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# STATUS REPORT ON EUROPEAN UNION SPACE - SATELLITE POLICIES

*Economic Section*

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DIRECTORATE GENERAL FOR RESEARCH
L-2929 LUXEMBOURG

EDITOR: ANTON LENSEN
ECONOMIC AFFAIRS DIVISION
In cooperation with LAURENS HARTEVELD
(R.Schuman scholar)
TEL. (352) 4300 3707
FAX. (352) 43 4071

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## *INTRODUCTION*

In contrast to what was expected five years ago by many (telecommunications) observers, the satellite industry is booming, and looks set to expand even further in the run-up to the millenium. But whether the European Space and Satellite industry can exploit this explosive growth is another matter altogether. To ensure that Europe is represented on these very promising markets arising from new space applications, the European Commission is calling on all those concerned - the European Union institutions, the Member States, the European Space Agency, national space agencies, operating organisations and users - to coordinate their activities. In its December Communication on Space[1] a strategy is proposed in the three areas of application considered the most promising, i.e. satellite telecommunications, satellite navigation and earth observation.

This paper sets out to highlight the main actions and orientations concerning space and satellites. The European Union has been active in this field since the 1970s. As early as 1979, the European Parliament called for a European space policy with long-term objectives, the coordination of all European space activities, and in particular in those areas which deal with space research and technological development[2]. The call for a re-orientation of EU space-satellite policy can be attributed to the concern that Europe's position in the growth sectors of the space industry is weakening. Therefore, intensive consultation, coordination and cooperation between the Union and the satellite industry are advocated, in particular, in order to identify and eliminate the existing obstacles to industrial competitiveness.

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1 COM(96) 617 final, 4.12.1996.

2 Resolution of 21 May 1979 on Community participation in space research.

*ECONOMIC STRUCTURE*

The December 1996 Communication provides important data on the economic importance of the space industry in Europe[3]. According to analysts, the ten-year-projections for satellite system investments will be between 100 and 160 billion ECU. In 1997 alone, 43 communication satellites (each costing about 100 million ECU) will be launched. The growth in the satellite industry can be attributed to:

- the introduction of mobile satellite communiation with light-weight telephones of a few 100 grammes (from 1998 on);
- the broadcast of digital television signals directly into homes;
- flexible Internet, multimedia connections by satellite which will come on stream from 1999.

The space sector is a complex industry. The satellite part is only one part of the chain. Other ingredients are: launch vehicles (scarce resource) and launch services (inter-alia, insurance for launch vehicle explosion), ground and personnel services to direct the satellites, to keep them in orbit, to process and interpret data, ground equipment with parabolic antennas up to 18 metres in diameter, and a sophisticated administrative accounting system.

Taking a wide definition, the European space sector employs over 30,000 industrial jobs, with a further 9,000 in related institutions (space agencies, research centres, etc.). In comparison, there are in the United States about 200,000 jobs in the space business. According to a recent Euroconsult multi-client study[4], based on data of 25 European companies, representing 90% of European space providers, Europe's consolidated space turnover is levelling off.

The Euroconsult survey confirms that the European commercial space market consists essentially of communication satellites and their launchers. The relative importance of this commercial component is much greater for European (34%) than for the US space industry (7%), which remains primarily dominated by both its military and civilian government markets. In 1991, the public market for space products represented 93% of the US industry (47% for military use and 46% for civilian budgets), in comparison with 66% in Europe (9% military and 57% civilian). The public space market in Europe is only one tenth of the U.S. market[5]. The export market accounted for between 10% and 15% of European industry sales in 1994 and 1995. It remains very highly dependent on the success of one company, Arianespace[6]. This company is facing increasing competition from launch (-services) in the US, Russia and Ukraine. The European space industry is confronted with the down-sizing of major publicly funded programmes. The growth in commercial markets has not yet been sufficient to offset by the decline in public sector budgets for space activities.

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3 Chapters 2, 3, 4, 5.

4 Euroconsult, Space Business in Europe, 96-97 edition, executive summary, November 1996. This study was summarized in Corriere della sera, 3 March 1997, "Parla Italiano...", Luxembourger Wort, 8 February 1997, "SES... Spitzenreiter,", Space News, Aerospace Policy.

5 Assemblee Nationale, Délégation pour l'Union européenne, Rapport d'Information, nr. 3219, "l'Europe et son Industry Aérospatiale", December 1996, p.21.

6 Arianespace is the commercial satellite-launching arm of the European Space Agency.

Europe has done well in the space sector in the wake of the pioneering efforts of the United States and with a relatively modest level of allocated government funding: Europeans contribute per capita about one eighth of what Americans do towards space[7].

The Euroconsult report notes that the European space industry is trying to adapt to a different situation. US manufacturers who have started out a decade ahead of the European counterparts and have exploited a much larger domestic market, may well have taken a permanent lead. This may be particularly important in the growth sectors of the space-satellite industry:

- the Internet systems in the Ka-band;
- low orbit satellites and their launchers;
- full systems integration and standardization of satellite systems.

Although Europe is present upstream on all of the commercial application markets (supply of satellites and launching services), the study warns that this presence does not always guarantee that it will also be present in downstream activities (systems management, ground stations, supply of services to end users).

Although Europe has a considerable market share for commercial launch vehicles and disposes of the basic (relatively mature) satellite and transponder technologies, the future lies in the development of the downstream market, particularly related to intelligent and high-value added applications in earth observation (environmental and global change monitoring, meteorology, security and arms control surveillance), personal communication services and navigation applications. The European equipment and component industry remain relatively weak.

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7 Booz, Allen & Hamilton Analysis of the European Space Sector. Final report for DG XII, CEC, March 1995.

## *LIMITING FACTORS OF EUROPE'S SPACE INDUSTRY*

The European space industry will have to overcome a number of its principal structural handicaps internationally, where competition has increased considerably in recent years. Europe's main competitors are taking the benefits of their advantages. This happens at a time of rapid globalization of markets and systems integration. Some of the disadvantages of the European space-satellite industry can be summarised as follows:

- *Public funding* for space in Europe is spread over national and European programmes with ESA representing over one third of the total spending. Most funding of launchers and space exploration is through ESA, leaving the bulk of earth observation and communications to the national levels. National funding priorities tend to follow national industrial capabilities. The structure of the European space sector is complex with many decision points. At national level, several ministries, civil service departments, government agencies, industries and interest groups are involved in defining priorities for space and allocating budgets. Adding all these layers of complexity onto those within ESA and the European Union, has created a decision making process that tends to be long and complicated, with no one institution or authority with an overview of the whole[8].

- *Fragmentation* of the European space market is also heightening Europe's competitive disadvantages through the multiplication of standards, which results in excessive costs among the companies operating under different sets of regulations and according to different procedures. The European space industry suffers from its disadvantageous *size differential* with respect to its US counterpart in the context of the move to industrialization, manufacture in series and the industrialization phase between the R&D and production phase. This handicap could be alleviated by more interaction with information technology industries, networks, software and terminal equipment and the venture capital industry. Satellite technology development is going in the direction of putting more intelligence and switching capabilities onto satellite systems. This means: more complex satellites, cheaper terminal equipment for the user and consequently larger markets. The largest satellite systems manufacturers, like Hughes, Lockheed Martin and Loral Space are engaged in alliances with European space companies or operators for product development and access to markets. However, European firms are increasingly working as *subcontractors* or as main contractors for the less complex television satellites. Large international investors prefer turnkey projects of complete systems. This frequently means that the main contractor is in the United States, whereas some subcontracts are being allocated to Europe in order to obtain political support for the use of their systems in Europe.
  The Euroconsult analysts find that from 1992 until June 1996 European companies ordered only 20% of the 119 civilian geostationary satellites. Hughes has received more orders for communication satellites than all of Europe's satellites manufacturers combined.

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[8] The ESA ministerial meeting in Toulouse in October 1995 asked for a more comprehensive dialogue with other European organizations active in the space field, in particular the Commission. At the November 1996 symposium on the future of the European aerospace industry, jointly organised by the European Parliament and the Commission, another plea for joint coordination of European space activities was made by MEPs and the European Association of Aerospace Industries.

## *ORIENTATION OF THE EUROPEAN UNION*

The EU's industrial policy for the space sector is aimed at establishing a framework within which the Union can help to promote an environment conducive to stepping-up research and technological development work, developing space technology applications and improving the overall competitiveness of the European space industry, in particular in the context of the transition to a global information society. In the December 1996 Communication on Space Policy, the emphasis is on cooperation and coordination of the dispersed national and European space policies. *Two Action Plans* were announced for satellite telecommunications[9] and satellite navigation systems. Pilot projects on earth observation are also proposed. All of these actions will be carried out, using existing resources from the following Community programmes: framework programmes for research and technological development, the structural funds and Trans-European Networks. Loans from the European Investment Bank and European Investment Fund may also be used. The division of research efforts between Community programmes and the European Space Agency will be revised with a view to better coordination. In addition to space research and the development of applications, a major emphasis for European industrial policy in the space sector has come from EU regulation in telecommunications and the application of the EU's competition rules in the space sector.

### Telecommunications

In 1990, the Green Paper on a Common Approach in the field of Satellite Communications set the basic regulatory directions:

- full liberalization of the earth segment, including the abolition of all exclusive or special rights in this area;
- free (unrestricted) access to the space segment capacity;
- full commercial freedom for space segment providers;
- harmonization measurements as far as is required to enable the provision and use of Europe-wide services.

