N° 8 – December 1991

ECSL News

Bulletin of the European Centre for Space Law – Published under the auspices of the European Space Agency

Le mot du Président

ECSL s'embarque dans une nouvelle phase

Les deux ans de travail et de réalisations concrètes qui ont précédé l'Assemblée Générale de l'ECSL ont permis à cette réunion de se doter d'un plan d'action ambitieux pour la prochaine période 1991-1993. Les idées des membres sur la mise en oeuvre du plan biannuel seront chaleureusement accueillies.

Un point que nous voudrions soulever tout particulièrement est celui du développement du nombre et du rôle des Points nationaux de contact (NPOC) dans tous les pays ECSL – un aspect essentiel pour une croissance à la fois soutenue et équilibrée.

Les progrès qui peuvent être faits dans cette direction s'expriment dans la rapidité avec laquelle certains NPOC, en collaboration avec ECSL-Paris, ont déjà organisé des manifestations. L'atelier de septembre du NPOC néerlandais sur le Livre vert de la Commission européenne concernant les télécommunications par satellite a été très suivi et a tiré profit du succès du NPOC allemand en organisant l'atelier de février sur les aspects juridiques des vols habités. Le NPOC britannique est en train de préparer un atelier sur les bases du droit des télécommunications par satellite, pendant que le NPOC italien prendra la tête de l'organisation du premier cours d'été à Messine.

En saluant le travail accompli par les NPOC dans leurs pays respectifs et, bien évidemment, au niveau européen, nous encourageons la multiplication des efforts des membres par le biais de leurs NPOC et dans le cadre des activités générales d'ECSL. Encore une fois, ECSL c'est votre *Centre!*

G. Lafferranderie
Président de l'ECSL

In this issue

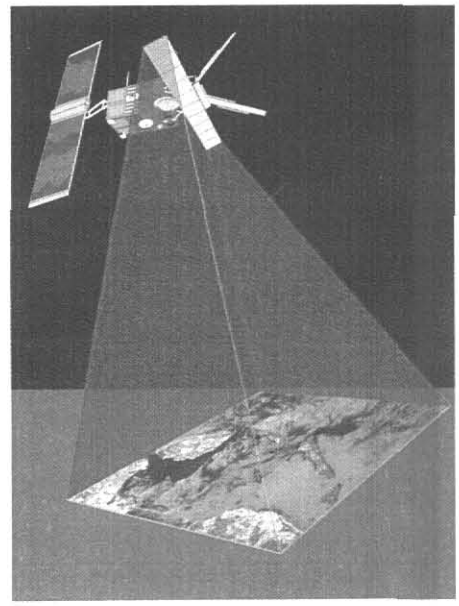
European Commercial Space : an Overview

Fifteen years ago, there were no private space operators in Europe. Comsat Corporation, established by US statute in 1962 to serve what became Intelsat, was indeed the only major commercial operator anywhere.

Today European companies operate in all the application sectors of space endeavour, even if they do so at different levels of significance.

These main actors can be found in two basic roles. Those in the first, own and/or operate space hardware themselves; the prime purpose of those in the second is to market services or products connected with hardware still belonging to a government or international organisation.

1) The most prominent example of the first category is Arianespace (AE). This unquoted company was established, with the blessing of the ESA Council, on 26 March 1980 as a societé anonyme under French law. Its authorised capital is FF270 million. 36 European aerospace, electronics and banking concerns make up AE's shareholders, with French and German concerns together accounting for nearly 80% of the shareholding.



While AE's corporate structure as a societé anonyme is fairly unremarkable, its basic manner of operation is perhaps unique legally. This is because AE produces (sometimes with adaptations) launcher technology already developed by an international organisation, ESA, and uses that organisation's facilities for launch operations, together with the range services of France's Centre national d'Etudes spatiales (CNES).

In the agreements with ESA governing this relationship, ESA reserves certain rights regarding access to launches, since Ariane has been developed as a public European asset. In addition, conditions are set for AE to operate production facilities at the company's own cost and pay fees for use of such range services as radar and telemetry. Within this framework AE then markets its vehicles' services on a fully commercial basis and must indemnify France (as launching State) for any third-party damage up to a ceiling negociated in 1980 in light of available knowledge. The company has had 40 launches so far, of which three were not successful. On a 1990 turnover of FF4 billion it had a profit of FF 135.4 million.

