Programme for Research-Development-Innovation on
Space Technology and Advanced Research - STAR

Participation to the scientific ESA Programmes
STAR SCIENCE

Andreea FAZACAS

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- **Partner organizations**: Institute of Space Science (ISS), University of Bucharest-Department of Physics (UB-FF), Babes-Bolyai University – Institute of Technology (UBB), Astronomical Institute of the Romanian Academy (AIRA)

- **Partner(s) team leader(s)**

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- UB-FF - ***Prof. Dr. Stefan Antohe***, E-mail: santohe@solid.fizica.unibuc.ro
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- AIRA - ***Dr. Cristiana Dumitrache***, E-mail: crisd@aira.astro.ro

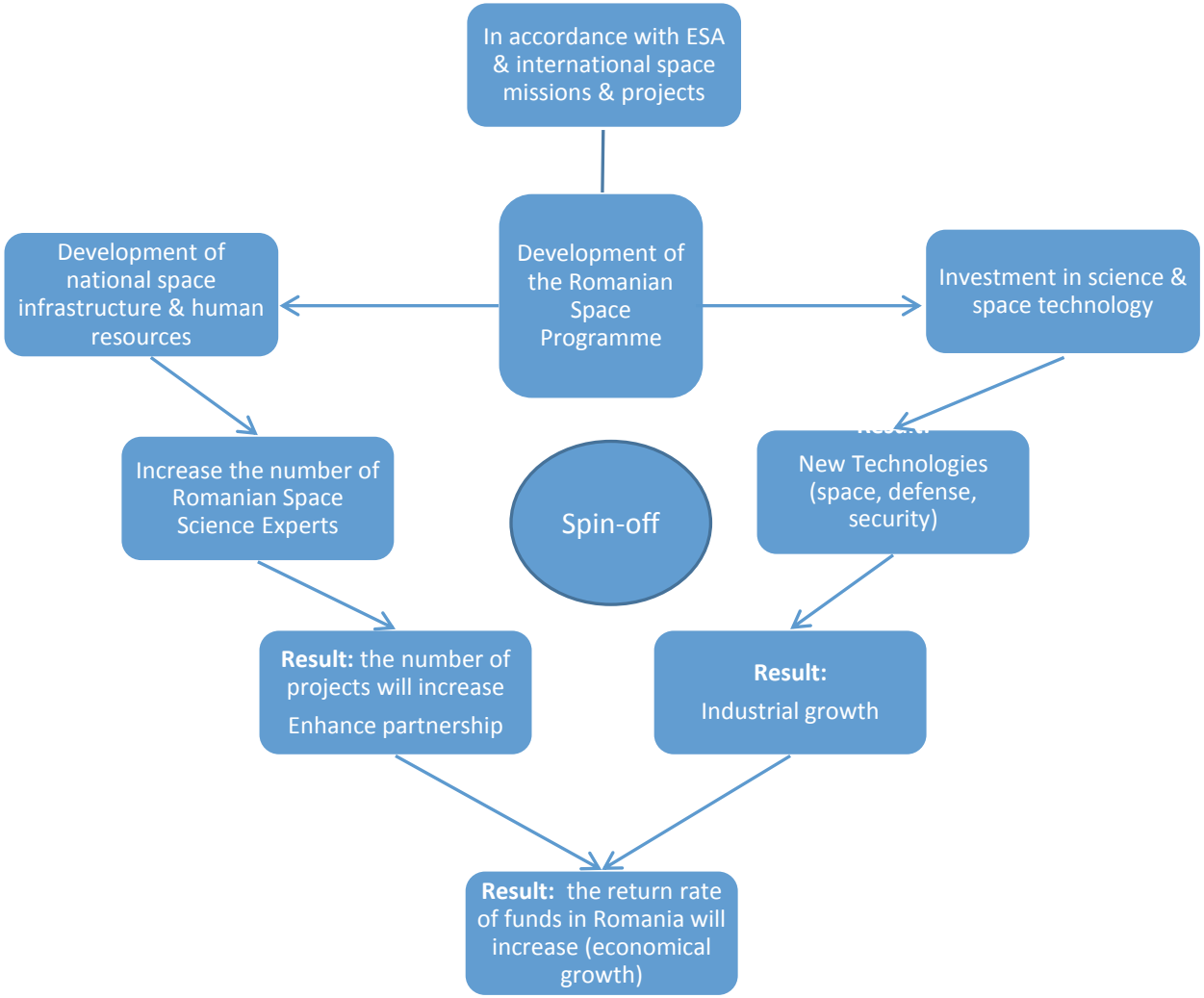
- **Short description of the project:**

Given the fact that Romania is a recent member of ESA (since 2011), in order to achieve a fair return on its membership funds in a timely manner it is absolutely necessary for Romania to implement ***a clearly defined National Strategy*** for the development of its R&D and T&E space science and space exploration capabilities.

