INTERNATIONAL REGULATION OF SPACE ACTIVITIES

by

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Presented at

Workshop on Air Transport, Air and Space Law and Regulation
Abu Dhabi, on 14 April 2009

PURPOSE OF THIS LECTURE

During the last fifty-two years, some general, but fundamental, principles of international space law have been elaborated through international treaties. Since some of them have become a part of customary international law, they are considered binding on all States.

An over view of these legal principles will be presented to briefly describe the international legal regime governing space activities

An attempt will be made to describe the ways in which these principles have emerged

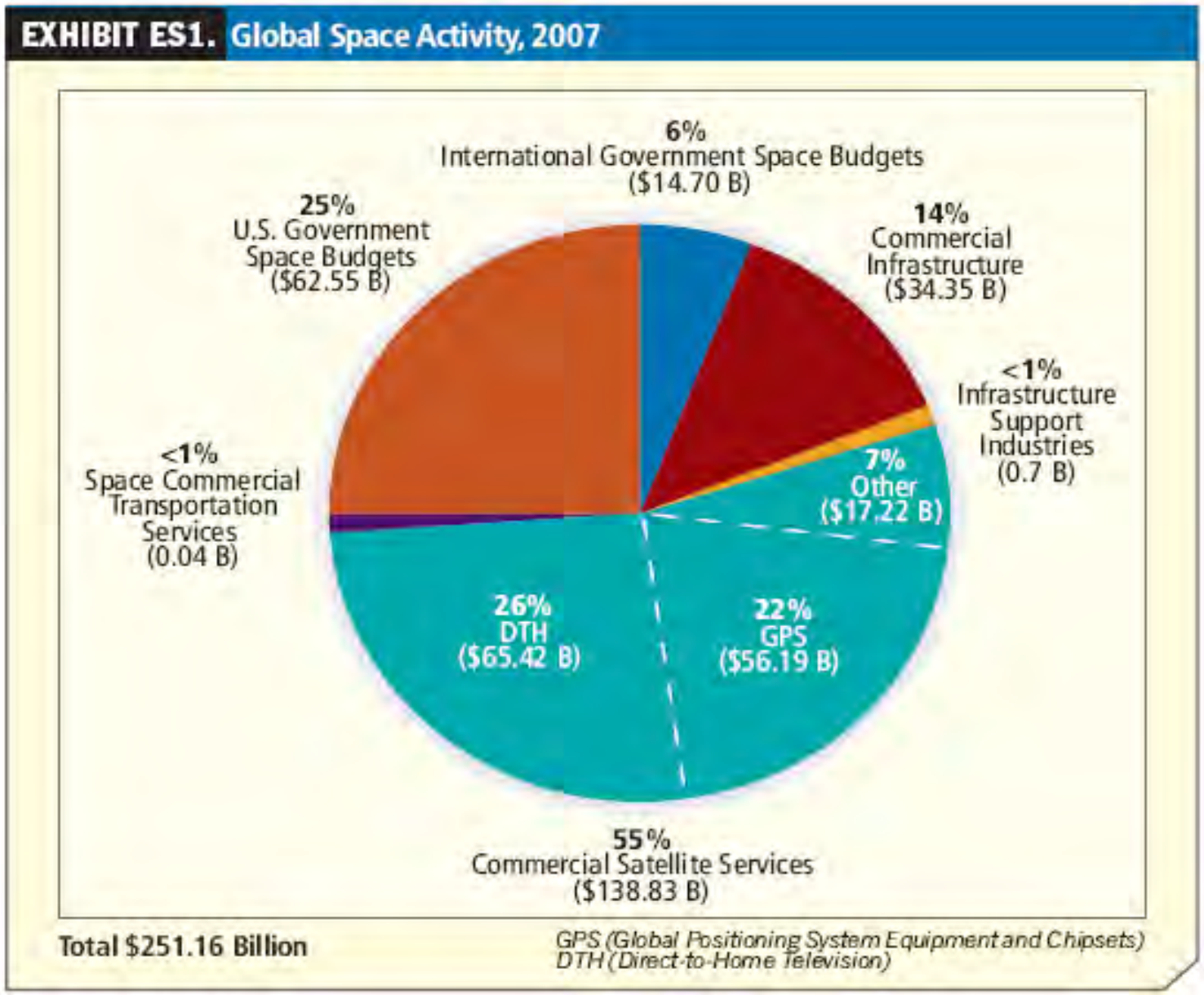
GROWTH IN HUMAN POPULATION & NEEDS

- Human population is expected to increase from about 7 billion at present to 10 billion by the year 2100

