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FEDERAL SCIENCE POLICY

RESEARCH PROGRAMME FOR EARTH OBSERVATION STEREO III

(SUPPORT TO EXPLOITATION AND RESEARCH IN EARTH
OBSERVATION)

DEVELOPMENT OF APPLICATIONS

INFORMATION PACKAGE FOR SUBMISSION OF PROPOSALS

1 CONTENT

1	CONTENT.....	2
	SUMMARY	3
2	THE STEREO III PROGRAMME	5
2.1	Introduction.....	5
2.2	Programme goals.....	5
2.3	Thematic priorities	6
2.4	Methodological priorities	6
2.5	Remote sensing data	7
2.6	Programme structure	7
2.7	Development of applications	8
2.8	Implementation of the projects	9
2.9	Programme committee	10
3	OUTLINE OF THE PROPOSALS	11
3.1	Object and budget of this permanent call.....	11
3.2	Target groups.....	11
3.3	Budget breakdown	11
3.3.1	Staff	11
3.3.2	Operations.....	12
3.3.3	Equipment.....	12
3.3.4	Subcontracting	12
3.3.5	General expenses	13
3.3.6	Earth observation data.....	13
4	PROCEDURES.....	14
4.1	Submission.....	14
4.1.1	Expressions of interest	14
4.1.2	Pre-study financing request	14
4.1.3	Proposal.....	15
4.2	Assessment and selection	15
4.2.1	Expressions of interest	15
4.2.2	Pre-study financing request	15
4.2.3	Proposal.....	15

SUMMARY

- This document features the information required for teams wishing to submit a proposal in the frame of the **permanent call** for the development of applications within the "STEREO III programme".

- **Steps involved in submitting a proposal:**
 1. Submitting an expression of interest (mandatory)
 2. Submitting a request for a pre-study (optional)
 3. Submitting of the actual project proposal

- The above mentioned documents should be presented in English

- Expressions of interest can be submitted on a **permanent basis**.

- The proposals will be evaluated at least once a year by international experts.

- **Development of applications:**
 - Based on genuine user needs.
 - Partnerships between Belgian research institutions on the one hand and Belgian companies, national and international administrations and NGOs headquartered in Belgium on the other hand.
 - Public administrations and NGOs can qualify for a maximum of 25% of the required STEREO budget and have to contribute at least the same amount by way of staff, data, and equipment...within the overall project. Only non-commercial reuse is possible. The administrations have to clarify the added value of the project.
 - The programme does not finance private companies who have to contribute min. 25% of the total project budget by way of staff, data, equipment ..., but
 - **ALL** partners, however, can be financed for carrying out the **pre-study**.

- Applicants are required to observe the rules laid down in this information package, otherwise their proposals cannot be taken into account by the Belgian Federal Science Policy Office.

- Applicants must make sure that there is no overlap with this grant from other regional/national/European programs.

For further details about the programme and this permanent call please get in touch with:

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2 THE STEREO III PROGRAMME

2.1 INTRODUCTION

The go-ahead for the multiannual research programme for earth observation, STEREO III, was officially signed by the State Secretary of Science Policy on 19 September 2013 in execution of decision of the Ministerial Council of 15 November 2012 concerning the elaboration of the Belgian space strategy. The programme covers the period from 2014 to 2020 with a budget of 28,6 MEURO.

For continuity's sake, a first call for thematic network projects was launched in 2013 in line with the modalities of the STEREO II programme.

Late 2014, the programme was modified taking into consideration the results of the evaluation of the STEREO II programme and the focus of the European programme Horizon 2020, whose objective it is to foster a cost-effective competitive and innovative space industry (including SMEs) and research community to develop and exploit space infrastructure to meet future Union policy and societal needs.

This document concerns the permanent call for development of applications of the STEREO III programme.

2.2 PROGRAMME GOALS

STEREO III's **goals** are:

- To support innovative high quality research in the field of remote sensing.
- To keep/put Belgium on the map as international centre of expertise in a number of remote sensing fields.
- To stimulate international collaborations and to secure integration of Belgian teams in international partnerships.
- To support Belgium's remote sensing instruments and platforms.

- To stimulate the development of new remote sensing applications.
- To introduce the use of remote sensing in new disciplines and to new users.
- To promote remote sensing, and especially results of Belgian and STEREO research.

