ECSL

The European Centre for Space Law – operated under the auspices of the European Space Agency

# PROCEEDINGS OF THE

# SECOND ECSL/DUTCH NPOC WORKSHOP

# " NEW OPPORTUNITIES FOR COOPERATION IN EUROPEAN SPACE ACTIVITIES"

**ESTEC, NOORDWIJK**
**MARCH 26, 1993**

# PROCEEDINGS

# "NEW OPPORTUNITIES FOR COOPERATION IN EUROPEAN SPACE ACTIVITIES"

## MARCH 26, 1993

## NOORDWIJK, ESTEC

*Organised by the Dutch NPOC*

*&*

*The European Centre for Space Law*


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## THE EUROPEAN CENTRE FOR SPACE LAW

*In the context of the development of the law of space activities, and in order to meet the needs emerging in Europe, the European Centre for Space Law (ECSL) was established in 1989, at the initiative and under the auspices of the European Space Agency, with the support of a number of pioneers in this field.*

### *Objectives and organisation of ECSL*

***Objectives of ECSL.**- The main objective of ECSL is to contribute to the development and improvement in Europe of the knowledge of the law of space activities. Such an aim is pursued mainly through three means: exchange of information among groups active in this area of space activities; improvement and promotion of teaching in this field; organisation of means allowing groups active in the law of space activities to communicate and exchange views. Another objective of ECSL is to promote, outside Europe, European activities and to contribute to building a unique position for Europe in the field of space law practice, teaching and publications.*

***A flexible and open structure.**- Although the Centre gathers mainly practitioners, lawyers, professors, editors, students... it is also opened to interdisciplinary exchanges. ECSL currently constitutes a groups of 450 persons. The Centre is organised in a very flexible manner. It is not a new institute or research establishment attached to a localised body. It has no legal personality. It is an informal structure drawing together all those wishing to take part in working out European space law. Great potentials do exist in Europe in the field of space law but are often isolated or scattered, and a forum such as ECSL allows such potentials to be gathered and the European contribution to space law to be improved. The Centre functions with a very light structure composed of a Board elected for two years by the Members, which reflects the geographical and professional groups represented in the Centre, a General Meeting of members every two years, and a Secretariat of one person, responsible for the daily management of the Centre.*

***Relays in Europe for ECSL actions.**- To facilitate its contacts with members, the spreading of information and organisations of activities, ECSL has stimulated the establishment of National Points of Contact (NPOCs), acting as relays between the members and ECSL. Thus, eight points of contact have been set up in Belgium, France, Germany, Italy, Netherlands, Spain, Sweden and the United Kingdom. Their status differs depending on whether an institute or center for space law exists in the concerned country, and the legal form that their members have chosen. Besides this function of relay, these NPOCs play an important role as initiators of activities such as conferences, symposia, researches, for the organisation of*

*organised on this subject. Solutions have been identified and ECSL, jointly with ESA, has undertaken discussions with the European Commission and exchanges with the European Parliament to study the means to take into account the suggestions resulting from this study. The second research initiated by ECSL concerns intellectual property rights in outer space. In this research, ECSL, jointly with ESA, has tried to assess the impact of outer space inventions on intellectual property rights, the existing legal solutions, as well as the possible harmonisations in the future. This research has been presented in the course of a Workshop held in Madrid in May 1993. Proceedings are available from ECSL. ECSL also participates into a number of conferences, which are often organised at the initiative or with the support of National Points of Contact. Finally, ECSL supports research done by students, either helping them gather materials, or promoting their works. In this view, ECSL transformed its bursary programme into a publication prize which will be awarded to exceptional works, according to terms which have to be further organised.*

***Spreading of documentation.**- An objective of ECSL is to spread in Europe a substancial documentation on the law of space activities, its teaching and practice.... Various means are being used to this end. Firstly, ECSL has set up, with the support of the European Space Agency, a space law database called ESALEX. Each ECSL member is allocated a password to access the database which contains basic texts of space law, ESA basic texts, statutes of other international organisations. These documents are provided in full text. Besides, the database contains bibliographical files of the University of Cologne and of the ESA Library. ESALEX demonstrations are organised at the occasion of ECSL events (workshops, summer course, general meeting...) or upon request by the National Points of Contact. A version of ESALEX on CD ROM will be available in the course of 1994. Secondly, ECSL publishes a newsletter, ECSL News, read by some 2000 persons worldwide, and especially by ECSL Members. This newsletter contains mostly articles and announcements on activities of interest for our members, and a number of issues deal with one specific topic on which they provide concise articles. Finally, ECSL also occasionally publishes books or booklets, proceedings... (see list and order form at the end of this book).*

***Financing**.- Currently, an important part funding is provided by the European Space Agency, and punctual support is provided by other institutions at the occasion of specific events such as the summer course. From January 1994, a small membership fee will be requested from ECSL members.*

## THE DUTCH NPOC

*The Dutch NPOC was established in 1990 with the following goals:*

*1.- The promotion of ECSL, making it better known in the Netherlands, by distributing information to the members with regard to activities of ECSL, and by recruiting members for ECSL.*

*2.- The coordination of activities of ECSL Members in the Netherlands by distributing relevant information to the other Dutch ECSL Members and to the ECSL Secretariat in Paris, and eventually coordination with other NPOCs when desirable. Due to the fact that the NPOC should not form a barrier for individual activities of Dutch NPOC Members, the coordination should be limited to the gathering of information with regard to activities as stated above and the rendering of advice. On the other hand, each Dutch ECSL member should keep the NPOC informed of his or her activities so as to enable the NPOC to coordinate in practice.*

*3.- The coordination between the ECSL activities in the Netherlands and activities of the Dutch working group on Space Law of the International Law Association.*

*4.- The promotion of knowledge of and interest in space law in general and the activities of ECSL within the Universities as well as outside (i.a. Government, industry, practitioners).*

*5.- The coordination of the selection of students within the Netherlands and, if need be, support of the selected students in order to acquire bursaries of the ECSL or elsewhere.*

*The Dutch National Point of Contact of ECSL was established with the International Institute of Air and Space Law at Leiden University.*

*The first General Meeting took place on 11 January 1991, at the Leiden Institute. Special guests were Mr Kevin Madders and Mr Harry Tuinder, both from ESA, Paris, who introduced ECSL to the participants. The Second General Meeting was held on 24 January 1992, where Dr Elena Kamenetskaya, from the Institute of State and Law of Moscow, as a guest speaker held a lecture on developments concerning space activities within the Commonwealth of Independant States, and the third General Meeting was held on 15 January 1993, where Mr Frans Lijnkamp of PTT Telecom, The Hague, spoke on the liberalisation of the telecommunications market in Europe. All General Meetings held so far were attended by thirty to forty participants from various occupations and various fields of space activities within the Netherlands, including government, industry, science and academics. The mailing list of the NPOC, de facto forming its membership, comprises over seventy members of the Dutch space community. After every General Meeting, the Leiden Institute offered*

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# INTRODUCTION

**F.G.von der Dunk**
**Co-Director International Institute of Air and Space Law**

*New Opportunities for Cooperation in European Space Activities,*
*Noordwijk, March 26, 1993.*

Before you lies the reflection of the Second Dutch NPOC/ECSL Workshop. The First Dutch NPOC/ECSL Workshop, on the implications of the CEC Green Paper on Satellite Communications in Europe held on 27 September 1991 at the ESTEC facilities in Noordwijk, had been the first event organised between the newly established Dutch National Point of Contact at the Leiden Institute of Air and Space Law and the European Centre for Space Law of ESA, Paris, especially its then Secretary Mr P.H.Tuinder. It was set up as a low-key event, with a few interesting speakers from the various quarters of the Dutch space environment presenting food for discussions, which were then given ample space and stimulating prodding by the chairman of the session, Professor H.A.Wassenbergh. Some forty people having been present, it was decided to edit Proceedings afterwards, in a low-key fashion, keeping in step with the original set up. The subject of the workshop, it need hardly be added, was of relatively modest size too: concentrating on the European Community Green Paper and its tentative effects on one specific field for space activities, that of telecommunications.

With this modest success in mind, it was decided to, firstly, repeat the exercise of a workshop jointly organised by the Dutch NPOC and its parent, the ECSL, and secondly, expand its scope considerably in terms of subjects. A host of new, mainly political and economical developments presented hitherto unforseen but very interesting and confusing opportunities in the field of space activities in Europe as well. The unification of Germany, the end of the Cold War and even, ultimately, of the Soviet Union, the deepening economic recession in Europe and elsewhere, and finally the economic European integration-developments which were to culminate in the Maastricht Treaties, all contributed individually as well as in combination to radical changes in the parameters for space activities in Europe.