Turning to telecommunications, ASTRA and BSkyB are also hardware owners, but, unlike AE, procure their satellites commercially worldwide and of course face the issues concerned with broadcasting laws (see M. Pichler's article on ASTRA which covers theses aspects).

2) In the second category, one finds Spot Image, Eurimage and Intospace.

Spot Image is a French-based company with shareholders from France, Belgium, Italy and Sweden. It was set up in Toulouse in 1982 for worldwide distribution of Earth resources data from the French

SPOT satellite series. As also in the case of Arianespace, CNES has a significant shareholding in Spot Image (34.468%), reflecting French policy to engage actively in commercialisation efforts where public resources have been instrumental in developing space technology. (A further example of this policy is Argos CLS S.A., which relies on CNES facilities to provide location and data-collection services). Spot Image started by selling data and images, and now also markets advanced products, up-to-date geographical information and related services. Among these services are 'turn-key' projects which draw upon the resources of the company's partners in providing the customer with cartographical and other added-value products (e.g. for agricultural and geological purposes). Original data comes via two primary European stations (Toulouse and Kiruna), with a world network of 12 other direct receiving stations governed by contracts negotiated by Spot Image under licence from CNES as the space segment proprietor and operator. 1990 turnover was FF 165 million.

Eurimage was first incorporated under UK law, but was reincorporated in 1989 under Italian law after a change in partners. The present partners are Telespazio (Italy), Dornier (Germany), SSC Satellitbild (Sweden) and NRSC Ltd. (UK) in equal shares. It mainly sells Landsat, NOAA and MOS data, together with geocoded and image-map products in Europe, North Africa and the Middle East. Alongside Spot Image and Radarsat International, Eurimage is now preparing to market ERS-1 data worldwide. For data reception, Eurimage relies upon ESRIN's facilities pursuant to a contract with ESA.

Both Spot Image and Eurimage, as sellers of information have a central interest in adaptations of copyright law and the use of other means for protection of space-derived data. These aspects will be addressed in a forthcoming issue of *ECSL News*.

Lastly, ***Intospace GmbH***, a European company incorporated in 1985 under German law with offices in Hannover, markets services in connection with microgravity flights, both on Spacelab and on sounding rockets. The era of the International Space Station will see a substantial growth in the potential market Intospace hopes to serve.

As to future market entrants, one can foresee a vigorous private market developing within the next few years for VSat, CD-quality radio and land-mobile services, with some companies most likely owning their own satellites. The emergence of such a market must, however, await substantial deregulation measures via the EC, and, for direct CD-quality radio services, also appropriate action within the framework of the World Administrative Radio Conference.

K. Madders

Private Satellite Broadcasting in Europe

Private satellite projects were initiated in Europe by SES in the tiny Grand Duchy of Luxembourg in 1985. A year later, the BSB direct broadcast satellite (DBS) project was underway in the UK. Six years later, observers must be asking themselves why the Astra project has become such a success while the British DBS project has all but disappeared. Part of the answer of course lies in Luxembourg's liberal approach, which must be fostered by the European Community if new projects are to emulate Astra's success.

Liberal Franchise

Luxembourg in effect broke the PTTs' otherwise solid satellite monopoly in Europe by licensing Société Européenne des Satellites (SES) as a private operator. The franchise created regulatory conditions which allowed SES the commercial freedom to run its business in the most economic way. SES chose a medium-powered satellite over alternative high-powered DBS technology in order to obtain a greater number of channels based on tested technology. By 1988 the company had established its entire operation and launched its first 'bird' for around $ 240 million. Since then, the project has grown from a very chancy proposition to a major market leader with the second satellite already in orbit and two more on the drawing board.