- **Project goal:** The main objective of the STAR Science project and of the underlying STAR Science consortium is to elaborate a **National Strategy** for the period 2012-2020 that will allow Romania to increase its participation to ESA's science programmes.

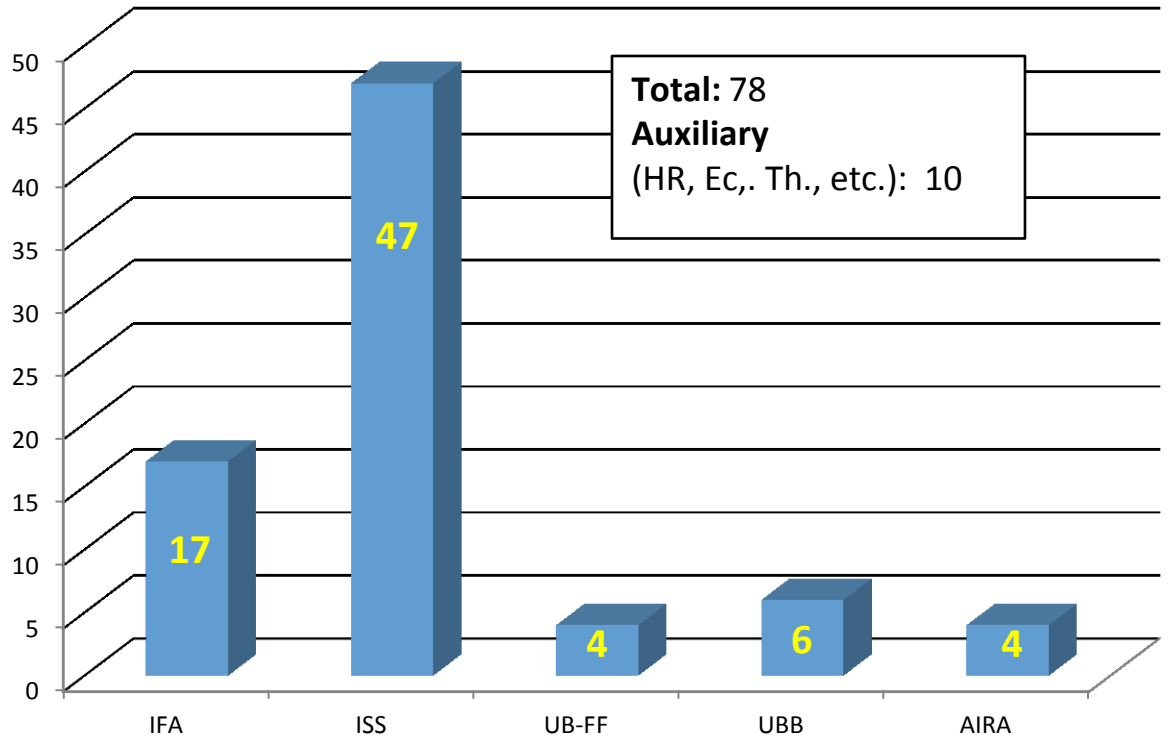
- **Objectives:**
  - Define and identify scientific niches;
  - Developing a National Strategy for the period 2012-2020;
  - Providing scientific support for the development of a Romanian point of view to the Council of Ministers of ESA.

Estimated results:



In order to have a detailed situation on space activities we developed a Database (with projects between 2009-2012), in Stage I. The Database will be continuously updated.