The proposal to extend the scope of the 1988 and 1990 Commission Directives concerning telecommunications terminal equipment and telecommunication services, to include satellite communications was welcomed by the Council of Ministers[10] and the European Parliament[11].

In October 1993, a Council Directive relating to the mutual recognition of type approval for satellite terminals was adopted with the full support of the European Parliament. Where competition in markets is restricted or distorted by government regulations allowing special or exclusive rights to particular bodies and where such regulation can no longer be justified as being necessary in the interest of public service, Article 90 of the Treaty allows the Commission to legislate under such

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9 Action Plan on Satellite Communications in the Information Society, IP/97/183, adopted by the Commission on 5 March 1997.

10 Resolution 92/C801 of 19 December 1991 and resolution of 22 July 1993.

11 Resolution of 18 January 1993.

circumstances. When a distortion of competition occurs in a number of Member States at the same time, paragraph 3 of article 90 gives the Commission the practical option of issuing a general directive to all Member States. On 13 October 1994, the Commission adopted Directive 94/46/EC, the "Satellite Liberalization Directive". This Directive requires the abolition of all exclusive rights granted for the provision of satellite services and equipment, and the abolition of all special rights to provide any telecommunications service, covered by the Directive. The aim was to stimulate without delay the greater use of satellite communications in the European Union. On 19 April 1994 the Parliament welcomed the draft Directive.

Under this Directive, licensing and declaration procedures may only be justified by the compliance with essential requirements, including avoidance of harmful interference and effective use of frequency spectrum. Licences must be granted pursuant to objective, proportional and non-discriminatory criteria.

**Competition Cases**

Under the competition rules of the Treaty, the Commission has intervened at various occasions in cases which deal with satellite groups. Some examples are:

- in December 1996 the Commission gave its formal green light to the creation of Iridium, a company led by the US corporation Motorola, which intends to provide, as from the last quarter of 1998, global digital wireless communications services using a constellation of 66 Low Earth Orbit (LEO) satellites. Because Iridium will not restrict competition, its creation has been concluded to fall outside the scope of both Article 85(1) of the EC Treaty and Article 53(1) of the EEA Agreement. None of the strategic investors could be reasonably expected to separately assume the very high level of investments required (nearly USD 5 billion) and the very high risk of technical and commercial failure associated with such a new system.

- At the same time, the Commission also cleared the INMARSAT-P/ICO satellite personal communications services, which will operate a similar system. It is been developed by the international maritime satellite organisation INMARSAT, which includes European telecommunications companies, Telefonica of Spain, Swiss Telecom and Telecom Finland.

- In July 1995, the European Commission rejected a planned joint venture between three Nordic satellite operators as incompatible with Union competition rules. The project, known as Nordic Satellite Distribution (NSD) has again been presented in June 1996 to the Commission for re-assessment. The project involves Danish communications group Tele Danmark, Norway's Telecom A/S and Sweden's Kinnevik.

- In November 1993 the Commission cleared an arrangement between PTT Telecom B.V., the public telecommunications operator in the Netherlands, and the Netherlands Omroep Productie Bedrijf N.V. (NOB), the main broadcasting facilities house in the Netherlands, to set up a joint venture company to provide "satellite news and gathering" services. This case is another example of a growing trend for telecommunications operators to join with companies from other sectors in order to venture into new not strictly telecom-related business activities.

The annual Commission publication, The European Aerospace Industry. Trading Position and Figures shows intense merger and acquisitions activities in Europe and the United States in the aerospace sector, including the space-satellite industries[12].

12 1996 Yearbook, CEC DG III (Aerospace Unit), chart 14.1, chart 14.2, mergers and acquisitions.

## *GLOBAL SATELLITE COMMUNICATIONS*

### International Satellite Organisations

As a result of the 1990 Satellite Green Paper, the Council adopted in December 1994 a Resolution on provision of, and access to space segment capacity, following a Communication of the Commission on the subject[13]. Certain forms of regulation that may have once been appropriate for the development of satellite technology are now restraining efficient application. Satellite technology is evolving towards the provision of services to end-users rather than merely connecting networks. International market structures still reflect the traditional role of International Satellite Organizations (ISO) while past technological, geographical and commercial distinctions are rapidly changing. Full commercial freedom for space segment providers and users can be expected to improve efficiency. This means also that non-public telecommunications operators can own and operate earth stations, that the rates for space and ground segment can be unbundled and that direct access to satellite capacity can be given. The EU pursues the principle of structural change in the satellite services market, i.e. it seeks the implementation of appropriate solutions by Member States and ISO Signatories to ensure multiple signatory and direct access arrangements with the intergovernmental satellite organisations, in particular EUTELSAT, INTELSAT and INMARSAT. The 1995 OECD report, Satellite Communication: Structural Change and Competition gives a detailed overview of the satellite services market with options for policy makers[14].

### Satellite Personal Communication Services (S-PCS) and Licences

The proposal for a Directive on the mutual recognition of satellite services licences[15] has been replaced by a draft Directive on a common framework for general authorizations and individual licences in the field of telecommunication services. This Directive, adopted on 6 March 1997, will also generally cover licensing of satellite services.

Given the growing importance of satellite personal communications, through systems comprising Low Earth Orbit satellites (LEOs), the Council adopted a Resolution in December 1993 emphasising the importance of developing a Community policy in this area[16]. The need for urgent agreement on a Union approach in the area of S-PCS was also recognized by the European Parliament in its resolution of 19 May 1995. At the end of 1995, a draft decision was presented on S-PCS[17] with the aim of the common selection of satellite systems for such services and the adoption of harmonized conditions for services, equipment, interconnection, numbering and gateway access. There is concern that regulatory decisions taken by the US Federal Communications Commission in this area may have global implications, pre-empting the EU's own approval procedures. In the co-decision

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13 Council Resolution 94/C379/04 of 22 December 1994; Commission proposal (94) 210 final.

14 OECD, Committee for Information, Computer and Communications Policy, GD(95)109, September 1995, Paris.

15 COM(93) 653 final.

16 Council Resolution 93/C339/01 of 7 December 1993; proposal Commission COM(93) 171 final.

17 COM(95) 529 final.

procedure on the S-PCS proposal, a compromise was found to allow the Member States to issue relevant authorizations for the provision of satellite personal communication services on the basis of coordinated national regulatory conditions and criteria, taking due account of the interest of European industry and users, and involving the participation of the CEPT[18]. The second reading of the Parliament was completed on 20 February 1997 and the decision was formally adopted on 6 March 1997.

**World Trade Organization (WTO)**

Following the conclusion of the Uruguay Round in 1993, negotiations were started in the WTO with a view to progressively liberalising market access for telecommunication networks and services including satellite services. After a stand-still in the negotiations in 1996, participants agreed to extend the negotiation period until 15 February 1997, while 1 January 1998 was maintained as the date of entry into force of the Agreement. The February 1997 Agreement among 68 countries covering a market evaluated at over $600 bn per year will liberalise access to the telecommunications markets of those countries. The WTO Agreement confirms the EU's internal programmes for the liberalization of telecommunications, with the opening on 1 January 1998 of the markets for voice telephony, data transmission, leased lines, mobile phones, paging systems and radiocommunications. However, the United States has requested an exemption to the most favoured nation (MFN) treatment concerning direct-to-home services (DTH) and digital broadcasting by satellites (DBS). The EU reserved itself the full right to challenge this exemption. The MFN obligation will ensure that as soon as countries begin to open their market, this opening will be available to all WTO Members on a non-discriminatory basis.

[18] Conférence Européenne des Postes et Télécommunications.

## *DUAL TECHNOLOGIES AND SATELLITES*

In the draft Council Resolution[19], of the December 1996 Commission Space Communication, a Recommendation is made for a coordinated European approach for dual-use civil and military technologies. The Commission is called to take appropriate steps in this respect.

The November 1996 Euroconsult study foresees a steady build-up of military application satellites, primarily related to earth observation. At present, the European military market can still be regarded as in its infancy with only 5 satellites launched within the 1987-96 time frame. The emergence of new-generation military observation satellites in the late 1990's is expected to largely contribute to the growth of the military satellite market. However, a key limitation lies in the fact that it will take time to define these national programmes to bilateral or multilateral cooperation schemes. At the Franco-German summit in Nuremberg in December 1996 a compromise agreement was reached on financing military satellite programmes, designed to give Europe an intelligence capacity independent of the United States. It was agreed that Bonn will delay for perhaps a year payments for the Helios II infrared satellite project managed by the French. Germany is understood to have indicated its readiness to increase its planned contribution to the subsequent programme to develop the Horus radar satellite[20].

At the moment, the military space industry is outside the competence of the European Union. With respect to defence industries, the Union has a reduced competence, according to article 223 of the Treaty, even in the case of dual use. On the basis of article 223, France and the United Kingdom decided in 1996 not to notify the merger between British Aerospace and Matra to the EU competition authorities. Other obstacles for a common Union position are: absence of a European defence policy; multiplication of the organs with a competence on military questions (West-European Union, NATO, Member States); significant divergences on a common European Armaments Agency and European preference; concentration of the defence industry in only 5 Member States[21].

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19 COM(96) 617, par. 3.