It were these parameters, and their impact on the European space environment, which formed the core subject of the Second Dutch NPOC/ECSL Workshop, entitled "New Opportunities for Cooperation in European Space Activities". Thus, for example, questions concerning the opportunities provided in this respect by the German situation, Germany having become through unification of its capitalist and its (formerly) communist part a kind of go-between between the West and the East for space activities, could be dealt with.

On a somewhat larger scale, the end of the Cold War, the opening up and then demise of the Soviet Union presented similar opportunities for amongst others European space activities to profit from the experience, the hardware and the software of one of the two space-superpowers. Discussions on cooperation in this respect have only intensified since then leading even to Russian participation in a redrawn international space station.

Not all was well, for at the same time the economic recessions in almost all spacefaring nations prompted inter alia a decreasing enthusiasm of governments and private entities alike to spend on space. This turned the opportunities presented sometimes into sheer

impossibilities, other times into forced necessities, and only partially in enjoyable extra choices. The 'opposite' parties, though no longer enemies in a Cold War, of course still had their own interests foremost in mind and, being far from clear of economic hard times themselves, pressed hard for good bargains.

Then, ongoing integration of Europe predominantly on the economic level presented a mixed picture in these regards as well. While the European space environment in general certainly benefitted from the step-by-step establishment of the internal market and the increasingly unison voice of the Community externally, this was not necessarily true on each and every level. Moreover, the interplay between the Community and the European Space Agency, Europe's main flag-bearer when it comes to space activities, was sometimes less than ideal.

Finally, more in general the whole process of integration was running into increasing difficulties, as exemplified by the developments between the establishment of the Maastricht Treaties and their cumbersome entry into force only recently. This was of special importance for smaller and medium-sized spacefaring nations such as the Netherlands, where both government and industry cannot really afford to undertake all sorts of space activities completely on their own, and co-operation was looked upon, both by necessity and by tradition, as the logical path to follow.

In first instance planned for 23 October 1992, the timeliness and topicality of the Second Workshop was such, that in the end most speakers invited had to cancel their appearances because their official assignments called for their presence at high level meetings concerned precisely with (some of) the very subjects proposed for the workshop. With a change of guards at ECSL, Ms V.Kayser taking over from Mr Tuinder, and the kind cooperation of ESTEC Headquarters, in the end a new date could be agreed upon. Thus, the workshop was finally held, again in Noordwijk, on 26 March 1993.

The timeliness and topicality of the subject had hardly diminished, however. Mr T.Beer, for instance, arrived at the workshop straight from the negotiation tables in Moscow where he had been part of the ESA team trying to strike deals with the Russians. Moreover, some of the speakers remained overloaded after the workshop with continuing duties in the field the workshop was covering to such an extent that they were unable to reflect on their own presentations and provide us afterwards with the complete text of their partly improvised presentations.

Nevertheless, or perhaps for that very reason, the Second Workshop again was visited by some forty participants and resulted in some interesting discussions. It was also once again decided to try and present some concrete results in the form of Proceedings. It is largely thanks to the efforts of the Secretary of ECSL, Ms Kayser, the generous support from ECSL and ESA, and the willingness of Mr Vestdijk of Utrecht to provide us with his summaries of the various presentations and discussions, that we are therefore able to present you with the Proceedings of the Second Workshop.

Because the scope of the subjects and the extent of the developments had only continued to

broaden, the food for thought presented by the speakers and largely comprised in the present Proceedings is far from digested yet. Thus, ultimately, the modest aim of these proceedings is not to provide clear conclusions and compelling recommendations, but to provide an overview of options and a survey of the main obstacles which confronted European space entities during the last few years - and which will certainly continue to confront it in most instances for some years to come as well.

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# THE CHANGES WITHIN ESA AND PROSPECTS FOR INCREASED INTERNATIONAL COOPERATION WITH EC AND CIS

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*New Opportunities for Cooperation in European Space Activities,*
*Noordwijk, March 26, 1993.*

(Abstract)

**New Opportunities for Cooperation in European Space Activities**

The changes within ESA and Prospects for Increased International Cooperation with EC and CIS

Jean Arets, Head of International Affairs
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Evolution of ESA

In the early years ESA (and previously ESRO and ELDO) was a purely technological agency in charge of implementing specific space projects.

Evolution started due to the nature and the implication of the programmes developed by ESA.

ESA remains an Research and Development Organisation and will not become an operational Agency. The operational part of ESA application programmes has been taken over by EUTELSAT, EUMETSAT, ARIANESPACE. Nevertheless the development of space technology leads to consequences on the policies of the Member States and of Europe as a while.

Space technology can no longer be considered on its own merits but has to be regarded as one element among many others of a general European policy.

In particular in the field of remote sensing, the ESA programmes are influence different policies (agriculture, fisheries, aid to developing countries, environment).

Relations with EEC

The increasing role of EEC in the field of Research and Technology (the 4th framework programme is presently being prepared) and the influence of the space programmes on common European policies imply an increase in the relationship.

No formal agreement exist today. But contacts exists both at the top level (President of the Commission and ESA Director General) and at working level.

5 working groups have been created over the last few years :

- International relations
- Competitivity
- Technology
- Telecommunications
- Earth Observation and Environment

It is expected that cooperation/coordination will increase steadily in the years to come.

Relations with CIS

The geopolitical evolution makes possible now to envisage cooperation with CIS.

During the 30 first years of space activities, ESA's only partner of ESA was the United States.

Even if cooperation with CIS is increased in the near future, the United States will remain the main ESA partner in the coming years.

Advantages of cooperation with CIS : the Russian potential is very large.

Difficulties : - lack of tradition of cooperation
- political uncertainties

Fields of cooperation

- manned space activities (see Resolution of the ESA Ministers in Granada)
- telecommunications
- earth observation
- science

Central and Eastern Europe

Mention has also to be made of the cooperation with the countries of Central and Eastern Europe :

- cooperative agreements with Hungary, Rumania and Poland
- main interest Earth Observation and Telecommunications

Conclusion

The role of ESA is changing
Its political responsibility is increasing in proportion to the political importance of its programme
This implies that the relations of ESA outside its Member states are increasing. It also implies a development of the coordination with the European Community and with the Member States.

# THE NEW CEC POLICY PAPER ON SPACE ACTIVITIES AND RELATIONS WITH ESA AND THE CIS COUNTRIES

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# "THE EUROPEAN COMMUNITY AND SPACE: CHALLENGES, OPPORTUNITIES AND NEW ACTIONS"

**Peter Wragg**
**Directorate-General for Science, Research and Development**
**Commission of the European Communities**
**Brussels**

**A Presentation to the Second Dutch NPOC/ECSL Workshop**
**Friday 26 March 1993, at ESTEC, Noordwijk, The Netherlands**

## Introduction

European nations have made significant investments in space. Thanks to the efforts of the European Space Agency (ESA) and complementary national programmes, Europe has developed a reputable technological and industrial capability in space. This has led to important successes and has established Europe as a major partner in international space programmes.

The role played by the European Community in Europe's space effort derives from the fact that its competences and policies have a bearing on space activities. Decisions taken at Community level relating to the internal market and industrial affairs, trade policy, environmental policy, telecommunications policy, audio-visual policy, and research and technological development, for example, will increasingly impact on Europe's space sector.

At the same time, space is making its impact felt on the implementation of Community policies. The use of space-derived information will grow, particularly in areas such as environmental research and monitoring, aid to developing countries and agricultural monitoring. Satellite communications are also used in the implementation of Community policies such as regional development, training (distance learning) and fisheries. This will all grow in the future.

The Commission's first Communication on space was issued in July 1988. It established the principle of a Community involvement in Europe's space effort, defined the main orientations for a role which would be complementary to ESA, and specified six action lines which guided the Commission's work in this area. It led to complementarity and coordination with ESA, and a dialogue both with national space agencies and the European space industry.

## New Challenges

Since the first Communication, a number of factors have grown in significance and new ones arisen, and which together have changed the overall context in which the European space effort is undertaken:

a). The rise of global environmental problems.

It is now widely recognised that global environmental problems will need to be addressed in order to preserve human well-being on Earth. The use of space techniques are essential for

research and monitoring on the required scale, and this will increase the demand-pull for space applications. Action is needed to optimise the exploitation of such applications.

b). Changes in the geopolitical context.

The shift in geopolitical relations that followed the momentous developments in Central and Eastern Europe and the former Soviet Union has enabled a reduction of the military threat that underlay East-West confrontation. At the same time new security challenges have arisen. In response to this situation, Europe must exploit the synergies between civil and defence systems both for communications and Earth observation.

c). The rise of new space powers (China, India, Japan etc.).

The number of spacefaring nations is increasing as countries acquire a space capability either by developing their own technology, or under licence. With the growing industrial and commercial importance of space activities, this will bring new competitive pressures on international markets. This in turn may lead to trade tensions and concern about industrial competitiveness.

d). Budgetary constraints and changing space priorities.