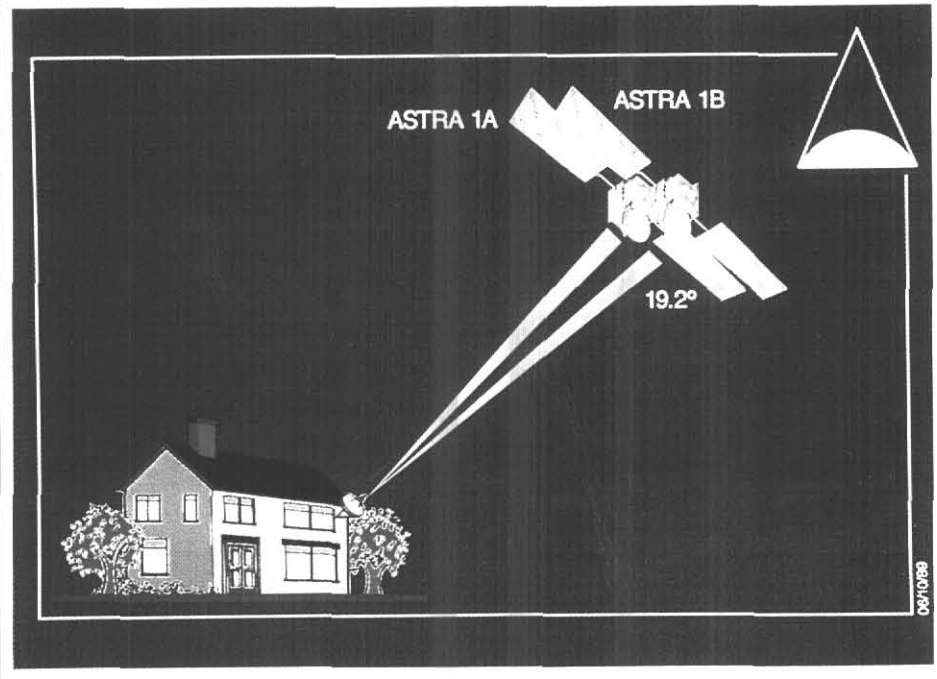
The choice of transmission standard was a second key to success. In 1986, the European Commission ruled in favour of the new MAC standard for DBS use, but left Astra's medium-powered technology unaffected. With no MAC reception equipment on the market, commercial broadcasters had no choice but to opt for a standard tailored to the availability of dishes and thus for Astra.

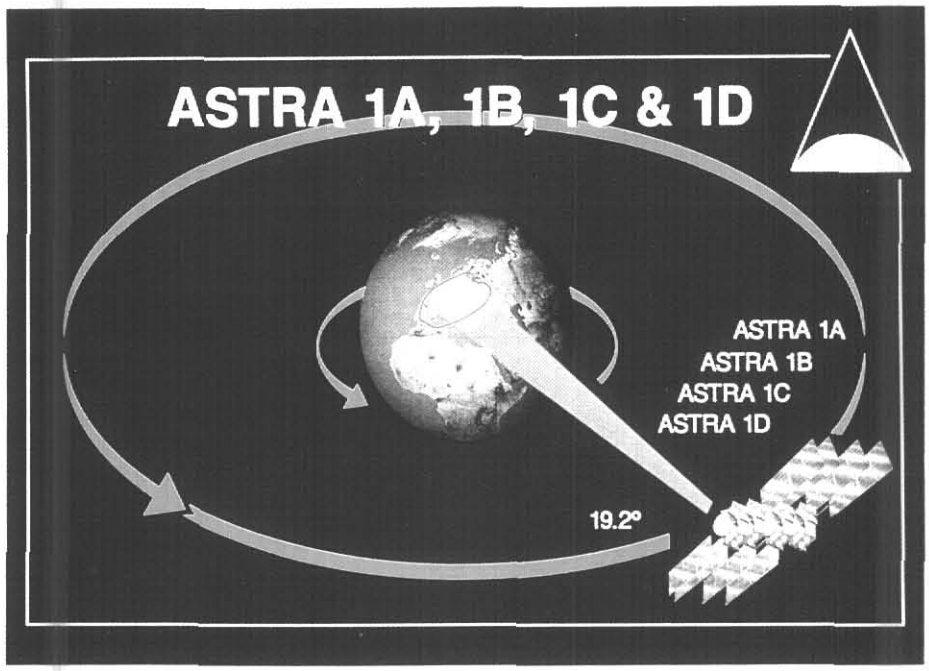
Going international

To capitalise on the inherent advantages of satellite broadcasting in a multi-country footprint, the operator has to overcome the obstacles to cross-border operations, principally the European PTTs' monopoly over satellite services. Eutelsat posed the main hurdle by virtue of the position of its PTT members as regulators *and* operators. This made it a formidable opponent of the Luxembourg government negotiators who had to struggle hard to win the day for Astra.

