing both in spacecraft instrumentation development and in applications research.

ESA's ENVISAT and its French-Finnish GOMOS instrument and NASA's Dutch-Finnish OMI instrument were - and still are - major efforts in measuring and studying atmospheric ozone. ESA's SMOS satellite in especially measuring soil moisture and the onset of freezing and thawing of the ground has shown the value of collaboration of satellite, in situ and aircraft measurements. Finland has had a role in all ESA's Earth Observation satellites that have been developed during Finland's participation in ESA. ESA's programmes have also been an important forum for research and to some extent business development in EO applications.

ESA's ministerial meeting in November 2012 will define the volume of ESA's Earth Observation programmes for next several years. The European economy may lead into decisions where programmes shrink in size. However, ESA plans to hold its following ministerial meeting in two years when global economy is likely to be in a growing mode again.

In 1995 Finland joined European Union. European Commission's Framework Programmes in research have been valuable for Finnish EO community at least since "FP5". The current seventh programme is ends with the call with a deadline of 21 November 2012. Finnish research teams have fared well in the previous calls in GMES, Global Monitoring of Environment and Security. A Finnish company is building major parts of SAR radars for Sentinel 1 satellite that is commonly developed by ESA and European Union, and for similar satellites for Germany and Spain. Finnish researchers are participating in GMES projects on water, ice, snow, climate, atmosphere, and leading a project on forests and deforestation.

During the period 2014-2020 European Union's space programmes will change remarkably. The overall volume of EU's space activities can increase to 2 billion euro annually, whereas ESA's budget is 3.7 billion euro. GMES is likely to become a large independent EU programme with a budget of 5.8 billion euro for seven years. The 8th Framework Programme has been given the name "Horizon 2020" – its Space programme will have a budget of order for 1.7 billion euro. Its contents is still to be defined.

The many European level changes in space programmes' goals, funding and contents are threats and opportunities for Finnish Earth Observation.

On national level the Finnish space strategy for years 2013-2020 is being currently defined.