Human resources involved



Start date of the project / End date of the project

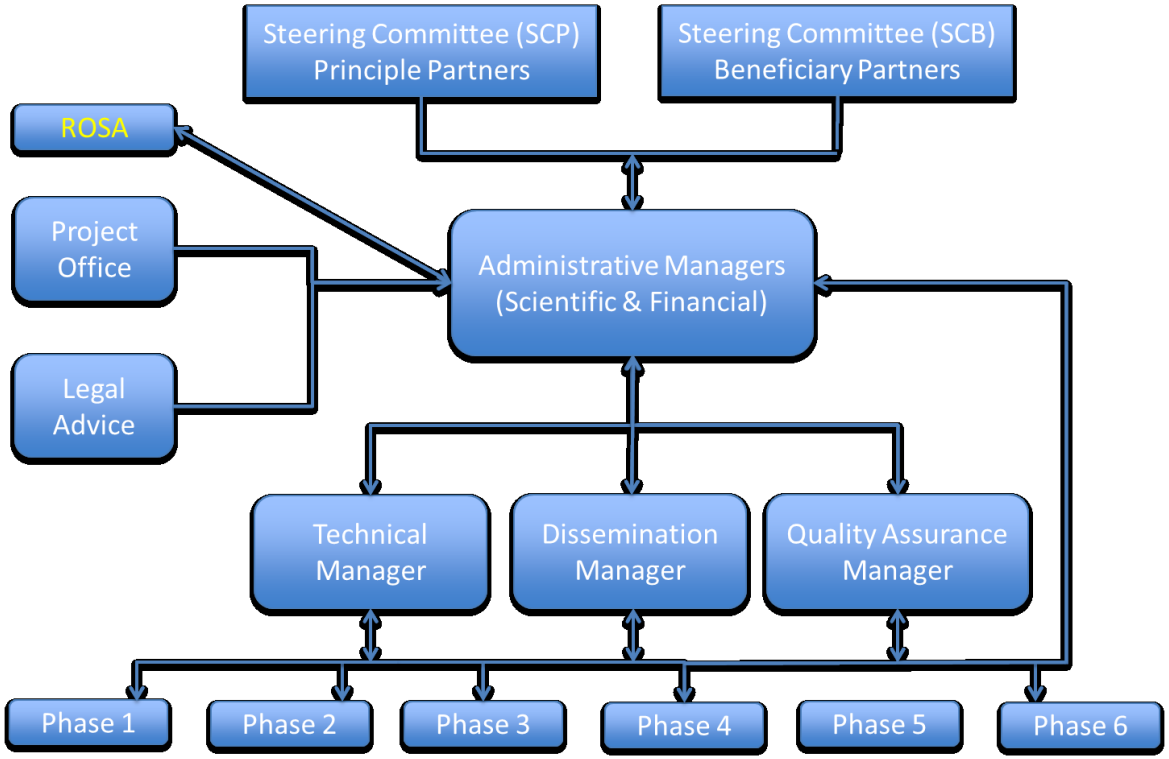
22.10.2012 / 21.10.2015

Work plan of the project

Task name	Activities
Development of the Strategy of the Space Science and Exploration of Cosmic Space 2012	**Activities 1 – 8** - Romanian state of the art in the field: - Economical & commercial opportunities; - Methodologies & instruments for monitoring & evaluation; - Programmes for R&D student trainings; - Opportunities for Spin-off development; - An efficient communication infrastructure; - Outreach; - Technical Workshop & training activities; Specialized training infrastructure.
Strategy and support activities development for ROSA participation to the scientific ESA Programmes 2013	**Activities 1- 7** - Decisional support for participation to the ESA Committees; - Scientific support for participation to the ESA Committees; - ESA Programmes “Info Day” Conferences; - An efficient communication infrastructure; - Outreach; - Technical Workshop & training activities; - Specialized training infrastructure.
Romania participation to the scientific ESA Programmes 2014	**Activities 1- 7** - Identifying industrial partners; - Identifying the stakeholders in economical & financial opportunities; - Information Center on technological solutions and practical demonstrations; - An efficient communication infrastructure; - Outreach; - Technical Workshop & training activities; - Specialized training infrastructure.
National Infrastructure for Space Science Development 2015	**Activities 1- 9** - Relevant indicators for strategies in space science & technologies; - Current & future capacity evaluation in space science and technology; - Identifying the priority areas; activities integration into local and institutional development strategies; - Program for improving institutional structures and processes; sustainability; - Program for strengthening the skills, competencies and abilities of young researchers; - An efficient communication infrastructure; - Outreach; - Technical Workshop & training activities; - Specialized training infrastructure.