20 Presse und Informations Amt der Bundesregierung, nr. 507/96, 9 December 1996; Financial Times, 10 December 1996, "Spy satellite: Franco-German deal on funds".

21 Assemblee nationale, délégation pour l'Union Européenne, rapport d'information nr. 3219, l'Europe et son Industrie Aérospatiale, 10 December 1996 (rapporteur: M. R. Pandraud).

*TRANS-EUROPEAN NETWORKS (TENs)*

The Treaty on the European Union set the establishment and development of Trans-European Networks in the areas of transport, telecommunications and energy infrastructure as an important objective of the Union. The Community financially supports the launch of Trans-European Networks projects of common interest, when they meet financial obstacles. The general rule for the granting of financial aid is laid down in Council regulation (EC) no. 2236/95 of 18 September 1995.

The TENs are of particular importance for ***satellite navigation systems***. Satellite positioning systems have been deployed for military purposes by the United States and Russia. Nowadays, satellite navigation and positioning systems are evolving towards wider civilian use. The European Union participates in the development of a global navigation satellite system (GNSS). The need for GNSS has been recognised by the Commission, Council and the European Parliament[22]. The EP and Council decision of 23 July 1996 provides guidelines for the implementation of a trans-European navigation and positioning network[23]. Within the Trans-European transport network actions [24], support has been given to a GNSS feasibility study, the provision of access to INMARSAT III navigation transponders and EIB financing for satellites and stations. The High Level Group consisting of representatives from national governments, users, industry, industrial organizations and service providers assist the Commission in the action plan for deployment of GNSS. The European Tripartite Group consisting of the European Community, ESA and EUROCONTROL coordinates the European contribution to the phased GNSS development.

Council and EP are expected to adopt in 1997 a decision on an Action Plan for the deployment of GNSS and bi-lateral agreements with certain third countries, in particular the United States, Russia and Japan.

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22 COM(94) 248 final; Council Resolution 94/7379/02 of 19 February 1994; EP Resolution of 30 November 1994.

23 Decision nr. 1692/96/EC.

24 Trans-European Networks, 1996 Annual Report, COM(96) 645 final.

*RESEARCH AND TECHNOLOGICAL DEVELOPMENT*

Other complementary financial support for the development of GNSS is provided in the specific RTD Programmes Telematics and Transport[25]. In the Telematics Applications Programme of the Fourth Framework Programme, several projects address the telematic requirements for a GNSS system and other Geographic Information Systems (GIS). The project in the transport research programme assesses the requirements for the integration of information, communication and navigation technologies.

EU involvement in the ***earth observation*** satellites is dispersed in a number of a areas.

1. Agriculture. In 1988 the first pilot project on remote sensing applied to agricultural statistics was adopted[26]. This programme was continued for the period 1994-1998[27]. This agriculture remote sensing programme establishes a system of statistical data collection and agricultural forecasting under the common agricultural policy.

2. Fisheries. Council Regulation 96/2489/EC of 20 December 1996 establishes a programme for continuous position monitoring using satellite communications for fishing vessels. This Decision, approved by the European Parliament on 13 December 1996 updates two earlier Regulations dealing with guidelines and financing of satellite monitoring of fishing catches.

3. Community Aid Schemes. Council Regulation 92/3508/EEC of 27 November 1992 established an integrated administration and control system for certain Community Aid Schemes. Parliament had endorsed this part-financing of remote sensing checks in its Resolution of 15 December 1993.

The European Union is amongst the largest purchasers of data and plays an important role in developing the remote sensing market, both as a pioneer user and by its support in research and technological development. Within the Fourth Framework Programme of RTD, the two specific programmes in the field of environment and climate[28] and the JRC projects[29], reinforce the necessary scientific and technical base to promote remote sensing applications. An important part of the work is conducted within the Centre for Earth Observation which aims to promote the use of earth observation information collected by satellites. This programme has two closely coordinated parts: one part managed by the Space Applications Institute of the Joint Research Centre, and the second

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[25] Council Decision 94/914/EC of 15 December 1994, specific RDTT Programme in the field of Transport (1994 to 1998); EP Resolution of 14 November 1994.
Council Decision 94/801/EC of 23 November 1994, specific RDTT Programme in telematic applications; EP Resolution in OJ C205, 25 July 1994.

[26] Council Decision 88/C119/103.

[27] Council Decision 94/753/EC of 14 November 1994.

[28] Council Decision 94/911/EC of 15 December 1994.

[29] Council Decision 94/918/EC of 15 December 1994.

part, consisting of shared-cost RTD projects, integrated into the environment and climate programme. The Centre for Earth Observation is an important initiative to promote the use of earth observation information collected by satellites. Europe has made major investments in earth observations instruments currently in orbit and planned for launch in the next five years. The Centre is designed to ensure that this investment is properly exploited.

In the technological and scientific objectives of the 1999-2003 Framework Programme, laid down in a Working Document "Towards the Fifth Framework Programme: Scientific and Technological Objectives", space actions are announced for:

- the Living Resources and Eco-System Programme, in which a part is dedicated to the application of earth observation technologies for monitoring of the environment and water (basic research);

- the Competitive and Sustainable Growth Programme, in which initiatives will be supported for satellite navigation operating and positioning systems (fundamental research)[30].

30 European Report, nr. 2198, 12 February 1997, p. 8.

*CONCLUSION*

Since its inception in the late-seventies, European Union space policy has been focused on the achievement of three main objectives: effective coordination among the various players - the European Union, the Member States, the European Space Agency, the national agencies, the operating organisations and the users - ; economic efficiency and competitiveness in the European space industry - liberalization of the space telecommunications segment, support for research and technological development, creation of a true internal market in this industry - ; general interest - preservation of an independent space capacity, representation in international organisations and towards third countries - . The achievement of these aims has been pursued through the application of a set of complementary principles: consensus building, market liberalization, harmonization of conditions for a common regulatory framework, specific promotional actions in RDT, Trans-European Networks and demonstration projects.

The European Parliament has been involved as a discussion partner and co-legislator. The 1996 Commission Communication on Space intends to re-orient the Union's space policy towards the identification and elimination of obstacles to the competitiveness of Europe's space industry. Space systems are seen today as one of the eminent ways to jump into the globalization of the information society. The sector has growth rates of more than 10% per year.

In this global industry, merger activities have increased dramatically. However, the European satellite industry may not have yet reached a sufficient degree of integration and scale to be competitive on world markets. Europe has managed to create Ariane, airbus and the GSM-standard for mobile telephony, but the satellite industry in Europe is still organized along national lines, with little integration with the computer, network, software and terminal equipment industries. A fundamental difference between the European and US industry, is the $ 10 billion part which the US government spends in civilian and military research and development in aerospace. Commercial satellite production benefits from this on a large scale. Europe cannot compete with the US R&D contracts. One possible solution is to focus on particular commercial applications. The strategic interest of Europe's space-satellite industry has fundamentally changed since the cold war towards applications in the fast-growing telecommunication sector, mobile communications, direct to home television, remote sensing, navigation and broadband-interactive communications.

**ANNEX**

# EU DOCUMENTS ON

# SPACE AND SATELLITE POLICIES

## - THE ROLE OF THE EUROPEAN PARLIAMENT -

Luxembourg, March 1997

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# I GENERAL POLICY DOCUMENTS ON SPACE POLICY

This section provides an overview of the major EU discussion documents on space-satellite policy which have been presented in the form of communications or the Green Paper. The EU's involvement has many aspects dealing with industrial competitiveness, competition policy, transport, telecommunications, Research and Technological Development, earth observation and international representation. Since the 1988 Communication on Space, the principle of a Union involvement in Europe's space activities has been established. However, the EU's role is complementary to other activities which are in the competence of national governments, the national space agencies and European Space Agency, the space industry and operators. Parliament has provided an essential input and orientation to this discussion. The Commission Communications and Green Paper have been inspired by previous resolutions of the Parliament.

| I | GENERAL POLICY DOCUMENTS ON SPACE POLICY |
|---|---|
| ***Under discussion*** | The European Union and Space: Fostering Applications, Markets and International Competitiveness, COM(96) 617 final<br>Legal basis: Article 130f, Communication, with draft Council Resolution |
| ***Space Communi-cation 1996*** | In December 1996, *the European Commission adopted* its Communication on a European space strategy. This document is the result of intensive coordination among the Commissioners and Commission services in charge of research (DG XII, JRC), industrial policy and telecommunications (DG III and DG XIII) and transport (DG VII). It is a discussion document for all the partners in the development of space technologies and applications in the European Union: The European Institutions, the governments and their space agencies, the European Space Agency, the space industry, the space operators and end users. The Communication is designed to ensure that European industry is not left behind in the important markets for new space applications such as satellite telecommunications, satellite navigation and earth observation. It calls for greater coordination between the various European bodies involved, inter alia ESA, EUMETSAT, EUROCONTROL, the Member States and their national agencies. |
| ***Telecom-munication Action Plan 1997*** | In respect of space telecommunications, the Commission presented an Action Plan for the regulation and development of satellite communications systems, based on public/private partnership on 5 March 1997. In the Telecommunications action plan, it is pointed out that if the EU does not react in a coordinated manner, there is a great risk that it will remain behind in the most promising market sectors, like Satellite Personal Communication (S-PCS) and advanced broadband multimedia satellite systems. The satellite telecommunications plan has three items:<br>a) completion of the internal market which will necessitate some regulatory measures and the speeding up of efforts to harmonize conditions for authorizing and using frequencies;<br>b) strengthening the European position at international level;<br>c) increase for European R&D and applications development.<br>The Commission aims to ensure that Europe plays a major role in the development of the new Global Navigation Satellite System (GNSS), a technology which is of vital interest to the transport and leisure/tourism sectors. GNSS is intended to replace the existing American GPS and the Russian GLONASS systems, which were originally developed for military purposes and are now ageing in technical terms.<br>To coordinate the European contribution to GNSS, the European Community with ESA and EUROCONTROL have combined their efforts within the European Tripartite Group (ETG).<br>As a major user of data services derived from remotely sensed data, the Commission intends to use its position to stimulate the development of new services and tools which could subsequently be implemented on a commercial basis.<br>In respect of launching services for satellites, the Commission proposes that a multilateral forum be set up to establish basic rules for open and fair competition. The aim of this is to ensure that the European launch service (Arianespace) is not disadvantaged by new competition from Russia, Ukrainian and Chinese operators. |

