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EXPORT CONTROL AND DUAL USE OF SPACE TECHNOLOGIES

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ABSTRACT

With the disappearance of the bipolar world of the Cold War, and at the same time that space technology became ripe, the club of the space powers widened. New public and private actors appeared. Since a few years, the governmental programs have joined to private operators for economic profitability reasons. This change of prospects reveals new legal problems. Indeed, except for the fundamental field of the knowledge of the univers, all the others fields are duals or exclusively military. States are concerned about uncontrolled export of certain knowledges and technologies. From a political point of view, there is a constant tension between : the needs of the exporting States's industries to export and the will of the States to restrict the exportations of sensitive tehnologies as much as possible to preserve their security. Furthermore the current international political context is not favorable to the "liberalization" of the exportations. According to the space powers, the problem is not apprehended in the same way. From a legal point of view, more this national control is rigorous, more it goes against the bases of Space Law, but also of Economic Law and National Sovereignty.

If, at the origin of the space conquest, the public opinion perceived only the most spectacular facets of the space adventure, namely the Man in space, therefore states did not neglect some stakes less apparents but more determining¹. They became aware that the outer space was the base of a true power, and thus they transposed their balance of power in space, a field favourable to the technical, the military and the commercial competition. Thus, beyond the military implications, the space

activities are sources of considerable technological, financial and strategic investments. With the disappearance of the bipolar world of the Cold War, and at the same time space technology became more mature, the club of the space powers widened². New public (Europe, China, Japan...) and private actors appeared. Since a few years, the governmental programs have joined to private operators for economic profitability reasons. This change of prospects reveals new legal problems.

¹ YENGOLA SELEMQNI (T.), « Le problème de la qualification en droit international public : cas de l'utilisation pacifique de l'espace face au désarmement », *Revue française de droit aérien et spatial*, vol. 158, n° 2, April- June 1986, p. 177.

² LEBEAU (A.), « Politique spatiale européenne : Vite, des décisions ! », *Ciel et Espace*, Novembre 2000, p. 2.

Except the fundamental field of the knowledge of the univers, which is exclusively civil, all the others fields, as observation of the earth, space monitoring, telecommunications, positioning, navigation, are duals or military³. For example, in the field of remote sensing, the same space technology, can sometimes provide weather data or information relating to the protection of the natural ressources, sometimes informs in period of crisis the armies about the positions of the enemy soldiers. Stem from the same technology, there is no clear separation between the military space applications and the civil ones.

The more so as the States are concerned about uncontrolled export of certain knowledges and technologies. The concern is most apparent in the American export policy, which has the most detailed and complex control regulatory framework. The difficulty of controlling the exportations rooted in the particularities of the space projects : Government involvement as regulator or customer, intrinsic dual-use nature of space technology raises national security concerns, and the impact of the policy decisions on space business.

1. POLICY ISSUES

There is a constant tension between the needs of the exporting states's industries to export and the will of the States to restrict the exportations of sensitive technologies as much as possible to preserve their security. The more so as the current international political context (i.e.

³ Conference at the *Délégation générale pour l'armement* (D.G.A.), *L'espace et la dualité civile et militaire, Laboratoire de Stratégie et de l'Armement*, Paris, octobre 2004.

terrorism, weapons of mass destruction, United Nations sanctions...) is not favorable to the "liberalization" of the exportations. According to the space powers, the problem is not apprehended in the same way.

1.1. Regulatory Framework : Reminders

Multilateral Regimes

Four multilateral regimes of export control exist : the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, the Missile Technology Control Regime (M.T.C.R.), the Nuclear Suppliers Group (N.S.G.) of 1974, that is focused on stemming the proliferation of nuclear weapons, and the Australia Group for the prevention of the proliferation of biological weapons of 1985. These regimes are neither treaties nor internationales organisations. They are more mecanismes in charge of creating guidelines that represent for the States, not a legal engagement but, more a political will to reach a common objectif.