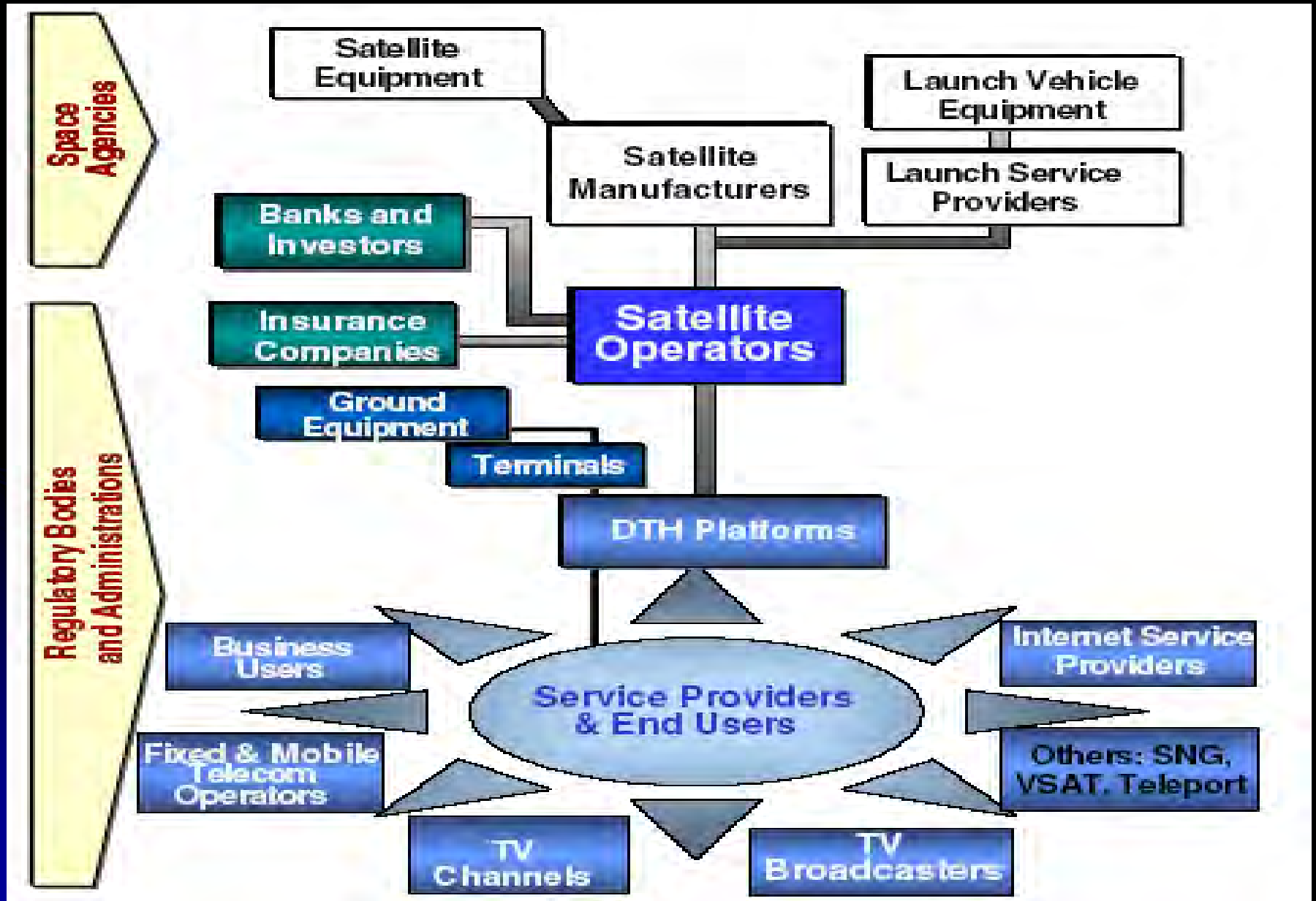
- Increased need for (in top ten areas):
  - Food
  - Protection against diseases
  - Natural resources and their management
  - Environmental protection
  - Education and training
  - Security; both civil and military
  - Governance
  - Telecommunications and information and their management
  - Transportation
  - Management of man-made & natural disasters

