



Dr. Gabriele Bippus in SEN3APP

I'm 34 years old and am living in the heart of the Austrian Alps, close to Innsbruck. In 2007 I started working at ENVEO IT GmbH in Innsbruck, and am actively contributing as senior researcher in multiple national and international projects.

My professional interests and expertise in general are the research of the Earth's surface, especially of cold regions including snow and glaciated areas, the so-called cryosphere, mainly by means of satellite data. In my free time I enjoy the multifaceted options to spend time in the mountains, in summer and in winter time. Beside sports, I have a passion for singing, and am active in the chamber choir of Innsbruck.

I was asked to report on gender-related experiences I gained during my education and in the job. So, here we go: During my studies of meteorology at university the majority of the students and most of the professors in this research area were male. Anyway, this caused neither problems for me nor had I any privileges, as nobody on the institute of meteorology did even think about the gender issue. But we were all colleagues just interested in meteorology and related topics. In many project teams I am currently working with the quota of female team members is rather small compared to the male ones. This might look strange from outside, but I have not experienced yet any impact on the work nor any problems to be accepted as a full team member. In fact, in many current job advertisements related to natural sciences female are favoured over male candidates with the same qualification. This can, but must not, be an advantage and a disadvantage at the same time: an advantage to have a higher chance to get the desired job, and possibly a disadvantage to have problems with being accepted by colleagues as you got the job because you're female. Anyway, if you are good in what you are doing this is not a problem at all.

Upcoming Event: 1st Stakeholder Workshop of the SEN3APP-project

November 19, 2015, Helsinki-FINLAND
AGENDA (Tentative)

- Copernicus Operational Services: Today and Future Outlook
- Sentinel Satellites: All about Sentinels from launch to accessing data
- Finnish Initiative for Sentinel Collaborative Ground Segment
- Overview of EU FP7 SEN3APP project
- Series presentation on the products of the SEN3APP project by the Project Partners
- Series presentations from the End-Users

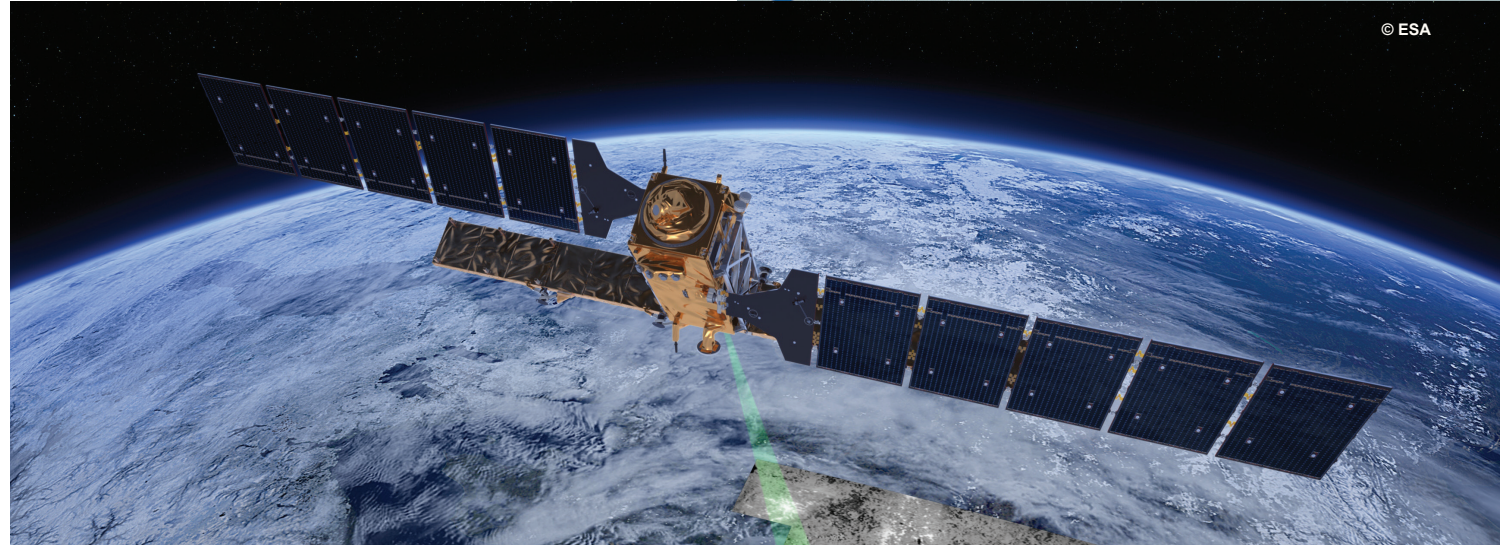
For more information contact:

Dr. Ali Nadir Arslan
Phone: +358 50 320 3386
email: [ali.nadir.arslan\(a\)fmi.fi](mailto:ali.nadir.arslan(a)fmi.fi)
<http://sen3app.fmi.fi>

PROCESSING LINES AND OPERATIONAL SERVICES COMBINING SENTINEL AND IN-SITU DATA FOR TERRESTRIAL CRYOSPHERE AND BOREAL FOREST ZONE



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SEN3APP Coordination



SEN3APP Partners



Sentinels for operational services

The Sentinel- satellite series aims at frequent global coverage of the Earth surface in full spectrum of remote sensing. Each mission carries a range of technologies, such as radar and multi-spectral imaging instruments for land, ocean and atmospheric monitoring. This enables the use of well-established satellite products, built up with earlier more research oriented satellites, to be used for the benefit of people in six core areas of Copernicus, of which climate change, land monitoring and security are addressed in the SEN3APP project.

Introduction to SEN3APP

The SEN3APP-project is concerned with the development, implementation, operationalization and validation of Sentinel data processing lines for cryosphere (terrestrial) and land cover/phenology applications. Global and regional applications are included, focusing to high latitudes of the Earth and other parts of the cryosphere. SEN3APP is a three year project (2013-2016). The project work is divided into 8 work packages.

WP1 Users' Consultation and feedbacks: end-users' current and future requirements of project products and services have been collected via questionnaires and face to face meetings with national end-users. The collected end-users input was carefully assessed in order to prioritize the products and services in case studies.

WP2 System Architecture, Data Management and Processing: focus is on (a) the development and adaptation of Sentinel Level 1 (L1) processing lines for improved intermediate products, (b) the development of techniques for the automatic Sentinel data acquisition, (c) the establishment of tools and techniques to monitor the status of complete processing lines, (d) setting up the system hardware solutions and (e) the specification of all system component interfaces.

WP3 Product and Service Generation: The Products and Service Generation, selected parameters from the application areas land cover change and phenology, snow, glaciers, lake ice, mapping of water bodies and frozen soil are planned to be generated from Sentinel data within the project. The product processing is based on applying the target parameter-specific algorithms and methods to the pre-processed (intermediate) data from WP2. There can also be alternative algorithms and methods for a selection of parameters. Generation of products and services will be based on continuous time series of Sentinels data, which guarantees the availability of multiple, cloud free coverage of optical EO data received in required season in the areas of interest. Services based on highly automated processing chains will be supported. Particularly for snow products, a close interaction with WP4 is necessary in order to provide the accuracy characteristics as one product layer.

WP4 Product and Service Validation: This work package is divided into the same application areas as WP3. It focuses on validation including i) qualitative/quantitative assessment of the accuracy of the product related to the algorithm performance and ii) assessment of the technical quality of the service in terms of timelines, handling of failures etc.

