



Project no. ASA3-CT-2004-003348

Project acronym: START

Project title: Stimulate Aerospace Research and Technology in Associate Candidate Countries (ACC*)

*At the time of the call and project preparation ACC countries were: Bulgaria, Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Rumania, Slovakia, Slovenia and Turkey. Some of these countries are already full members of EU.

Instrument: SSA

Thematic Priority: 1.4. Aeronautics and Space

1. Publishable final activity report

Period covered: from March 23, 2004 to March 22nd, 2006
Date of preparation: May 7th, 2006

Start date of project: March 22nd, 2004

Duration: 2 years

Project coordinator: Tsvetan Dachev, PhD

Project coordinator organisation: Solar-Terrestrial Influences Laboratory, Bulgarian Academy of Sciences

Draft 7

Project Execution

Despite of the efforts so far, scientific communities of Central and East European countries and of old EU MS form two distinct groups and are not well integrated. There are many reasons for this - political decisions taken in the past, cultural and language diversity, different levels of computerization, etc. As a result, during the last decades most of the Central and East European countries developed their own aerospace programs and gained lots of experience but unfortunately, the achieved expertise and results are not well known. The cooperation between European countries is not at as high and productive level as it is necessary. Enormous work is still needed to achieve fruitful cooperation between old and new MS and ACC on one hand and between ACC on the other.

START project (Stimulate Aerospace Research and Technology in Associate Candidate Countries, ASA3-CT-2004-003348, <http://start.stil.bas.bg>, Fig. 1) addressed part of the above mentioned problems. Project objectives were:



Fig. 1 START Project logo

1. To map the aerospace area in 13 Central and East European countries - Bulgaria, Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Rumania, Slovakia, Slovenia and Turkey, and thus to save their aerospace experience and heritage by creating a detailed database of researchers, research organizations, universities, industry parties, SME, involved in aerospace activities or possessing aerospace expertise;
2. To create, maintain and update an Aeronautics and Space Portal, containing the above mentioned database. This portal does not duplicate the existing ones as it is the first and only one that contains at one place the entire aerospace information for above listed countries;
3. To strengthen the network of NCP, researchers and liaison officers though the organization of brokerage events and seminars;
4. To edit and publish an electronic Newsletter as a medium for the aerospace community of the above listed countries;
5. To mobilize the human and material aerospace potential of these countries and establish and reinforce networks of their high quality research centres.

START consortium consists of ten partners, representing 9 countries (Fig. 2). Coordinator was Dr. Tsvetan Dachev¹, Head of Solar-Terrestrial Influences Laboratory at Bulgarian Academy of Sciences (STIL-BAS) and Bulgarian Aeronautics and Space NCP.

Coordinating organization (partner No1) was STIL-BAS (<http://www.stil.bas.bg>), the largest Bulgarian center for fundamental research in the field of solar-terrestrial physics, in situ and remote investigation of geospace, planets and interplanetary space, optical atmosphere emissions and space biology and medicine. STIL-BAS takes part in the development of scientific programs, instruments and data analyses for many satellites, rockets planetary probes and manned space flights: Intercosmos - 2,8,12,14,18,24; Intercosmos-"Bulgaria 1300"; rockets "Vertical"-3,4,6,7,10; flights of the first and second Bulgarian astronauts; projects VEGA, Phobos 1 & 2, Interball-1st and 2nd satellites, APEX, Koronas, space station "MIR", Bion-11, ISS, Foton-1M, International Space Station, etc.

Partner No 2 was Archimedes Foundation (<http://www.archimedes.ee>), Estonia, an independent agency established by the Estonian Government with the objective to co-ordinate and implement different EU programmes and projects in field of research, technological

¹ Contact detail: Tsvetan Dachev, PhD, Solar-Terrestrial Influences Laboratory, Bulgarian Academy of Sciences, Postal address: Acad. G. Bonchev St., Block 3, 1113 Sofia, Bulgaria, Tel.: + 359 2 870 03 07; Fax: + 359 2 870 01 78, E-Mail: tdachev@bas.bg, URL1: www.stilrad.stil.bas.bg, URL2: www.stil.bas.bg

development, innovation, training and education. It is currently hosting Estonian Innovation Relays Centre, the leading Estonian project in the field of technology transfer and dissemination of EU RTD results.