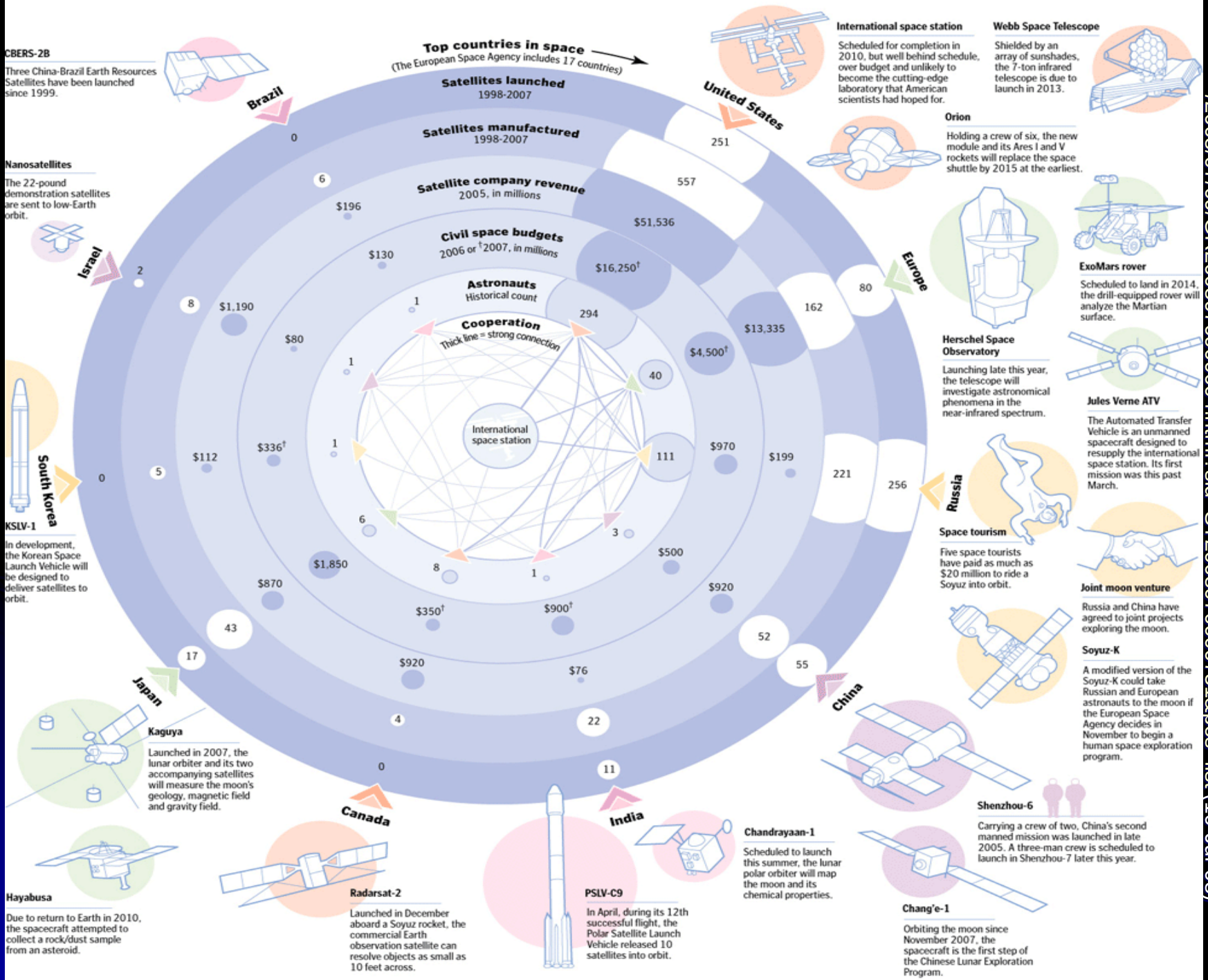
- Space technology plays and will play an increasingly important role in meeting human needs in all the above mentioned areas.