United States of America

A simplified definition of the United States export control policy can be the control of « the transfer of anything to a "Foreign person" by any means, anywhere, anytime, or the knowledge that what you are transferring to a "U.S. person" will be further transferred to a "Foreign person"»⁴. The American export control comprises two main regulations. One is relating to the trade of military goods and services, namely the International Traffic in Arms

⁴ NASA Export control Program, <http://www.hq.nasa.gov/office/codei/nasaecp/index.html>.

Regulations (I.T.A.R.). The items so designated constitute the United States Munitions List (U.S.M.L.) and are regulated through the Department of State. The other is relating to the dual use commodities, i.e. the Export Administration Regulations (E.A.R.), constituted by the Commerce Control List (C.C.L.) and under the control of the Department of Commerce.

The main characteristic of the American export control regulation is that the U.S. considers space technologies, including the commercial applications, as military goods and services. Since March 1999, space is excluded of the dual use regime, except for a few non-critical items. The Munitions List contains many commercial goods and services that the others states treat as civil. For space, this covers items such as space launch vehicles, rocket engines, remote sensing satellite systems, communications satellites, missile tracking systems... Nevertheless, the technology and software of the International Space Station (I.S.S.) are under the jurisdiction of the Department of Commerce. The intended military use or civilian use of the goods is not relevant in determining whether the article is subject to I.T.A.R.'s control or not.

However, though the implementations of Departments of States and of Commerce the two regulations are different, the policy drivers remain identical: control of the technology transfer, traceability of transactions, non-proliferation of weapons of mass destruction, national security and foreign policy. In reality, the same key policy, key people, and review agencies are involved⁵.

⁵ KAPLAN (C.), BURNETT (D.), *Space Export Control*, Conference presented at George Washington University, Washington D.C., April 2005.

European Union

The European Union (E.U.) has developed an export control system that includes a common legal basis for dual-use items⁶ and strengthened cooperation for military commodities export control⁷.

The E.U. dual-use export control system is used by the member states to help implement their national obligations with regard to non-proliferation in the context of the E.U. single market⁸.

But the main principle that underpins the European export control for dual-use items, is that « civilian trade shall not undermine the essential security interests of the member states or their commitment to non-proliferation even within a single market that aims at free movement of goods and services »⁹. This principle fits in the same philosophy of the American policy.

1. 2- National Security Considerations

Since the beginning of the 1990, « the United States, with the weakening of Russia, becoming *de facto* the only total military space power, considers that space is a key element of their national security»¹⁰. The result is that « military space is characterized by a crushing preponderance of the American capacities»¹¹.

⁶ Council Regulation (EC) No 880/2002 of 27 May 2002 amending Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology.

⁷ EU Code of Conduct for Arms Exports, 8 June 1998

⁸ Stockholm International Peace Research Institute, *European Union Dual-Use Export Control System*, http://www.sipri.org/contents/expcon/eu_dualuse.htm

⁹ *Ibid.*

¹⁰ VERGER (F.) (dir.), *Atlas de Géographie de l'espace*, Belin, Paris, 1997, p. 256.

¹¹ *Ibid.*, p. 255.

For the United States, Space became highly strategic, incarnating a vital national interest both from a military point of view as well as from an economic one¹². The United States became aware that they are the most dependent nation in the world in the space field¹³. And it is precisely from this dependence that their vulnerability follows¹⁴. Consequently, to protect their security and their economy, no risk can be tolerated. The doctrine of Space control becomes fundamental¹⁵. In early 2001, Rumsfeld Commission reported: « the security and economic well being of the United States and its allies and friends depends on the nation's ability to operate successfully in space »¹⁶. To assure that ability, the national policy calls for the United States to implement the control of space. Thus, Space control can be defined as « the ability to ensure un-interrupted access to space for U.S. forces and their allies, freedom of operations within the space medium and an ability to deny others the use of space, if required »¹⁷. For national security and economic reasons the United States developed a particular strong export control policy, rooted in this

unilateral vision to limit the access to outer space.