Liberalisation of satellite dishes

In 1988 Astra started beaming direct-to-home, challenging the broadcasting sovereignties of the receiving countries with no guarantee that direct reception or cable retransmission would be tolerated on the ground. The 'invaded' governments reacted by restricting the ownership of the vital receiving dishes. Public pressure and above all the 'Autronic' Judgement of the European





Astra's success has shown the way for future development, which the Community is now clearly seeking to encourage. The 1990 Green Paper on the liberalisation of all satellite communications proposes further major changes:

- Free, unrestricted access to satellite capacity
- Full commercial freedom for operators
- Full liberalisation for receiver and transmitter dishes
- Harmonisation of the rules governing the content, carriage, and type of satellite services across the Community.

Court of Human Rights led to the abolition of dish restrictions. Today, of the 26 million households receiving Astra programmes in Europe, over 4 million do so with their own receivers bolted to their houses.

Creation of European Rules

Helping things along was the quiet promotion of the 1989 EC Broadcasting Directive and the European Convention for Transfrontier Television. Both documents provide the legal framework for satellite TV by establishing the principle that the only applicable law is that of the originating country. In this way, once the legality of he programme is accepted in the sending country, its legal reception is guaranteed anywhere in Europe.

Following this principle, the EC Commission published a draft directive in July 1991 on copyright aspects of cable and satellite broadcasting. Again, the copyright laws of the sending country are to be the only laws to govern each transmission. This locks up the security question surrounding protected works broadcast to several countries and allows the broadcaster free choice of programme material, so avoiding having to comb through 12 different copyright texts before going on the air.

The one dark cloud on Astra's horizon is the threat of the EC D2-MAC directive forcing all satellites to broadcast in a standard which would make all the existing reception equipment obsolete. One hopes, in any event, that EC directives will follow the spirit of liberalisation that lies at the heart of the Treaty of Rome. The SES story is living proof that liberalisation is the sine qua non of further satellite development, which is certain to expand well beyond the realms of television and radio as the communications agenda unfolds into the 21st century.

M. Pichler

European Centre for Space Law Two-Year Plan

This 1991-1993 plan outlines the general direction ECSL will take until the 1993 General Meeting. The plan is divided according to eight classes of action.

Section 1. Research Activities
The basic research philosophy is laid down in the ECSL Biennial Report 1989-1991, Part 5.

The philosophy is founded on a tiered approach with major events conducted by ECSL Paris planned to occur with an average regularity of a maximum of three projects over the two-year term.

Other, less time consuming, projects where ECSL Paris has an initiating role but which are organised in cooperation with others will average some two events a year. These are considered medium-scale events.

In the final tier, ECSL events are initiated by the Members, especially through the NPOCs, and only limited administrative and other support is demanded from ECSL Paris. *The preferred mode for* NPOC-organised events is on the basis of a joint event involving at least one other NPOC, with cross-sector and discipline participation.

In terms of scheduling and allocating priorities among resources, preference will be given by ECSL to supporting events that can eventually lead to law-making proposals rather than to events whose sole aim is to impart information.

Research Topics
The first research item for the 1991-93 term is:

'The Protection of Intellectual Property in Outer Space'.

Three other themes are also candidates for a major ECSL-conducted workshop in this period:

'Application of the Outer Space Treaties in Europe'

'Legal Aspects of Transfer of Technology in Space Activities'

'Legal and Institutional Aspects of European Space Integration'

It should be understood that these workshops and NPOC-organised events should generate published proceedings/ outcomes and may involve smaller follow-on or preparatory meetings. Occasional papers and outcomes that are not of a length to merit separate publication can be published in the ECSL Collected Papers (see below).