GLOBAL SPACE INDUSTRY > $250 B



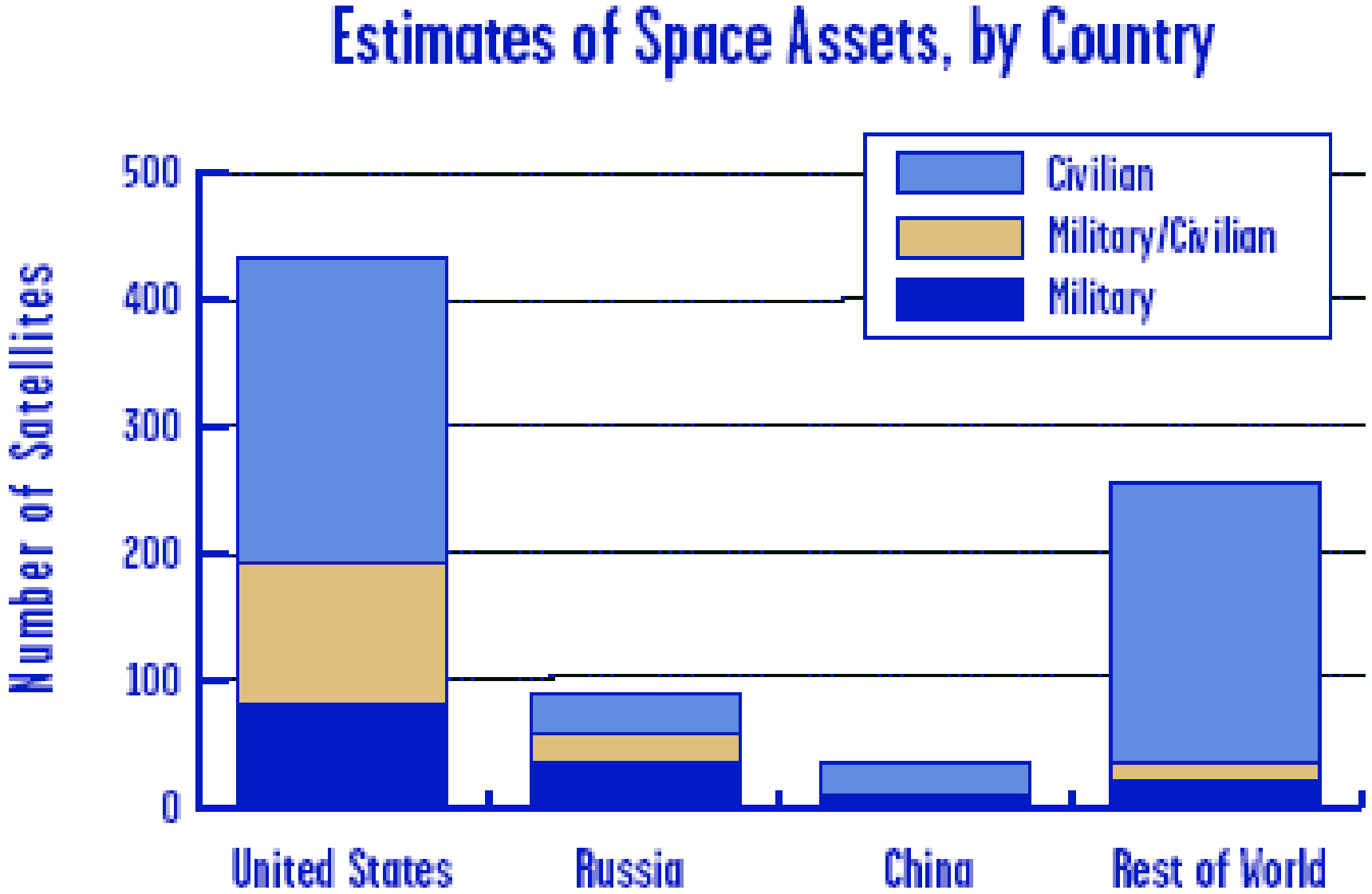
SPACE INDUSTRY PLAYERS





GLOBALIZING SPACE: http://www.washingtonpost.com/wp-dyn/content/graphic/2008/07/09/GR2008070900004.html?sid=ST2008070900751&pos=list (10-Jul-08)

OWNERSHIP OF SPACE ASSETS



REGULATION OF SPACE ACTIVITIES

- International, primarily through the UN system - Not growing

- National, according to national legislative and domestic policies - growing fast

  - Regulation of private (commercial) space activities - growing fast

LAW-MAKING PROCESS IN THE UN

- UN - the forum for all international matters; UNGA responsible for all outer space matters, including formulation of international space law

- UNGA acts primarily through its Committee on the Peaceful Uses of Outer Space (COPUOS) which was created in 1958 as an ad hoc Committee (with 18 member States)

- In 1959, COPUOS was established as a permanent body

- At present membership comprises of 69 States. From middle east: Iran, Iraq, Lebanon, Saudi Arabia, Syrian Arab Republic, Turkey; BUT not the UAE.

COPUOS has two Sub-Committees:

- Scientific and Technical Sub-Committee： a forum for the exchange of scientific and technical information and international programs
- Legal Sub-Committee : that drafts treaties regarding outer space and presents them to the UNGA
- The UNGA adopts these drat treaties as resolutions and recommends them for signature and ratification by member States
- This is how all the international space treaties have been formulated. The Outer Space Treaty of 1967 is the most important one and is generally considered to be the constitution of outer space

- Membership in COPUOS is based on the principle of equitable representation of developed and developing countries, space powers and non-space powers as well as all the regions of the world

- Decisions in COPUOS (as well as in its Sub-Committees) are taken on the basis of consensus; i.e. veto for each member

- In practice, however, the process of law making has largely been geared to the desires of major space powers like the former Soviet Union and the United States; though in some cases, non-space powers - developing countries - have also played an important role

- Presently, COPUOS is not very effective since the major space powers are not interested anymore in developing space law further

INTERNATIONAL SPACE TREATIES

- **THE 1967 OUTER SPACE TREATY : Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, entered into force on 10 October 1967, 99 ratifications and 27 signatures. Ratified by UAE**

- **THE 1968 RESCUE AND RETURN AGREEMENT: The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer pace, entered into force on 3 December 1968, 90 ratifications, 24 signatures, and 1 acceptance.**

- **THE 1972 LIABILITY CONVENTION: Convention on International Liability for Damage caused by Space Objects; entered into force on 1 September 1972, 86 ratifications, 24 signatures, and 3 acceptances. Ratified by UAE**