The escalating costs of major space infrastructure programmes risk having a negative impact on science and infrastructure programmes. This has drawn attention to the need for a better exploitation of technological synergy between space and non-space sectors, and for the continuous funding of operational Earth observing systems by involving end-users.

e). The development of the European Community.

The single European market is already affecting the space industry. The Maastricht Treaty on European Union will strengthen the role of the Community in research and technological development and environmental policy, both of which will have an important bearing on the Community's approach to space.

f). The international role of the Community.

The agreement on a European Economic Area brings the EFTA countries into closer partnership with the Community. Cooperation agreements have also been signed with most countries in Central and Eastern Europe. At the wider international level, the Community has a crucial role to play in the efforts to complete the Uruguay round of GATT. All this will have an impact on European space activities.

g). Republics of the former Soviet Union.

Russia and other former Soviet Republics have important space capabilities which need to be preserved. This brings new opportunities for international cooperation, and gives Europe the opportunity to counterbalance its traditional one-sided relationship with the United States. At the same time there are risks which must be properly assessed: unfair commercial competition; proliferation of missile technologies.

**The New Opportunity**

We are now at a stage where there is both an opportunity and a need for the Community to contribute more towards the successful further development of the European space effort, considering: the political, economic, and industrial dimensions of the challenges and issues which need to be addressed collectively; the sectorial mission and competences of ESA; and the need to end the isolation of the space sector by integrating space activities into the broader socio-economic fabric of Europe.

On 23 September 1992, the Commission adopted a new Communication to the Council and European Parliament. This policy document is both an update and extension of the first Communication on space. It focusses mainly on areas of relevance to Community policies, and builds on the work done by the Commission since 1988, taking account of the new issues and opportunities which have arisen, together with the views of the European Parliament, ESA, national space agencies, industry and other organisations involved in space.

**Earth Observation**

Earth observation (EO) is rapidly becoming an essential tool for the management of the Earth's resources, and for the study and monitoring of its environment and climate. Space-derived information is also of increasing value for the implementation of public policy.

Europe has an impressive EO capability through ESA programmes and national initiatives, and is now a major supplier of data. But there are stong indications that the European capability for converting the data stream into operationally useful information is inadequate. There is a real risk that unless action is taken, the demand for space-derived information may not be met.

Europe has suffered from an imbalance between the efforts devoted to the space and ground segments, and a predominance of "technology-push" over "demand-pull". This has led to: an insufficient user input to EO programmes; an inadequate ground infrastructure to meet increasing data supply and demand; technical obstacles to operational data interpretation; and uncertainty over the conditions of access to data (pricing, legal aspects).

What can the Commission do? (a) Through its policy for research and technological development it can support R&D and pilot projects to demonstrate the operational use of EO applications; (b) As a major customer for data, it can have a stimulating effect on the development of an applications market; and (c) It can provide a framework for concertation between all the organisations involved in EO with the aim of achieving a joint definition of objectives.

**Satellite Communications**

The underdevelopment of the European market and the weakness of European industry is the consequence of a regulatory regime that has restricted potential growth, together with an internal market which is still fragmented. This has impeded the full exploitation of satellite communications technologies for the provision of Europe-wide systems and services. The resulting lack of economies of scale and a relatively complex industrial structure lead to higher costs and longer lead times for satellite delivery.

What can the Commission do? (a) It can introduce measures to encourage industrial competitiveness; (b) It can introduce measures to liberalise the satellite communications market; and (c) It can help to identify future needs.

**Research and Technological Development (R&TD)**

The ability of the space sector to import technological solutions from other sectors has been impeded by its relative isolation. Trends in technological innovation are creating opportunities for increased synergy between space and non-space sectors. Budgetary constraints and the need to avoid R&D duplication call for a more interactive approach in exploiting this potential for technological synergy.

What can the Comission do? (a) It can pursue cooperation with ESA to promote a better use of the results of Community research programmes in the space sector (associating national space agencies); and (b) Move on from "ex-post" coordination (between programmes already defined) to "ex-ante" coordination by taking into account future space technological requirements in defining the content of future Community programmes.

**External Relations and Trade Issues**

The rise of new spacefaring nations and the entry of Russia and China into world space markets is creating new competitve pressures. The European space industry must improve its competitiveness by reducing costs. But Europe also needs to ensure the respect of a minimum competition discipline by its competitors.

Three agreements within GATT have implications for space activities, especially for launches and launch services, satellite and ground equipment: the agreement on services; the agreement on subsidies; and the code on government procurement.

What can the Commission do? Within the framework of Community trade policy, the Commission is involved in a number of bilateral and multilateral trade negotiations. It is ready to use this competence in a flexible way to assist Member States in identifying the European interest in this sector, and to defend that interest within GATT and through bilateral arrangements where necessary.

**Community Objectives**

Within the scope of its competences, the Community contribution to the European space effort will aim at the following objectives:

a). To encourage and support the optimal development and exploitation of Earth observation applications, particularly by initiatives contributing to the establishment of a European operational system for the study and monitoring of the environment; to increase and intensify the use of satellite data within the framework of various Community policies.

b). To ensure the appropriate regulatory conditions allowing the development of new markets for satellite communication services.

c). To develop the complementarity and synergy between Community R&TD programmes and the space programmes of ESA and Member States in order to reach a greater efficiency in European R&TD efforts.

d). To encourage the consolidation and growth of a competitive space industry and to promote its interests at international level, within the framework of Community industrial and commercial policies.

The pursuit of these objectives will take place in the context of wider and balanced international cooperation, particularly taking into account the new opportunities for cooperation with the former Soviet Republics and the countries of Central and Eastern Europe. The Commission has already launched a major study to analyse the changes and trends in the space sector of the former Soviet Union, and to identify the major issues and opportunites likely to arise.

**Conclusion**

The Commission is not proposing a new space programme, but seeks to use its competences and experience to contribute towards the successful further development of the European space effort: (a) Using Community mechanisms for concertation and coordination with Member States and other European organisations to encourage common approaches; (b) By legislative action to establish appropriate legal conditions; and (c) Through actions derived from, and driven by, the exercise of other Community policies.

To implement the ideas contained in the new Communication on space, the Community will seek to complement and support the actions of its Member States, ESA and other relevant European organisations, in accordance with the principle of subsidiarity. It will also seek to increase consultation with the users of space applications and the relevant sectors of industry.

# GERMANY AND THE RELATION WITH FORMER EASTERN EUROPEAN COUNTRIES AND CIS COUNTRIES

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*New Opportunities for Cooperation in European Space Activities,*
*Noordwijk, March 26, 1993.*

## GERMANY AND THE RELATION WITH FORMER EASTERN EUROPEAN COUNTRIES AND CIS COUNTRIES

At first, I would like to inform you that the German Space Agency (DARA) and the Russian Space Agency (RSA) have signed on the first of March a Treaty on Cooperation for Research and Use of Outer Space for Peaceful Purposes. Before I come back to the contents of this Treaty which opened a new dimension in the cooperation between Russia and Germany, let me begin with a brief summary of the history in space cooperation between Germany and Eastern European Countries.

### 1. WEST GERMANY

Prior to the unification of the two German states, West Germany and the Soviet Union entered into a Treaty on scientific and technical cooperation. This inter-governmental Treaty established a framework for collaboration in the fields of atomic energy, agricultural research, health research and space. For the purpose of implementing this inter-governmental Treaty the competent authorities of each country have concluded specific agreements. Regarding space activities, such specific agreement was signed in October 1988 by the German Ministry of Research and Technology (BMFT) and on the other side by the Academy of Science of the USSR.

In order to execute this specific agreement the parties have agreed to cooperate in a certain number of projects. However, until the unification of Germany, apart from visits of experts and exchange of information, there was little cooperation between West Germany and the USSR or other Eastern European Countries.

## 2. EAST GERMANY

Now I would like to draw your attention to the relation of the former German Democratic Republic with Eastern Europe.

Space cooperation of the GDR with eastern partners was based essentially on the Intercosmos Programme which was signed in 1967 by 9 socialist countries. The main purpose of Intercosmos can be described as the possibility of all signatory states to participate in national space research programmes of the USSR. In this context the most important project of the GDR, namely the co-flight of the East-German cosmonaut Sigmund Jähn to the orbital station SALJUT-6 in August 1978 is to be mentioned. Besides this highlight the former GDR took part in more than 20 Russian and Intercosmos missions with more than 200 different scientific equipments.

Another important forum of cooperation among Eastern European countries is INTERSPUTNIK.