Partner No 3, Centre National de Recherche Technologique Aeronautics & Space (CNRT-AE, <http://www.cnrtae.com>), Toulouse, France, has a legal status of an association based on the corporate membership of all French industrial main players and research institutions including the aeronautical “Grand Ecoles”. Its mission is to establish and strengthen the links between public institutions and industry in the frame of aerospace research. CNRT aims at the creation of a competence centre in aeronautics and space that is recognised on both a national and European level by concentrating joint efforts and means between academics and industry.

Partner No 4 was Riga Technical University (RTU), Latvia, the oldest and nowadays the second largest institution of higher education in Latvia, offering advanced study program in Engineering, Technology, Chemistry, Architecture and Business Management. RTU comprises of 8 faculties and 6 independent units. The number of students in different engineering majors is about 15000.

Partner No 5, Agency for International Science and Technology Development Programmes (AISTDP, <http://www.tpa.lt>), Vilnius, Lithuania. AISTDP was FP6 NCP and was responsible for administration and coordination of FP6, Eureka, COST and other activities related to international science and technology development. It participates in science and technology policy formulation, plays an active role in offering proposals to Lithuanian legislation to facilitate and strengthen participation in international programs.

Partner No. 6 was the University of Malta (UM, <http://www.um.edu.mt/start.html>). Set up in 1768, today it employs approximately 600 academic staff, runs 10 faculties and a number of institutes, provides undergraduate and post-graduate education in a wide range of disciplines ranging from engineering and science to law, education, medicine and arts to over 8,000 students.

Partner No. 7 was Malta Council for Science and Technology (MCST, <http://www.mcst.org.mt>). Its main objectives are the support of Science and Technology in the Maltese Islands and implementation of Community Framework Programmes in Malta as well as fostering the participation of Maltese companies and research organisations in European and international research and technology programmes, initiatives and actions. MCST is a host for all Maltese National Contact Points.

Institute of Fundamental Technological Research (IFTR, <http://www.ippt.gov.pl>), Polish Academy of Sciences was partner No. 8. IFTR has experience in more than 30 projects in FP4, FP5 and FP6 and two centres of excellence from INCO and Phare programmes. FTR is coordinator of the whole NCP network in Poland, consisting of 9 Regional Contact Points, 18 Thematic Contact Points located and more than 100 Local Contact Points located at major Polish universities, companies and organizations interested in international co-operation.

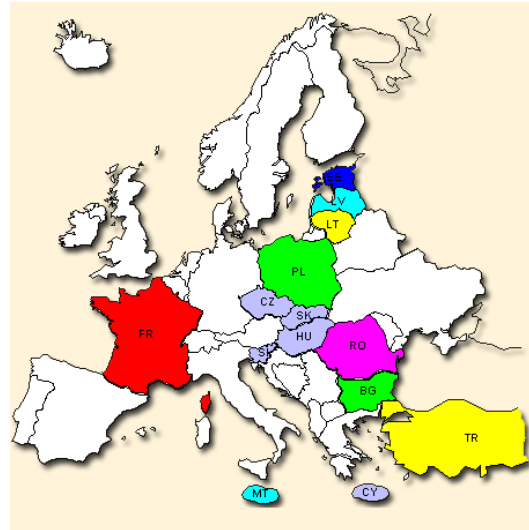


Figure 2 The consortium: partners are coloured, subcontractors – marked in grey

Partner No. 9 was Romanian Space Agency (ROSA, <http://www.rosa.ro>), Bucharest, Romania. ROSA mission is to promote, coordinate and develop space research and applications programs and projects and to represent the Government in relevant international cooperation agreements with ESA, United Nations Committee on the Peaceful Uses of Outer Space, etc. ROSA is running lots of projects in space and aeronautics policy and infrastructure, space exploration, space applications, space and aerospace technology and systems, aerospace technology and spin-off and is a centre of excellence.

Partner No. 10 was TÜBİTAK (<http://www.tubitak.gov.tr/english>), the Scientific and Technical Research Council of Turkey. Established in 1963, TÜBİTAK is a financially and administratively autonomous organisation, which has the mission to develop and carry out, promote and sponsor, organize and coordinate basic and applied research in positive sciences in Turkey and to set up institutes to work in this field. TÜBİTAK assists the Government in formulating the national policy concerning research on positive sciences and in the preparation of international agreements for scientific and technical cooperation.

