



Belgian Guidelines for the PRODEX Programme

First revision: September 2005

Annex 1: *PRODEX Poles of Expertise in Belgium*

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1. Introduction

These guidelines apply to scientists working in Belgian research institutes and universities. They explain the steps to be followed and present the documents to be filled in to introduce a PRODEX proposal via the Belgian Federal Science Policy Office. This document is available on the website www.belspo.be/space/.

More details about the overall rules and procedures of the PRODEX Programme of the European Space Agency can be obtained on the website www.sci.esa.int/prodex where in particular the document “**PRODEX User Guide**” can be consulted.

2. General objectives

The **PRO**gramme for the **D**evelopment of scientific **EX**periments (**PRODEX**) is a Programme of the **E**uropean **S**pace **A**gency (**ESA**) to which Belgium, as member state of ESA, has been participating since 29 June 1988.

The purpose of PRODEX is to provide (co-)funding for the development and exploitation of scientific instruments and experiments in the framework of the space programmes of ESA, as well as of other space institutions. Three scientific areas are covered: **Life and Physical Sciences in Space**, **Earth Observation** and **Space Sciences**. One of the major objectives of

PRODEX is to foster collaboration between scientific institutions (hereafter called **institutes**) and **industry** within the participating state. Technological developments (in institutes or industry) without related scientific exploitation activities within PRODEX cannot be supported.

All activities are carried out through arrangements/contracts concluded between ESA and the institutes/industry of the participating state. Funding is provided for:

- hardware development such as breadboard models, engineering models, flight and flight spare models, specific ground support equipment, and related software development;
- software development for the operation of a scientific mission or flight experiment;
- scientific exploitation of the data, including among other calibration, validation and processing.

The funding includes the salaries of dedicated staff hired by the institutes for the purpose of the execution of the projects as well as associated travel costs, consumables, equipment and services.

3. Administration of the Belgian PRODEX projects

The administration of the Belgian PRODEX projects is jointly coordinated by the Space Department of the **Belgian Federal Science Policy Office (BELSPO)** and by the **PRODEX Office of ESA**. The former is responsible for funding and policy issues, while ESA is responsible for the contractual implementation and the technical and scientific follow-up of the projects.

The Belgian team is composed of the delegates administrating the Belgian participation to the related scientific areas of ESA (i.e. Life and Physical Sciences in Space, Earth Observation and Space Sciences):

Belgian Federal Science Policy Office – Space Department
Politique scientifique fédérale – Service des Recherches et Applications spatiales
Federaal Wetenschapsbeleid – Dienst voor Ruimteonderzoek en -toepassingen

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4. Submission and selection of a Belgian project**4.1 Announcements of Opportunity (AO's)**

Periodically, ESA calls upon the European science community to respond with ideas or concrete proposals to participate in future space developments and space-related activities. The objective of the call can range from an entire space mission to any of its scientific components. During the pre-submission period, conferences and seminars are held by ESA to explain the objectives behind the opportunity and to answer questions. BELSPO provides information towards the Belgian scientific community concerning these AO's.

ESA evaluates and selects the proposals, submitted by scientists in response to such an AO, in accordance with the rules and procedures in force at the Agency. This assessment procedure is based on the scientific merit and the feasibility of the proposal and involves consultation of the relevant bodies in ESA's advisory structure (including peer reviews).

Financial support to a project at different levels (development, science exploitation, ...) may be foreseen by the ESA Programme to which the AO is linked. If a request for PRODEX (co-)funding of Belgian participating science teams and industry is envisaged, a copy of the AO proposal must be sent to BELSPO at the time of submission. This intended request for (co-)funding may be mentioned in the AO proposal since it constitutes an element of the feasibility of the overall project. The *Project Proposal* file (annex 2) presenting the request

for PRODEX funding must be sent to BELSPO by the BPI (see below) after selection of the AO proposal by ESA.