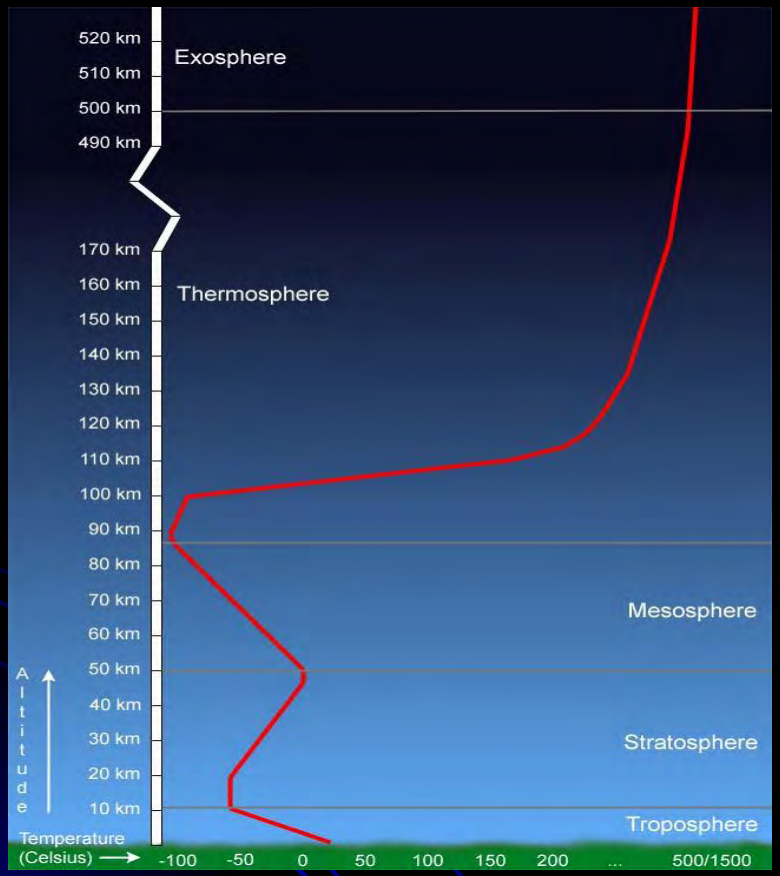
- **THE 1976 REGISTRATION CONVENTION: Convention on Registration of Objects Launched into Outer Space; entered into force on 15 September 1976, 51 ratifications, 4 signatures, and 2 acceptances. Ratified by UAE**

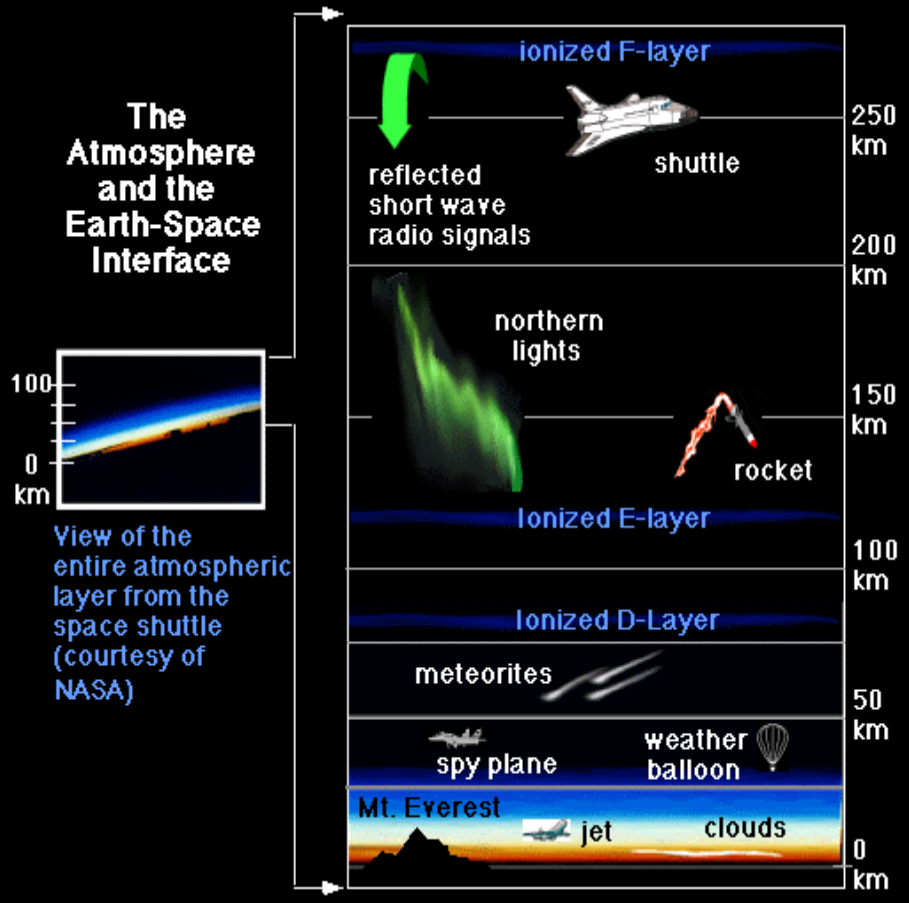
- **THE 1979 MOON TREATY : Agreement Governing the Activities of States on the Moon and Other Celestial Bodies; entered into force on 11 July 1984, 13 ratifications and 4 signatures.**