INTERSPUTNIK is an international organization founded in 1971 by the former GDR, USSR and seven other socialist states with the purpose of establishing an international system of telecommunications via satellites. Contrary to Intelsat, the worldwide operating telecommunications system of 100 member states, Intersputnik does not operate on commercial principles. The satellites operated by Intersputnik were hired from the USSR.

Apart from the multilateral treaties concerning Intercosmos and Intersputnik, the former GDR entered into several bilateral agreements on space cooperation with the USSR and - within the Intercosmos Programme - with other Eastern European Countries.

## 3. UNITED GERMANY

a) Now the question arises if all these multilateral and bilateral treaties of the former two German states are binding for the united Germany.

In this context it is very important to understand that the former GDR by signing of the Unification Treaty on October 3, 1990 declared its accession to the Constitution of the FRG and this means that after the unification no new German subject of international law has been created. Only the FRG

has continued its existence but enlarged by the territory of the GDR which has lost its existence. Therefore the partnership of the former GDR in multilateral and bilateral treaties expired on the date of unification. Of course, for the continued existing FRG all treaties are still binding. With regard to the partnership of East Germany in international treaties, the Unification Treaty provides in Article 12 (2) that "the united Germany shall determine its position with regard to the adoption of international treaties of the GDR following consultations with the contracting parties". This leaves open the possibility for the united Germany to decide on a case-to-case basis whether treaties of the GDR shall be adjusted or continuously applied.

So far, the united Germany has not entered into any of the multilateral or bilateral treaties on space cooperation with Eastern European Countries, with a single exception: Intersputnik. Only in the case of Intersputnik the united Germany has declared to assume the obligations of the former GDR under the Intersputnik-Agreement and has therefore become a member of this organization.

However, it is necessary to point out that, regardless the fact that with the end of the GDR its partnership in international cooperations expired, a big number of projects

which implementation has been started in cooperation between the former GDR and USSR have been continued between the united Germany and the Russian Federation.

b) Now, I would like to introduce and briefly describe a number of the most important projects which have been implemented since the unification or which will be implemented in the future.

aa) In April 1992 the German Space Agency DARA and the Russian Academy of Science have agreed to cooperate in not less than 50 projects. In many of these projects institutes and experts of the former GDR with a lot of Know-How and experience in the collaboration with russian partners are involved.

bb) One project already agreed in 1989 between the FRG and the USSR and the highlight so far in the German-Sovjet respectively German-Russian Cooperation was the co-flight of the German astronaut Klaus-Dietrich Flade together with two Russian colleages to the space station MIR in March 1992. During this mission of 8 days the German contribution included 14 experiments mainly in the field of medicine. MIR 92 was a very successful project which created the basis for a deeper cooperation in the future. MIR 92 can also be an example for new possibilities of international cooperation in space.

cc) Another very important project which was agreed in 1991 between DARA and the Space Research Institute of the USSR Academy of Sciences and which is planned to be implemented in the near future is MARS 94.

The MARS 94 mission is an important milestone in the Russian long-term programme of the investigation of the planet Mars. In order to study the Martian surface, atmosphere and inner structure two missions are planned in 1994 and 1996 which mainly consist of the following:

Mission 94: - an orbiter
- two small surface stations
- two penetrators

Misson 96: - an orbiter
- one descent module with a balloon and
- one small rover

Scientists from 20 countries are involved in this programme. Germany is engaged with 14 experiment elements distributed over all misson elements. The most important contributions by Germany are the High Resolution Stereo Camera (HRSC) and the Wide Angle Optoelectronic Stereo Scanner (WAOSS). By the way, WAOSS was planned as a contribution of the former GDR and is now financed by the unified Germany as a part of the total financial engagement of around 250 million DM.

c) Now I would like to come back to the treaty recently signed by DARA and RSA.

The necessity to enter into an agreement with the RSA is the result of the new structure of the Russian space management. According to its statutes the RSA which was founded by decree of the President of the Russian Federation is in charge inter alia for the cooperation with foreign countries in the exploration and use of outer space and also of space infrastructure ground facilities. By this treaty a new basis for a long-term German-Russian cooperation has been established which will probably be much more extensive than the already existing cooperation on the basis of the above mentioned specific agreement of 1988 between the German BMFT and the Academy of Science of the USSR.

According to the DARA-RSA treaty, the cooperation is not only based on the no exchange of funds principle. For a period of four years from 1993 to 1996 it is envisaged to transfer around DM 60 million to RSA. The motive for such payments is above all the support of the existing Know-How and scientific potential. In this way we try to contribute to the aim of preventing a brain-drain with unforseeable consequences.

The funds will be paid according to special project agreements to be concluded between DARA and RSA.

The first of such project agreements has already been signed in early March with respect to a project called EXPRESS.

EXPRESS is a reentry vehicle for scientific experiments, which allows mission durations of five days for experiments in orbit and during reentry.

According to the EXPRESS project agreement, the Russian Space Agency shall through its sub-contractor Design Bureau Salyut provide the reentry capsule based on the Salyut Programme.

But EXPRESS is much more than a bilateral German-Russian Project. It is also a cooperation with Japan and Australia.

As soon as the capsule is delivered to Germany, the reentry capsule with integrated payload of German and Japanese experimenters will be transported to Japan. From Kagoshima, the EXPRESS capsule will be launched by the Japanese launcher M3 S-II into orbit at the height of about 250 km where it will operate for five days. After its landing by means of parachutes it shall be recovered on the Australian Continent.

We do hope very much that the German-Russian cooperation which is in the case of EXPRESS integrated in a cooperation with other countries can just as well initiate a broad cooperation between the Russian Federation and ESA. In this sense the German-Russian cooperation is reflecting the ESA resolution of Granada for a deeper cooperation with the Russian Federation.

(Werner Richter)

# SMALL COUNTRIES' POSITION IN ESA AND THE PERSPECTIVE OF THEIR ROLE IN THE FUTURE

*M.R. Jumelet*
*DRW/WN, Ministry of Foreign Affairs, The Netherlands*

*New Opportunities for Cooperation in European Space Activities,*
*Noordwijk, March 26, 1993.*

**Small Countries' Position in ESA and Prospects for their Future Role.**

Mr. Chairman,
Ladies and Gentlemen,

When I first heard that I would have the honour of addressing an audience of specialists on space law, I had been in my present job only two weeks. As I had to start from scratch, the preparation of this address was an excellent opportunity to accumulate some knowledge on this subject in a relatively short period of time.

Given the title of this address, which was formulated by the organising committee, I should first like to discuss the term "small countries", then to express my views on the role they play within ESA, and more specifically on the role of the Netherlands within ESA, and finally to say something about the possible role of smaller countries in the future.

Obviously there are large and small countries in ESA, although I think that the majority of the ESA member states fall somewhere between these two extremes. How should one determine whether a country is large or small within ESA? Various approaches are possible.

The simplest solution is to take into account only the annual financial contribution to ESA made by a member state. An examination of the 1992 contributions to ESA, makes it clear that the two large countries France and Germany together accounted for more than half of the budget of ESA. All other

member states together provided the rest of the ESA budget, with Italy -which might also be regarded as a large country- taking care of over 16%. The remaining 30% was shared by 11 countries, varying from less than 10% down to around 0.5% for each member state. It is clear that these 11 countries contributing less than 10% each to the ESA budget cannot all be regarded as small countries.

Of course one might also look at some additional criteria, such as the political and economic influence of the various countries as well as their industrial contribution to ESA. In doing so, one might conclude that as well as a few large countries, there is a considerable group of middle-sized or smaller countries within ESA, and only a few really small countries. During this address I intend to speak about the position of smaller countries in ESA, as I am convinced that the Netherlands is not a small country according to the criteria I set out just now.

Having said something about the existence of the group of smaller countries in ESA, the next question is whether these have group characteristics, like for example the "David group" in the EC and, if so, whether these countries exchange views on various issues, whether they have meetings on space issues on a regular basis and whether a certain form of cooperation exists between them.

As far as I can see there is no exchange of information between the smaller countries on a regular basis. Moreover they do not appear to be a homogenous group when it comes to expressing their points of view on certain issues in the

various ESA boards and committees. On the contrary, like the large countries, their attitudes towards various issues are dominated by their own specific and national interests. These specific interests make for a variety of divergent views on potentially every issue or programme. One may well say that the smaller countries do not form a coalition in ESA. Expediency plays a more important role, which frequently leads to ad hoc cooperation by one or more smaller countries with one or more of the large countries in ESA.

Another factor which plays an important role in the attitudes of smaller countries is the difference in internal competence structures with regard to space issues in the various capitals, which is reflected in the way these countries are represented in the ESA council, boards and committees. Most smaller countries have no independent space agencies.

Although a typical small countries' position in ESA does not exist as such, there are many similarities between the smaller countries, which distinguish them from the large countries in ESA.

