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EUFAR (2008-13)

With the end of its one-year, no-cost extension, the previous EUFAR contract formally came to end in September 2013. The EUFAR Office is still awaiting the necessary financial reporting and documentation from some partners for the end of Reporting Period 4 in order that this can be submitted to the European Commission (EC).

With the end of the contract, staffing in the EUFAR Office at Meteo-France was further reduced. We wish to thank Sabrina Bekhat and Marion Ciais for their contributions as EUFAR Secretary and Webmaster, respectively, during the period.

EUFAR2 (2014-18)

Early in 2013, it became clear that EUFAR would receive further funding from the EC, although at a level significantly below that originally proposed in 2011. With this in mind, the Work Programme and budget were significantly changed to be in line with the expected funding amount, and to address some of the review comments that had been received for the original proposal.

One significant change has been to reduce the number of Joint Research Activities (JRA) to two – one each in the fields of remote-sensing and in-situ atmospheric measurement. Both of these are focussed on activities leading to the improvement of data quality and delivery in their respective areas of interest. Their work programmes have been designed such that they may be seen to be delivering benefits to the network within the lifetime of the new contract. More information on the JRAs will appear below.

Another significant change has been to reduce the concentration of management activities that was previously located at Meteo-France in Toulouse. The project Coordinator role remains at Meteo-France in the hands of Elisabeth Gerard. This covers all of the formal project reporting to the EC and financial control. A separate role of Scientific Coordinator has been defined, with responsibility for working with the Strategic Advisory Committee (SAC) to ensure that the network works towards the achievement of its high-level strategic objectives.

This role is filled by Phil Brown at the Met Office (Exeter, UK). A scientific assistant will be recruited to undertake some of the reporting activities around the exploitation of the network and its future development. Management of the EUFAR website will now be undertaken at the University of Warsaw, Poland. For more information on this, see below.

With these and other detailed changes, negotiation of the work programmed and budget of 6 million euro was completed with the EC in October 2013 and the Grant Agreement was formally signed at the beginning of December 2013. The contract is referred to as EUFAR2 since it is the second with funding from Framework Programme 7. It will have a formal starting date of 1 February 2014 and will run for 4 years, to the end of January 2018. The EUFAR name will continue to be used for references to the network in general, as opposed to matters that are specific to the new contract.

EUFAR website management

The website (<http://www.eufar.net>) will remain a central resource for EUFAR, providing both public-facing information on the aircraft and instrumentation facilities that are available, and back-office functions such as documentation of the Transnational Access (TA) process. As noted above, management of the website will in future be undertaken at the University of Warsaw, with a plan to rebuild the website so as to improve both its functionality and maintainability. Whilst this program is getting underway, the existing website will continue to operate. It is unlikely that significant changes to its structure will be accommodated, but updating of the existing pages and information will be possible. Website users should continue to report any problems that they have with either functionality or information and we will do our best to address these.

One significant change that was introduced to the website just prior to the end of the previous contract was a new display of aircraft planning information. The display of such up-to-date information is central to the effectiveness of the future TA program, since we wish to continue to encourage TA applicants to cluster their activities with existing activities that are already planned by each aircraft operator. This will minimize the need to support transit flight hours and ensure that the greatest possible scientific effectiveness is obtained from the reduced TA budget.

The new aircraft planning page requires a separate login. User names and passwords have been distributed to each aircraft operator facility. We are aware that there are some ongoing problems with adding new individuals to the list of those who are authorized to make changes on this part of the website. Please bear with us as we try to fix these. Meanwhile, all operators are strongly encouraged to add their updated planning information as soon as possible.

Transnational Access

With the reduced overall budget for EUFAR2, it was necessary also to reduce the amount available to support TA. This now stands at approximately 2.75 million euro. The provisional

plan is for this to support approximately 430 hours of TA flight activity across the whole fleet and divided amongst approximately 40 separate projects. Typical awards to individual projects will, therefore, remain at around 10 hours.

Since this level of award remains insufficient to conduct separate large-scale flight campaigns, we will continue to encourage TA applicants to design their proposals such that they may be clustered either with existing activities planned by the aircraft operator or with other TA proposals. In order to maintain a high level of overall scientific impact of the TA program, priorities will be established by the SAC and proposals will be reviewed in the light of these. In a change from the practice used during the 2008-13 period, TA proposals will be invited in response to specific Calls for Proposals that will be published on the EUFAR website. The first such Calls have already been published, relating to the use of the small, low-cost aircraft in the EUFAR fleet, to the support of Summer Schools organised through the EUFAR Education and Training program and to an initial round of applications conducting airborne remote-sensing studies. Potential applicants are encouraged to respond to these Calls by their advertised closing dates.