In addition to ECSL-Paris' support, assistance may be provided by sponsors and interested institutions, while part of the ECSL Scholarships Fund should be devoted to encouraging pieces of short term research that are specifically targeted at aspects of a research item's subjectmatter.

Section 2. Practitioner Aspects
ECSL will be making special efforts to encourage activities related to space business law. A framework needs to be created for practitioners to organise workshops on critical issues of practice and to stimulate the exchange of information. An inventory of such issues will be a useful starting point for this activity. Inclusion of model contracts in ESALEX is under consideration by the Board.

Section 3. Publications
The strategy here is fivefold:
- To provide news on ECSL activities to members
- To stimulate space-law teaching in Europe
- *To provide data on Europe's space-*law sectors
- To provide an outlet for products of ECSL research
- To make basic legal/bibliographical data available to members (noting that ESALEX is the major tool for this)

These objectives will be pursued through the following publications as a continuation of the approach developed in 1989-1991:
- ECSL NEWS will have an average rate of publication of four issues per year, even though the baseline of two is retained.
- ECSL will update the 'Space Law Teaching' Booklet every two years. First update: 1992. The next booklet-series publication on space-law sectors will be on 'National Space Agencies in Europe'.
- The 'Inventory of Space Law Materials available at ESA Headquarters' will be updated annually.

In taking the booklet-series further, possible new subjects are:
- 'Lawyers in The European Space Industry': A directory on the structure and activities of legal departments in European bodies and undertakings active in space projects, including opportunities for internships.
- 'Basic Texts of Eastern European Space Activities'. This is dependent on material and cooperation from Eastern European countries.
- 'Consultancies and other Services for Space Industry in Europe'- An inventory.

Going beyond the 1989-1991 pattern of publications, a new ECSL series will be the ECSL Collected Papers, which will mainly gather material from the workshops and other events in which ECSL plays a role. Its frequency of publication will be dictated by the amount of material received. It is intended to be a quality academic publication and for this reason peer review will be exercised for acceptance of papers.

Section 4. ECSL's Structural Development
Since the adoption of the ECSL Charter at the Inaugural Meeting in May 1989, the Centre's activities have gained pace through close cooperation between the ECSL Paris Office and ECSL Board Members.

Both limbs of ECSL have also given considerable encouragement to the formation of NPOCs. NPOCs so far exist in Belgium, France, Germany, Italy, The Netherlands, Spain, Sweden and the UK. Originally conceived as an intermediary between individual ECSL Members and the Paris Secretariat, the NPOCs are already assuming a far more important role. They are becoming organisations which, while supporting ECSL' aims and activities, also pursue their own programmes. As such they contribute a healthy balance to Paris-led activity and provide a good means of effective coordination.

Along with extending and intensifying NPOC activity, it is hoped over the next two years to enlist involvement by a wider number of ECSL Members. In addition to the practitioners' framework foreseen under the last section, research institutes may, for example, wish to ap*point an individual as liaison officer for a* particular project or more generally for ECSL operations.

Section 5. ESALEX
In 1991-1993 three actions will be central for ESALEX's development:
1. Loading of new documents into ESALEX in order to have a full set of documentation on current space law.
2. Loading of the Leiden, Cologne and other national databases into ESALEX, and establishing standard techniques for space law databases in Europe (in cooperation with the Cologne Institute and ESRIN).
3. Training members on the use of ESALEX. Training will be given through workshops (once a year) in

Paris and through training organised at greater regularity by the NPOCs. Such training will also emphasise ESALEX's utility as an electronic mail and message board service (via ESA-IRS' QUESTMAIL facility).

Section 6. Educational Programme

1. *ECSL Summer Course Programme*. This course is considered by the Board to be a potential useful extension of ECSL's activity. The course should be at advanced level and last three weeks.
2. Support for *ERASMUS* and eventually *TEMPUS* Networks in order to promote space law related exchange programmes between universities.
3. Encouraging a plan for *internships* of students in relevant organisations and firms.
4. Development of a model curriculum for university space law courses.

Section 7. Funding and Support Policy

Throughout Europe there is a broad interest in space law matters and in research conducted in this area.