Implementation status of the project

To achieve the project objectives we proposed the following Coordination Diagram

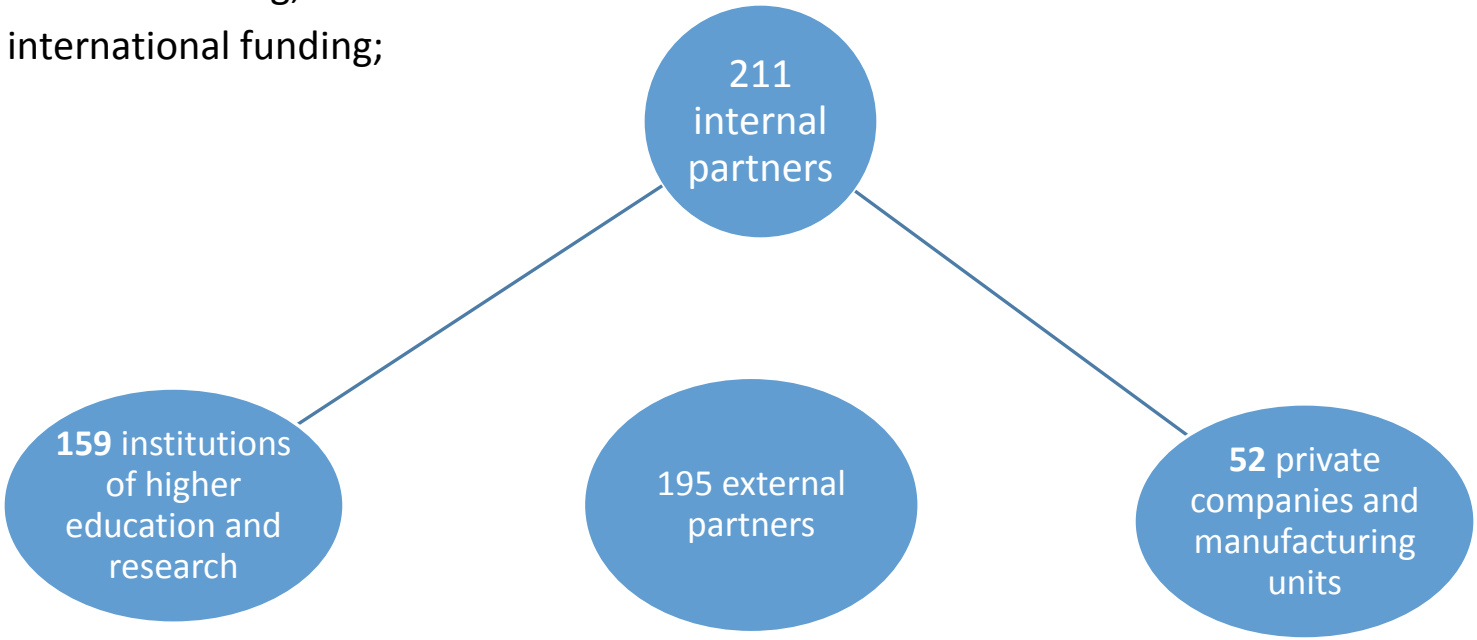


Implementation status of the project

Romanian projects (State of Art in the domain)

After analyzing the Database produced by the consortium members we can draw the following conclusions:

- 85 projects, mostly oriented on technologies;
- 73 projects national funding;
- 12 projects international funding;



Implementation status of the project

Proposed measures:

- Webpage with links to each financed project;