19 aircraft and 3 separate remote-sensing instruments will be available to TA for the duration of EUFAR2. In response to the high demand for remote sensing facilities that was expressed by TA applicants during the previous contract, the balance of such facilities has been examined. Thermal infra-red imaging facilities will be provided by more operators and there will be an additional aircraft available for use in polar regions – north or south.

Joint Research Activities

JRA1 – HYLIGHT

The objective of HYLIGHT is to develop the integration of airborne hyperspectral imagery and laser scanning data to improve image processing and interpretation. Hyperspectral imaging (HSI) sensors are characterized by their high spectral resolution across a wide range (visible, near-infrared and short-wave infrared) of the electromagnetic spectrum, enabling a more precise discrimination, identification, quantification or characterization of surface materials. Knowledge of the surface terrain/geometrical characteristics obtained from laser scanning will enable the use of more sophisticated surface reflectance models. The project will aim to develop software tools that can be implemented across all the various data processing facilities. The target date for implementation is July 2016 which will enable use of the improved tools during the remaining life of the EUFAR2 contract.

JRA2 – TGOE

TGOE (Traceability in Gas-phase Observations in EUFAR) aims to improve the data quality produced by trace gas observations on-board the EUFAR fleet. Such measurements are used to test numerical models of atmospheric chemistry and air quality and it is critical that the validity and robustness of these measurements are as well determined as possible. In particular, improved quantification of the uncertainty levels in measurements is seen as a high priority. It is recognised that the wide range of concentration/dynamic range and atmospheric reactivity of trace gases in the atmospheric means that there is a diverse array

of uncertainties associated with these measurements. The project is broken down into three main work packages addressing the areas of reactive nitrogen species, volatile organic compounds (VOCs) and long-lived climate gases (CO₂, CH₄) and ozone. In each area, standardized measurement procedures will be developed and documented so as to be implemented at each measurement facility. Again, the objective is to complete the main body of work within the contract period (by Jan 2017) so that its effectiveness can be demonstrated by the end of the EUFAR2 contract.

Education and Training

EUFAR2 will continue to support an Education and Training (ET) program similar to that which operated between 2008 and 2013. Once again, Summer Schools in airborne measurement activities will form a significant part of the activity. These were very successful previously, with 5 such schools being organized – two relating to hyperspectral imaging applications and three to airborne in-situ measurement techniques in different fields, with around 80 students being supported in total.

A significant feature of these summer schools has been that having received some initial training through lectures and demonstrations from EUFAR experts, students have then been able to plan and conduct their own measurements flights and then to analyse and interpret the data obtained. Flight time for the summer schools has been provided through the Transnational Access program. Whilst the flight time has been, of necessity, quite limited, it has nevertheless given the students a realistic introduction to the range of issues and problems that can be encountered.

A Call for Proposals relating to the organisation of summer schools is now open on the TA section of the EUFAR website and we look forward to hearing from potential organisers as soon as possible. In addition to the Summer Schools, other ET activities will continue to be supported. These will include funding support to enable students to join existing nationally-supported flight campaigns. Aircraft operators are able to indicate which such campaigns are accessible to students on the aircraft planning section of the website. Interested students should consult this prior to making an application.

EUFAR Meetings

since the last Newsletter

EUFAR General Assembly meeting to review final reporting of the previous contract was held at Mete-France, Toulouse, 16-18 September 2013.

Forthcoming meetings

The kick-off meeting for the EUFAR2 contract will be held at the offices of Belspo (the Belgian Science Policy Office) in Brussels, 24-27 March 2014. A meeting of the EUFAR Strategic Advisory Committee will be arranged in parallel with this.

Further meetings of interest

There are two forthcoming conferences of potential interest to EUFAR members working in remote-sensing applications:

1. SPIE Europe is organising the Remote Sensing 2014 conference in Amsterdam, 22-25 September 2014. You can find information of the conference programme and other details [here](#).
2. EARSeL (European Association of Remote Sensing Laboratories) is organising its 34th Symposium in Warsaw, 16-20 June 2014. This takes place in association with Young Scientist Days organised by the ISPRS. You can find more information [here](#).