The PRODEX Programme also allows in principle for funding of Belgian contributions in the framework of proposals which respond to AO's issued by other space institutions than ESA. A necessary condition, however, is that the relevant instruments or experiments selected by this space institution are endorsed by ESA as being consistent with the overall objectives of its own Programmes. After this formal endorsement of the overall project by ESA, a Belgian PRODEX proposal (annex 2) can be sent to BELSPO.

4.2 Coordination of the project: PI, co-I's, BPI and Bco-I's

At this stage, a difference must be made between the **Principal Investigator (PI)** of the overall project who is the coordinator of the AO proposal, and the **Principal Investigator at Belgian level (BPI)** who is the coordinator of the Belgian PRODEX proposal. If the former one works in a Belgian institute, he or she should take the role of the latter one. Similarly, the terms **co-Investigators (co-I's)** and **co-Investigators at Belgian level (Bco-I's)** will be used in the following when referring to the overall project and to the Belgian PRODEX project, respectively.

The BPI as well as each Bco-I in a given PRODEX project are responsible vis-à-vis BELSPO and ESA for their own part of the budget and must assume separately its good management in collaboration with the central administration of their institution. Furthermore, the BPI is responsible for the scientific integrity of the project. He or she must make sure that the total requested budget is coherent with the proposed activities and that those are in line with the content of the overall project as selected/endorsed by ESA. The BPI is also responsible for regular reporting (see below).

BPI's and Bco-I's must be fully active in the institution and in the team to which the project is linked. In case of a change in his or her status (retirement, change of institution or team, ...), the BPI or Bco-I must be replaced. In addition, the BPI and each Bco-I must declare in the *Project Proposal* the endorsement of the project by the Head of his or her Institute/Department.

4.3 Other ("non-AO") proposals

BELSPO offers to Belgian scientists the opportunity to introduce PRODEX proposals to carry out projects which are not in the framework of an official AO. These initiatives are to be considered as Belgian national projects in the framework of the scientific space programmes and missions of ESA (or of other space institutions as far as the mission is endorsed by ESA). These projects concern mostly the scientific exploitation of data coming from an already operating instrument.

In order to obtain funding, the BPI must send the *Project Proposal* file (annex 2) to BELSPO. BELSPO will request an evaluation based on the criteria of annex 3 (*Evaluation of a "non-AO" Project Proposal*) from experts working at ESA or appointed by ESA. The PRODEX proposal must be positively evaluated by ESA before funding by BELSPO can be considered.

4.4 Selection by BELSPO

BELSPO analyses the funding request taking into account several criteria:

- **Selection of the overall project by ESA in the framework of an ESA AO:** high priority will be given to these projects which are part of the ESA programmes and receive full support from ESA. The level of competitiveness present in the ESA selection process will be taken into account;
- **Selection of the overall project by another space institution in the framework of one of its AO's, and endorsement by ESA:** the level of competitiveness present in the selection process by the space institution concerned will be taken into account;
- **Role of the Belgian scientists in the overall project:** preference will be given to PRODEX projects for which the BPI is PI (or, in second instance, co-I) of the overall project;
- **Poles of expertise in Belgium:** at national level, it is our policy to maximally concentrate the financial means within fields of research for which national poles of expertise exist. Several such fields of research are currently identified for PRODEX (see annex 1). In view of this, cooperation within Belgium among research groups active in similar fields is a strong asset of any PRODEX proposal. Moreover, cooperation within one proposal (involving a BPI and several Bco-I's) may be a *conditio sine qua non* if different teams with similar scientific objectives each envisage submitting a proposal;
- **Relation of the experiment or instrument with Belgium:** in the case of a data exploitation proposal, preference will be given to experiments or instruments to the development of which Belgium participated;
- **Performance of previous PRODEX projects:** the scientific results as well as the management of previous projects by the concerned scientific teams will be taken into account (see section 6);
- **The availability of funds in the Belgian PRODEX financial envelope and the implications of the project on this envelope and on the following ones.**

In all cases, BELSPO may review the financial plan contained in the *Project Proposal* after consultation with the BPI and Bco-I's and with ESA.