The adaptations of the programme aim at conserving its main strength, which is enabling of high quality research. This is aided by a rigorous selection procedure, the inclusion of international partners and the project supervision by a Steering Committee. This research is carried out by a tightly knit community which is supported by BEODays.

Following changes were made to meet recommendations of STEREO II evaluation:

- Facilitate development of applications
- Increase flexibility in research financing
- Encourage data-sharing
- Increase interaction with all programme stakeholders
- Enhance visibility of research results through more intensive dissemination activities

2.3 THEMATIC PRIORITIES

The thematic research priorities are as follows:

1. Global monitoring of vegetation and evolution of terrestrial ecosystems
2. Management of the environment on a local and regional scale (water, soil, forest, nature reserves and biodiversity, agriculture, coastal areas, urban and peri-urban areas)
3. Interaction between (change in) land cover and climate change
4. Epidemiology and humanitarian aid
5. Security and risk management

2.4 METHODOLOGICAL PRIORITIES

Following methodological research merit particular attention. They either dovetail with Belgian expertise or respond to the recommendations of the STEREO II evaluation:

- Exploitation of time series
- Fusion of different types of RS imagery
- Processing of large datasets
- Automation of data processing
- Standardisation
- Use of crowd sourcing
-

In addition, improved estimation of uncertainty of the results is of utmost importance. The results and products derived from the research will be backed up with comparative tests, quality and reliability tests. The methods, models and services developed will have been calibrated and validated with representative field data and subjected to sensitivity analyses and error propagation.

2.5 REMOTE SENSING DATA

The *image requirements* (including the need to organise airborne campaigns) have to be clearly determined and motivated.

The programme provides incentives for the deployment of a wide range of satellites and instruments, with special emphasis of the use of hyperspectral imagery combined with other remote sensing and/or in situ data. The use of very high resolution PLEIADES images and Vegetation and PROBA V data is also be encouraged depending on the topic and the study site. In addition, the use of "new" techniques and platforms such as LIDAR or UAV is supported. *Whenever possible data previously acquired by BELSPO should be used.*

2.6 PROGRAMME STRUCTURE

The three-part programme comprises:

- Scientific research
- Transversal support (of scientific STEREO research)
- Valorisation and support (of the remote sensing community)

The scientific research covers two types of projects: *research projects s.s.* and *development of applications*.

This document only concerns the development of applications.

2.7 DEVELOPMENT OF APPLICATIONS

These applications can be *products, services, software codes or procedures*. The goal of these projects is a transfer of technology and knowledge from scientific institutions to companies or administrations or NGO's or any combination of those. The proposal must result from a critical need of the organisation or its customers and end users.

In terms of content, the proposals must have a bearing on the five priority research themes decided upon for scientific research. *A maximum of three scientific teams, solely from Belgium, are responsible for the implementation of the project for a period of 1 to 3 years.*

The programme pays solely for the scientific partner(s) and the partner from *administrations or NGOs* (non-research partners). These non-research partners can get a maximum of 25 % of the STEREO III subsidy to the project and must contribute at least as much to the project via staff, information and equipment. The STEREO contribution only covers staff and operations. The proposal must be submitted by the non-research partner who should also coordinate the project. Focus is on non-commercial re-use.

Private companies cannot obtain funding by the STEREO III programme within this type of project, but can reap the benefits of the results of the study and are in the driver's seat steering the research. They have to contribute the equivalent of min. 25% of the STEREO III project budget via staff, information and equipment and should also submit and coordinate the project. Potential end users also have to be involved with the project for defining and testing the finished product. Projects may be designed as 'pre-operational', thereby implying further fine-tuning paid for in full in a subsequent phase by the company itself, in the light of the assumed market outlook.

The proposals can be submitted on a permanent basis. An evaluation by international experts will be organized min. once a year .

Financing of a pre-study is possible for maximum 10 k€ for all partners (including the private company). This pre-study is optional and should allow to verify the feasibility of the application, to clearly define the user needs, to settle the intellectual property rights, to consolidate the partnership and to hammer out a proper well-prepared proposal. Concept creator, data or information provider and user should be involved in this pre-study..

Both the submission of a pre-study proposal and a full-fledged proposal should be preceded by an expression of interest.

