

**DOCUMENTI  
IAI**

**FRENCH ITALIAN INFORMAL DISCUSSION GROUP  
ON SPACE POLICY**

*CNES, CASD, IAI*

Paper prepared for the research project on "Le politiche spaziali di Francia e Italia"  
July 1, 1996

IAI9623

**ISTITUTO AFFARI INTERNAZIONALI**

# **FRENCH-ITALIAN INFORMAL DISCUSSION GROUP ON SPACE POLICY**

## **1. Foreword**

An informal group of individual experts from France and Italy performed a discussion on space policies and programs with the purpose of identifying possible improvements of the existing cooperation at bilateral level as well as at the ESA level. Experts were from Ministries, Space Agencies, Companies, Research Institutions.

Members of Parliament participation, although proposed and accepted in principle, did not materialize, with one exception from the French side. However, contact with the two Parliamentary Groups on Space, the French GPE and the Italian GPS, was granted by the participation of the GPE and GPS secretaries in the informal group meetings. Experts agreed to participate in the group activities at the condition that their contributions were not to be considered as necessarily reflecting their parent institutions' positions, but rather their personal and professional opinions. Experts were invited upon a joint initiative by the Centre National d'Etudes Spatiales (CNES) of France, the Istituto Affari Internazionali (IAI) and the Centro Alti Studi per la Difesa (CASD) of Italy. The group activities included individual work and two plenary meetings, the former dedicated to general brainstorming (Dec 15, 1995 in Rome) and the latter to specific issues discussion (Apr 4, 1996 in Paris).

## **2. General Remarks**

International relations developments occurred in recent years have significantly affected space policies and programs in France and in Italy, as well as in all other countries involved in the use of space. A general trend in Western Europe is to cope with economic difficulties by reducing defense related public expenditure. This largely applies also to space related activities, which were often considered as strictly associated with defense programs. In their turn, space activities increasingly included dual use, or mainly civilian use, scientific research and market oriented applications. Military programs, however revised, still maintain a high degree of priority and reliability, in accordance with the new defense requirements and security risk assessments concerning Europe. In this new situation, governments have to review their respective space policies; national and international Space Agencies have to revise their roles and structures in order to face new tasks and requirements; companies have to react to changes in markets, in technology trends and in resources availability.

In this wide context of developing situations, France and Italy are making appropriate steps in various sectors of the use of space. Rationalization and cost-effectiveness are leading concepts in this process. Scientific research is considered a highly valuable reason for a modern country to spend public money, providing its investment aspect is never neglected, and costs are kept under control. Preservation of employment of valuable human resources is not only a social problem but also the protection of irreplaceable technical assets. Public

and private capitals can effectively synergize only in programs where government requirements and market opportunities are complementary. Common requirements more and more lead countries to international cooperative initiatives, particularly in Europe.

France and Italy are different in many aspects of space activities: there are differences in government space policy goals, in respective Space Agencies sizes, capabilities and scopes, in technology trends and levels, in space-related industry size, in the amount of available financial resources. Moreover, each country tends to protect its own employment rates, competes with the others on markets and supports domestic technology achievements. This may eventually lead the two countries to disagreeing respective positions on space matters.

France and Italy also share many common interests in space: just to mention some, there are common security requirements, the aspiration to reduce costs, the awareness that most programs can be implemented only on a not-less-than-European size, the common aim to preserve and possibly enhance European space technology identity for both strategic and commercial reasons; also the willingness to participate significantly in highly visible international cooperation.

The informal discussion group members considered not only convenient but necessary for both countries to seek all possible opportunities for bilateral cooperation in policies and programs. This can be achieved with reciprocal satisfaction only if the various aspects of costs and benefits can be clearly identified and agreed upon, having taken into consideration differences and commonalities between the two countries. An investigation aimed at a better knowledge of bilateral cooperation potentials, a frank discussion on current cooperation difficulties and their causes, a candid reciprocal explanation intended to overcome existing misunderstandings from the two sides, are considered as effective support instruments for decision makers in concerned ministries, agencies and companies. This was mainly the purpose of the informal group of experts and is the object of this report. Consequently, issues discussed in the report reflect different perspectives and opinions. Differences in perspectives have been considered as one of the effective values of the report and have therefore been retained and evidenced.