All partners had dedicated their efforts for the successful fulfilment of START project. The work performed during in the course of the two years is more than impressive:

1. Partners began mapping campaign and within two years managed to create a user friendly, interactive, searchable database of researchers, research organizations, universities, industry parties, small and middle enterprises, etc., involved in aerospace activities or possessing aerospace expertise in 13 countries. Mapping was an activity that will continue even after the end of the project, i.e. after April 2006 as the coordinating organization (STIL-

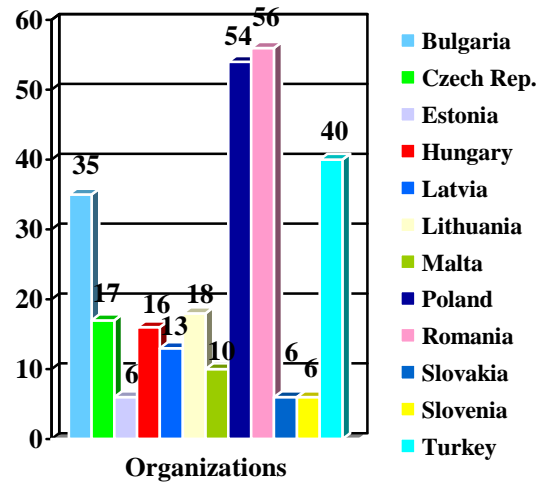


Fig. 3 Organizations – total entries 277

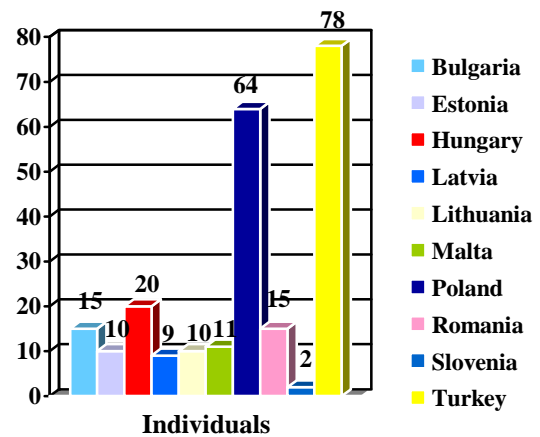


Fig.4 Individuals - total entries 234

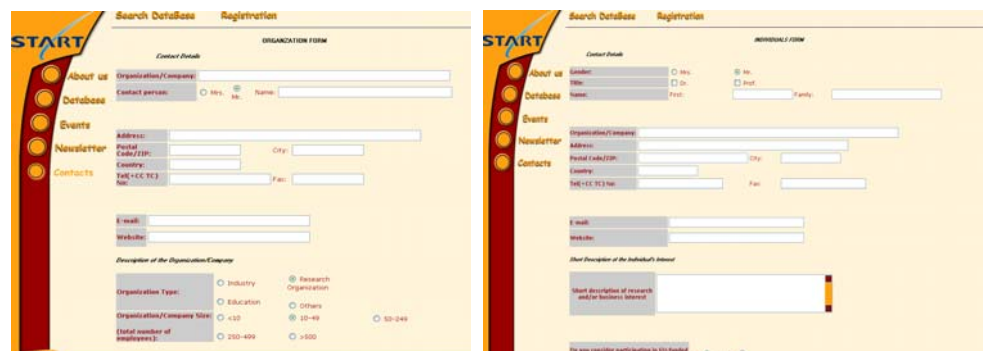


Fig. 5 START Project Forms

BAS) promises to maintain the portal with its own resources. Fig. 3 and 4 illustrate mapping results at the end of the project – a total of 511 entries / descriptions of highly specialized institutions, groups, SME and individuals with experience in aeronautics & space! It is essential to underline that the database is still opened for new entries. The interested parties are welcome to add their contact details and short description in the database. A user-friendly registration forms are available, which makes the enlargement of the database easy and very quick (fig. 5).

2. Second important part of START activity was building and operation of START project portal (<http://start.stil.bas.bg>, Fig. 6). The portal is a physical place where results of mappings of the aerospace area are and will be kept. It was also used to enhance project communication flow as well as the communication flow between the EU services and the project consortium. Project portal is the place where all information about the project – minutes of meetings and brokerage events, presentations, copies of newsletters, photos, hyperlinks to other organizations connected with aerospace research and/or applications, etc such as AeroSME, are available. The portal was and still is regularly visited. This was a result not only of the aggressive advertisement of the project and what it offers, but is also due to the fact that START database and information is useful to aerospace