2.8 IMPLEMENTATION OF THE PROJECTS

- The selected project proposals are covered by a **contract** between the Belgian Federal Science Policy Office, the relevant scientific institutions and, where appropriate, the private or public partner or NGO.
- The practical requirements for the project implementation process are described in the **technical annex** of the contract. The contract describes in particular the part played by all the parties, the funding, the project follow-up procedures, the ownership rights concerning the project the data and project results, the input of all the parties and the legal provisions in the event of disputes.
- The results developed in the context of the project shall be the property of the partner responsible for these results. The State shall nonetheless reserve the right to use these results for its own needs without any charge and on a non-exclusive and irrevocable basis.
- Each project selected must be supervised by a **Steering Committee**.

The Committee should include at least:

- 2 international scientific experts
- Representatives of the Belgian Federal Science Policy Office and the Programme Committee
- Potential must be involved

It is tasked with:

- Assessing the progress of the project
- Adjusting the objectives and activities of the project via a binding opinion in the light of the scientific, technical and methodological demands of the project and the intermediate achievements
- Assessing the impact of the partnership/project and the synergy between the various tasks and partners
- Assessing and guiding exploitation activities and disseminating the results nationally and internationally
- Drawing attention to problems within the partnership/project resulting in the termination of the agreement

The Committee meets at least once a year. The **costs** for organising the meeting and paying the costs for foreign experts are **disbursed via the project** and reimbursed via the programme (outside the budget of the project) up to a maximum sum of €4,000 per Committee session organized in Belgium (if the committee is organized in a foreign country, this amount can be adapted).

2.9 PROGRAMME COMMITTEE

The Belgian Federal Science Policy Office is responsible for managing the programme, but is assisted in this task by a **Programme Committee** comprising representatives of the relevant public administrations of the federal, regional and municipal authorities

The Programme Committee is responsible for:

- overseeing the consistency of all the activities being carried out
- delivering advisory opinions about the activities undertaken
- overseeing the effective transfer of the research results
- **selecting pre-study financing requests**

3 OUTLINE OF THE PROPOSALS

3.1 OBJECT AND BUDGET OF THIS PERMANENT CALL

This permanent call applies to **development of applications** only (see § 2.7). These are small scale projects for knowledge transfer based on a verifiable user need. They can last max. 3 years and carried out by 1 to 3 Belgian teams, supervised by a Belgian-based private company, administration or NGO.

No fixed annual **budget** is foreseen. Each year, a decision about the funding of positively evaluated proposals will be taken by the Programme Board in function of the budget available.

3.2 TARGET GROUPS

- The following Belgian partners may qualify for funding under the programme:
 - Universities
 - Public research institutions
 - Non-profit research institutions
 - Governmental administrations and NGOs with an interest in the use of remote sensing
 - Consulting firms with a unique knowledge which is indispensable to the project

3.3 BUDGET BREAKDOWN

This applies for full-fledged projects only and not for pre-studies.

3.3.1 STAFF

- The staff costs cover: index-linked gross salaries, employer's social security contributions and statutory insurance charges, plus any other legally due compensation or payments as amounts added to the salary.
- Scholarship students and post-doctorate scholarship students who enjoy exemption from tax liability and are covered by the social security system in accordance with the Royal

Decrees of 5 July 1996 and 26 March 2003 concerning employees' social security may be appointed only exceptionally subsequent to permission being granted by the President of the Belgian Science Policy Office.

- Preferably, at least 60% of the total proposal's budget should be devoted to staff and the budgets of the different partners should be in balance.

3.3.2 OPERATIONS

The operations costs are divided in two sections depending on the type of expense:

- **OPERATIONS:** This includes all current expenditure linked to the project like ordinary laboratory, workshop and office supplies and products, documentation, travel and trips in Belgium or abroad, use of computing equipment, software, , and more generally, consumables, ... The overall total of these operations expenses is fixed as a flat rate, on the basis of a percentage of the personnel cost. The percentage is limited to 15% for the coordinator and 10% for the other partners.
- **SPECIFIC OPERATIONS:** This includes all specific operations costs linked to the execution of the project like costs for analysis, organisation of workshops, maintenance and repair of equipment acquired by the project, surveys, etc. ...

3.3.3 EQUIPMENT

- It is recommended to buy equipment to be used jointly by network partners.
- Budget available for purchasing and installing scientific and technical appliances and instruments, including computer and office automation equipment.
- The equipment must be bought during the first half of the project

3.3.4 SUBCONTRACTING

- Subcontracting operations for each partner may not exceed 25% of the partner's STEREO budget.