Issues for discussion have been agreed upon in the first meeting, where also a brainstorming session on general space policies of the two countries took place. As a result, the following topics are addressed in the report:

- a. General space policies;
- b. European access to space;
- c. Space related communications;
- d. Navigation systems;
- e. Earth observation;
- f. Space scientific research policies;
- g. Space industrial policies in Europe and the role of ESA.

Final remarks address the issue of some possible periodical initiatives which might be undertaken in order to explore more deeply the potential of cooperation and ways to improve long term coordination.

### 3. General Space Policies

Space policies of the two countries were reciprocally clarified by experts of the two sides, leading to a satisfactory identification of similarities or areas of convergence, as well as of differences. Contributions concentrated on governments space policy goals and implementations, on French-Italian bilateral cooperation and on European space cooperation. The informal character of the group permitted to reveal the existence of points of disagreement that would have otherwise never emerged in formal meetings without causing significant political impact. It is therefore highly recommended these points to be seriously taken into consideration by the recipients of this report.

Difficulties experienced by France in its participation in European cooperation were evidenced. Main causes were identified by some French experts as due to:

- a. Trend to assert France's rank as a leading world Power often prevailing over other economic and cooperative aspects;
- b. Strong drive to obtain redundant industrial returns for French companies;
- c. Intent to assure complete control of cooperative programs to France;
- d. Special relationship with Germany on space matters.

In their turn, some Italian participants described Italian difficulties in European cooperation as caused mainly by:

- a. Inadequate consistency in space related national policy and relevant political decisions;
- b. Management problems experienced by the Italian Space Agency;
- c. Poor coordination among companies' initiatives concerning cooperative programs.

Italian experts deemed that a major consequence of the above difficulties was the inadequacy of roles assigned to Italy in European cooperative programs, particularly when compared to the size of Italian financial contributions.

Major differences between France and Italy were also acknowledged in space policy goals.

French participants reckoned that one of France's main goals in space is the implementation of an independent European space strategy and the full valorization of French assets. This includes the achievement of independent European capabilities in access to space, in sciences earth observation navigation, telecommunications, and the improvement of the common European industrial policy. The ultimate goal, according to French participants, is to lower Europe's dependence on US space technology and industry, and to achieve competitive capabilities with the latter, while maintaining highly visible cooperative programmes with the US and other non-ESA partners.

Italian group members stressed that Italy follows the common European space policy goals as agreed upon in various ESA ministerial conferences. These goals are therefore mainly related to space transportation systems, telecommunications, Earth observation, participation in the international space station and space science.

Other differences between the two countries were commonly found in the implementation of respective space policies, also due to different perceptions of the State role in space activities, of the Space Agencies role and size, of the technology levels and coverage. None of the mentioned differences is considered *per se* an obstacle to effective and mutually satisfactory bilateral cooperation. However, a general sensation of uneasiness was conveyed by the Italian participants *vis à vis* the quality of French-Italian space cooperation. This situation was believed to be caused by a certain degree of uncollaborative French attitude and favoured by a number of Italian inadequacies. The Italian side also expressed the feeling that France's influence on ESA is high. This might cause problems to other Agency member states. Italian participants encouraged French initiatives to significantly improve bilateral cooperation at both Companies and Government Agencies levels. Results of these actions are also expected to be reflected by ESA's attitude towards Italy.

French members of the group took note of the Italian remarks. They commented that real European cooperation has to include France, Germany Italy and tentatively others; that there are common interests and therefore a potential for common satisfactory work. The possibility of establishing a permanent common reflection group was also raised, with the aim of timely clarifying misunderstandings before they become issues for ministerial meetings agendas.

#### **4. European Access to Space**

Experts agreed on the need for Europe to continuously improve its ability to attain space by own means.

Since its first launch in 1979, ARIANE program proved to be not only a suitable instrument to implement this policy, but also a valid system capable of satisfying market demands. Therefore, experts supported the Toulouse ministerial meeting decision to make ARIANE even more competitive by making it capable of placing a larger payloads into GTO.

Strategic flexibility, growing requirements for scientific research, commercial Earth observation and telecommunication market demands, employment preservation and financial resources constraints were mentioned as the rationale for a European program aimed at implementing «small missions» by means of small launchers, as proposed by Italian participants.