OTHER TREATIES

- Charter of the United Nations, 26 June 1945. 192 ratifications, including by UAE
- Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, 5 August 1963. 125 ratifications, but not by UAE
- Constitution and Convention of the International Telecommunication Union, (as amended 2006) and ITU Radio Regulations, (as amended in 2007).191 ratifications, including by UAE

AIR SPACE AND OUTER SPACE





- **Controversial** but consensus is building that the boundary between air space and outer space should be at 100km above sea level
- No right of 'innocent passage' through the sovereign air space of other nations

FUNDAMENTAL PRINCIPLES OF INTERNATIONAL SPACE LAW

THE 1967 OUTER SPACE TREATY

- a kind of constitution for space -

COMMON INTEREST

"The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind"

- **outer space is within the domain and under the jurisdiction of all mankind as opposed to an individual State or a group of States**
- **exploration and use of outer space must be in some way beneficial to mankind**
- **sometimes this principle is equated with the principle of the Common Heritage of Mankind (CHM) - as included in the Law of the Sea Convention and the 1979 Moon Treaty**

FREEDOM OF EXPLORATION & USE

"Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies"

- **all States are entitled to launch and operate satellites for all kinds of purposes, without discrimination of any kind; thus such freedom implements the common interest principle**

- **however, such freedom is not unlimited and is subject to:**

- **the conformity with international law, including the UN Charter**
- **the respect for corresponding interests of other States**
- **the prohibition of national appropriation by any means**

NON-APPROPRIATION

"Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means"

- **the legal principle of non-appropriation of outer space, like freedom principle, implements the common interest principle; if some States are allowed to appropriate outer space it can not be used for the benefit and in the interests of all countries**
- **prohibition of non- appropriation: both *de jure* and *de facto***
- **such prohibition applies to all States as well as to their private individual /natural persons or legal persons (companies)**

NON-WEAPONIZATION
NON-MILITARIZATION

"States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner"

"The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden"

- **Anti-satellites, not being weapons of mass destruction, are allowed**
- **Militarization of moon & other celestial bodies is prohibited, however the use of outer space for military purposes is allowed**
- **Under the 1963 Partial Test Ban Treaty, testing of nuclear weapons in outer space is prohibited**

OWNERSHIP, JURISDICTION AND CONTROL

"A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth"

- **State of registration retains jurisdiction and control of a space object**
- **No concept of 'nationality', as in the case of aircraft or ships**

INTERNATIONAL RESPONSIBILITY, AUTHORIZATION & CONTINUING SUPERVISION BY STATES

Article VI:

"States ..... bear international responsibility for national activities in outer space ..... whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space ..... require authorization and continuing supervision by the appropriate State.... When activities are carried on ..... by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States…… participating in such organization"

- **The level and legal mechanism of "authorization and continuos supervision" is to be determined by appropriate State through its national laws and policies**

INTERNATIONAL LIABILITY

Article VII:

"Each State ..... that launches or procures the launching of an object into outer space ..... and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space"

- **Launching State is the State that :**

- **launches a space object,**
- **procures the launching of a space object,**
- **from whose territory a space object is launched, or**
- **from whose facility a space object is launched**

- **"damage" covered under the Liability Convention is limited to physical damage only; i.e. the term "damage" "means loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations"**

- **THURAYA: Head quartered in Abu Dhabi, UAE is a launching state, consequentially responsible and could be held liable for any damage caused by its satellites**

Under the 1972 Liability Convention

- the launching State is absolutely liability if damage is caused on the surface of the Earth or to aircraft in flight (i.e. no need of proof of fault or negligence)

- however, if damage is caused elsewhere (outer space) the launching State shall be liable only when its fault is proved

- all claims must be made by the concerned State on behalf of its nationals or permanent residents who have suffered any damage

- the Convention applies only when the claimant State and the launching State are different and both are parties to the Convention

REGULATION OF ACTIVITIES POTENTIALLY HARMFUL TO ENVIRONMENT

- **“ States ... shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space ..... with due regard to the corresponding interests of all other States ....**

- **States .... shall pursue studies of outer space .... and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose”**