So far funding for ECSL activities has come from Members on an ad hoc basis. Financial support for most activities has come primarily from ESA. The ECSL fund, which inter alia provides scholarships, should be supported through a broader scheme allowing for greater financial and resource involvement on behalf of national space agencies, industry, law firms and other entities that have an interest in ECSL activities generally, or in particular projects.

Discussions to develop such a scheme will be held in the near future.

Section 8. External Relations

An exchange of texts on space law between ECSL and the Moscow Institute of State Law of the USSR Academy of Sciences is presently under discussion. Similar exchanges can also be negotiated with other institutes elsewhere in Eastern Europe and outside Europe, such as the Mc Gill Institute for Air and Space Law, but always on the same basis – sufficient added value to ECSL. Otherwise, it is proposed to maintain the cautious policy of the previous two years in forming external relations. Only after ECSL has been sufficiently consolidated in Europe will a change in this policy be justified.

Resolution on the European Long-Term Space Plan 1992 – 2005 and Programmes (adopted on 20 November 1991)

EXTRACTS

The Council meeting at ministerial level

RECALLING the mission of the Agency to formulate and implement a long-term European space policy as part of the European drive to develop high technology and to further space activities for the benefit of science and applications,

CONSCIOUS of the need to ensure synergy between the Agency and European Communities and between the Agency and other European organisations concerned while taking due account of their respective memberships and areas of responsibility,

RECOGNISING that exploitation of the elements developed under the programmes making up the in-orbit infrastructure will give Europe mastery of the basic technologies for crewed spaceflight and provide exceptional resources with a view to multidisciplinary scientific use,

NOTING that the implementation of the Agency's Earth observation programmes contributes to the formulation of a European long-term policy in this field,

CHAPTER I (Objectives)

1. REAFFIRMS in their entirety the agreed objectives referred to in Chapter I of Resolution ESA/C-M/LXXX/Res. 1 (Final) of 10 November 1987... stressing that those objectives were designed to further the principles contained in the Convention and represented a comprehensive undertaking touching on all fields of space activity pursued by the Agency.

3. RECOGNISES the need to intensify international cooperation, both among the Member States and with other European and non-European partners, with a view to achieving fully the objectives of the European long-term space plan with the best possible relationship between the cost and effectiveness requirements, while optimising the use of European space resources available within the Agency and the Member States.

CHAPTER II (European long-term space plan 1992-2005)

2. ACCEPTS the European long-term space plan 1992-2005 as a strategic framework for the Agency's planning, activities and programmes, and RECOGNISES that the Director General's proposal... provides the guidance needed for satisfactory implementation of this plan...

3. CONSIDERING the strategic importance for Europe of the above-mentioned plan and the duration of the corresponding commitments, AGREES in principle to meet each year at ministerial level, on the next occasion before the end of 1992; and INTENDS, at those meeting, to evaluate the progress made by the programmes under way, to consider the impact on these programmes of changes in the world political context, to evaluate the possibilities for widened international cooperation with other space powers, in the first instance in Europe, and to consider the future direction to be taken by the programmes.

CHAPTER III (In-orbit infrastructure programmes)

Note: These programmes are Columbus, Hermes, Ariane-5 and the Data Relay Satellite

1. AGREES that... the Agency shall carry out these programmes in 1992 within an overall budgetary envelope reduced by 120 MAU... to give revised contributions totalling 2307 MAU (at 1990 economic conditions)...

6. INVITES the Director General to improve, in time for the Council meeting at ministerial level in late 1992, the estimation of the cost of the validation and exploitation of the in-orbit infrastructure programmes and submit proposals for the sharing of these costs among the Member States.

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CHAPTER IV
(Evaluation and confirmation of the in-orbit infrastructure and Earth observation programmes)

1. INVITES the Director General to submit a report, in time for the Council meeting at ministerial level in late 1992, on the situation of the in-orbit infrastructure and Earth observation programmes being carried out within the Agency.

STRESSES its intention to set up, at a subsequent meeting at delegate level, a Working Group to consider on an ad hoc basis the international aspects of such cooperation and to report to Council so that the Director General can take its findings into account in his report . . .