Contributions on this issue were plentiful. The French side generally agreed on rationale and supported the idea of a potential Substantial cooperative program based on small/medium launchers. A better definition of the project as for payload specifications, market demand and costs was considered necessary by the majority of French and Italian participants. There was general agreement on the concept that market expectations alone were not sufficient to draw adequate investment resources and that some public funding was necessary anyway. In its turn, government funding can be justified by adequate scientific research reasons. Consequently, market opportunities and scientific research requirements have to be clearly

investigated in order to give sufficient motivation and specifications to a small missions program. In this respect, it was anticipated that two studies on market opportunities for small missions, requested by ESA, could be made available to the group in a short time. In addition it was stated that the large majority of the Italian scientific community considers small dedicated space missions as the most suitable for its research requirements.

It was eventually underlined that a small/medium launcher program will ultimately require international cooperation and that the relevant decisions are to be made at the appropriate space policy decision levels.

## **5. Space Related Communications**

Telecommunications field is the most suitable for commercial applications. Available technology presently responds to market demand, and in this respect it may be considered mature. Market for telecommunication programs has a large size, and has an important and complementary ground component.

Starting from the above points, the group discussed possible requirements for new technology and related market opportunities. The majority concluded that market is fast growing and that new technologies in this field would be a profitable investment. Government agencies are also interested in new technologies and applications in space telecommunications.

The group then discussed possible financial resources originators. Experts from companies remarked that present US dominance is partially due to important US DOD research investments of the past. Some of them remarked that competition based on existing technologies can be faced by companies, but significant advances in technology can only be attained if governments invest in research. Experts from government agencies maintained that advantages from the presumably large allocation of public funds would go mainly to companies, which would receive the benefits without having taken any risks. They also remarked that the problem has larger industrial aspects which are not only under Government responsibility, like rationalizing size and number of prime contractor companies in Europe. The majority of government experts concluded that technology advances in this field were in any case necessary and that countries were already investing funds in ESA programs. They therefore underlined that ESA was considered still an appropriate framework for this field of research, provided then its policy lines were to be improved.

## **6. Navigation Systems**

French participants stressed that the existing navigation systems are in large majority US originated and give the United States a substantially complete control of space based navigation supports. Future maritime, surface and air transportation will depend more and

more on automatic positioning capabilities and the US is clearly seeking absolute supremacy in this strategic field .

On this basis the group discussed the convenience of Europe to completely rely on the American assets for its future navigation requirements, or if it was deemed appropriate to seek an independent European space based navigation system. In this case, definition studies for a European system to be developed by the next ten years in order to meet future European navigation requirements should be initiated very soon. Meanwhile, current European requirements could be faced by implementing a European operational system capable to integrate with the existing systems, particularly with GPS. In this respect, ESA, Eurocontrol and the EU are engaged in a tentative effort to develop an independent European global navigation capability, still inadequate to the importance of the issues.

The group did not reach any common conclusion on this issue, because there are no answers yet to many decisive questions (system definition, standards, budgets and institutional frameworks).

## **7. Earth Observation**

This aspect of space activities significantly increased its importance in recent years, adding substantial scientific and commercial applications (SPOT) to the traditional security related requirements.

European applications include METEOSAT, ERS1, ERS2 and more recently ENVISAT and METOP, which provide a valuable contribution to world efforts for Earth study from the space.

On the commercial side, SPOT system and the commercial applications of ERS1 and ERS2 can be considered as European industry successful achievements in the world market.

Italian group members remarked that HELIOS cooperative program received important contributions from Italy. An adequate share in technology and industrial assignments is therefore being expected for Italian Companies, particularly in the field of microwave sensors and synthetic aperture radars. This has not materialized to date and perceptions are that these expectations are not going to be met. Should this happen, it would produce negative consequences on the constructive atmosphere existing between the two Countries in space collaboration.

Italian group members mentioned the COSMO-SKYMED small satellite program, recently initiated by Italy and open to the participation of countries from the Mediterranean region.

French group members revealed they were not aware of Italian dissatisfaction with HELIOS program, which they used to consider an example of successful international cooperation. They also remarked that Italian unsatisfactory industrial and technology returns

might have been caused by Italian undecisive policies and by unexpected financial constraints occurred in Italy.

The group stressed the importance of Earth observation data processing, filing and disseminating systems. The enormous amount of observation data collected by space systems would otherwise risk to remain unused, or not timely and properly processed and distributed to the right addressees. Attention should therefore be paid to possible improvements of the role and capabilities, among others, of ESRIN European facility.

