

## HIGH-RESOLUTION REMOTE SENSING IMAGERY AND HUMAN RIGHTS\*

*Dr. Philippe Achilleas*  
*Maître de Conférences*

Director of the Institute of Space and Telecommunications Law (University Paris Sud XI)  
Member of the International Space University Faculty (Strasbourg)

### *Abstract*

---

The question of compatibility between human rights law and remote sensing has taken on a new dimension with the emergence of high quality commercial high resolution systems. The concern is not simply one for political debate but is now focused on a concrete problem which affects the development of remote sensing services. It appears in effect that human rights law can reinforce or limit the development of remote sensing activities, notably in the areas of law relating to freedom of information and respect of private life. This paper aims to explain under what conditions and in what way these two fundamental freedoms can influence the development of high resolution remote sensing systems.

### *Introduction*

---

Interaction between human rights and space activities developed as a serious issue during the seventies with the emergence of direct broadcasting satellite systems. At that time the debate was focused on freedom of information.

Today, with the advent of commercial high-resolution remote sensing systems, new problems have arisen linked to the compatibility between remote sensing activities and protection of human rights. The questions raised are of great importance since human rights law can both ensure and restrict remote sensing services.

Before starting this presentation, two principles must be recalled. First, according to Article III of the 1967 Outer Space Treaty\*, space activities shall respect international public law. This rule is also stated in Principle III of the 1986 Principles relating to the Remote Sensing of the Earth from Outer Space† and establishes an implicit relation between remote sensing and respect of human rights as part of international law. Second, human rights are no longer protected only by ethical or political principles. They are protected by laws intended to regulate all human activities, political as well as commercial; laws which some courts have already applied in the field of space commerce‡.

The development of high-resolution commercial remote sensing

---

\* Copyright by Philippe Achilleas. Published by American Institute of Aeronautics and Astronautics, Inc, with permission. Released to AIAA in all forms.

systems may affect two fundamental rights: freedom of information and right to privacy. We will therefore analyze firstly how freedom of information influences remote sensing activities (Part I) and secondly how right to privacy interferes with remote sensing activities (Part II).

## ***I. Freedom of information***

---

Remote sensing activities are affected by freedom of information from two points of view. They are directly concerned since their mission is to produce, analyze and diffuse information. They are indirectly concerned since the data are used increasingly by the media. From this point of view we must underline the growing link between the remote sensing sector and the press sector. The media understood the relevance of remote sensing data with the Chernobyl accident in 1986 when press agencies, unable to obtain images, requested LANDSAT and SPOT to supply them with data. Since then the use of remote sensing data by the press or by television has been common especially for the coverage of catastrophes such as the earthquake in Turkey in 1999 or the recent terrorist attack against the World Trade Center in 2001. The use of remote sensing for coverage of information events is at the heart of the Mediasat project presented in 1985 by the Radio-Television News Directors Association which consists of launching a private remote sensing satellite for gathering immediate information. The project, not yet in operation, is also motivated by the independence of the press which is necessary in a democratic society. Today, with the development of high-

resolution commercial systems, the press will make more and more use of remote sensing.

In order to understand the relations between freedom of information and high-resolution remote sensing activities, we must identify the sources of freedom of information (A), then determine the criteria (B) and the consequences (C) for the application of this freedom to remote sensing activities (B).

### ***A. Sources of freedom of information***

At the international level, freedom of information is notably proclaimed by Article 19 of the Universal Declaration of Human Rights adopted by the United Nations General Assembly on 10 December 1948<sup>§</sup>, and by Article 19 of the International Covenant on Civil and Political Rights opened for signature on 16 December 1966<sup>\*\*</sup>.

This freedom is also confirmed by most of the regional texts relating to human rights: in Europe by Article 10 of the Convention for the Protection of Human Rights and Fundamental Freedoms of 1950<sup>††</sup>; in America by Article 13 of the American Convention on Human Rights of 1969<sup>‡‡</sup>; and in Africa by Article 9 of the African Charter on Human Rights and Peoples' Rights of 1981<sup>§§</sup>. Three other regional texts, often forgotten by the doctrine, must be analyzed here. The Universal Islamic Declaration of Human Rights of 1981<sup>\*\*\*</sup> recognizes freedom of information in its Article XII paragraph d. The Arab Charter on Human Rights of

1994<sup>†††</sup> and the Human Rights Declaration finalized by the Association of Southeast Asian Nations (ASEAN) Inter-parliamentary Organization in 1993<sup>†††</sup> are more laconic by protecting only freedom of belief, thought and opinion in Articles 26 and 8 respectively.