| I | GENERAL POLICY DOCUMENTS ON SPACE POLICY |
|---|---|
| | The Commission is not calling for any additional funding, since with improved *coordination*, existing resources including the RTD Framework Programme, the Trans-European Networks, ESA programmes and national resources can all be used more effectively. The Commission has established a Space Advisory Group within the Commission to stimulate dialogue with concerned parties. In particular, cooperation with ESA and other agencies will be formalized and coordination with the relevant trade organisations will be increased.<br><br>The Communication contains a draft Council Resolution for which the EP's opinion is required.<br><br>The Communication has taken into account the EP Resolution of 06.05.94 on the Community and Space[1], which will be addressed in the next section. |

1 OJ C205, 25.07.94, p467.

| I | GENERAL POLICY DOCUMENTS ON SPACE POLICY |
|---|---|
| ***Pre-Legislative History*** | Already in its Resolution on European Space Policy[2] of 18 September 1981 and the Resolution of 21 May 1979 on the Community's participation in Space Research, *the EP* urged the Council to discuss the problems connected with a European space policy. The EP envisioned a long-term European space policy in terms of peaceful use of space, improvement of possible applications in the field of telecommunications, navigation, earth observation and meteorology and the manufacture of materials in space, taking into account the needs of developing countries. It urged European industry to assume greater responsibility for managing and financing programmes and taking programmes through to their final commercialisation by forming consortia. The EP called upon the Commission to report to Parliament on the action to be taken and to submit the appropriate proposals in the field of space research and exploitation. This more ambitious space policy of the Community would involve the European Space Agency and would imply more effective cooperation between the organs of the Community. The EP also urged the Commission to develop ideas for the use of European satellites as a means of implementing a media policy. |
| *EP Resolutions of 1979 and 1981* | |
| *EP Resolution of 1987* | The EP adopted another Resolution on European Space Policy[3] on 17 June 1987. Referring to its First Report on Space Policy (A2-108/85) the EP advocated a coherent policy on space activities for the European Community and asked the Commission to initiate the process via a Communication containing a plan for the co-ordination of the space activities in such fields as telecommunications and remote sensing; an analysis of the scope and potential of space related industries with proposals to encourage them in the Community R&D programmes; an improvement of European coordination of satellite data; an inventory of the space programmes being carried out by ESA and each of its Member or associated states. The EP recognized ESA as the principal instrument of European cooperation in space matters and supported ESA in its efforts to achieve autonomous space capabilities on behalf of Europe. The EP proposed to formalise the relationship between ESA and the European Community, and requested the Commission and Council to prepare the appropriate negotiations. Furthermore the EP requested the Commission to set up an appropriate regulatory framework for satellite communications, for Very Small Aperture Terminal (VSAT) systems and to ensure fair competition between satellites and terrestrial communication systems. The EP called on the Member States and Commission to stimulate the use of satellite activities. |

[2] Turcat report DOC I-326/81, on behalf of the Committee on...

[3] Toksvig report A2-66/87, on behalf of the Committee on Energy, Research and Technology.

| I | GENERAL POLICY DOCUMENTS ON SPACE POLICY |
|---|---|
| *Commission Communi-cation 1988* | In response to the EP resolution of 16 June 1987, *the Commission published a new Communication on* the Community's role in space and gave a detailed account of six action lines[4]. These action lines were intended to provide a coherent framework for the development of its space activities. The action lines dealt with the development of:<br>✔ research and technological development (RTD) to promote greater complementarity and synergy between Community RTD strategy and the programmes of the space agencies;<br>✔ telecommunications (to ensure that satellite technology is included in the development of European networks and services);<br>✔ earth observation (to stimulate the applications market by extending and intensifying the integration of satellite information in the implementation of Community policies);<br>✔ industrial development (to study the implications of the Single Market with regard to space and space-related activities);<br>✔ legal environment (to propose appropriate measures in the fields of commercial and competition policy, tax and customs arrangements and harmonisation of legislation), and<br>✔ training (to encourage under the Comett programme the development of European advanced training schemes related to space science and technology and their applications).<br>The Commission announced that it would submit specific proposals for the implementation of these action lines. |

[4] The Community and space: a coherent approach, COM(88)417 final, 26.07.88 (Communication from the Commission).

| I | GENERAL POLICY DOCUMENTS ON SPACE POLICY |
|---|---|
| *Green Paper 1990* | In November 1990 *the Commission presented* its ***Green Paper*** on a common approach in the field of satellite communications in the European Community (COM(90)490 final)<br>The Commission considered satellite communications one of the special areas identified by the 1987 Green Paper on the development of the Common Market for telecommunications services and equipment (COM(87)290 final). The objective of this Communication was to prevent further fragmentation in the satellite market. It proposed a future-oriented structure for the development of satellite communications for the Single Market of 1992. The paper intended to extend the application of the general agreed principles of Community telecommunications policy to satellite communications, taking into account the specificaties of this means of communication. Four major changes were proposed:<br>✔ full liberalization of the earth segment, including both receive-only and transmit/receive terminals;<br>✔ free (unrestricted) access to space segment capacity;<br>✔ full commercial freedom for space segment providers, including direct marketing of satellite capacity to service providers and users, and<br>✔ harmonisation measures as far as required to facilitate the provision of Europe-wide services. |
| *EP Resolution 1991* | The EP reacted to the Green Paper by its Resolution[5] of 22 October 1991 on European Space Policy.<br>The EP insisted that the Commission define and implement a balanced European space policy and ensure, within the GATT, that European space and space-derived industries could prosper in the Community and be competitive in the world market. Furthermore the EP called on the Commission to ensure a European participation in space monitoring of world vegetation resources. The EP requested the Commission and the Member States to set up a space technology application network to coordinate existing European research activities. |
| *Council Resolution 1991* | In December 1991[6] *the Council gave* its support to the general goals of the Commission's Green Paper. The Council considered as major goals in satellite communications policy:<br>✔ harmonisation and liberalization for satellite earth stations;<br>✔ harmonisation and liberalization of Europe-wide satellite telecommunications services;<br>✔ separation in all Member States of regulatory and operational functions in the field of satellite communications, and<br>✔ improved access to the space segment and capacity. |

[5] Rovsing report A3-265/91, on behalf of the Committee on Energy, Research and Technology.

[6] Council Resolution 92/C8/01 of 19 December 1991 on the Development of the Common Market for satellite Communications Services and Equipment (OJ C8, 14.01.92, p1).

| I | GENERAL POLICY DOCUMENTS ON SPACE POLICY |
|---|---|
| *Commission Communication 1992* | Following this Council Resolution, *the Commission presented* its Communication "The European Community and Space: Challenges, Opportunities and New Actions" on 23 September 1992 (COM(92)360 final).<br>This Communication proposed Community-level measures to expand the European space programme. The Communication outlined four types of measures:<br>✔ measures aimed at defending the interest of the European space programme during trade negotiations and action to increase the use of satellite-transmitted data in the development of Community policies;<br>✔ coordination of national strategies;<br>✔ legislative action, including liberalization and protection of intellectual property, aimed at creating an environment favourable to the development of a market for satellite communication services; and<br>✔ targeted R&D programmes.<br>The Commission also recommended increased cooperation with the space agencies and assistance to help them, through consultation with user groups and various industrial sectors involved in space activities, to adapt their products to demand and find more outlets. |
| *EP Resolution 1993* | *The EP reacted* by adopting its Resolution on a Common Approach in the Field of Satellite Communications in the European Union[7] on 19 January 1993.<br>The EP again repeated its previous request to the Commission to propose the appropriate legislation for the full use of satellite communications in the Internal Market and for exploiting the continental dimension resulting from developments in Central and Eastern Europe. The Commission should remove existing constraints and develop new activities in the field of satellite communications. Finally, the EP considered it necessary that regulatory and operational functions be separated and that access to space segments be improved both as regards the use of segment capacity of the international organisations and as regards the development of separate satellite systems and access to them. |

[7] Hoppenstedt report A3-344/92, Committee on Economic and Monetary Affairs and Industrial Policy.

| I | GENERAL POLICY DOCUMENTS ON SPACE POLICY |
|---|---|
| *EP Resolution 1994* | Commenting on the 1990 Green Paper and the 1992 Space Communication, the EP adopted another Resolution on the Community and Space[8] on 6 May 94. The EP insisted on the need for the Commission to reinforce its coordination and cooperation with ESA and other relevant European organisations. It also wished the Commission to submit proposals for the promotion of applications and markets for European space technologies. In addition, the EP asked the Commission to put in place mechanisms to ensure that telecommunications-related aspects of European space policy are integrated into European telecommunications policy. In the supply of launcher and space transportation services, the EP called for multilaterally agreed rules to govern fair trade. The EP expected rapid results from the proposed exploitation of a European Earth Observation System and asked the Commission to establish a European strategy for satellite navigation, embracing a common negotiation position with relevant international organisations. Finally the EP asked the Commission, in conjunction with relevant organisations, to work towards the formation of a European Space Council in order to ensure cross-fertilization, coordination and coherence within European space activities. |
| ***Further Developments*** | The Agreement of 14 February 1997 in the World Trade Organization will liberalize satellite communications by 1 January 1998. |

[8] Rovsing report A3-287/94, on behalf of the Committee on Energy, Research and Technology.