5. Contractual aspects

The proposals selected for funding by BELSPO will be sent to ESA for implementation by the PRODEX Office.

The PRODEX Office concludes for ESA a framework agreement with institutes (**PRODEX Institute Agreement**) within which approved projects are conducted. The **PRODEX Experiment Arrangement (PEA)** defines the specific modalities applicable to the execution of the defined tasks of a project as well as the respective roles and responsibilities of the two

parties, i.e. ESA and the Institute. In general, a separate PEA will be concluded with each scientific partner of the project (the BPI and each Bco-I).

For industrial activities (developments and services) foreseen in the project, a standard ESA contract is concluded between ESA and the Belgian industrial partner(s), to which the **General Clauses and Conditions of ESA** apply. The management of these contracts is delegated to the PRODEX Office as technical officer.

6. Follow-up of running projects

ESA provides scientific, technical and managerial advice about missions, projects, instruments or experiments. The PRODEX Office retains visibility on the expenditure planned and actually incurred by the institute/industry. Where appropriate, this may include a right of audit by or on behalf of ESA.

As a rule, a cost statement summary must be sent by the department of the institute in charge of the financial administration of the PRODEX projects to the Finance Department of ESA at least twice per year (*e.g.* in June and December).

A short summary of the evolution of the PRODEX project prepared by the BPI in agreement with the Bco-I's (see *Project Reporting* file in annex 4), has to be sent yearly to ESA with copy to BELSPO. For PRODEX projects where other reporting rules are implemented by the overall project (*e.g.* reports more than once per year), only these reports have to be sent to ESA with copy to BELSPO.

The realization of space experiments depends on many non-controllable aspects, such as the delay of launches, the availability of flight opportunities and the activities of (international) partners. Moreover, unexpected costs which had not been foreseen in the initial financial plan (as defined in the PEA) can occur, as well as cost savings.

When circumstances require, a negotiation can take place between the BPI/Bco-I's and the PRODEX Office, at the request of any of the two parties, to implement an **Arrangement Change Notice (ACN)**. It can be a change in the final date of the project, a redistribution of the funds inside the project or a transfer of funds from one project to another. It can also be a complementary budget, if clearly justified, or a decrease or (partial) postponement of the initially agreed budget. For all matters having an impact on the overall budget of a defined PEA and/or on the milestones of the project as originally described in section G of the *Project Proposal* (annex 2), the PRODEX Office consults BELSPO which takes the final decision.

At the end of the term specified in the PEA, a final report (see *Project Performance* file in annex 5) must be sent to ESA with copy to BELSPO. At the request of BELSPO, it may be submitted to experts working at ESA or appointed by ESA for evaluation, based on the criteria defined in the *Evaluation of Project Performance* file (annex 6). In this *Project Performance* report, a detailed record of the actual expenditure made, and of possible remaining funds on the project budget, must be given.

The BPI can request to BELSPO a prolongation of the financial support by sending sufficiently in advance of the end date a new *Project Proposal* (annex 2), together with the *Project Performance* file (annex 5). Taking into account the results already obtained and the

status of the activity with respect to the overall project originally selected/endorsed by ESA, BELSPO examines the request and possibly consults experts working at ESA or appointed by ESA for evaluation. The submission of a prolongation request does not imply any obligation for BELSPO to continue the funding. A prolongation can take the form of either an extension of the existing PEA (via an ACN) or the establishment of a new PEA. Under no circumstances, more than one PEA covering the same scientific activity can be in place at the same time.

7. B.USOC

The **B.USOC (Belgian User Support and Operation Centre)** is a structure created by BELSPO. It helps Belgian user teams to prepare, develop and exploit experiments which require a space environment (International Space Station, Space-Shuttle missions, satellites, etc.).

The B.USOC has three main activities: providing information, and technical as well as operational support to space experiments. These functions apply to all concerned disciplines of space research: Life and Physical Sciences in Space, Earth Observation and Space Sciences.

More information can be found on the website of the B.USOC: www.busoc.be.