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BRUXELLES

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relative à la
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EUROPEAN SPACE AGENCY

INTERVENTION FOR THE LEGAL COMMITTEE OF THE EUROPEAN PARLIAMENT

BRUSSELS 17.3.93

Honourable Members of Parliament, Mister Chairman,

Let me thank you for giving the European Space Agency the opportunity to intervene for such an important Forum as this Legal Committee of the European Parliament. I would like to emphasise the special character of this session for the European Space Agency as it will constitute the first time that ESA will address this Committee on a subject that is of great importance to all of us namely the observation of the earth and its environment by satellites, in short remote sensing, which will enable mankind to monitor better changes of the earth environment and at the same time will provide essential information for managing the earth resources.

Let me first explain to you why ESA is giving this intervention and what its activities have to do with today's discussion on the Draft Directive on the legal protection of databases. ESA is the European Space Research and Development Agency with 13 Member States. ESA is an international intergovernmental organisation with as its main goal to carry out R&D projects related to space activities. Most of the money contributed by the Member States is used for industrial research and development contracts managed by a relatively small staff of engineers and administrators of the Agency. One of the important programmes of the Agency is the Earth Observation programme and ESA developed the successful European Remote Sensing Satellite (ERS-1) which was launched in 1991 and operated by the Agency. ERS-1 should be followed in the near future by a number of other satellites monitoring the earth environment and assisting meteorological services in carrying out their useful tasks. These new satellites are for example the European Polar Platform destined for environmental research and the METOP programme which will provide meteorological data from polar orbits.

Other European remote sensing satellites are the Meteosat satellite generation developed by ESA which data are distributed by the Eumetsat organisation and the French SPOT satellite which was launched in 1986.

Currently, ESA and the European industry are further developing the necessary ground segment to use the data these satellites provide. In this ground segment active participation of the users of the data, network providers and value added industry is needed in order to achieve an optimal use of the data and to develop a European industry having the knowledge and technology to distribute the data. One of the main obstacles to develop the ground segment and the service industry using the data is the legal uncertainty with regard to the protection of these data. The only solution for creating a healthy and viable economic chain justifying the expectation of profitability is to provide the private sector with an adequate legal tool at its disposal to enable recovering the investments needed. At present no clear legal framework exists granting the protection of remote sensing data. The European Space Agency has studied together with ECSL and the European Commission ways of improving this situation and the Draft Council Directive on the legal protection of databases appears to be the possible adequate legal framework for the protection of these remote sensing data. This is the reason why ESA gives so much importance to this Directive.
Before going further into detail I first would like to introduce to you briefly the activities and structure of the European Space Agency a European international organisation established in 1975.

After that I will give a short overview of the relationship between ESA and the Community and I will describe remote sensing and its importance for environmental monitoring and the prominent role Europe plays through ESA.

Finally I will discuss the Draft Directive and its relevance and importance for European remote sensing activities.

1) ESA

The European Space Agency and the European Community have almost the same member states. ESA has currently thirteen member states of which 10 states are also member of the European Community. Four states Austria, Norway, Sweden, and Switzerland are only ESA Member State and three EC Member States, Greece, Luxembourg and Portugal are not a member of ESA. Finland is an Associate State of ESA and is planned to become full member in 1995 and ESA has a special cooperation relation with Canada which participates in several programmes of the Agency.

The main purpose of ESA is "to provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications, with a view of their being used for scientific purposes and for operational space applications systems".

ESA developed very quickly since its establishment in 1975, and is the main organisation that make Europe the third space power in the World with its Ariane Launcher programme, its telecommunications programme OTS and ECS now widely used for pan-European television programmes, Olympus, and EMS, its Columbus space station and its Earth Observation programme ERS.

ESA played a key role for the establishment of INMARSAT (by developing the MARECS satellites used by INMARSAT), EUTELSAT and EUMETSAT all international organisations which carry out the operational activities of satellite initially developed by ESA, and Ariane space which holds currently some 50% of the world market for launchers and which is responsible for the commercialisation of the by ESA developed Ariane launchers.

Apart from these applications programmes ESA carried out various scientific missions for exploring the Universe with as an example the successful encounter with the Halley Comet in March 1986.

1 Article 2 of the ESA Convention
2) ESA and Europe

Space activities were always of interest to Community entities and for example in 1985 The European Parliament adopted the (Toksvig) report that discussed ESA activities and that supported the policy of ESA with an emphasis on the creation of an Independent European Space capacity 2.

Since 1987, with the adoption of the Single European Act, the European Community became more actively involved in space policy as it is now considered to be falling under the general R&D competence of the Community. A number of documents have been published within the European Community framework with regard the question of the role of the Community in space activities in Europe and on the importance of space activities for Europe in general 3.