## II TELECOMMUNICATIONS REGULATION AND SATELLITES

The 1990 Green Paper as a common approach in the field of satellite communications contained four major action lines:

- the liberalization of earth station equipment and services, subject to type approval, and the introduction of licensing procedures;
- mutual recognition of licensing and type approval procedures and co-ordination of frequencies;
- free and unrestricted access to satellite capacity, subject to licensing procedures and other special safeguards;
- full commercial freedom for satellite companies, including marketing of satellite capacity to service providers and directly to users.

The EU has first liberalized and harmonized the area of the ground segment, i.e. satellite earth station equipment. Built on the impetus provided by the Telecommunications Review[9], the Commission adopted in November 1994 an Article 90(3) Directive abolishing exclusive and special rights in the provision of satellite communications services and equipment.

As a result of the movement towards developing commercial satellite personal communications services (S-PCS), a series of initiatives was undertaken to have a common approach in this fast developing sector, which will lead to a Universal Mobile Telecommunications system in the next century. On a broader front, satellite communications technology forces regulators to consider a broad range of policy issues. These relate to:

- competition;
- future mobile communications technology;
- multilateral international relations.

The February 1997 Agreement among 68 countries in the WTO ensures that the satellite telecommunications market will also be liberalized as from 1 January 1998, at the same time as the EU will have liberalized its telecommunications market.

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[9] Council Resolution of 22 July 1993 on the review of the situation in the telecommunications sector and the needs for further development in that market (93/C213/01; OJ C213/1, 06.08.93).

| II.1 | SATELLITE EARTH STATION EQUIPMENT |
|---|---|
| ***Adopted*** | Council Directive 93/97/EEC of 20 October 1993, supplementing Directive 91/263/EEC[10] in respect to Satellite Earth Station Equipment (OJ L290/01, 24.11.93) |
| ***Legislative History*** | **COMMISSION PROPOSAL**<br>Legal basis: EEC 100a<br><br>The draft Directive, presented at the end of 1992, was intended to extend the scope of telecommunications terminal equipment Directive 91/263/EEC to satellite earth station equipment, including the mutual recognition of their conformity. It had four objectives:<br>✔ to establish the single market for satellite earth station equipment;<br>✔ to bring into force harmonized procedures for certification, testing, marketing, quality assurance and product surveillance;<br>✔ to guarantee, subject to licensing conditions where appropriate, the right to use satellite earth station equipment which has been legally placed on the market, and<br>✔ to guarantee, subject to licensing conditions where appropriate, the right to connect satellite earth station equipment to public telecommunications networks without further procedures, if such equipment has been legally placed on the market and is capable of, and intended for, connection to the public telecommunications network.<br><br>**POSITION OF THE EUROPEAN PARLIAMENT**<br>*The Parliament discussed* the proposal in First Reading on 6 May 1993[11]. Its amendments pointed out the importance of bilateral negotiations between the Community, the United States and Japan in this area; Member States should be able, in addition to approving the equipment, to influence the use of frequencies and transmitting power by means of authorisation and licensing procedures.<br>The Commission could accept only two of the seven amendments: the one concerning negotiations with the United States and Japan and one making a distinction between interworking with and via the public telecommunications network. |

[10] Council Directive of 29 April 1991 on the approximation of the laws of the Member States concerning telecommunications terminal equipment, including the mutual recognition of their conformity (91/263/EEC; OJ L144/45, 23.05.91).

[11] Hoppenstedt report (A3-154/93); Committee on Economic and Monetary Affairs and Industrial Policy.

| IL1 | SATELLITE EARTH STATION EQUIPMENT |
|---|---|
| | The Common Position of the Council included fully or in modified form the two EP amendments that had been included in the amended proposal; it also made some changes to the committee procedure (regulatory committee instead of advisory committee). In its Second Reading on 11 October 1993[12], the EP approved the common position. The recommendation was adopted without debate.<br><br>**DECISION OF THE COUNCIL**<br>The *Telecommunications Council* of 29 October 1993 adopted the Directive as a supplement to Directive 91/263/EEC in respect of satellite earth station equipment. It introduced the mutual recognition of type approval of satellite earth station equipment and harmonized surveillance. An advisory committee and a type III(a) regulatory committee were set up to help the Commission implement the Directive. The Member States had to take the measures to comply with the Directive no later than 1 May 1995. |
| ***Further Developments*** | **PROGRESS REPORT**<br>In March 1996, *the Commission published* a Progress Report (COM(96)114 final), according to Article 15 of Council Directive 91/263/EEC [and Article 17.1 of Council Directive 93/97/EEC].<br><br>Based on experience gained so far and an analysis of the scope of the Directives, the following actions were seen to be necessary:<br>✔ relaxation of the procedures applied by the notified bodies for conformity assessment;<br>✔ extension of the scope of the Directives to cover all types of telecommunication equipment using the radio frequency spectrum;<br>✔ fundamental review of the regulatory framework and adaptation to the new dynamics of the market place and future needs of the European Information Society;<br>✔ improvement to guidance of a regulatory nature given to ETSI (European Telecommunications Standard Institute);<br>✔ improvement to ETSI working practices in the area of mandated work of a regulatory nature, and<br>✔ reduction of the period between the approval of a proposed measure by ACTS (Approvals Committee for Terminal Equipment) and the publication of the CTR (Common Technical Regulations)[13] in the Official Journal.<br><br>In January 1997, the Satellite Equipment Directive was not yet implemented in four Member States. Therefore, the Commission has sent reasoned opinions to them. |

[12] Hoppenstedt report (A3-303/93); Committee on Economic and Monetary Affairs and Industrial Policy.

[13] CTRs specify the mandatory essential requirements.

| IL1 | SATELLITE EARTH STATION EQUIPMENT |
|---|---|
| | **CODIFICATION**<br>At the end of 1995, *the Commission proposed* (COM(95)612 final) to combine the 1991 telecommunications terminal equipment Directive and the 1993 extension Directive in respect of satellite earth station equipment into a single text. This will simplify current legislation.<br><br>The EP approved the proposal without amendments on 22 May 1996. At the moment of writing, the proposal was still pending with the Legal Service of the Council due to work overload in codification. As soon as the Legal Service has given its opinion, it will be adopted by the Council. |

| IL2 | COMMISSION DIRECTIVE ON SATELLITE COMMUNICATIONS<br>Abolition of exclusive and special rights in the provision of satellite communications services and equipment |
|---|---|
| *Adopted* | Commission Directive of 13 October 1994 amending Directive 88/301/EEC[14] and Directive 90/388/EEC[15] in particular with regard to Satellite Communications (94/46/EEC; OJ L268/15, 19.10.94) |
| *Legislative History* | **POSITION OF THE COMMISSION**<br>Legal basis: Article 90(3)<br><br>In line with the November 1990 Green Paper on satellite communications, this Commission Directive under Article 90(3) provides for:<br>✔ full liberalization of the satellite services and equipment sector;<br>✔ abolition of exclusive or special rights, and<br>✔ unrestricted access to space segment capacity.<br>Licensing and declarations procedures may only be justified by the compliance with essential requirements, including avoidance of harmful interference and effective use of frequency spectrum. Licences must be granted pursuant to objective, proportional and non-discriminating criteria.<br>The Directive aims in particular to liberalize the market for VSAT (Very Small Aperture Satellite Terminals) and for the larger terminals used for news gathering, mobile communications and other forms of business communications. The main users of these systems are distribution firms and the banking sector. The Commission estimates that some 800,000 VSATs could be in use in the EU by the year 2000.<br>The Directive is likely to result in:<br>✔ lower costs for the installation and operation of satellite telecommunications networks, meaning lower prices for users;<br>✔ harmonisation of the regulatory environment, facilitating the establishment of pan-European networks;<br>✔ the rapid development, particularly in peripheral or less-developed regions, of multi-media applications and access to information superhighways;<br>✔ the removal of barriers to provision of services and interconnection;<br>✔ the simplification of granting of licences and procedures for registration and installation of equipment, and<br>✔ greater confidence on the part of users, operators and investors.<br>The Member States had nine months from the date of publication of the text in the Official Journal to implement the Directive. The Commission, however, took into account the situation of Member States whose earth-based networks were not yet adequately developed and could delay application of the Directive until the 1st of January 1996. |

[14] Commission Directive of 16 May 1988 on competition in the markets in telecommunications terminal equipment (88/301/EEC; OJ L131/73, 27.05.88).