Firstly, smaller countries naturally have no large national space programmes. Therefore almost all of their efforts on space development are made within the framework of ESA, from which it follows that for smaller countries ESA is essential to their participation in space programmes.

Secondly, in order to distinguish themselves from others, smaller countries tend to specialize in specific technologies, which are essential for most ESA programmes.

Thirdly, the smaller countries show a common pattern of contributing to different ESA programmes. The average total contribution of smaller countries to the ESA budget is less than 5% per country. This implies that if a smaller country were to divide this equally among all programmes, its substantial participation would be negligible. Therefore most smaller countries select a few specific programmes to which they contribute more than their average percentage, while the contribution for the remaining programmes goes down to a minimal level. The selection of these specific programmes is based on their scientific and industrial know-how and interests. The identity of the individual country within a certain programme or project also plays an important role. Most smaller countries like to be responsible for a certain technology or specific section of a project, which can be clearly identified as their contribution. A good example in this connection is the Netherlands' participation in the External Robotic Arm (ERA) project, which is one of the servicing elements of the Hermes project.

Fourthly, smaller countries have a preference for users' programmes. For example, smaller countries place a special emphasis on the use of space techniques for purposes associated with development cooperation, ecology/world climate and environment. A good example of this, is the interest of a group of smaller countries in Earth observation programmes.

Having established these similarities between smaller countries, I should like now to turn to their position and influence in ESA.

Although all smaller countries together contribute less than 30% to the ESA budget, their participation is essential for the continuity of the Agency. Worldwide, governments are under pressure to cut their budgets and contribution to space programmes is an easy target. At the same time the cost of space programmes is growing rapidly. Hence the conclusion is simple: without cooperation at intercontinental and European level extensive programmes such as Space Station and Shuttle cannot be accomplished (even superpowers like the USA and Russia are in need of cooperation).

Apart from the financial input of the smaller countries, their contribution in terms of science, technology and special industries is also indispensable to ESA.

On the ESA council, boards and committees the principle is for all countries to have one vote each, which implies that smaller countries can also play an important role in decision-making processes within ESA. The entire group of smaller countries even has a two-thirds majority in ESA. Used sensibly this could add a great deal to the transparency of the decision-making process in ESA. But of course the smaller countries must be aware of the risk that France and Germany might conclude bilateral deals with other states like Russia and the USA, leaving ESA and the smaller countries out.

In this respect I should like to underline the fact that cooperation between a group of countries can be very fruitful, but that it should not lead to the formation of blocs, which would endanger the democratic decision-making process and ultimately the cooperation within ESA as such.

Another great advantage of the presence of smaller countries in ESA is the mediating role they can play in issues which are the source of controversy among the larger countries. In many instances most smaller countries are either not directly involved or have no specific national interests of their own. In these cases, when the large countries disagree among themselves, the smaller countries can use their position to mediate in order to come to a compromise. This position is actually reflected and as it were recognised in the number of representatives from smaller countries in important positions on committees and programme boards at ESA.

Smaller countries usually pay more attention for the practical applications of space programmes, and will tend to moderate the large countries' ambition to achieve prestigious programmes. In this regard I would like to mention two areas.

Firstly, I should like to note the special position of smaller countries in matters related to the avoidance of misuse of space technology and to the peaceful use of outer space. As geopolitical, military and industrial interests are less decisive for smaller countries than for the large countries, smaller countries tend to be more outspoken on the prevention of misuse of space technology in organisations like the United Nations Committee Of Peaceful Use of Outer Space and Missile Technology Control Regime. Smaller countries are often able to play an important role at meetings of these organisations, and of course during the preparatory committee meetings at ESA.

Secondly, smaller countries have more interest in the users, the consumer side of space programmes, which is usually less

marked in the more ambitious projects preferred by the large countries. Smaller countries therefore emphasize the importance of a wide range of programmes in ESA in which smaller users' projects are also sufficiently represented. This interest arises not only from smaller countries' specialisation and their preference for substantial participation in small projects, as I mentioned earlier, but also by the fact that smaller countries tend to focus more than large countries on the practical applications of space programmes. This may also be related to their attention for issues associated with development cooperation, global climate and environment. An illustration of this fact is the high level of interest and participation by smaller countries in earth observation satellites (for example the UNEP/Mercure project) and meteorological satellites.

This last point brings me to the special role the Netherlands plays as a smaller, but certainly not small, country in ESA. I think that with its contribution to earth observation the Netherlands proves that a smaller country can even play a leading role.

Thanks mainly to the Netherlands' efforts, ESA has planned a long term strategy on earth observation programmes. The necessary infrastructure for the development of earth observation was available in the Netherlands, owing to its expertise in astronomical instruments. This experience with remote sensing equipment is illustrated by Sciamachy (an instrument for atmospheric observations), which was developed together with Germany for the Polar Platform.
The Netherlands' contribution to earth observation also

presents a very clear example of user participation in the programme: all users, such as the ministries of science and technology, economic affairs, transport (weather forecasts), development cooperation and environment have a share in this programme.

In ESA the Netherlands has traditionally been closely involved in the debate about the science programme, resulting in "Horizon 2000", which was approved by the ESA council in The Hague in 1987. The Netherlands has much scientific expertise and has developed instruments to a high standard, which is important for the development of satellites. Until the late eighties the Netherlands had its own national programmes such as the ANS and IRAS satellites. Nowadays Dutch space research, in which microgravity and remote sensing play important roles, focuses on ESA.

Besides this scientific basis, the Netherlands' position in ESA is also strenghthened by its national civil aviation industry, of which Fokker Space & Systems, which produces the External Robotic Arm, is best known.

Last but not least I would like to mention the institution hosting this workshop today, ESTEC, which has an important influence on both the scientific cooperation and the position of the Netherlands in ESA. An example of this is the ESTEC Professorial Chair at the Faculty of Aerospace Engineering at the Technical University in Delft, of which Dr Ockels is the second incumbent.

The last point I want to discuss is also the most difficult one, because it is hardly possible to predict the future

anyway and it becomes even more difficult when the subject is such a remote one as space. There is nothing that leads me to expect drastic changes in the position of the smaller countries in ESA.

It is clear that smaller countries are dependent on ESA for the execution of their space programmes, but also that ESA needs the input of the smaller countries. For the future I see greater cooperation by the smaller countries in relatively small projects in which the user side is emphasized. The smaller countries can encourage the Agency to developing a more balanced programme, in which more small-scale projects can be persued.

Cooperation between the smaller countries and consequently their position in ESA will also be consolidated when the non-EC member states of ESA become full members of EC.

In conclusion, I want to underline that, although one cannot speak about a homogenous group of smaller countries in ESA, they do play an important role in the decision-making processes in the Agency in general and for the users' programmes in particular.

Thank you, Mr. Chairman.

# INDUSTRIAL RESTRUCTURING IN EUROPE: SMALL COUNTRIES INDUSTRIES' POINT OF VIEW

*R. Van Konijnenburg*
*Deputy Head, Space Division*
*Netherlands' Agency for Aerospace Programs NIVR, Delft*

*New Opportunities for Cooperation in European Space Activities,*
*Noordwijk, March 26, 1993.*

NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

space industry smaller countries

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A discussion of:

# Common Position of the Space Industry in the Smaller European Countries regarding ESA Procurement Policy in such Countries

A position paper by the EUROSPACE industrial members compagnies in 'small countries

ECSL, Noordwijk, 26-4-93

# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

**space industry smaller countries**

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**The space industry in the smaller ESA member states is dedicated to accept the challenges of development of advanced technology for ESA's space programmes.**



**ECSL, Noordwijk, 26-4-93**

The space companies in the smaller ESA member states are willing to expose themselves to a truly competitive environment with the intention to produce profitable business on ESA and other markets.



ECSL, Noordwijk, 26-4-93

# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

**space industry smaller countries**

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The principal preconditions to allow successful development of the space industry in smaller member states are:

- ESA procurement policy in the small countries shall be based on recognised company specialisation. Prior to obtaining ESA contracts, newcomer companies shall first qualify and meet recognised specialisation criteria



ECSL, Noordwijk, 26-4-93

# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

**space industry smaller countries**

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The principal preconditions to allow successful development of the space industry in smaller member states are:

- Companies applying for prime-contractorship shall not compete with potential sub-contractors for a particular project



ECSL, Noordwijk, 26-4-93

## NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

**space industry smaller countries**

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The principal preconditions to allow successful development of the space industry in smaller member states are:

- Potential sub-contractors shall be involved in phase A/ phase B studies, wherever subsystems specifications have to be formulated with regard to assessing technical risk and development cost for the programme.

# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

**space industry smaller countries**

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The principal preconditions to allow successful development of the space industry in smaller member states are:

- Subcontractors having developed ackowledged expertise on subsystem level (in successful ESA projects or through ESA's technology development programmes) shall be invited to submit offers whenever their available expertise may be applicable.