In this respect the Resolution on Space Policy 4 adopted by the Parliament in 1990 is important to mention because in this report it was advised amongst others to "suggest proposals for solutions in the three most urgent fields of European Space Policy namely industrial utilisation of space technology, de-regulation of satellite telecommunications, the use of earth observation satellites for environmental and resource control and monitoring".

With regard the relation between the European Community and ESA it was concluded that: "the overall objectives of the Community and ESA are the same: thus a sound basis for harmonious cooperation between the "two bodies" exists" but ESA as an intergovernmental international organisation has the character of a joint venture which implies that there exists no overall mutual legal or political obligations towards another and that there is no enforcement power of ESA towards its Member states".

The Community, however, as a supranational organisation has the instruments to define, implement and enforce common policies. Therefore, the Report concluded, the role of the Community is to complement ESA activities for the general benefit of Europe. Of course we are speaking here of two separate international organisations with different roles and responsibilities. The European Community with a prominent political and economic role and the European Space Agency with a responsibility of the management of the major space R&D programmes in Europe.

One of the means which was identified to complement ESA activities is "to enact the necessary legislation in Member states to make possible the full exploitation in Europe of the potential of space flight and technology by creating a favourable legal framework for the creation or growth of new or existing space markets".

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2 Ref: PE'95.639/fin; doc A2108/85

3 See, also the first Communication of the Commission on Space entitled "The European Community and Space: A Coherent Approach", July 1988

4 Rovsing Report; European Space Policy, European Parliament, 1990, EP/R9009001:
This is exactly the reason why I am giving this presentation for the Parliament concerning the interest the space community has in the Draft Directive on the legal protection of databases.

Last year a number of documents were published by the European Community which draw attention to the problem of the protection of satellite remote sensing data.

For example in its Communication to the Council and the European Parliament, the Commission stated that uncertainties exist concerning the conditions of access to earth observation data and that therefore legislative action should be undertaken to establish the appropriate legal conditions for the protection of intellectual property rights for satellite data.

In the same Communication it is provided that the Commission will make proposals to increase and intensify the use of satellite data within the framework of various Community policies.

It therefore obvious that for achieving this aim of the Community a clear legal framework for obtaining and distributing the data is essential and beneficial. Now, the Community is in the position to use its regulatory powers to harmonise and strengthen the use of remote sensing data in Europe and I can only hope that the Members of Parliament can come to the same conclusion as the Agency did and will support the recommendations of ESA.

For the Agency it is clear that both the Community and ESA have a political interest in stimulating the use of remote sensing data and that creating a stable legal regime for these data can be an important tool for reaching this aim. In this respect at the ESA Council Meetings at Ministerial level, held in Munich in November 1991 and in Granada in November 1992, European ministers competent for space matters unanimously supported the view of acquiring a solid basis for the formulation and strengthening of a European Earth Observation Policy.

I will now give you a short overview on the earth observation activities carried out by European actors and especially within the framework of ESA.

3) Importance of the Draft Directive for European Remote Sensing Activities

At this moment legal protection of remote sensing data is either lacking or depends on the interpretation of national legislations by national Courts. The main question concerns the legal character of the data produced by remote sensing satellites. In the actual practice there appears to be confusion under which type of law the data should fall. Conflicting schemes for protection are applied in the Member States as copyright laws, trade secret laws, or just ownership rights which all lead to different rights and obligations for the suppliers and distributors of these data.

5 "The European Community and Space: Challenges, Opportunities and new Actions" of 23 September 1992 (COM(92) 360 final)

6 ESA/C-M/CIV/Res.1 (Final), Chapter II. A. 8
This uncertainty hampers the further development of the European remote sensing industry as (private) investments will only be made when clear legal rights and obligations are established making the risks of investments in the remote sensing industry predictable.

Currently, satellite operators in the remote sensing area claim ownership and copyright on their data. These operators in Europe are Spot Image, ESA and Eumetsat. The last one promoted even changes to its Convention in an attempt to claim copyright-protection and ownership over its data and started to encrypt its signal in order to prevent unauthorised reception of the meteorological data and images. However, it is clear that copyright does not really solve the uncertainty concerning the legal status of these data as remote sensing activities have nothing in common with concepts like authorship, originality, creativity and human intervention. All essential doctrinal concepts within copyright. Also as we have stated before copyright protection due to the interpretations of the various national laws may lead to a un harmonised legal situation in Europe with regard the protection of remote sensing data.

Also ESA and other satellite operators are continuously confronted when negotiating data reception agreements with non-member countries with the question what kind of rights it could be asserted on these data, and under which applicable legislation. This of course was very important in agreeing the rights of the receiver of the data and to formulate in this way a data policy.

The Draft Directive on the protection of databases could end this unclear situation.