[15] Commission Directive of 28 June 1990 on competition in the markets for telecommunications services (90/388/EEC; OJ L192/10, 24.07.90).

| II.2 | COMMISSION DIRECTIVE ON SATELLITE COMMUNICATIONS<br>Abolition of exclusive and special rights in the provision of satellite communications services and equipment |
|---|---|
| | The Directive does not apply to voice telephony (to be liberalized in 1998), nor to intercontinental satellite communications (subject to the February 1997 WTO Agreement), nor to the provision of direct television broadcasting links, which would also be the subject of a specific Directive.<br><br>**POSITION OF THE EUROPEAN PARLIAMENT**<br>The Directive based on Article 90(3) only required adoption by the Commission. However, the Commission made an effort to build consensus, also from the European Parliament, by publishing the Directive in draft form in December 1993[16] for comment. On 19 April 1994[17], *the EP adopted* a Resolution endorsing the draft Directive. |
| ***Further developments*** | At the end of 1996, five Member States had not notified implementation of the Directive to the European Commission. Therefore, the Commission has started infringement procedures, to be followed through if notification letters are not sent to the Commission in the meantime. |

16 SEC(93) 1891.

17 Resolution on the draft Commission Directive amending Directives 88/301/EEC and 90/388/EEC with regard to Satellite Communications, A3-201/94.

| IL3 | SATELLITE LICENCES |
|---|---|
| ***Withdrawn*** | Proposal for a EP and Council Directive on a policy for the mutual recognition of licences and other national authorisations for the provision of satellite network services and/or satellite communications services (COM(93)652 final) |
| ***Replaced by*** | Proposal for a Directive on a European framework for general authorisations and individual licences in the field of telecommunications services (COM(95)545 final); this Directive was adopted on 6 March 1997. |
| ***Legislative History*** | **COMMISSION PROPOSAL**<br>Legal basis: Articles 57(2), 66, 100a and 235<br><br>The aim of the proposed Directive was to facilitate the spread of earth station satellite communication networks and services. To this end it established a procedure for the mutual recognition of licences and authorisations granted by the Member States for the installation and exploitation of satellite earth station networks and/or satellite communications services. Two operational mechanisms were to be established: one to cater for licensing under fully recognized harmonized conditions and another to cater through the use of a transitional one-stop-shopping regime for satellite services for which full mutual recognition has not been achieved.<br><br>**POSITION OF THE EUROPEAN PARLIAMENT** (First Reading)<br>In its Resolution of 19 April 1994[18], *the Parliament* presented several amendments: pointing out that holders of mutually recognised national authorisations can find legal remedies in the administrative law of the Member States; clarifying the definition of satellite network services to cover satellite broadcasting and applications for fixed satellite services. Parliament also asked to receive the annual report on negotiations on access for Community undertakings to the markets of third countries in the field covered by the Directive.<br><br>The Commission did not comment on Parliament's amendments and withdrew its proposal at the end of 1995. |

[18] Hoppenstedt report A3-205/94, on behalf of the Committee on Economic and Monetary Affairs and Industrial Policy.

| IL3 | SATELLITE LICENCES |
|---|---|
| ***Further Developments*** | In November 1995, the proposed Satellite Services Licence Directive was replaced by the draft Directive on a common framework for general authorisations and individual licences in the field of telecommunications services (COM(95)545 final). This proposal seeks to establish the lightest possible authorisation regime, in order to ensure the efficient development of the sector. It sets out an exhaustive list of conditions which can be included in the compliance requirements relating both to technical (essential) requirements as well to public interest objectives. The proposal therefore provides for for the harmonisation of general authorisations and individual licensing conditions, building on the possibility of cooperation under the CEPT[19] umbrella in the preparation of harmonized conditions. In this context, the Commission has concluded a Memorandum of Understanding with ECTRA (European Committee for Telecommunications Regulatory Affairs), an intergovernmental organisation comprising EU Member States as well as other European countries, including Central and Eastern Europe. Under that Memorandum the Commission entrusts certain work orders, in particular in relation to the harmonisation of licensing conditions, to ECTRA's European Telecommunications Office (ETO).<br><br>The proposal also took account of the international dimension of telecommunications. It provides for negotiations with third countries where there are significant imbalances in market access opportunities. The Council may exempt Member States from obligations laid down in the proposed Directive in relation to operations from the third country. This provision is without prejudice to commitments which were agreed in the context of the World Trade Organisation (WTO) on 15 February 1997. This agreement will come into force on 1 January 1998, the same day on which the full liberalization of telecommunications in the EU is to be effective. The WTO agreement concluded among 68 nations, representing about 90% of the world telecommunications market, will abolish the international access barriers which exist between the fixed telephone systems, mobile telephony, data/transmission and satellite communications, covering a market of more than 500 bn ECU. The proposed Directive foresees a specific review of access opportunities to third country markets by 1999. |

[19] Conférence Européenne des Postes et Télécommunication.

| IL4 | SATELLITE SPACE SEGMENT REGULATION |
|---|---|
| *Adopted* | Council Resolution of 22 December 1994 on further development of the Community's satellite communications policy, especially with regards to the provision of, and access to, space segment capacity (94/C379/94; OJ C379/5, 31.12.94) |
| *Legislative History* | **COMMISSION PROPOSAL**<br>Legal basis: Discussion on the basis of Art. 59 (freedom to provide services) and Art. 52 (right of establishment)<br>In its Communication[20], *the Commission considered* necessary:<br>✔ direct access to the space segment, including in particular space segment provided by the International Satellite Organisations;<br>✔ joint action by the Member States in the reform of the International Satellite Organisations and in particular of EUTELSAT;<br>✔ joint management in the future of the space segment as a common resource of the Union, in particular concerning future applications to the International Telecommunication Union for orbital positions and related coordination procedures and availability of radio/frequencies;<br>✔ the establishment of measures in order to ensure comparable and effective access to third countries, in parallel with the Union's market liberalization, and<br>✔ inclusion of satellite/based services in programmes for Trans-European Networks as a major priority, in particular, with regard to the emerging technologies.<br><br>**POSITION OF THE EUROPEAN PARLIAMENT**<br>In its Resolution of 17 February 1994[21], the *EP* supported the principle that open access to the satellite sector should apply equally to public enterprises and to private operators. Therefore it invited all Member States to take measures in such international organisations as INTELSAT, INMARSAT and EUTELSAT likely to ensure the non-discriminatory allocation of space segment capacity. The EP concluded that there may be a need for a central supervisory authority to monitor all providers of space segment capacity in Europe. The EP regretted that the Commission had not submitted a draft Resolution with the Communication, as it did when it submitted its Communication on satellite navigation services. |

[20] Communication on satellite communications: the position of and access to - space segment capacity (COM(94) 210 final.

[21] Based on the Hoppenstedt report A4-121/94, (own-initiative) on behalf of the Committee on Economic and Monetary Affairs and Industrial Policy.

| IL4 | SATELLITE SPACE SEGMENT REGULATION |
|---|---|
| | **THE COUNCIL POSITION**<br>The Council Resolution of 22 December 1994 on Further Development of the Community's Satellite Communications Policy, especially with regard to the Provision of, and Access to, Space Segment Capacity (94/C379/04; OJ C379, 31.12.94) *invited* Member States to apply the instruments of international satellite organisations at national level in line with the Treaty obligations. In particular, EU competition rules have to guarantee non-discriminatory access to space segment capacity. The Council invited the Commission to monitor access arrangements in third countries' markets with a view to ensuring comparable and effective market access to third countries, in line with the GATT framework and other international obligations of Member States. It recommended the Commission to report on the progress in the implementation of Community measures such as Commission Directive 94/46/EC, which liberalized the market for satellite communications. |
| ***Further Developments*** | The European Union seeks to ensure a fully competitive marketplace with the International Satellite Organizations (ISOs), such as INTELSAT, INMARSAT EUTELSAT and their commercial spin-offs. This could involve multiple signatory and direct access arrangements with ISOs, thus giving access to space capacity to users and other service providers directly. |

| II.5 | SATELLITE PERSONAL COMMUNICATIONS SERVICES (S-PCS) |
|---|---|
| ***Under discussion*** | Proposal for a decision on an Action Plan at Union Level in the Field of Satellite Personal Communications Services (COM(95)529 final). Council formally adopted the Decision fixing a coordinated approach to authorizations for the provision of personal communication services on 6 March 1997. |
| ***Pre-Legislative History*** | **POSITION OF THE COMMISSION**<br><br>In April 1993, *the Commission presented* its Communication on Satellite Personal Communications (COM(93)171 final) accompanied by a draft Council Resolution on the introduction of Satellite Personal Communications Services in the European Community. The Commission highlighted the need for Community action given the growing importance of satellite personal communications, in particular through systems comprised of low earth orbiting satellites (LEO's).<br><br>*The EP* in its Resolution[22] of 29 October 1993 *commented* on the Commission's report and the draft Resolution. The introduction of S-PCS is of vital importance for Europe's telecommunications industry and its space industry; a European position therefore needed to be formulated urgently because of rapid technological and regulatory developments, particularly in the United States. It requested that a common concept in the sphere of S-PCS should be developed quickly, since the competitiveness of the European space and telecommunications industries is threatened by the US lead in the development of non-geostationary satellite systems and in licensing. A greater research effort at national and European level and close cooperation with ESA are needed. The Commission should report to the EP as well as the Council on developments about S-PCS regularly.<br><br>On 7 December 1993 *the Council adopted* a Resolution[23] on the introduction of S-PCS and invited the Commission, among other things, to investigate the significance of satellite personal communications in the formulation of Union policies for telecommunications, space, trade, industry and regional development, and, where necessary, to propose appropriate measures and/or actions.<br><br>In addition, *the EP* in its Resolution[24] of 19 May 1995 on mobile and personal communications considered it a priority objective to establish a harmonized licensing approach for satellite-based mobile and personal communications and, on that basis, to initiate procedures for licensing such systems at an early stage; whereas, according to that Resolution, that approach should have been implemented by 1 January 1996 in order to take account of the rapid development of such services at global level and of their potential in both social and commercial terms. |

[22] Lulling report A3-302/93.