Finally, freedom of information is mentioned by almost all national legal texts relating to human rights even if violations of this freedom are common in many of these countries. Concerning countries involved in remote sensing activities, freedom of information is mentioned in Article 11 of the French Declaration of Human Rights of 26 August 1789 and by the first Amendment to the 1791 American Constitution.

### ***B. Criteria for the application of freedom of information to remote sensing activities***

The only criteria required by human rights law for the application of freedom of information is that the information must be intended for the public in general. Where this is the case all information is protected.

First, the form in which the information is given does not matter as long as the receiver can access the information, including through the use of technical devices or other interpretation methods. Therefore remote sensing data fall within the scope of this freedom regardless of their resolution and regardless of whether it is primary data, processed data or analyzed data. Second, regardless of the political or commercial nature of the

information, the commercial use of remote sensing data is also protected by freedom of information. Third, the nature of the entities involved in the process is irrelevant since all individuals are protected without discrimination. Private entities involved in remote sensing can therefore invoke this freedom. Fourth, the content of the information is also irrelevant since all categories of information are protected even information which may be shocking or disturbing. There cannot be prior censorship over any particular category of information, including military or other sensitive information. However, there are two categories of information which benefit from augmented protection. The first is information concerning environmental matters. In fact, access to information relating to natural catastrophes is not only reinforced by remote sensing law through Principles X and XI of the Remote Sensing Resolution, but also by environmental law through Article 10 of the Rio Declaration on Environment and Development adopted in 1992<sup>§§§</sup> and through several conventions such as the Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters of 1998<sup>\*\*\*\*</sup>. The second category concerns information related to major events for society. This emerging right concerning free access to this category of information is recognized at the European level in the field of broadcasting by the 1989 European Convention on transborder TV as amended in 1998<sup>†††</sup> and by the 1989 European Directive on TV without frontiers as amended in 1997<sup>†††</sup>. It is clear that this principle can be

transposed in to the field of remote sensing information.

### *C. Consequences for the application of freedom of information to remote sensing activities*

The application of freedom of information in the field of remote sensing can lead to both positive and negative consequences.

On the one hand, the consequences are positive in cases where freedom of information complements and reinforces the freedom of outer space proclaimed in Article I of the 1967 Outer Space Treaty and the freedom of remote sensing established in the 1986 Remote Sensing Principles. In effect, an analysis of the content of freedom of information is very favorable to the development of remote sensing activities for three reasons. First, freedom of information is composed of three distinct freedoms which protect all stages of remote sensing activity from the collection of information to the dissemination of analyzed information: the freedom to seek, the freedom to receive and the freedom to impart information. Second, these freedoms must be exercised without any governmental interference. This means in particular without prior consent of the State, without prior censorship, and without any restriction regarding data resolution. However this does not mean there should be no regulation of remote sensing. The compatibility between freedom of information and a regime of authorization and supervision, notably

through licensing, is accepted if it is proportional and just. In this instance human rights law encounters another basic space law principle: the authorization and continuing supervision of space activities by the appropriate State as introduced by Article VI of the 1967 Outer Space Treaty. Third, freedom of information and its components must be exercised regardless of frontiers. Therefore a State cannot prevent the search, diffusion, and reception of remote sensing information by foreign entities either commercial or governmental, and cannot prohibit its own population from searching and receiving foreign information or diffusing such information abroad. Thus freedom of information assumes a freedom of commerce not recognized in international general law aiming for the creation of a global information market which also encourages a worldwide remote sensing market.

On the other hand, consequences are negative in cases where freedom of information limits the freedom of outer space and the freedom of remote sensing. This situation may happen in three hypotheses. First, when inherent limitations to freedom of information introduced by some text must be applied. In this situation, the States can restrict the freedom under certain conditions. The limitations must be prescribed by law and, even if not expressly mentioned in the texts, their application must be proportionate to the objective invoked to justify the limitation. Usually very few objectives are recognized as legitimate sources of limitation. Some are especially relevant in the case of high-resolution remote sensing activities: the protection of