The doctrine of Space Control is thus closely related to the Export Control. But, what is paradoxal, is that, far to protect their economics interests, the strictness of this policy is not in reality favorable to the U.S. space industry. Actually, the American legislation is more guided by security concerns than by commercial considerations.

1.3- Impact on the Space Industry

This policy has a main impact on the transfert of space items. In the past, U.S. industry had a major advantage in international competition. Its concurrents considered the U.S. technologies superior and the American satellites more reliable than those manufactured by other nations. Today, because of the export control regulations, the U.S. companies find themselves at a serious competitive disadvantage in the international satellite market. Based on statistics of the *Satellite Industry Association*, the U.S. share of global satellite sales plummeted from 64 % in 1998 to 36 % in 2002¹⁸.

For exemple, I.T.A.R. was updated in July 2000, with the creation of the « Bulk licenses » concerning commercial satellites for North Atlantic Treaty Organization (N.A.T.O.) and non-N.A.T.O majors allies, known as N.A.T.O. +9¹⁹. However, the «Bulk licenses » do not transfert satellites of telecommunication from the U.S.M.L. to the C.C.L.. They still classified as munitions for the American authorities,

¹² Report Long Range Plan, *Implementing US Space command Vision for 2020*, March 1998, Forward.

¹³ Report of the *Commission to assess United States National Security Space Management and Organization*, Pursuant to Public Law 106-65, January 11, 2001, p.18.

¹⁴ Report Long Range Plan, ..., *op. cit.*, p. viii : « Our nation's increasing military and economic dependence on space power makes it likely for space to become a vital national interest. This same dependence also implies vulnerability. US interests and investments in space must be fully protected to ensure our nation's freedom of action in space »

¹⁵ VERGER (F.) (dir.), *Atlas de Géographie de l'espace*, ..., *op. cit.*, p. 256.

¹⁶ Report of the *Commission to assess United States National Security* ..., *op. cit.*, p. 34.

¹⁷ Report Long Range Plan, ..., *op. cit.*, p. 11.

¹⁸ *Ibid*, p. 10; see also the *Satellite Industry Association* <http://www.sia.org/>.

¹⁹ The Non N.A.T.O. majors allies are Argentina, Australia, Bahrain, Egypt, Israel, Japan, Jordan, New Zealand & the Republic of Korea.

even when they deal with their allies : « the strict regulation of satellite exports as munitions under the State Department rules is the most serious barrier to the U.S. competitiveness in space commerce, particularly in the satellite industry, and to the U.S. progress in space science and exploration »²⁰.

Space Tourism and Export Control

More recently, in the field of space tourism, the company *Virgin Galactic*, associated with the Ansari X-Prize winner (in October 2004), is planning to finance the construction of five *SpaceShipTwo* vehicles, capable of carrying four to five space passengers each. For the moment, it is also clear that these craft cannot be exported, or even flown, outside the American territory, because as supersonic rockets, they naturally fall under the jurisdiction of the Department of State and are also covered by the M.T.C.R.. The *SpaceShipTwo* will be by nature dual, because if they are made to transport passengers in outer space, they can also be used as military reconnaissance aircraft or even as a bomber²¹. But, outside of the technology by itself, the service of transporting passengers in outer space, can be a problem. The military export control could « require operators of suborbital space tourism vehicles to obtain export licenses for each individual passenger who is not a U.S. citizen, depending on the amount of technical information the

²⁰ ABBEY (G.), LANE (N.), « United States Space Policy, Challenges and Opportunities », American Academy of Arts and Sciences, Cambridge, 2005. p. 8.

²¹ DINERMAN (T.), « Space tourism meets ITAR », Space Review, Monday, October 11, 2004.

operators have to divulge to those passengers »²².