[23] Council Resolution of 7 December on the introduction of S-PCS in the Community (93/C339/01; OJ C399/1, 16.12.93).

[24] Hoppenstedt report, A4-179/96, Committee on Economic and Monetary Affairs and Industrial policy.

| II.5 SATELLITE PERSONAL COMMUNICATIONS SERVICES (S-PCS) | |
|---|---|
| ***Legislative History*** | **THE POSITION OF THE COMMISSION**<br>Legal basis: EC Article 100a<br><br>In November 1995, *the Commission reacted* to the EP and Council resolutions and published a draft EP and Council Decision on action at a Union Level in the field of Satellite Personal Communications Services in the European Union (COM(95)529 final). The proposal logically followed the earlier Communication on Satellite Personal Communications services. The aim of the proposal was to select by the end of 1996 satellite systems for such services and the adoption of harmonized conditions for services, equipment, interconnection, numbering and gateway services. The Commission considered it urgent to agree to a common approach to selection and authorisation for the provision of S-PCS's on the basis of co-ordinated national regulatory conditions and criteria, taking due account of European industry and users.<br>An important consideration was that the EU could be constrained by licensing decisions elsewhere, namely in the United States which had already licensed S-PCS systems. S-PCS will allow global connectivity and mobility, complementing the existing terrestrial, mobile or fixed systems. However, the large investments for S-PCS (2 to 4 billion ECU) make legal guarantees for national downlink and interconnection-licences a top priority.<br><br>**THE POSITION OF THE EUROPEAN PARLIAMENT**<br>In its Resolution[25] of 19 June 1996 *the EP submitted* 22 amendments.<br>The EP wished that Member States be responsible for issuing licences and frequencies, but common general rules should apply throughout the EU. The EP asked the Commission to harmonize the authorisation conditions for S-PCS by including them in the draft Telecommunications Licences Directive. The Commission accepted nine amendments including one dealing with the Licensing Committee, coordinating the licensing conditions. The EP insisted that if the Member States fail to coordinate their positions, then the Commission should be given the mandate to make their comply, and to represent the EU at the International Telecommunications Union and the CEPT. In its reaction to the Council's common position[26], the EP was in favour of the procedure to commit Member States to coordinate their selection procedures of service providers and to ensure a harmonized use of the spectrum, making use of the CEPT framework, for a determined period. It also welcomed the licensing procedure consistent with the ONP procedure. |

25 Hoppenstedt report, A4-179/96, Committee on Economic and Monetary Affairs and Industrial Policy.

26 Second Reading, resolution of 20.2.97, Hoppenstedt Report (A4-50/97).

| II.5 SATELLITE PERSONAL COMMUNICATIONS SERVICES (S-PCS) | |
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| | **THE POSITION OF THE COUNCIL**<br>In March and September 1996, *the Telecommunications Council* moved towards consensus that CEPT should be mandated to draw up criteria for licensing frequencies and harmonize the authorisation scheme for S-PCS, according to a "one-shop-procedure". On 6 March 1997, the Council formally adopted the Decision. |
| ***Further Developments*** | The CEPT will have a deadline until mid-1997 for its mandate. Member States are asked to coordinate their authorisations procedures. If the work in CEPT does not progress, a decision will be taken on the Licensing Committee (under the comitology procedure) that will have to be set up under separate legislation on telecommunications licences. This position was confirmed in the Common Position, adopted unanimously by the Council on 11 December 1996.<br><br>In its Communication of December 1996 on the European Union and Space, *the Commission announced* an Action Plan for satellite communications which will stimulate personal communications and broadband multimedia applications via satellite. This Action Plan was presented on 5 March 1997. One of the important items in the Action Plan is S-PCS. The harmonized regulatory regime for the introduction of S-PCS in Europe has to be consolidated and Europe's international position has to be reinforced both at policy and industrial level. |

# III SATELLITE NAVIGATION REMOTE SENSING TRANS-EUROPEAN NETWORKS (TEN) AND FRAMEWORK PROGRAMME RESEARCH AND TECHNOLOGICAL DEVELOPMENT (RTD)

In this section three main Community actions are traced which deal with:

- Global Navigation Satellite Systems (IV.1);
- Remote Sensing (IV.2), and
- Trans-European Networks, Research and Technological Development (IV.3).

| III.1 | GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) |
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| ***Adopted*** | Council Resolution 94/C379/2 of 19 December 1994 on the European Contribution to the Development of a Global Navigation Satellite System |
| ***Legislative History*** | **THE POSITION OF THE COMMISSION**<br>Legal basis: Article 129b (TENs)<br><br>In June 1994, *the Commission issued* the Communication "Satellite Navigation Services: a European Approach" (COM(94)248 final). This also included a draft Council Resolution on the subject. The Communication, which is part of the Action Plan "Europe's Way to the Information Society", asked for urgent European involvement in the implementation of a civilian Global Navigation Satellite System (GNSS). If Europe does not act promptly then the control of the entire system will be done from overseas by implementing a civil American complement to the military Global Positioning System (GPS). User requirement standards and certification schemes for equipment will be set by those who will own and operate the upgraded system. The result would be a major dependence of Europe on the provision of a strategic asset for the future and a poor perspective for its industry to capture the large associated market for user equipment.<br>The Communication proposed an EU programme for the development of satellite navigation and positioning services applicable to any mode of transport. If considered that navigation satellites are an integral part of Trans-European Networks.<br>The Communication contained a financial statement proposal that a genuinely European component of the GNSS be developed within the guidelines for Trans-European Transport and Communications Networks, and for the specific Transport and Telematics Programmes in the Fourth Framework RTD Programme[27]. |

[27] Three actions were proposed for a total amount of 58 MECU for the five-year period 1994-1998. Action one was to define the operational specifications and architecture of the satellite positioning system (13 MECU), with ESA as project leader. Action two would set up a European complement to the American GPS (25 MECU) and Action three pertained to future navigation systems (20 MECU). The legal basis for this expenditure was in:

- Proposal for a decision by the EP and the Council concerning Community guidelines for the development of the Trans-European Transport Network (COM(94)106 of 07.04.94);
- Proposal for a Council Regulation on finance assistance by the Community in the field of the Trans-European Networks (COM(94)62 final of 02.03.94), and
- Proposal for specific programmes for the Fourth RTD: telematics and transport (COM(94)68 final of 30.03.94).

| III.1 | GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) |
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| | **THE POSITION OF THE EUROPEAN PARLIAMENT**<br>In its Resolutions of 19 January 1995[28] and 18 November 1994[29], the Parliament has recognized the need for Europe to play a key role for the implementation of GNSS. The EP drew attention to the need for a coherent and consolidated European strategy in this field which clearly required action at Union level for the coordination of programmes undertaken by ESA, Member States, space organisations and industry. The EP repeated its proposal for the establishment of a European Space Council, to be set up by the Council in conjunction with relevant organisations. The EP called on the Commission to report on progress made in European participation in satellite navigation systems and the coordination achieved with ESA and other relevant organisations, as well as the outcome of negotiations with the USA and Russia in these fields. Finally the EP asked the Commission to set up a European Strategy for Satellite Navigation (aimed at providing access to transponders in the international INMARSAT II navigation satellites), and to provide for training in space technology at Community level. |
| | **THE POSITION OF THE COUNCIL**<br>The Council Resolution of 19 December 1994 confirmed that the Community, within its specific research programmes, could contribute to the development of GNSS in accordance with Article 130f of the Treaty. The Council called on the Commission to initiate or support work on the development and implementation of GNSS 1 - a European complement to existing systems using INMARSAT III satellites - and GNSS 2 - a system for civil use, which should be compatible with GNSS 1 and should be operated according to international guidelines on an independent and, if possible, private-enterprise basis. To coordinate the European contribution to GNSS 1 and GNSS 2, the European Community, ESA and EUROCONTROL have joined their efforts within the European Tripartite Group. The Community provides the political and complementary financial support for projects through the Trans-European Networks and the specific RTD programmes for telematics and transport. The Council also invited the Commission to submit a draft programme indicating the different stages for the introduction of a GNSS for civil use. |

28 Cornelissen report on GNSS (A4-88/95), on behalf of the Committee on Transport and Tourism.

29 Castellina, Cornelissen report on a specific programme for RTD in the field of transport (A4-65/95), on behalf of the Committees on Research and Technology and Transport.