3.3.5 GENERAL EXPENSES

- General expenses ("overheads") account for a maximum 5% of the total staff and operating costs for each year and for the total budget of the project.

3.3.6 EARTH OBSERVATION DATA

Earth observation data is not chargeable to the project but to the programme after approval by the programme managers. The data requested should be fully justified and indispensable to the project.

- The EODesk can provide researchers with satellite images from its image archive, in accordance with the agreements with the data providers and distributors. New imagery may be bought if this appears necessary for the implementation of the project and if the planned photographic budget so permits
- All data acquired can be used for a project but remain property of BELSPO.
- As regards airborne data, in as much as possible data acquired during the APEX or BELAIR campaigns should be re-used.
- If requesting airborne data, teams should preferably team up with another project.
- The budget requested should be proportionate to the project budget.

4 PROCEDURES

4.1 SUBMISSION

Submission is a three-stage process: first the submission of an expression of interest, then – optional- the submission of a pre-study financing request and finally the submission of an actual research proposal.

Solely those who submit an expression of interest are entitled to submit a proposal later on.

4.1.1 EXPRESSIONS OF INTEREST

- Expressions of interest should be submitted solely via the form intended for this purpose, which is available online on the Internet site of the EODesk (<http://eo.belspo.be/About/Stereo3.aspx>).
- The expression of interest can be submitted anytime before the end of 2018.
- Solely those who submit an expression of interest are entitled to submit a pre-study financing request or a comprehensive proposal later on.
- The DOI must be submitted by the non-scientific organisation.
- **Only a digital (and electronically signed) version** of the DOI should be submitted to the Belgian Federal Science Policy Office, in **word format** to SRIII@belspo.be.
- The DOI should be submitted in English.

4.1.2 PRE-STUDY FINANCING REQUEST

- The advisability of a pre-study should always be discussed first with the programme managers prior to the submission of a pre-study financing request.
- Pre-study financing requests should be submitted solely via the form intended for this purpose, which is available online, on the Internet site of the EODesk (<http://eo.belspo.be/About/Stereo3.aspx>).

4.1.3 PROPOSAL

- Proposals should be submitted solely via the form intended for this purpose, which is available online, on the Internet site of the EODesk (<http://eo.belspo.be/About/Stereo3.aspx>).
- Applicants are required to meet the conditions set forth in this document.
- Enclosures with the submission file will be disregarded during the assessment and selection procedure.
- Proposals should be submitted in English.
- **Only a digital (and electronically signed) version** of the proposal should be submitted to the Belgian Federal Science Policy Office in **both pdf and word formats** to SRIII@belspo.be.

4.2 ASSESSMENT AND SELECTION

4.2.1 EXPRESSIONS OF INTEREST

After reception of the expressions of interest, the programme managers will give a **non binding feedback (recommendations and/or remarks)** about the compliance of the expression of interest with the guidelines of this call and the advisability to submit a pre-study financing request.

4.2.2 PRE-STUDY FINANCING REQUEST

The STEREOIII Programme Board will decide on granting the pre-study financing request.

4.2.3 PROPOSAL

Note that proposals will not be considered for evaluation if they don't meet the criteria of the evaluation.

The evaluation consists of a written procedure by min. 3 international experts. The evaluation criteria are:

- Compliance with the guidelines of this call and the programme aims
- Technical and scientific quality of the project proposal:
 - innovative character of the proposal (improved or new product, system or service)
 - clarity of the aims and the tasks
 - relevance of the methodological approach
 - positioning of the proposal viz. existing applications in the field in question
- The quality of the proposed partnership:
 - role and involvement of the non-financed partner
 - relevant expertise of the applicant(s)
 - complementary relationship of the partners
 - distribution of tasks
 - balanced distribution of the resources among the partners
 - cooperation methods
 - organisation and management of the network and the management capability of the coordinator
- Feasibility of the proposal:
 - realistic preparation of the work plan (including SWOT analysis)
 - realistic assessment of the resources required (duration, budget, staff)
 - need for the application
 - user-friendly character of the proposed application
 - credibility of the market assessment (including knowledge about European competitors or existing cooperation with European industrial stakeholders in this area) (for collaboration with private sector only)
 - contribution to operational use of satellite imagery in Belgium (if applicable)
 - possible contribution to increasing Belgian industrial competitiveness (if applicable)
- Implementation plan / business plan (for collaboration with private sector)

- Capacity of non-financed partner to integrate application in operational procedures