3. INVITES the States participating in the in-orbit infrastructure and Earth observation programmes, in the light of the report and of any adjustment proposals as referred to above, to take such decisions as are necessary to permit their continuation, in accordance with the relevant provisions to Annex III to the Convention; and AGREES that the decisions in question shall be taken at the meeting of Council at ministerial level due to be held in late 1992.

CHAPTER V
(Industrial policy)

2. REAFFIRMS the objective, when distributing contracts, of achieving a return coefficient as near as possible to *the ideal value of 1 for all countries* and that this must be achieved on the basis of all the Agency's programmes as provided for in Article IV paragraph 3 of Annex V to the Convention.

6. ACCEPTS that special measures be applied in favour of Italy, in accordance with the procedures in force, for an amount corresponding to the figure that would have been necessary to bring its return coefficient to 0.95 at the end of September 1991, on the understanding that the said measures shall be applied progressively within the framework of implementation of the long-term plan in the period 1992-1993.

N.B. In **Resolution No. 2,** the Council approved the execution of the first polar orbiting Earth observation mission (POEM-1) in two phases, using the Columbus Polar Platform as a technical basis and exploiting the Data Relay System in order to acquire global data coverage. In doing so the Ministers recognised the successful results from ERS-1, and the approval of the ERS-2 programme, and noted the major contributions such missions made to the understanding of the global environment and the significant European contribution to the International Space Year.

ECSL 2nd General Meeting

The General Meeting took place on 14 June in Paris in accordance with Art. 5.4 of the ECSL Charter.

A structure for success
Welcoming ECSL members to ESA HQ, Dr van Reeth, ESA's Director of Administration, observed that the optimists' hopes for ECSL had been vindicated, as shown by ECSL's workshops and the many other accomplishments documented in the Biennial Report. The Chairman, Dr Lafferranderie, emphasised how much this success owed to the loose structure accepted at ECSL's inaugural GM in 1989.

The Board's Report on 2 Years of Work
The Biennial Report for 1989-1991 has been printed separately and sent to all ECSL members. The following are the salient points of Board members'reports.

General
Prof. Böckstiegel explained how the Charter had been applied in pursuit of ECSL's prime role to promote the exchange of ideas and information. Few membership applications had to be refused, and then on the ground that an applicant had no 'genuine link' to an ESA State.

Academic, Practitioner Issues
The Chairwoman of the Board's University Relations and Bursaries Group (UBG), Dr Reijnen, announced : *1)* the development of a common European model curriculum for space law teaching and *2)* a bursary of FF 14000 for Mlle Castex (Toulouse Univ.) for doctoral research on remote-sensing data protection. Mrs. Masson-Zwaan added details on Erasmus contacts and organised a separate meeting after the GM on this subject. Prof. Zanghi introduced ECSL's summer course project (see back page).

For the practitioners, Dr Kröner and Dr Pichler recounted the strengths of the membership base in this sector, and its coverage in ECSL NEWS. More now needs to be done as a matter of priority.

Funding
Prof. Lyall brought home some financial realities. The ECSL Fund, now at FF 80 000, has been protected so far from serious depletion thanks to ESA's help, but bursaries and projects such as the summer course mean fresh donations are needed on a regular basis.

Operations
Ending the Board's reports, Dr Bourély explained the idea of range and depth underpinning ECSL's publications policy, while the Deputy Chairman, Dr Madders, outlined how ECSL-Paris conducts its operations in cooperation with ESA departments, ECSL NPOCs and other bodies.

NPOC Development
The representatives of the Belgian, French, German, Italian, Dutch, Spanish, Swedish and UK NPOCs reported on their status. The German and Dutch NPOCs have the advantage of being able to link into existing networks and institutes on their territories and have thus led the field so far. The other NPOCs are at different stages of consolidation, with the UK and France preparing activities, and Spain and Belgium in the organisational phase. The Swedish NPOC operates through the Stockholm Research Institute for International Law.

Election
The Board as elected from the meeting is as follows:
Prof. Böckstiegel
Dr. Bourély
Prof. Detter de Lupis
Prof. Lyall
Dr. Pichler
Prof. Zanghi

upon the Chairman's nomination under the Election Guidelines, and, by ballot,
Dr. Courteix
Prof. Faraminian
Dr. Kröner
Mrs. Masson-Zwaan.