| III.1 | GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) |
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| ***Further Developments*** | With the assistance of the High Level Group consisting of representatives from national governments, users, industry and potential service providers, a GNSS rolling Action Plan will be presented by the Commission in the first quarter of 1997. This Plan will provide a framework for the deployment of GNSS in Europe. It will present the remaining technical and institutional activities to be carried out to implement the European contribution to the global system. The Commission will also propose to begin formal negotiations with the other major players, in particular the USA, Russia and Japan. Furthermore, the Commission has negotiated a tripartite agreement with ESA and Eurocontrol to set up a GNSS secretariat in Brussels.<br>In the latest 1996 annual report on Trans-European Networks[30], a survey is presented of GNSS projects within TEN and EIB financing of satellite stations. |

[30] COM(96)645 final, p68 on TEN and p77 on EIB financing.

| III.2 | REMOTE SENSING |
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| *Adopted* | ✔ Council Regulation 92/3508/EEC of 27 November 1992, establishing an integrated administration and Control System for certain Community aid schemes<br>✔ Council Decision 94/753/EC of 14 November 1994 on the Continued Application of Remote Sensing to Agricultural Statistics during the period 1994 to 1998<br>✔ Council Regulation 96/2489/EC of 19 December 1996 regarding the deadline for a Council Decision on a continuous position monitoring system using satellite communications for Community fishing vessels. |
| *Legislative History*<br><br>• Agriculture<br>• Community Aid schemes | **THE POSITION OF THE COMMISSION**<br>Legal basis: Article 43<br><br>In order to improve the entire system of statistical data collection and agricultural forecasting under the common agricultural policy *the Commission* proposed a pilot project on remote sensing with a total budget of 35.5 million ECU (COM(88)163).[31] In another proposal about Remote Sensing Checks, amending Regulation 92/3508/EEC[32] (COM(93)455 final), a Community contribution to the costs incurred by the Member States for the use of aerial or satellite remote sensing during the checks on agricultural areas was suggested.<br><br>**THE POSITION OF THE EUROPEAN PARLIAMENT**<br>On 16 September 1988 the EP endorsed the proposal[33] to set up a Pilot project on Remote Sensing in agriculture.<br>On 30 September 1994, the EP agreed to continue the programme for Remote Sensing in Agriculture for the period 1994-1998[34].<br>In another Resolution of 15 December 1993[35], about part-financing by the Community of Remote Sensing Checks and amending Council Resolution 92/3508/EEC of 27 November 1992 establishing an integrated Administration and Control System for certain Community Aid Schemes, the EP presented an amendment increasing the Community contribution to 75% of real expenditure per Member State. |

31 See also: "Economic aspects of remote sensing", DG for Research, Working Paper Energy and Research Series #16, December 1995.

32 Council Regulation 3508/92/EEC of 27 November 1992 (OJ L355, 05.12.92, p1).

33 Colino Salamanca report (A2-153/88), on behalf of the Committee on Agriculture, Fisheries and Food.

34 Consultation procedure without report (OJ C 305, 31.10.94, p. 143).

35 Wynn report (A3-394/93), on behalf of the Commission on Agricultural and Rural Development?

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| | **THE POSITION OF THE COUNCIL**<br>The Council Decision 88/C119/03 provided the first pilot project on remote sensing applied to agricultural statistics. After a review of the pilot project, the Council decided to continue the programme for the period 1994-1998 in its Decision of 14 November 1994. The Decision facilitates the use of remote sensing by interested Member States in order to improve agricultural statistics systems and to provide the Commission with estimates before harvest of acreages and potential production of the main crops at European and national level. The JRC's Institute for Remote Sensing Applications provides statistical data from satellite measurements, notably for the evaluation of agricultural production (MARS SAT) and for checking that cultivated surface areas correspond to the levels set under the common agricultural policy (MARS CAP).<br><br>Another Council Regulation 94/165/EC of 24 January 1994 dealt with the co-financing by the Community of Remote Sensing Checks. The Regulation promoted remote sensing by Member States to check agricultural areas. The appropriations available were not to exceed 50% of the actual expenditure incurred. |
| *Fisheries* | On 19 December 1996, the Fisheries Council decided to monitor Europe's fishing vessels with a satellite surveillance system[36]. The original proposal (COM(96)386 final) sought to update two 1993 Regulations designed to improve the monitoring of fishing catches by extending a satellite monitoring system already tested in these pilot projects. The EP had approved the proposal in the Resolution of 13 December 1996[37]. The EP stressed that the new rules must be applied fairly in all Member States, and that the system should not impose an excessive administrative burden on fishermen. |

[36] Council Regulation 96/2489/EC of 20 December 1996.

[37] Mr. Souchet report, Committee on Fisheries.

| III.3 | TRANS-EUROPEAN NETWORKS |
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| *Adopted* | ✓ EP and Council Decision 16/96/EC of 23 July 1996 on Community Guidelines for the Development of the Trans-European Transport Network<br>✓ Council Regulation 2236/95/EC of 18 September 1995 laying down general rules for the granting of Community financial aid in the field of Trans-European Networks. |
| *Legislative History* | **THE POSITIONS OF THE COMMISSION AND THE EP**<br>Legal basis: Chapter XII of the Treaty on Trans-European Networks, Article 129d<br><br>In April 1994, the Commission proposed Community Guidelines for the Development of the Trans-European Network for Transport (COM(94)106 final). In Article 24 dealing with projects of common interest for the entire network, maritime and air transport radio navigation systems were two different modes for which projects of common interest should help to modernize the present systems for the benefit of efficiency and safety. These actions should eventually lead to a common system for Europe, including satellite technologies. A civilian system guaranteeing undisturbed use seemed to be appropriate. The projects should take into account other Community actions, in particular those emerging from the information and telecommunications policies.<br><br>The EP presented 160 amendments on 18 May 1995[38].<br><br>In February 1995 the Commission took into account roughly half of the EP amendments in its amended proposal on the Community Guidelines for the Development of the Trans-European Transport Network (COM(95)48 final).<br><br>The EP reintroduced 111 amendments on 21 November 1995[39].<br><br>**THE POSITION OF THE COUNCIL**<br>The Council Decision of 23 July 1996[40] on Community Guidelines for the development of the Trans-European Transport Network (OJ L228, 09.09.96, p1), stipulated -amongst others- that the Trans-European positioning and navigation systems network shall comprise the satellite positioning and navigation systems and the systems to be defined in the future European Radio Navigation Plan. These systems shall provide a reliable and efficient positioning and navigation service which can be used by all modes of transport. |

38 Piecyk report (A4-96/95), on behalf of the Committee on Transport and Tourism.

39 Piecyk report (A4-292/95), on behalf of the Committee on Transport and Tourism.

40 OJ L 228, 9.9.96, p.1.

| III.3 TRANS-EUROPEAN NETWORKS | |
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| | The Council's adoption, on 18 September 1995, of Regulation 2236/05/EC (OJ L228/23, 23.09.95) laying down general rules for the granting of Community financial aid in the field of Trans-European Networks enabled the Commission to commit the available appropriations. In June 1996, the General Meeting of the European Investment Fund authorized to invest capital linked to TEN projects. In 1996, the European Investment Bank signed finance contracts of over 300 MECU for satellites and stations. |

| HE4 | RESEARCH AND TECHNOLOGICAL DEVELOPMENT |
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| *Adopted* | ✔ Council Decision 94/911/EC of 15 December 1996 adopting a specific programme of RTD, including demonstration, in the field of environment and climate (1994 to 1998)<br>✔ Council Decision 94/918/EC of 15 December 1994 adopting a specific RTD programme to be carried out for the European Community, on the one hand, by the JRC, and, on the other, by means of activities within the framework of a competitive approach and intended for scientific and technical support for Community policies (1994-1998). |
| *Legislative History* | **THE POSITION OF THE COMMISSION**<br>Legal basis: Article 130.1 EC<br><br>In August 1994 the Commission proposed a Council Decision adopting a specific programme for research and technological development in the field of environment and climate for the period 1994-1998 (COM(94)68).<br><br>**THE POSITION OF THE EUROPEAN PARLIAMENT**<br>The principle was endorsed by Parliament on 17 November, subject to a number of amendments concerning the incorporation of the human dimension of environmental change, the establishment of regional interdisciplinary research networks, projects to reverse the desertification process, and methods to protect human health and improve industrial safety (OJ C341, 05.12.94).<br><br>**THE POSITION OF THE COUNCIL**<br>On 15 December 1994 the Council adopted a new research programme in the field of the environment for the period 1994 to 1998 (OJ L361, 31.12.94, p1). With a budget of ECU 852 million, this programme covers four areas:<br>✔ study of the natural environment;<br>✔ environment quality and global change;<br>✔ space technologies for environmental monitoring, and<br>✔ the human dimension of environmental change.<br><br>In 1995 the Commission continued to implement its space policy, with the support of an ad hoc group on space and in collaboration with ESA and the Committee on Earth Observation Satellites (CEOS). A work programme was drafted for setting up the Centre for Earth Observation in 1996, in concert with the JRC. The JRC had received a mandate to provide scientific and technical support in this area by the specific RTD Programme, adopted by Council Decision 94/918/EC of 15 December 1994. |