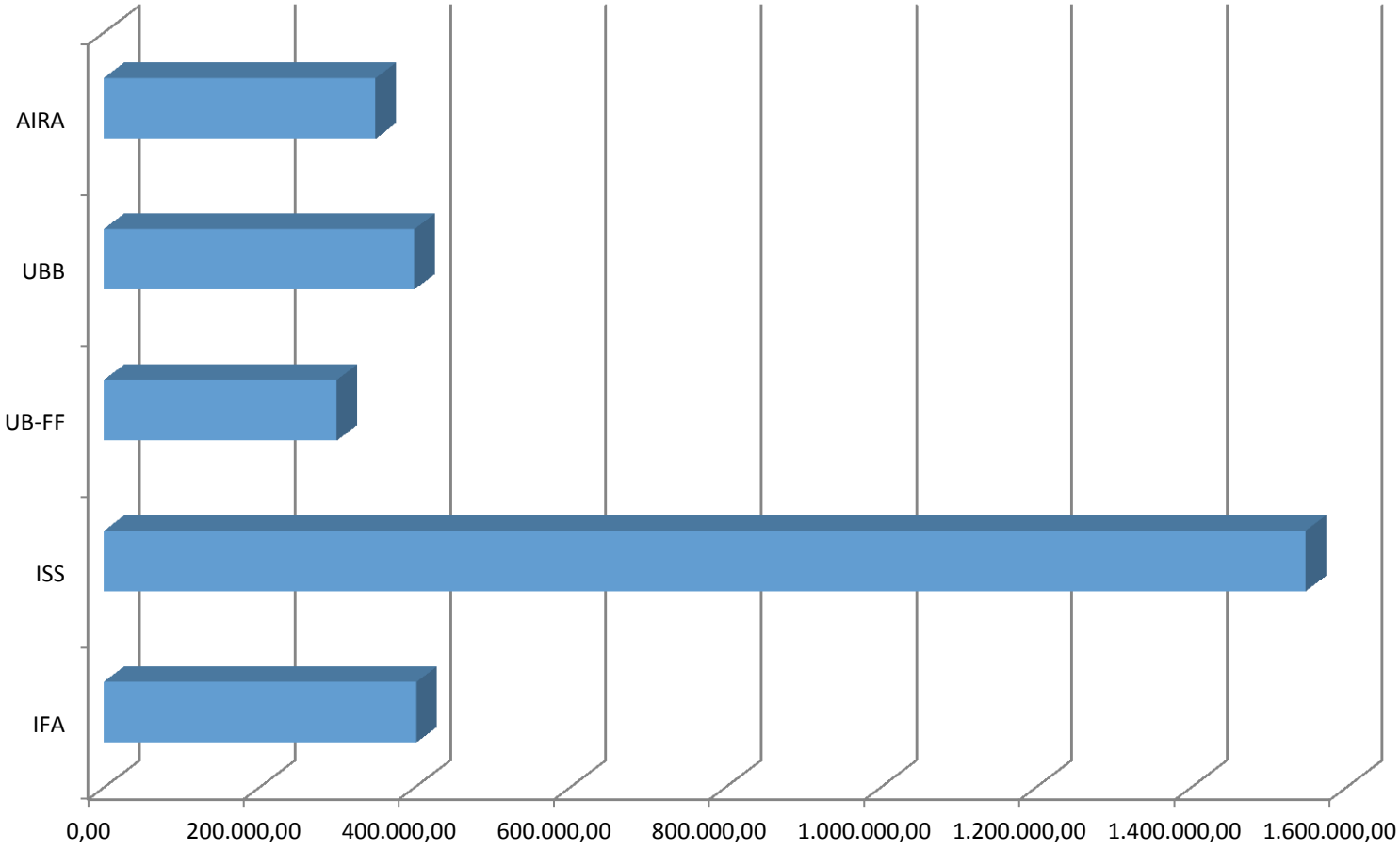
- Improve the communication between national and international partners in order to increase the Romanian participation/visibility in the framework of Horizon 2020 EU Programme;

- Students training to ensure continuity in the field (see European Astrobiology Network Association);

- Outreach activities & Disseminations.

Implementation status of the project

Financial status:



Risk analysis and contingency plan (lessons learned)

Risks	**Contingency plan**
Failure to establish guidelines for core data analysis, storage and management.	During the pilot study workshops, all partners agreed to the adoption of the guidelines outlined in common documents.
Schedule conflicts of Science Committee members to participate to ESA meetings.	The project manager will ensure appropriate personnel redundancy for these tasks.
Schedule conflicts of Infoday participants.	The project manager will ensure alternate channels are used for information dissemination.
Lack of interest from potential partners and customers to participate in the programme.	- Aggressive information dissemination; - Aggressive marketing.
Lack of industrial resources and suppliers.	International bidding and contracting.
Failure to provide deliverables.	The project management team will maintain a risk diary to alert partners in advance of any problems that might jeopardies the success of the project.
Failure to meet budgetary guidelines.	Financial status of the project will be monitored by a designated financial advisor.
Failure to implement measures for the dissemination of project results.	Dissemination of project results are already in progress to satisfy the requirements.
Failure to implement measures for the exploitation of project results.	Exploitation of project results, and management of intellectual property, are already in progress

- Project's contribution to the goal of the STAR Programme

National Strategy in the field

Identifying new niches CDI space science:

- This project will be the basis of the development of the Romanian space programs integrated to ESA programs.

- The assessment of current Romanian space policies, and the assessment of the research teams which may be constantly involved in space research, as well as of the industrial partners may open a new direction of joint research and of collaborative projects with ESA.

Other:

- participation to international trainings in order to ensure continuity in the field;
- Increase the number of Romanian Space Science Experts;
- Strong partnerships to increase the Romanian participation to ESA Programmes;
- Outreach activities.

- **Conclusions**

There is a need to develop a **National Strategy** in the field because of:

- Small number of projects (with technological impact) in Space Science Domain;
- Small number of international projects coordinated by Romanian Institutes;

Other:

- Participation to international trainings in order to ensure continuity in the field.
- Outreach activities to increase the visibility of science among teenagers.