REGISTRATION OF SPACE OBJECTS
(the 1974 Registration Convention)

- National registration : The launching State must register its space objects in its national register

- International registration : The launching State must also inform the UN Secretary-General about its launched space objects so that they could be registered in the UN register

- International registration is effected after the actual launch - often after substantial delays - giving very general information about objects launched, especially for military purposes (scientific investigations)

- National registers are established under national laws

ASTRONAUTS AS ENVOYS OF MANKIND

- **“States ..... shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas”**

- **These provisions have been further elaborated in the 1968 Rescue and Return Agreement**

USE OF RADIO FREQUENCIES AND ORBITAL POSITIONS

- Radio frequencies and orbital positions are indispensable for all uses of space

- In order to have interference-free access to and use of radio frequencies and orbital positions, they must be coordinated thorough and registered with the ITU (Constitution and Radio Regulations of ITU)

Serious but unresolved problem of space debris

Intentional creation of space debris

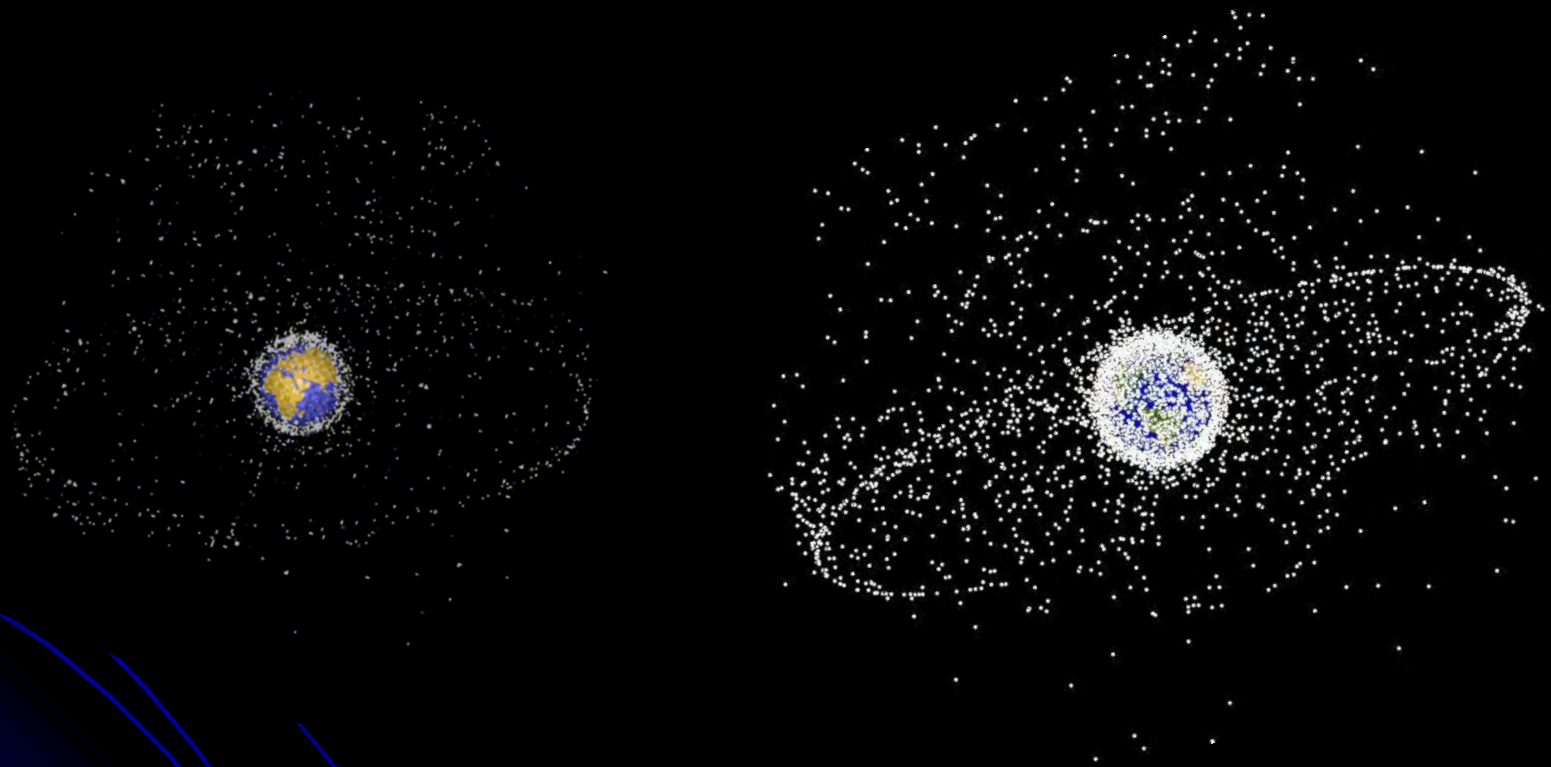
- **In January 2007, China destroyed its own dead satellite (ASAT test)**