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## NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

space industry smaller countries

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The principal preconditions to allow successful development of the space industry in smaller member states are:

- Subcontractors want to be present in the discussion of their tenders' evaluation between ESA/ESTEC and the Primes.



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# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

space industry smaller countries

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The principal preconditions to allow successful development of the space industry in smaller member states are:

- The contract type against which offers have to be submitted to ESA shall be the same for all participants
  - prime and at least 1st tier subcontracts -
  in each phase.



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A 1.2 return coefficient target should be set for the small countries to compensate for the charges which always turn to their detriment. ESA is requested to supply statistics on geographical distribution at the time of IPC approval and at programme completion for all the contracts.

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# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

**space industry smaller countries**

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The space industry in the smaller ESA member states is convinced that:

- Together with the expertise of their Universities and Technology Centers it can provide significant contributions to challenging ESA longterm programmes.



ECSL, Noordwijk, 26-4-93

# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

**space industry smaller countries**

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The space industry in the smaller ESA member states is convinced that:

- Through improvement of ESA's procurement policy as suggested above, an active participation in ESA's programmes can be more easily supported by the Governments and Industrial Circles in the smaller ESA member states.



ECSL, Noordwijk, 26-4-93

# NETHERLANDS AGENCY FOR AEROSPACE PROGRAMS

space industry smaller countries

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The space industry in the smaller ESA member states is convinced that:

- The application of the above proposals will tend to reduce the implementation cost of ESA programmes.



ECSL, Noordwijk, 26-4-93

# REPORT ON THE SECOND DUTCH NPOC/ECSL WORKSHOP

*D.S. Vestdijk*

*New Opportunities for Cooperation in European Space Activities,*
*Noordwijk, March 26, 1993.*

# NEW OPPORTUNITIES FOR CO-OPERATION IN EUROPEAN SPACE ACTIVITIES

Report on the Second Dutch NPOC/ECSL Workshop

friday 26 march 1993
by drs. D.S. Vestdijk

# NEW OPPORTUNITIES FOR CO-OPERATION IN EUROPEAN SPACE ACTIVITIES

report on the second Dutch NPOC/ECSL Workshop
friday 26 march 1993

**speaker**

J. Arets, International affairs, ESA
**The Changes within ESA and prospects for increased inter national cooperation with the EC and CIS**

P. Wragg, Science and R&D Directorate General, EC
**The New CEC Policy paper on space activities and relations with the ESA and the CIS countries**

W. Richter, Legal department Deutsche Agentur für Raumfahrt Angelegenheiten, (DARA)
**Germany and the relation with former Eastern European Countries and CIS Countries**

M.R. Jumelet, First assistant DRW/WN, Ministry of Foreign Affairs The Netherlands
**Small Countries' position in ESA and the perspective for their role in the future**

R. Van Konijnenburg, Space Division Netherlands Institute for Aerospace Programs (NVIR)
**Industrial restructuring in Europe: Small Countries' Industries point of view**

T. Beer, Contract department ESA
**ESA and Co-operation with Russia - Experiences of the Agency with the negotiation of contracts**

Discussion/Forum
Conclusion

First Speaker **J. Arets, International Affairs, ESA**

***"The Changes within ESA and prospects for increased international cooperation with the EC and CIS"***

**Introduction**

The changes within ESA that are identified by mr. Arets, regard the political role that ESA has come to play. The forerunner-organisations ESRO and ELDO played no political role whatsoever, they were pure Research and Development (R&D) entities. In 1975, the activities of ESRO and ELDO were merged into ESA and as was indicated at the time, the newly formed body was to be responsible for all European space activities, including the European long term space policy. Since then it has become very difficult for ESA not to be involved in politics as there are always political consequences of its activities.

**ESA introducing new technology to users**

"ESA is and will be a R&D organisation", states mr. Arets, " we have no ambition to be involved in operational activities but we have to take some first step to make sure that the operational phase of new technology is reached". Mr. Arets recalls the example of Eutelsat. At first, the PTT's of all the Member States weren't that enthousiastic for this sort of European co-operation. At the present, Eutelsat is a flourishing entity which is expecting the third generation of Eutel-satellites. In the beginning, ESA had to act as promotor and initiator to overcome the anxiety of European PTT's.

Another new area in which ESA is playing its promotor/initiator role, is that of Remote Sensing. With the decision to launch ERS I, to be followed by ERS II (1994), the Ministerial Council of Grenada (1992) chose for continuity in providing data to a large population of potential users. "We can not just say, 'we have developped this, now you may use it', but we have to make sure it is properly used. Here, ESA is confronted with political aspects, which is an unavoidable evolution in ESA", according to mr. Arets.

**No competition between ESA and EC**

Within the agency it is felt that ESA has become one of the political aspects in the European Arena. Although the agency remains a R&D organistaion, a political umbrella has been put on top of it. "I never had the feeling that there would be competition between ESA and the EC. Where the EC has a broad mandate, ESA has a clear and well-defined mandate. Competition between people; yes, between institutions; no", explains mr. Arets. As there is enough room to co-operate, it would be stupid to compete. ESA's Director General has held formal talks with EC's president and as a consequence the different areas for coordination were identified and subsequently accorded work groups with representatives from both entities. The specific fields are:

1 International Relations;
2 Competitiveness and European industry;
3 Technolgy;
4 Telecommunication;
5 Earth Observation and environment;

The task of the working groups was to identify the possibilities for achieving synergy between the two entities.

**Revision of the autonomy goal**

For years, Europe's main partner in space has been the United States, as can be seen in the fact that the early ESRO, ELDO and ESA activities were all undertaken in co-operation with NASA. Due to the political changes in the eigthies, it has become possible to seek co-

operation with Russia, the other major space super power of the early hours. At both sides of the Atlantic Ocean it has been recognized that the Russian 'Anschluss' with the western space development, means revising the plans. This is one of the reasons that the The Hague plans (1987) of European autonomy (vis à vis the U.S.A.) in space have been revised during the 1992 Grenada meeting. The ministers decided that as a consequence of changing economic (less money) and political (opened doors) circumstances, autonomy from one partner had to be replaced by cooperation with two partners.

**Co-operation with Russia and the former Eastern Bloc**

In achieving the goal of putting European astronauts into space, ESA has until now been working with the Americans on the development of the International Space Station Freedom. At the present, agreements have been signed to put European astronauts on board the Russian Mir Station by which end valuable experience will be gained. Also the possibility of implementing Russian elements into the Freedom plan, is being considered, according to mr. Arets.

Not only has West-Europe a lot to gain in co-operation with the Russians, but one should also consider the postion of the former Russian Satellite States. They are now in a difficult position, not in the latest instance concerning their technical development. ESA has signed agreements with Poland, Hungary and Rumania and has taken an active stand in opening co-operational activities with these countries. Also in this respect, ESA's (political) role is changing.

**Question:** 'You have elaborated on your contacts with Russia, how about contacts with other C.I.S. States?'
**Answer:** "We had a few contacts with the Ukranians but we are doing this as a second priority. The example of Baikunur in Kazachstan is famous, but we leave it to the Russians to deal with Kazachstan. Until now, we have had no reason to mingle ourselves into internal C.I.S. affairs."

Second Speaker **P. Wragg, Science and R&D Directorate General, EC**

***The New CEC Policy paper on space activities and relations with the ESA and the CIS countries***

**Introduction**

"It is a pity for the organiser", says mr. Wragg, " when at the beginning of a boxing match the contestants recognize eachother as friends, take off their gloves and shake hands". Mr. Wragg uses this friendly metaphor to describe the ESA/EC relation and in that respect he agrees with the former speaker.

At the end of 1992, the European Commission has published a policy paper under the title " The European Community and Space, Challences, Opportunities and New Actions". It entails what the Commission is planning to do on existing powers and is certainly not trying to enhance its powers and no political decisions have been taken in the policy paper.

**EC's role as complementary to ESA**

Since 1988 the Community has been involved in space matters, not because great imperial ambitions but because as it concerned a European activity there was the principle of Community involvement. Guidelines had been given on the basis of which EC's role was to develop complementary to ESA. Mr. Wragg identifies three new policy areas in which EC is willing to complement ESA:

1 The changing context since 1988 with regard to the global environmental problems. In order to tackle these properly, the space data have to optimized.
2 Changes in the geo-political situation and the resulting questions concerning security issues led to the necessity to look for a synergy between military and civil space applications.
3 The rise of new space powers (China, India) has created a new situation on the international market.

On the other hand, the development of the EC as an institution has had and will have some consequences for the European space industry. The Maastricht Treaty, whose ratification is the latest test to European integration, will, after it has come to force, upgrade the Community's involvement in environmental and R&D-related matters. Also in its task to end the present Uruguay round in the GATT negotiations, EC's competency may affect space policies, states mr. Wragg.