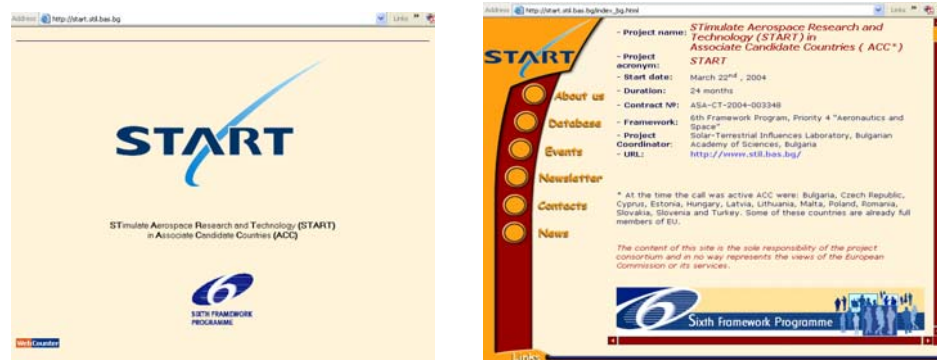


Fig. 6 START Project portal

Държава/Домейн	Уникални	Презарежд.	Общо	Дял	Графика
Турция (tr)	359	81	440	50.78%	
Полша (pl)	147	16	163	20.79%	
Commercial (com)	69	19	88	9.76%	
Network (net)	29	4	33	4.10%	
България (bg)	27	22	49	3.82%	
Люксембург (lu)	24	2	26	3.39%	
Германия (de)	10	3	13	1.41%	
Швейцария (ch)	8	1	9	1.13%	
Малта (mt)	6	2	8	0.85%	
Франция (fr)	5	0	5	0.71%	
Lithuania (lt)	5	0	5	0.71%	
International (int)	3	0	3	0.42%	
Nonprofit (org)	2	1	3	0.28%	
Италия (it)	2	0	2	0.28%	
Руска Федерация (ru)	2	1	3	0.28%	

Fig. 7 Visits - Per country / domain – top down – Turkey, Poland, Commercial, Network, Bulgaria, Luxembourg, Germany, Switzerland, Malta, France, Lithuania, International, Non-profit organizations, Italy, Russian Federation ...

community. So many efforts were dedicated to the web portal because START project is popular and is well accepted as a unique media for aerospace community of Central and East European countries. This is evident from the steadily increasing number of visits of project portal (Fig. 7). Having in mind that aerospace community is not very large, counted numbers between 30 and 305 (minimum 30, average 143 and maximum 305) unique visits of <http://start.stil.bas.bg> during the last 12 month is rather impressive. Additional, mirror web site was loaded at www.aerospace-start.org. This was done for security reasons only as well as to make the access to the portal easier, especially for aerospace representatives from Asian part of Turkey.

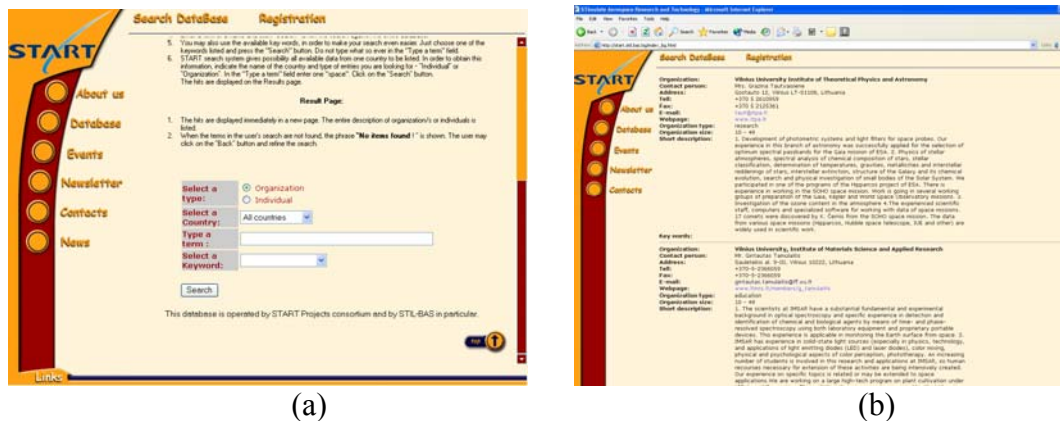


Fig. 8 Search START database: (a) Search page, (b) result page

It is essential to underline once again that START project portal and database will be available even after the end of the project. STIL-BAS, Bulgaria, the coordinating organization that also hosts the portal will continue to maintain it using its resources as long as possible after the actual end of START project. We hope that this will definitely be of help for the further co-operations during the relevant calls of 7FP and for successful integration of European aerospace community.