national security, the protection of public order, and respect for the rights of others including material and intellectual property rights, publicity rights, and rights relating to protection of reputation. The respect of intellectual property rights is important not only with regard to the unauthorized distribution of protected data, but also with regard to the diffusion of data concerning an architectural work without the consent of the author. Second, States or individuals may invoke the abuse of rights clause mentioned in certain documents such as Article 30 of the Universal Declaration on Human Rights or Article 17 of the European Convention on Human Rights. According to this principle, no right and no freedom can be used for the destruction of another right or freedom. Therefore, for example, it is prohibited to invoke freedom of information in order to use remote sensing to violate the right of privacy. Third, derogation from freedom of information is generally accepted in times of war, public danger or other emergency that threaten the life of the nation. This principle is stated for example by Article 15 of the European Convention on Human Rights or by Article 27 of the American Convention on Human Rights. The derogatory measures must be taken to the extent and for the period of time strictly required by the exigencies of the situation and must not be inconsistent with international obligations of the State concerned. Under this principle the restrictions on remote sensing activity in times of emergency are justified from the point of view of human rights.

## ***II. Right to privacy***

---

Remote sensing is affected by the right to privacy since the acquisition and diffusion of data may constitute an interference in the private life or the home of an individual. The more accurate the resolution, the more the right to privacy can be breached. For this reason the emergence of commercial high-resolution remote sensing can generate new threats to privacy.

The difficulty with an analysis of law in respect to private life resides in the fact that this notion varies from one State to another in terms of both content and methods of protection. These differences can be found in the various international or regional texts. In addition one should not undermine the religious significance for individuals in certain cultures of having their image captured on film. It is nevertheless possible to identify general principles of law relating to respect for private life.

In order to understand how the development of high-resolution remote sensing systems can be influenced by the right of privacy, we will identify the sources of this right (A), then the criteria of its application (B) and finally its consequences in regard to remote sensing activities (C).

### ***A. Sources of the right to privacy***

The right to privacy is proclaimed by all the above-mentioned human rights texts except the 1981 African Charter of Human rights and the

1993 Human Rights Declaration by the ASEAN inter-parliamentary organization. In fact, at the universal level, the right to privacy is mainly stated by Article 12 of the 1948 Universal Declaration of Human Rights and by Article 17 of the 1966 International Covenant on Civil and Political Rights. At the regional level, this right is protected by Article 8 of the 1950 European Convention on Human Rights, by Article 11 of the 1969 American Convention on Human Rights, by Article XXII of the 1981 Universal Islamic Declaration of Human Rights and by Article 17 of the 1994 Arab Charter on Human Rights. The right to privacy exists also in most of the national human rights documents such as in the Fourth Amendment to 1791 American Constitution.

***B. Criteria for the application of the right to privacy to remote sensing activities***

It is not so easy to invoke the right to privacy in the field of remote sensing even with a very high-resolution system. Concerning the data itself, if it represents a person, the resolution must be sufficiently precise to identify the features of the person. This can be possible with some military systems but according to experts, it is not yet the case with commercial systems even when using a high-resolution process. If the data represents goods belonging to an individual then it is difficult to say that it constitutes a violation of the right to privacy. In reality everything depends of the nature of the object. In principle, legal systems recognize the inviolability of the home and photographs of all or part of a domicile can lead to a violation

of the right to respect of private life but only if the domicile or part thereof is not normally visible to the public eye. Another criteria may arise in certain legal systems: the data must, by itself, enable the localization of the domicile or establish a link with the owner. In general, the notion of domicile is wide since it incorporates all the places where a person can feel at home, away from the regard of others. It is important to note that photography of goods can violate property rights recognized by all texts relating to human rights law. It can also violate intellectual property rights, notably when the data represents a protected architectural work. In such cases, the goods or the work in question must represent the principal element of the data.

Concerning information obtained by the analysis of data, this can constitute a violation of law with respect to private life as soon as it reveals an element of the private life of the individual. The use of remote sensing data to determine the activities of an individual for example by localising their car is reprehensible under laws respecting the right to private life. The same applies if the aim is to diffuse elements of information relating to a persons health if for example the person enters a hospital, or relating to their sexuality if for example the person frequents a place of prostitution.

***C. Consequences for the application of right to privacy to remote sensing activities***

The application of the law relating to the right to privacy in the domain of remote sensing can notably

result in limitation of the activity. At the same time, exceptions arising from texts relating to human rights law and from the practice of the tribunals do allow derogation from the right to privacy when it comes to the use of remote sensing.