Dr. Courteix


Prof. Faraminian

Mr van Reeth welcoming ECSL members on ESA's behalf.

ECSL members at the General Meeting fulfilling one of ECSL's aims – making contact.

For the election, every effort was made to achieve a solution by consensus, since some parts of the ECSL community were strongly represented while others were not. This was explained at the outset, and implied reducing the number of candidates to a point where there was a clear remaining contest. The essential issue was of Dutch over-representation on the Board. The result, through voting, was that Dr Reijnen was not re-elected; however, the meeting unanimously passed, at Dr Bourély's proposal and with the Board's full support, a motion of thanks to Dr Reijnen for her excellent contribution.

Although the circumstances of the GM made it desirable to seek consensus so as to promote balanced representation, at the same time a heavy responsibility was placed on the Chairman, and a misunderstanding did arise in preparing ballot forms based on what was understood to be the only remaining contest. The new Board will be considering improvements for the 1993 GM to avoid problems of this nature.

Two-Year Plan and Conclusion

The Deputy Chairman introduced the two-year Plan, which will be the seminal policy document for the next term. Members' comments made on future activities included the need to redouble efforts in the practitioner sector and the need to develop ECSL more widely as a forum.

At the conclusion of the meeting, members had the opportunity to discuss matters informally in 'splinter groups'.

Recent Conferences

• **6th Intl. Conf. on Commercial & Industrial Activities in Space in the 1990s: Insurance Implications, Rome 16-17 Sept.** This Conference brought major space launch, satellite and organisational interests and the space insurance community together. The major question was how to bring premiums below their present 15-18% level. Some advocated stricter risk-management requirements, while others (ESA) argued for removal of hardware manufacturers' exemptions from liability.

• **34th IISL Colloquium on the Law of Outer Space, Montreal, 7-11 October 1991.** Proceedings expected by July 92.

• **ECSL/Dutch NPOC Workshop on the EC Commission Green Paper on Satellite Telecommunications, 27 Sept. 1991, ESTEC.** Presentations by representatives of ESA, CEC, universities and consultancies. Proceedings will be available on request from ECSL in April.

Forthcoming Conferences

Int'l Colloquium, 'Manned Space Flight. Legal Aspects in the Light of Scientific and Technical Development', Cologne, 20-22 May 1992. Contact: K. Focke, Cologne Univ., Inst. for Air & Space Law (tel. +49-221-4704017).

ECSL/IISL session on Legal Aspects of the Use of Satellite Remote Sensing in Europe at European Int'l Space Year Conf., Munich (30 Mar – 4 Apr '92).

NL NPOC, 2nd Gen. Meeting, Leiden University, 24 Jan. 1992. Contact: F. von der Dunk (tel. +31-71-277724).

ECSL/UK NPOC workshop on legal rights and interests in satellites; 2 sessions : end May & Sept 1992. Contact Paul Taylor (tel. +44-71-936-4000).

Publications/Theses

H.A. Wassenbergh, Principles of Outer Space Law in Hindsight, Nijhoff, 1991.

C.Q. Christol, Space Law Past, Present and Future, Kluwer, 1991.

Agreements Signed

Protocol ESA/Sociedad estatal para la exposicion universal Sevilla 92, S.A. on cooperation for 1992 Seville world fair, signed February 1991.

ESA/Italy(MURST) Agreement on development on an arc plasma facility (Scirocco), signed June 1991.

Space Law Notepad

• ESA Ministers met in Munich 18/19 November 91, to decide on Europe's space programmes. (See Resolutions on back of centre page.)

• Gibson Report to EC Commission, 'The EC: Crossroads in Space', 17 October 91. Report recommends more active EC role in assisting space utilisation activities, especially in Earth observation sector.

• Claim involving Ford Aerospace, McDonnell Douglas Corp. (MDC) and insurers in Florida Court following on-pad damage to Insat-1D at Cape Canaveral in 1989. Main issue is efficacy of cross-waivers of liability.

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