2- LEGAL FRICTIONS

2.1- Export Control versus Space Law

If space law is by nature public international law, because it regulates national activities, it also considers an implicit recognition of the control of the national companies activities by public entities²³. Thus, States « shall bear international responsibility for national activities in outer space [...] whether such activities are carried on by governmental agencies or by non-governmental entities [...]. The activities of non-governmental entities [...] shall require authorization and continuing supervision by the appropriate State Party to the Treaty »²⁴. The liberalization of the space activities is thus framed by the public powers. But their regulation is complicated by the dual use of space technologies.

The problem is that, taking into account the strategic and political stakes of space, the States covet the exclusiveness in some activities, especially the military ones, such as the launching and the exploitation of observation satellites, or communication satellites used by the national armies. Thus, national control, as regards export of technologies towards foreign states, encounters difficulties because of the dual

²² FOUST (J.), « Two scenarios and two concerns for personal spaceflight », Space Review, Monday, April 25, 2005.

²³ KERREST (A.), « L'espace extra-atmosphérique. Le cadre juridique de droit public », *Jurisclasseur de Droit International*, vol. 2, 2000, Fas. 141-10, p. 7.

²⁴ Article VI, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, January 27, 1967 (hereinafter Outer Space Treaty).

use of the space applications, of which the principal risk is a military use, by the State of destination, intended initially for a civil use.

Consequently, only a strict official regulation of the commercialisation of space technologies by private companies, would make it possible to limit the increase of the military application of space technologies by any potential competitor. From a legal point of view, more this national control is rigorous, more it goes against the bases of space law, especially freedom of outer space²⁵ (which includes freedom of access, of scientific investigation and of commercial uses), of which the corollaries are the peaceful use²⁶ and the international co-operation²⁷. Indeed, according to the *Corpus juris Spatialis*, space treaties promote access to space, based on the principles of freedom of exploration and use of outer space by all States without any discrimination.

However, if it is necessary to allow, indeed to support the private activities, it is necessary to take care not to harm the principles which have been accepted from the very start of the space conquest. The dual use of space technologies (civil and military), with the duality of the actors (States and Industry), re-opens the whole question of the *corpus juris spatialis* inherited from the Cold War.

2. Export Control versus Economic Law

Impact on the International Trade Regime

The General Agreement on Tariffs and Trade (G.A.T.T.) is intended to facilitate international trade in goods by removing quantitative limitations imposed by states and by reducing import tariffs. But at the same time, several principles, rules, exemptions have been developed at various levels to protect the national security and the international peace. The G.A.T.T. contains limited and conditional exceptions, called "escape clause" to the states obligations, which may apply in special circumstances.

In 1947, when States first negotiated the G.A.T.T., they made a point of including a "national security exception" allowing them to "preserve" their sovereignty²⁸. The article XXI precise that the World Trade Organisation (W.T.O.) members shall not be prevented from taking action necessary to protect their essential security interests or in pursuance of their United Nations peace and security obligations²⁹. The problem is that the member States retain authority to define important elements of the exception, namely "national security", "necessity", and "essential interests". However, due to the powerful implications of the use of this tool, States should recognize that the frequent use of this exception can threaten the G.A.T.T. effectiveness. As there is no relevant W.T.O. case law in this area, some uncertainties still exist³⁰.

²⁵ Article I, Outer Space Treaty.

²⁶ Article IV, Outer Space Treaty.

²⁷ Articles X et XI, Outer Space Treaty.

²⁸ JACKSON (J.H.), *The World Trading System : Law and Policy of International Economic Relations*, Cambridge, 2nd ed., 1997, p.44-49.

²⁹ Articles XXI, General Agreement on Tariffs and Trade, 30 October 1947, 55 U.N.T.S. 194 (hereinafter G.A.T.T.).