**The Community objectives in space**

The above mentioned policy paper is essentially an update and extension of earlier policies. It also takes very much account of ESA's view, according to mr. Wragg. Complementary role is sought under the guidance of the principle of subsidiarity and presents the EC in three main forms:

1 EC as a user of space applications;
2 EC as a supporter of facilities;
3 EC as a framework for discussion.

Three important objectives of the EC in matters of space policy are identified:
1 Earth observation;
2 Appropriate regulatory conditions;
3 External relations and trade issues.

**Types of action**

Community mechanisms are to be deployed for concertation with Member States and other European organisations to encourage a common approach. Another form of action which can be activated by the EG is that of its legislative powers. In this respect, actions can be taken to establish the appropriate legal conditions in which space activities can take place. Mr. Wragg mentions the example of intellectual property rights. In order to accomodate the increased consultation with user groups, the EC has proposed to establish an Ad Hoc Consultative Committee.

**Question**

'If the Maastricht Treaty is not ratified, what will be the consequences for the EC's activities in the space policy field?'

**Answer**

'I'd rather not think of that, but my opinion is that on the matter of space policy it won't affect our position. There is only one *caveat* I would like to offer; if Maastricht fails to get ratified, this will have a knock-on effect on the whole European integration and we would be forced to reasses the whole nature of building Europe, including ESA. My conclusion would be that non-ratification would not be a problem for the Community as an institute, but the more for the member States.

Third Speaker **W. Richter, Legal department Deutsche Agentur für Raumfahrt Angelegenheiten, (DARA)**

***Germany and the relation with former Eastern European Countries and CIS Countries***

**Introduction**

January first, 1993, DARA and its Russian counterpart signed an agreement on cooperation which opened a new dimension for Russian-German co-operation. Already in 1986, the Soviet Union and West Germany signed an agreement covering co-operation in the fields of atomic energy, agriculture, health and space. Before the German unification, this treaty had only a small action radius and was to be regarded as a framework set up. In the case of the former German Democratic Republic, co-operation with the Soviet Union can be traced back to 1967, when the GDR became member of Intersputnik. The main purpose of this entity was to open the possibilities for the Soviet Satellite States to join the Soviet Union's national space activities. In 1978, the GDR had the opportunity to put one of its nationals as an astronaut on board the MIR station.

**After the German unification**

October 13, 1990, the German Democratic Republic joined the Federal Republic of Germany and the latter state in fact continued its existence wherefore no new subject of international law was created. The Unification Treaty, art. XII, provides for the fate of the treaties the former GDR was member to. On a case to case basis, and in consultation with the Contracting Parties, it had to be determined if the FDR would become Party to the said treaties. As a consequence, the FDR became member of Intersputnik and is now the only state that is both Party to the Intersputnik as the Intelsat agreement. Since then, the Russian-German co-operation in space has expanded, and another German astronaut had the chance to visit the Mir station. Also 14 experiments in the field of medicine have been conducted as a joint venture.

**Future projects**

At the present, DARA and the Russian Academy for Sciences are engaged in the 1994 Mars project which will be the mile-
stone of the long term study of the Martian surface, atmosphere and inner structure. In 1994, an orbiter and two small penetrators will reach Mars, followed in 1996 by an orbiter which contains a descend-module and a Mars rover. According to mr. Richter, Germany is involved in all technical aspects of the Mars mission. As an example he mentions the camera and stereo scanner that will be used to record Martian landscapes. Already by the GDR 250 million DM have been spent on the development of these techniques.

Another project agreement which has recently been concluded concerns a joint operation of the Russian, German and Japanese Space agencies. A payload will be integrated in the Salyut reentry capsule. This will be launched from Japanese territory in august 1994, operate for 5 days and after that it will land with parachutes on Australian territory.

The main motive for all these projects, apart from the obvious scientific reasons, is to prevent a brain drain from Russia which would have unforeseeable consequences.

**Question**

'Have the Australians agreed to the use of their territory for the experiment you mentioned?'

**Answer**

' We are in the process of concluding a Memorandum of Understanding. The Australians have not accepted yet, but we are sure they will. Matters concerning right of landing and indemnification are being arranged for'.

Fourth Speaker **M.R. Jumelet, First assistant DRW/WN, Ministry of Foreign Affairs The Netherlands**

***Small Countries' position in ESA and the perspective for their role in the future***

**Introduction**

Mr. Jumelet starts his talk by explaining that he only recently began his new job and has to start from scratch. He was only some days in office when the request reached him to give a presentation for the NPOC/ECSL workshop, which title was formulated by the organizing committee.

**Definition of Small, Smaller**

According to mr. Jumelet it is evident one can speak of small countries. But when can one do this, what are the criteria to be applied? Looking at European space activities, the financial contributions have to be taken into account. The fact that over 50% of the European space budget originates from Germany and France has to be faced by those countries that can only afford a smaller portion. Mr. Jumelet states that the Netherlands is not a small country, but a smaller country when the financial contribution is taken as an indication.

The speaker puts forward that the smaller countries in Europe do not form a coalition within ESA.

**Important aspects for smaller countries**

Given their financial possibilities, the smaller countries have a preference for projects in which they can identify themselves. Mr. Jumelet gives the example of Hermes' robotic arm. Smaller countries also have a preference for user programmes as these can be defended more easily against budget cuts as space budgets are easy targets.

**One vote each**

Smaller countries must be aware of the danger that Germany and France could start doing business on their own by concluding bilateral agreements. The formation of blocs within ESA would endanger the democratic process which is provided for by the one vote each decision making. In controversial cases, the smaller countries are in a position to play a mediating role. Above that, mr. Jumelet has the feeling that the smaller countries' representatives in ESA's programme boards have more eye for practical aspects. An important example mr. Jumelet gives, is that of the abuse of space for military purposes. Rumors have been going on that ESA or other European Space entities could be engaging themselves in military activities. The smaller countries would have to take a special position on this issue that reflects certain ambitions of bigger countries, according to mr. Jumelet.

**Leading role in earth observation**

Mr. Jumelet ends his talk by restating that the financial less able Member States are smaller but certainly not small or without influence or task within ESA. The location of ESTEC within the territory of the Netherlands has a tremendous effect on the national technical society, specially the technical professional chair at the technical University in Delft. Mr. Jumelet hopes that the Netherlands will be able to play a leading role in earth observation.

Fifth Speaker **R. Van Konijnenburg, Space Division Netherlands Institute for Aerospace Programs (NVIR)**

***Industrial restructuring in Europe: Small Countries' Industries point of view***

**Introduction**

Mr. van Konijneburg starts his presentation by explaining that the NVIR is not part of the Industry but a national agency, established after the Second World war to stimulate Dutch aerospace industry. 'However, we listen carefully to the industry, and I hope I'll be able to represent some of their views'. Mr. van Konijnenburg mentions the position paper on European Space industry by the smaller countries.

**Rationale for investment in space**

A rather trivial but obvious remark is that smaller countries are willing to accept challenges of ESA, states mr. van Konijnburg. In his view, ESA is a vehicle for opening new markets and developing new techhnology such as Eutelsat, Eumetsat and military studies in the Western European Union (WEU) -framework.

Why are States participating in ESA? several reasons can be given:

1 States are interesested in applications of Space (micro-gravity, remote sensing, etc.);
2 It gives States the possibility to let their industry play a role on the international market;
3 Space technology is a driver for other technological development (spin-off).

**The industrial/geographical return important for smaller countries**

"Smaller Countries' industries want to expose themselves to a truly competitional environment within the intention to produce profitable business on ESA- and other markets", says mr. van Konijnenburg. In this respect, the concept of industrial or geographical return (retour juste) is quite important for smaller countries' industries. This return coefficient should be higher for smaller countries, a principle already accepted.

The difficulty rests in the fact that every country likes to obtain a specialisation for its national industry and this means reducing competition to some extent. At the same time, a sort of threshold should be thrown up for newcomers in the market. States should not allow new industries to appear on the market who have not proven their ability. Mr. van Konijnenburg thinks this is quite hard in practice. Should ESA issue diploma's? What kind of criteria should one apply?

**Preconditions, Prime- and subcontractors' relation**

Companies applying for prime contractorship for an ESA-project should not compete with potential subcontractors. Mr. van Konijnenburg feels there is quite some tension on this level. Going further into specifics, mr. van Konijnenburg is of the opinion that potential subcontractors (mostly smaller countries' industries) should be involved in phase A en B studies, to be able to assess technical and financial risks. Also the speaker would like to see that the sub-contractors be present in the discussion of their tenders' evaluation between ESA/ESTEC and the prime contractor. In this manner, ESA would have to look after the interest of the smaller industries. Above that, contracts against which offers have to be submitted to ESA should be the same for all participants.