Accidents (collisions)

- **In February 2009, a collision occurred between an America active satellite and a Russian dead satellite**

Both created thousands of pieces of debris, which will remain in space and pose serious threat for decades or even hundreds of years

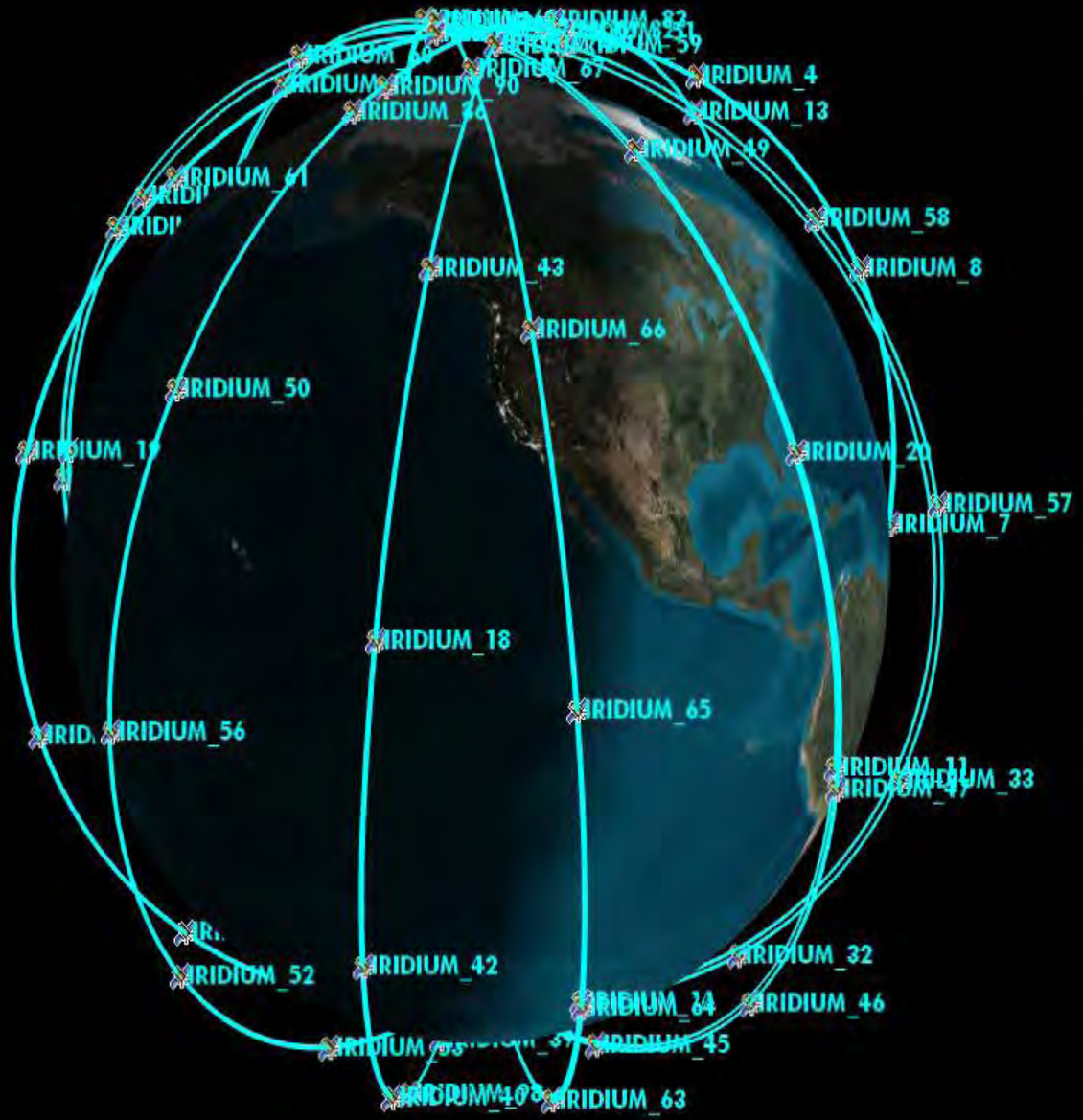
SPACE DEBRIS



In 1989

In 2004


ASAT TEST
Xichang Space Center, China
January 11, 2007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CONCLUSIONS

- These legal principles were drafted intentionally in general terms in order to regulate a field of activity which was still in its infancy
- Specific rules to define, clarify and elaborate these principles have been formulated in various other agreements
- They have been followed consistently - the rule law has consistently been prevailing in outer space. *pacta sunt servanda.*
- However, the issues related to weaponization of space and creation of space debris pose serous threat to future space utilization.

THANK YOU !!!