If remote sensing activities are to be considered as activities creating databases falling under the protection of the Draft Directive an important goal for the European remote sensing activities will be reached: a harmonised legal situation for protecting remote sensing data in Europe. Due to the sui-generis approach of the Draft Directive questions with regard to the author, originality and creativity have become irrelevant which when we consider the nature of remote sensing activities would constitute a far better legal approach and solution.

This will stimulate (private) investments in remote sensing activities in Europe. At the same time this harmonised environment would enable the remote sensing operators and the European Space Agency to base its data policy on a well vested legal fundament.

Moreover, it would make the European position in international fora dealing with data policy and the exchange of remote sensing data much stronger.

Now I have to discuss the needs for the European remote sensing community with regard the current Draft Directive as it has been proposed by the Commission.

It is clear that this Directive has not been drafted having in mind the needs of the space remote sensing players in Europe and that therefore the actual version of the Directive can only be applied to remote sensing activities when an extensive interpretation of the articles will be given. However, due to the nature of a Directive and the freedom it gives to the States to implement legislation applying the Directive, the legal uncertainty which we identified before will not be solved in a satisfactory manner and moreover may not lead
to a clear data policy and increased private participation in these activities.

In this respect we would like to stress again that the databases created through earth observation sensors on board satellite platforms deserve particular attention because they are of growing importance to Europe due to their use for the observation, modelling and understanding the complexities of the Earth for addressing global environmental problems.

The Directive intends to regulate the specific problems which arise as a result of the use of electronic data processing equipment for the storage, processing and retrieval of "information", in the widest sense of that term.

By considering remote sensing as a process creating databases and by considering reception of these data as accessing the database the whole process of remote sensing would be covered and protection under the terms of the Directive could be given.

Hence two main concepts of the Directive have to be adapted to the needs of remote sensing actors. Firstly, the concept of a database and secondly, the concept of extraction and accession of the database.

A database is characterised by the following elements:

- a structure which defines which information is contained in the database and in which format/organisation
- a medium on which the data is stored
- an access method defining how to retrieve the data, how to access the data base (protocols, access language, connection procedures)

As we will see below in the case of raw data, which are the data directly coming from the satellite, we can distinguish the following elements:

- there is a structure; the data are organised in a fixed and well defined format before being transmitted to the ground
- there is an access method; formats, decoding procedures, down-link characteristics etc. These are described by the satellite operator in documents which are distributed to the entities authorised to receive the data
- there is a storage medium; 1) the data can be stored on tape on board the satellite or 2) the data can be transmitted to the ground (without storing on tape) the data undergo a temporary storage in the memory of the on-board computer, during the reformatting process and while the telemetry packets are being assembled (see attachment for a schematic explanation).

Thus in principle there are only two legal problems namely, the database definition which is tailored for "earth databases" and which does not include databases without thesaurus and which consist, as in the case of remote sensing, of direct registered thematic information. Also the question of accession has to be raised as data can be obtained from satellites by simple interception.
Here to a small modification of the definition of access and extraction is necessary which I now will propose to you; such proposed additional wording will only complement the Directive’s framework of rights and does not change the purpose and the extend of its applicability neither the degree of protection sought by the present draft Directive.

**Modifications proposed for the Draft Directive in order to cover remote sensing activities**

Replace in Article 1 the definition of database by the following text:

data base means a collection of materials arranged, stored and accessed by electronic means, including intellectual materials necessary for the functioning of certain databases such as the thesaurus, index or system for obtaining or presenting information; it shall not apply to any computer programme used in the making or operation of the database;

Add to Article 1:

materials means protected works as well as directly registered electronic measurements intended to produce thematic information by external processing;

access means the entering in the database including the interception of the signal carrying the whole or part of the information of the database;

extraction means all methods of accessing as referred to in paragraph 1 of this article;

Finally I would like to conclude my intervention by thanking you again giving the Agency the opportunity to make this intervention and that this action also illustrates an example of a good cooperative spirit between the Agency and the Community.

Thank you.
ANNEX 1

Data are being collected through the lens of the observation instrument. The lens just receives reflections of various kinds of radiation.

LENS

PHOTO-DETECTION

The storage is actually taking place after the Figure 2 where the photo detection is being processed by the computer in the memory fields which always are organised in a well defined way and therefore can be considered as a database.

COMPUTER

The action of accessing the database takes place by the decoding of the memory fields and the data contained in the fields. If we accept this reasoning then the database is created, if we use the criterium of a discrete organised structure of the data, after the computer has stocked/processed the data in the memory fields.

MEMORY

TRANSMISSION
AND/OR
TAPE

Unauthorised accessing in the words of the draft directive takes place when the data is received (unauthorised/pirate) and decoded by entities not having the legal title to do this.