³⁰ STRACK (L.), "The Safety Regime Concerning Transboundary Movement of Radioactive Waste and its Compatibility with the Trade Regime of the WTO", *Nuclear Law Bulletin*, n°73, 2003, p. 15.

Impact on the Regional Trade Regime

The same security exception and the same application problems exist in other instruments, as in the North American Free Trade Agreement (N.A.F.T.A.)³¹, a Trilateral trade agreement between United States, Canada and Mexico. Or in the Treaty of Rome, in which the article 296 gives to the member states leverage to take any measure with trade in arms munitions and war material for protection of the essential interests of its security. Thus, restrictive trade practices and stricter export controls for defense purposes tend to negate the goals of free trade and transfer of technology, and the idea of a borderless international market, a "Global Village". The only solution to reverse this trend, is that basic equipments relating to civil space applications should be removed from the Munitions List.

3. Export Control versus National Sovereignty

« A policy of regulation which stops at the borders can only penalize the exporters of a nation without obtaining the benefit which represent for our security effective controls »³². On the basis of this vision, the American regulation does not specify its territory or personnel field of application. This legislation apply to actions, situations happening outside of the American territory as well to foreign persons, and

sometimes even to non american citizens acting outside of the United States.

It envisages civil and penal sanctions with regard to any person who would violate these dispositions since they are exchanges of items containing American technology or knowledge, without precision of the nationality of the people concerned, nor of the territorial field of application.

That is why the American regulation comprises an extra-territorial character, whose conformity with the international law is debatable : « this idea that goods or technology remain American, whatever the number of hands by which they passed, does not have a base recognized in international law »³³.

This character of extraterritoriality also rises from the introduction, in the licences of clauses of non re-exportation. The same clauses are in the european regulation and have the same effect. « This idea that goods or technology inaltérablement American, whatever the number of hands by which they passed, does not have a base recognized in international law »³⁴.

To legitimate this extra-territoriality, the United States argues with several theories³⁵. The first theory is the title of competence because of the nationality of the goods. However, the rule of the minimum percentage of American components extends quasi universally the American jurisdiction and thus poses the

³¹ Articles 607 and 2102, North American Free Trade Agreement, International Legal Materials 289 and 605, 1993.

³² DEUTSCH (R.), « La pratique américaine du contrôle des transferts de technologies et l'extraterritorialité », in CHANTEBOUT (B.), WARUSFEL (B.) (dir.), *Le contrôle des exportations de haute technologie vers les pays de l'Est*, Masson, Paris, 1988, p. 104.

³³ HARRIS (T.), « The extraterritorial application of US Export controls : a British perspective », *Journal of International Law and Politics*, vol. 19, n° 959, p. 959.

³⁴ *Ibid.*, p. 959.

³⁵ CRAPART (L.), *Le régime communautaire de contrôle des exportations de biens spatiaux – Entre considérations sécuritaires et politique commerciale*, Mémoire D.E.A., Université Paris X, Septembre 2002, p. 24-25.

problem of the sovereignty of the other States. They also found their argumentation on the theory of the effects. But, this theory exists only in American law and is not recognized by the international law³⁶. The third argument is the universal competence. Nevertheless, to be legitimate this competence requires a preliminary intervention of the United Nations and cannot be unilateral. The last theory is relating to the competence of protection. This last thesis can justify the extraterritoriality, but only if the United States manages to prove that the exports are a threat with their national security. However the International Court of Justice (I.C.J.) gives a restrictive interpretation of this competence³⁷.

CONCLUSION

The legal status applicable to dual technologies remains a hybrid system, which does not profit from the flexibility of the regulation of civil applications, that when there are neither political stakes, nor important economic stakes.

³⁶ *Restatement of the Law Third*, § 402, in *The Foreign Relations Law of the United States*, Third, St Paul, American Law Institute, 1987, Vol. 1, p.238.

³⁷ I.C.J., *Barcelona Traction, Light and Power Co.*, February 5th, 1970, *Rec.*, p.6.

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