## **8. Space Scientific Research Policies**

Italian scientific community experts contributed their appreciation for the results obtained in the current European space research programs. They also remarked that future scientific research activity cannot be performed only through large and expensive programs, which sometimes take too long times and restrict the access to only a limited portion of the scientific community. This may be the case of the HORIZON 2000 program and its «cornerstones». Italian participants added that in the opinion of the large majority of the Italian scientific research community, HORIZON 2000 research program created large expectations when it was initiated 10 years ago, but that since then it became bigger, more and more expensive, with growing administrative aspects. They remarked that the Italian scientific community requirements could be met also by small dedicated missions at much lower costs.

This Italian dissatisfaction with HORIZON 2000 was not fully known to French experts, who, to the contrary, were rather happy with the program. French scientific community experts stated that in any case they were open to additional new initiatives and participations, including small missions programs, but warned about the possibly relevant costs.

## **9. Space Industrial Policies in Europe and the Role of ESA**

The role and capabilities of ESA were discussed with a view to assess the Agency's potential for properly managing European cooperative programs. French and Italian experts shared the opinion that current management abilities are still inadequate, as for industrial returns, costs containment, general coordination, timeliness and competitiveness. However, its role as European forum for space policy decisions of member countries is unique and effective. Therefore, efforts must be made in order to improve the Agency's program management performances. The group suggested that member States contributions be taken into account in assigning management positions.

The role of European Union's space policy was also discussed. Common opinion was that a clear role cannot yet be identified, although space matters certainly are in the scope of future EU responsibilities. At present, only some interest for Navigation and Earth observation seems to be detectable. In any case, any idea of switching space policy roles from ESA to EU seems to be premature and hazardous, because there's the risk of amplifying the management and coordination problems. On the other hand, it's been remarked that ESA



has problems in dealing with non european governments and agencies that probably EU would not have.

Discussion on a possible European space industrial policy was introduced by a remark on the similarities existing between space industry and the world of hi-tech industrial production, particularly aerospace companies. Having regard for prototypes value and production volumes, many of the reasons that led the Western European Union member countries to seek a better coordination in their hi-tech industrial policies are also present in the space industrial community. In many cases space and hi-tech companies are parts of the same corporations.

Other contributions evidenced the existing difficulties for a hi-tech industry common European policy, due to governments' reluctance to quit the action of guidance and support of their own strategic industry assets. The same problems would apply to space industry, may be on a different scale. In a completely integrated Europe this obstacle will disappear, but presently bi-trilateral cooperation on well identified programs of confirmed common interest is probably a much more reliable instrument. In any case, the future favors European integration. The balance between national policies and common European goals is still in favor of the former but it's moving: in a few years the latter could prevail, therefore it is important to closely watch this evolution and timely take the relevant actions.

## **10. Final Remarks**

The group expressed its satisfaction for the importance of the issues and the frank and open development of the discussions, which permitted to identify a number of common views, points of convergence and also to evidence different perceptions on some significant aspects of bilateral cooperation which in the group's opinion deserve maximum attention and early corrective action.

Space policies of the two countries have had similar attitudes *vis à vis* the issues at stake in scientific research and technology development. Common perspectives include the use of space for common security purposes, the need for Europe to achieve independent capabilities in selected space activities, namely access to space, Earth observation and telecommunications. Agreement was also noted in supporting the role of ESA as unique forum for common European space policies particularly where visible international cooperation is concerned, as well as in expressing concern for the Agency's inadequacies.

Differences exist in the role played by the State in space policies: firm and consistent guidance, assertive of a Country's leading rank in European space activities and a definite drive to achieve the condition for competing with US technology and industry are distinctive of France. In Italy, State's role concentrated on cooperative European policy and programs but lacked consistency between decision making and funding. In addition, largely different sizes in national space agencies and in space industry generated some French pressuring actions which Italian space community resented.

Issues discussion evidenced a large number of converging opinions and some significantly different viewpoints which are concisely mentioned below:

- *Access to space*: both sides were happy with ARIANE and its projected developments, while the Italian side considered the program not flexible enough for small payloads in frequent launches. Both sides share the view that Europe needs a more flexible system for small missions and that a small/medium launcher program should be started.