In return, the smaller countries' expertise within their agencies, universities and technology centers could provide a significant contribution in challenging ESA's Longterm programmes.

**Suggestions for the future**

The space industries in the smaller countries are of the opinion that change in ESA's

procurement policy, as described above, would be an improvement. It may make programmes somewhat more expensive but one should avoid monopoly in certain type of programme. "I have the feeling that that is not the best way to go ahead", concludes mr. van Konijnenburg.

**Comments**
Comments to the presentation emphasize that space is not fit to be subject to free market principles and that new players in the field must be trained well.

Sixth Speaker **T. Beer, Contract department ESA**

***ESA and Co-operation with Russia - Experiences of the Agency with the negotiation of contracts***

**Introduction**

Mr. Beer apologizes himself for his late arrival and expresses his regrets that he was not able to participate in the foregoing, as he just that hour flewein from a trip to Russia.
Mr. Beer will not dwell too much on history as this has been done in the previous presentations. He has spent one week in Russia to conclude a contract between Energya and ESA on the Mir station. The negotiations proved to be quite difficult at first. The parties are still far from being in line on issues such as price. Energya is one of the complicated cases, explains mr. Beer: this company has 30.000 employees and has been spoiled a little in the past. Yet, Mr. Beer states that the situation is not as bad as is reported in the pares.

**How ESA got into Russia**

During the council meeting in 1991 in Munich it was decided that ESA should try to establish a system of contracts with Russia on an equal treatment basis. The Russian partners had to be persuaded to follow basisc rules in the negotiating process. At the same time, ESA Member States' had to give their approval as the principle of retour juste would become endangered by contracts to the Eastern partner, not a member of ESA. "We placed the first contract after receiving a first offer. We taught the Russians to present their offer in the same way the Member States are used to. At first the outlook was not convincing, specially for linguistic reasons, but finally they made it", says mr. Beer. Parties were able to go ahead with final contract negotiations.

**Financial matters and improving the negotiating techniques**

The payments between ESA and Energya will be made in ECU's. It was felt that every other currency would be too unreliable. Also, it was agreed upon that all payments would go via Moscow and that the proper taxes would have to be paid. "We had to be very firm on this point", says mr. Beer.

Another point of attention was to establish a good sub-contractor system in Russia. These sub-contractors would be paid directly by ESA.

**Legal matters and the final succes**

In the contract it was decided that the law applicable to it would be the Swedish law as both the Russians and ESA are familiar with the Swedish system. Arbritation procedures would take place in Stockholm. Mr. Beer proudly states that in thirty years not a single ESRO/ELDO/ESA contract has gone to arbitration and he would like to stick to this situation. On the matter of liability, the discussion still has to be undertaken. "This should give a space lawyer a brilliant eye", says mr. Beer. The ESA negotiators introduced interparty waivers which was not welcomed by the Russians who were not impressed by the NASA/ESA experience in this field.

"In the end the final output was much better then expected. We not only taught the Russians a mutual language on technical aspects, but also on legal matters. In Toulouse they were able to give a high level presentation and had some quite able persons attending to defend the project.", tells mr. Beer, "for us it was a positive experience, and it gave us the satisfaction that our initial feeling was right to embark on this project".

**Future possibilities, Hermeski!**

It might be possible to build a joint space transportation system to be implemented in the Space Station project. Mr. Beer feels a little disappointed that the Hermes-project has been shelved in the refrigerator. He proposes to reopen the project under the title Hermeski.

**Questions**
'How did the Russians react to the intellectual property right clauses?'
**Answer** "Those existing apply to Europe only (patents as we know them). In this case, all questions relating to intellectual property rights are dealt with within the contract. A reference paper shall be drafted in the future".

'When arbitration should take place, which rules would apply?'
**Answer** "The place of arbitration shall be Stockholm but the rules shall be those of the International Chamber of Commerce".

'Is it possible for Member States' industries to get copies of these contracts?'
**answer** " Everyone must know what is patented and where it is patented. During the final presentation in Toulouse, some of the Member States' industry was invited. This approach was welcomed by all parties.

# Discussion/ Forum

**Non exchange of funds co-operation and technology transfer**

Mr. von der Dunk starts the discussion by posing a question to mr. Arets on the long term goal of ESA's relation to the CIS/Russia.

Mr. Arets thinks the Russians are in it for the money. When the CIS was formed there was a feeling that space was not important but in the mean time the Russians have found out they have something to offer. The ESA long-run policy in this respect is to go to a non exchange of funds basis co-operation.

Mr. Beer adds that he hopes we will make it to that date, but untill this situation is reached the co-operation is a one way street, i.e. the West is pumping money in it.

Mr. Richter is of the opinion that it is quite normal that the Russians want money. At DARA they have had the experience that the Russians not only want money but also would like to be treated equal.

Mr. Beer:" this sounds good, but we must not forget we went to Russia for cost saving arguments too. Cost factors play an important role on the ESA side too, and equal treatment has to be subject to financial matters".

The question is asked whether there is any restriction to technology transfer to the former Soviet Union. It is felt that a certain lift on existing restrictions is necessary in order to fill the Russians in on the present technical status of several projects on which co-operation is sought. Specific rules however do apply for transferring technology to non Member States. For every 'transfer' approval has to be sought from a special committee.

Mr. Tuinders raises the question whether dealing with the Russians as has been described above is within the scope of the ESA Convention.

Mr. van Konijnenburg is of the opinion that ESA is buying technology that is not present in Europe, and implementing this technology in European application programmes.

Mr. Beer thinks we should get away from the one way street situation. Russia is considering all kinds of status-possibilities. One has to wait for the dust to rise. At any rate, mr. Beer feels that we should not treat them as any non Member State, whatever the ESA Convention is saying on this matter.

**And what about the Americans?**

Mr. Samson of Fokker Space Division poses the question whether the ESA and NASA are rolling over the Red Square in order to get the best contract.

Mr. Arets states that there is some coordination, specially on the arrival of Russian launchers on the international market. There have been discussions between ESA and NASA but not in full dimension. The participation of CIS in the Space Station project is one hypothesis which is being studied.

**Back to EC-ESA relations**

Mr. van der Pol puts the question to the EC representative what EC's policy will be on the principle of geographical return.

Mr. Wragg is of the opinion that while the EC is extending its influence, it is not extending its competence. On the matter of geographical return, mr. Wragg says: "Just retour put us where we are today" but "the Commission would not be the Commission if it would not keep an eye on ongoing events. We have to look for an effective industrial structure". The path that is envisaged is that of the classical technology pushed to the demand pulled market. In the grey zone between these regimes, every sector is entitled to develop its own rules. Satellite cmmunication at the present is considered mature enough to be exposed to free market mechanisms, where Earth observation is certainly not.

In addition, mr. Wragg states that the new EC commissioner on technical and R&D

matters is more interested in Space than any of his predecessors.

## Conclusion

Acting Chairman von der Dunk summarizes todays session.
" As long as boxers do not fight, you don't need rules to keep them apart. But the questions remains, 'why did the boxers not fight?'". Mr. Von der Dunk feels the reason for this is that money makes the world go round. The possible competition between ESA and EC has changed into a complemtary approach of the EC because Europe cannot afford (in the political and economical sense) at this moment to have two major institutions wrestling on the streets of Brussels and Paris. As both the Russians and ESA are 'in it for the money', co-operation will crystallize in the near future.

Mr. von der Dunk ends the session by stating that "the financial development is unsure and legally there is still a lot to be done".

## PUBLICATIONS OF THE EUROPEAN CENTRE FOR SPACE LAW

**The following documents are available upon request from the European Center for Space Law:**

- 1.- *ECSL Space Law and Policy Summer Course*, Basic Materials, Martinus Nijhoff Publishers, 1993, 185 French Francs.

- 2.- *Space Law Teaching in Europe*, Martinus Nijhoff, 1993, free.

- 3.- Emmanuel Ducasse, *L'Europe des Télécommunications par satellite: entre libéralisation et coopération*, étude réalisée avec le concours de l'ECSL et sous la direction de Madame Simone Courteix, 1993, free.

- 4.- *The Implications of the CEC Green Paper on Satellite Communications in Europe*, Proceedings of a workshop organised by ECSL/Dutch NPOC in ESTEC, The Netherlands, September 1991, free.

- 5.- *Intellectual Property Rights in Outer Space*, Proceedings of a workshop organised by ECSL/Spanish Centre for Space Law, Madrid Diplomatic School, May 1993, free.

- 6.- *Changing Europe in Space*, Proceedings of a workshop organised by the Dutch ECSL NPOC, ESTEC, March 1993.

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