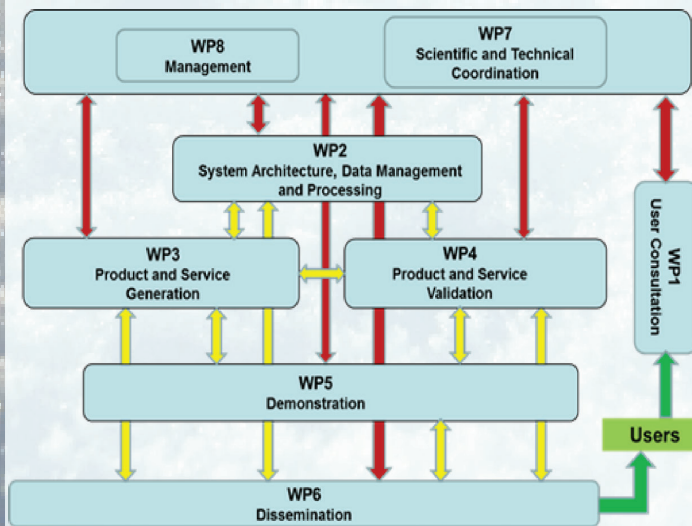
WP5 Demonstration: Demonstration activities will be performed for the products land cover changes and phenology, snow mapping, glacier and lake ice products. The basis for demonstration will be Sentinel-1, 2, 3 data. In the case Sentinel-1 and 3 data are available in time; a near real time demonstra-

tion of mapping snow in the Baltic region and mountain areas is planned. Regarding glaciers and lake ice products, demonstration packages of sample products will be generated. If Sentinel data are not available, simulated data produced from other EO-instruments with similar spectral characteristics will be used.

WP6 Dissemination and Exploitation: Dissemination and promotion activities will disseminate project results and services. This will include the preparation of printed material and Web based information, provided at different levels of technical detail, to address specific user communities.

WP7 Scientific and Technical coordination: This WP will be in charge of the quality control of the deliverables to ensure overall consistency of the quality of the project products. This WP will be also in charge of the preparation of project meetings and project reviews meeting and will link with the Scientific Advisory Group (SAG) and with the help of their advice to ensure that the products and services from the project will meet the highest scientific quality.

WP8 Management: This WP deals with the administrative, legal and financial management of the project. In the diagram below, the interdependencies between the WPs are described. Red arrows show the controlling/monitoring/managing links between the management (WP8), the scientific and technical coordination (WP7) and other work packages. Yellow arrows show the technical coordination work among WP2, WP3, WP4, WP5 and WP6. The technical work and coordination between WP1 and other work packages will be done via WP8 and is shown with the red arrow. The dissemination and feedback process to and from users respectively are marked with yellow arrows. In both process, users are considered in centre of WP6 and WP1.



END-USERS OF THE PROJECT

In order to assess the user requirements, a questionnaire for products planned to be provided within SEN3APP was sent to interested users. A summary of questions asked in the questionnaire is listed below:

1. User details
2. Type of organization
3. Fields of interest
4. Used data sources currently
5. List of interested products from the SEN3APP-project
6. Suitability of the products from the SEN3APP-project to their needs
7. Specifications of the products they need
 - Time from data acquisition to delivery
 - Spatial and temporal resolution
 - Areas of interest

The list of end-users consists of potential public and private sector end users of snow, ice and land cover/ phenology products from the new Sentinel satellites. Each end-user will

- contribute to collection of user needs in workshops and by direct consultations,
- have access to technical background and information of the SEN3APP products,
- be informed on progress and news from the SEN3APP project
- have access to SEN3APP products during demonstration phase, and,
- get support on using SEN3APP products in their own applications.

The SEN3APP end-user group includes six public sector users from 4 countries (Finland, Austria, The United Kingdom and Bhutan), and two private sector organisations from Sweden/Norway and Finland. The users of the public sector are mainly national and regional authorities as well as one national scientific institute. **New users are welcome to join the user group, and benefit from the SEN3APP products and services.**

PROJECT PROGRESS

1. End-users identified
 - The end-users' current and future requirements of project products & services collected
 - Required products & services by the end-users listed
 - Assessment of end-users' inputs at final stage
2. SEN3APP-project system architecture is defined
3. Requirements for the SEN3APP-project system and internal interfaces are identified
4. Data ingestion tools to request and fetch data from Sentinel ground segments to SEN3APP-project system are defined
5. Specification of products & algorithms / processing lines of SEN3APP-project is preliminary defined
6. Validation procedures for processing lines, products and services and the concept of NRT-validation applied in SEN3APP project is defined