The portal has several sections:

- **About us** - provides short description of the project objectives, partners' profiles, timetable of planned activities and partners presentations;
- **Database** – this is perhaps the most important and most often visited part as it contains a “search program”. The START Cross-Database Search System allows a user to enter a search to be run against entire START database. The searches are designed to assist visitors in their search of a company, research institution or university that complies with the searching criteria. The visitor has to click on the respective buttons and list of available entries with their profiles are displayed. START Search System is looking for the indicated term in: organizations / companies names and descriptions of their tasks, products and/or services and provided key words as well as within the names of individuals, description of research and/or business interest and provided key words. In other words, search results are pre-defined by the information organizations, companies or individuals had voluntarily provided. The system is composed of two main pages:
 - (1) An initial Search Page including detailed help on how to perform the search and
 - (2) A Results Page.

In order to search the database a visitor has to indicate the search type, i.e. organization or individual, by clicking on “Individual” or “Organization” button. The next step is either to search through the entire database (choosing “All countries”) or to limit the search only to one specific country by selecting a name in the field “Select a country” field. Personal names are also matter of search. Visitors may also limit their search by means of key words. To do this it is necessary only to enter a key word or a name and click “Search” to run the search against the entire database. To make the search easier, especially for those who are not able immediately to guess about a key word or for those who have doubts in correct typing of specific word, one more search function was added: a list of most often used key words for describing aerospace organizations was derived from all possible (over 200 descriptions). The 34 top “key words” were added in a special list and those interested to perform a search may

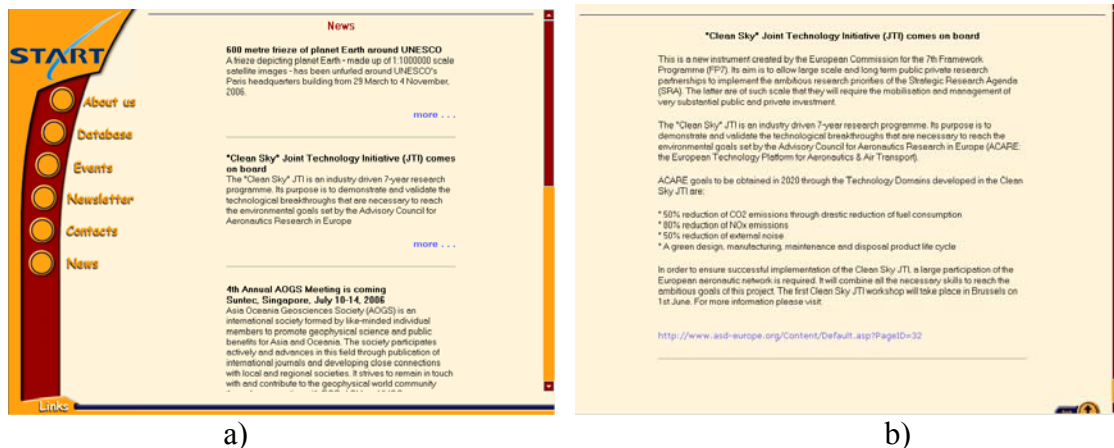


Fig. 10 “News” section overview (a) and details on the news (b)

- **News** – (Fig. 10) this section was to replace the electronic newsletter. The last issue of the newsletter was published in March 2006, the last 24th month of START project life. The necessity of the creation of this section was realized by partner 1, STIL-BAS after analyzing the feedback from readers of the newsletter. Many members of the aerospace community from Central and East European countries, found it more easily to follow the oncoming event via such “digest” than directly following the specialized web site. As no one of START partners have the resources – financial or man power – to invest in publishing and distributing the newsletter after the end of the project, STIL-BAS decided that it is still possible to develop and keep update such section of the portal even after the end of the project. The update is done and will be done with the voluntary efforts of researchers from STIL-BAS as long as possible.