- *Telecommunications*: experts from companies of both countries remarked that current dominance and expected future supremacy of the US technology shall leave little opportunities to Europe in this highly market oriented and very profitable field. They added that companies could face current technology based competition, but significant technology advances cannot be made without substantial support of government funding. Therefore, in parallel to respective national policies in that field, the possibilities offered by ESA must not be neglected. Member States should reach consensus on cost-effective advanced technology programs.

- *Earth observation*: Italian group members considered HELIOS program not fully meeting Italian industry expectations. Moreover, they mentioned that developments of the French-German agreement on post HELIOS program would largely limitate Italian collaboration possibilities. They mentioned COSMO-SKYMED as a valuable Italian future program, open to countries from the Mediterranean region. French group members were not aware of the Italian dissatisfaction with the HELIOS program. They remarked that Italian undecisive policies and unexpected financial constrains might have caused unsatisfactory industrial and tecnology returns.

- *Scientific research policies*: Italian experts from research institutions stressed that large research framework programs often become so expensive and time consuming that only a few major customers can find them convenient for their large scientific experiments, while medium and small size experiments are virtually excluded. For this reason the Italian scientific community is to a large majority in favor of small dedicated missions.

## **11. Conclusions**

As a conclusion the French - Italian informal discussion group on space policies deemed it necessary to particularly underline the following points:

a. Use of space is an essential element in technology, economy and security of modern countries. In Europe, it can be satisfactorily achieved only on a European dimension and through international collaboration. Main engines in this endeavour are presently France, Germany and Italy. They have the necessity and the convenience of coordinating the use of their respective resources and capabilities when their national goals are part of their common aim.

In this frame, French-Italian cooperation is an indispensable component of the construction of Europe in space.

b. Relations between the two countries in space cooperation are not fully satisfactory, at present.

There are some areas where mutually beneficial cooperation has been established:

- space science, where the two scientific communities are actively collaborating in experience exchange and research program coordination;
- space transportation, where concerned companies achieved a highly effective cooperation in large size launchers which encourages possible future initiatives in the field of small / medium launchers;
- common willingness to participate in high level international cooperative space programs with the United States, without neglecting possible cooperation with Russia, Japan and other non- ESA partners.

Along with the favourable aspects, others elements of the French-Italian space relationship raised concern in the discussion group. These elements which have been previously addressed in detail, affect areas of importance in the two countries cooperative effort and might imperil the achievement of effective results. Following areas of bilateral relations are deemed as requiring substantial improvements:

- relations between National Space Agencies (CNES, ASI) and the European Space Agency;
- relations between the two Space industry communities;
- discussion on changes of ESA tasks and structure;
- coordination of respective national policies on Earth observation and surveillance.

c. The group did not elaborate any improvement proposals or policy proposals, which were not included in the discussion group mandate.

However, it is the group's impression that it is absolutely necessary and largely possible for the concerned policy and decision making agencies, to properly address each problem and implement effective solutions.

The first step, which is the awareness of the problems' existence, importance and size, has been the group's scope of work.

This also proved that the timely clarification of misunderstandings through consultation is an effective means to avoid the build-up of major problems.

To this end, the establishment of a permanent French-Italian «strategic» consultation group at CNES - ASI level could be an appropriate response.

## **French-Italian Informal Group on Space Policies**

*(list edited in alphabetical order)*

Jaques	BATTISTELLA
Adriano	BENEDETTI
Alfredo	BEOLCHINI
Alberto	CANCIANI
Giorgio	CAPRA
Massimo	CAVALIERE
Luigi	CIAVOLI CORTELLI
Alfredo	CUZZONI
Dominique	DARRICAUD
Bertrand	DE MONTLUC ( <i>CNES</i> )
Leonardo	GAGLIARDI
Giuseppe	GRANDE
Stéphane	JANICHEWSKI
Didier	KECHEMAIR
Paul	KREMER
Franco	MARUCCI
Francesco	MAZZUCA
Lucien	NEUWIRTH
Michele	NONES ( <i>IAI</i> )
Gabriele	PERALDO BERTINET
David	QUANCARD
Renzo	ROMANO ( <i>CASD</i> )
Gennaro	RUSSO
Guillaume	SCHLUMBERGER
Pascale	SOURISSE
Alberto	TRABALLESI