In principle, the law relating to right of privacy acts as a limitation on remote sensing activities, notably when high resolution systems are used. It helps to distinguish the phase of acquisition of the data from the phase of exploitation of the data. Concerning data acquisition, if we reason by analogy with classic photography, the rule is that of freedom to shoot pictures of an individual or an object belonging to the individual unless the individual objects either before or during the shooting. If we refer to the regime governing video surveillance, the principle is one of freedom but on the condition that the individuals are made aware of the presence of the video camera. However, practice is less clear on this point. Video surveillance has become a reality of our lives without us being clearly informed and often without any attempt to inform. Worse still, in the domain of aerial photography, even if the rule of prior consent exists the individual cannot in fact object to the shooting of the picture. Applying these principles to the domain of remote sensing, we can consider that altogether this means that an individual or goods belonging to an individual are free unless the individual demonstrates prior opposition. It is not uncommon for film stars or pop stars to obtain compensation for photos taken of their homes when they have warned the media that they will not tolerate any photography of their domicile. Of course it is important to take into account the criteria which we

have identified and apply this rule only to data which permits clear identification of the individual or of their goods and, in the latter case to data in which the object represents the central element. Concerning diffusion of the data or information resulting from the interpretation of the data, the rule is much clearer since the image of an individual or information relating to their private life cannot be diffused without their prior consent.

Exceptions in law however do exist with respect to right of privacy and these are foreseen in texts on human rights law, the most prominent of which lie in the protection of public order and national security. In pursuit of these two legitimate objectives, States can use remote sensing for surveillance of individuals or activities. In general the possibilities for implementing exceptions must be foreseen by the law and their use must be proportional to the intended objective. Here also, the abuse of right clause and the emergency situation derogation clause previously examined are applicable. Most legal systems also recognize two other exceptions not mentioned in texts relating to human rights law: the diffusion of information relating to important current events and the diffusion of information relating to the public life of public personalities.

### *Conclusion*

---

In concluding it is important to recall that freedom of information can significantly influence the development of remote sensing systems whilst the application of laws relating to respect of privacy remain much less clear in this domain. First of all, with current

systems, including those with high resolution, the quality of the image is not sufficiently high to identify the physical characteristics of an individual. Secondly, with respect to satellites, the image is taken from an extensive height and what is seen is simply the top of the individuals head rather than their face. Unless therefore the individual is looking upwards toward the sky, the chances of being able to identify them are low.

It is also important to underline that since the rules relating to human rights are not always identical amongst the various regions and countries of the world, there exists a certain incoherence in the law. Since the law therefore cannot regulate questions relating to the violation of human rights by remote sensing activities on a universal basis, self-regulation must take place. This must notably take place at the level of the remote sensing operators who must take responsibility, particularly in terms of diffusion of data or analysed information.

---

\*Treaty on the Principles Governing the Activities of States in the Exploration and use of Outer Space Including the Moon and Other Celestial Bodies, 27 January 1967, 610 *UNTS* 205.

† Principles Relating to Remote Sensing to the Earth from Outer Space, UNGA, Resolution 41/65, 3 December 1986.

‡ See for example: EHCR, *Autronic V. Switzerland* case, 22 May 1990, Publication n°A178.

§ UNGA Resolution 217A (III), *GAOR*, 3<sup>rd</sup> Ses., Part I. Resolutions, p. 71.

\*\* International Covenant on Civil and Political Rights, 16 December 1966, 999 *UNTS* 1971.

†† [European] Convention for the Protection of Human Rights and Fundamental Freedoms, 4 November 1950, *ETS*, n°5.

‡‡ American Convention on Human Rights, 22 November 1962, 9 *ILM* 673.

---

§§ African Charter on Human Rights and Peoples' Rights, 27 June 1981, 21 *ILM* 59.

\*\*\* Universal Islamic Declaration of Human Rights, 19 September 1981, published: Islamic Council, 16 Grosvenor Crescent, London SW1.

††† Arab Charter on Human Rights, 15 December 1995, 18 *Human Rights Law Journal*, 151 (1997).

††† Human Rights Declaration finalized by the ASEAN Inter-parliamentary Organization at their 14<sup>th</sup> General Assembly in Kuala Lumpur on 19-26 September 1993.

§§§ Rio Declaration on Environment and Development, 19 June 1992, 31 *ILM* 874 (1992)

\*\*\*\* Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters, 25 June 1998, *EMuT* 998: 48.

†††† European Convention on Transfrontier Television, 5 May 1989, *ETS* n°132 as modified by the Protocol amending the Convention on Transborder Television, *ETS* n°171.

†††† Council Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities, 3 October 1989, *Official journal* n° L 298, 17/10/1989 pp. 0023 – 0030 as modified by Directive 97/36/EC of the European Parliament and of the Council amending Council Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities, 30 June 1997, *Official Journal* n° L 202, 30/07/1997 pp. 0060 – 0071.