3. Another important activity of START project was publication and distribution of **electronic Newsletter** (Fig. 11). The newsletter provided monthly information and visibility of aerospace activities such new calls, conferences, research projects, funding sources, workshops and brokerage events; news about important aerospace actors or information from related organizations such as AeroSME, Aero-Scratch, ECARE and interest groups such as EASN. As part of START project policy, the newsletter always included an introductory article about specific country and its aerospace activities and expertise. Its content was regularly updated in response to the subscribers’ requirements. The number of newsletter subscribers was increasing exponentially after each newsletter issue. At the end of the second year, the newsletter was distributed to over 3500 organizations and individuals all over the world.



Fig. 11 Newsletter – No.6

4. The organization of brokerage events was (followed by consortium meeting) with the strategic goal to allow key representatives of aerospace area in European countries to meet with project partners and their colleagues and identify potential areas of collaboration and complementarily. Brokerage events were specifically targeted to the establishment and strengthening of networking and collaboration between stakeholders and therefore directly support the fundamental aims of the START project programme by contributing in practical terms to the stimulation of research and cooperation between stakeholder organizations. START partners firmly believed that brokerage events contributed to the integration of the European Research Area and were intended to lead to the increased participation of the consortium in the future Framework Programmes. A total of five brokerage events (and five consortium meetings) were organized:

- A kick-off meeting in Sofia, Bulgaria, September 2004;
- A brokerage event and project meeting in Toulouse, France, January 2005;
- A brokerage event and project meeting in Riga, Latvia, April 2005;
- A brokerage event and project meeting in Valetta, Malta, October 2005;
- A brokerage event in Sofia, Bulgaria, November 2005 and a
- A brokerage event and project meeting in Ankara, Turkey, March 2006.

5. All relevant information of these meetings is available on the web - list of participants, PowerPoint presentations, giving detailed information about partners and guests aerospace expertise, photos and minutes of the meeting, etc.

Fulfilling its tasks START project managed to mobilise human and material aerospace potential of 13 Central and East European countries and provided a critical stimulus to facilitate international co-operation between them and old EU MS, which was and still is a fundamental dimension within FP6 and FP7. The project results in increase of the level of target countries participation in subsequent calls of current (FP6) and perhaps future Framework Programmes and particularly favour their association and cooperation in the development of European Research Area in the shortest time possible and in a lasting and sustainable way. The results of the project definitely contribute to the synergy between European aeronautics and space research, production, university education, and the European aerospace market as well as to the objectives of the European Space Policy.

Dissemination and use

The main exploitable result that START project has generated is a detailed database (<http://start.stil.bas.bg>) of research organizations, universities, industry parties, small and middle enterprises (SME), individuals, etc., involved in aerospace activities or possessing aerospace expertise in 13 Central and East European countries - Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Rumania, Slovakia, Slovenia and Turkey.

Regardless of the efforts and funding so far, despite of the fact that almost three years had passed since EU was enlarged with 10 new countries, scientific communities of Central and East European countries from one hand and of old EU MS from the other, form two distinct groups and are not well integrated. There are many reasons for this - political decisions taken in the past, cultural and language diversity, different levels of computerization, insufficient funding, etc. As a result, during the last decades most of the Central and East European countries have developed their own aerospace programs and gained lots of experience but unfortunately, the achieved expertise and results are not well known. The worst of all is that this expertise is not fully used and applied within the EU for the benefits of European citizens. What is more, both this expertise and heritage are not incorporated in creation of unique European aerospace market. At the moment, the cooperation between European countries is not at as high and productive level as it is necessary. Enormous work is still needed to achieve fruitful cooperation between old and new MS and ACC on one hand and between ACC on the other.

START project database tries to help in overcoming the existing gap. It saves the aerospace experience, resources and heritage of these 13 countries, provides valuable information about various organizations, institutions, etc., within the aerospace sector. Its main advantage is that it may serve as a pool for partner search for scientific research and cooperation and/or industry, and all these – for free, right now!

The database is extremely user-friendly and is applicable not only in aerospace area but in closely related industrial and scientific fields, as well. The database may no doubt be

used to support the linkage of these countries aerospace research and industry to the aerospace sector in old MS.

Collaboration Sought: Further research, information exchange and training

Contact details:

Tsvetan Dachev, PhD

Head of Solar-Terrestrial Influences Laboratory

Bulgarian Academy of Sciences

Acad. Georgi Bonchev St. Block 3

1113 Sofia

BULGARIA

Tel.: + 359 2 870 03 07

Fax: + 359 2 870 01 78

E-Mail: tdachev@bas.bg

URL1: <http://start.stil.bas.bg>

URL2: www.stil.bas.bg

URL3: www.stilrad.stil.bas.bg