INTERNATIONAL TRADE IN SPACE

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MSTL III SEM

NALSAR

INTERNATIONAL TRADE RELATED TO OUTER SPACE

- Export controls
  - National
  - Multilateral
    - MTCR
    - Wassenaar Arrangement
- Sanctions
- Import controls

USA EXPORT CONTROL

The United States government controls the export of launch vehicles, spacecraft, component technologies, and other space-related items for national security reasons. The controls are in place to reduce the possibility of missile-related and other technology spreading to foreign entities that could use it to threaten U.S. interests.

The current export control process in the United States involves two sets of regulations and two lead departments. The International Traffic in Arms Regulations (ITAR) process has been developed under the jurisdiction of the Department of State (DoS), and is administered by the Directorate of Defense Trade Controls (DDTC). These regulations support the control of items, information, or activities that could be used for threatening foreign military purposes, be they actual products ("defense articles"), or technical data and support ("defense services"). These are detailed in the ITAR under the United States Munitions List (USML).

Controls also exist under the Department of Commerce (DoC) for technologies that could be used for either military or commercial purposes ("dual-use"). The Export Administration Regulations (EAR) is administered by the DoC's Bureau of Industry and Security (BIS).Some specific items which may be tangentially part of an overall space related endeavor could be classified a commercial product and would therefore be licensed by the EAR. These items are detailed in the EAR under the Commerce Control List (CCL).

Access @ http://www.space.commerce.gov/library/reports/2008-10-intro2exportcontrols.pdf

CASE HISTORIES (US)

- Hughes participation in failure reviews of Chinese launch failures in launches of OPTUS B2 (1992) and APSTAR (1995)
- Similar case with Space System LORAL for INTELSAT 708 Launch failure
- 1999 Cox Commission report
- Fines of 32 mi $ and 20 mi. $ respectively
- 1999 Communication satellites returned to State Dept control (ITAR)
- Industry concerns and loss of market share globally

US EXPORT CONTROLS (CONTINUED)

- 2009 OBAMA export control reform – single agency-single list possibility – shift of some items from USML to CCL

- Communications satellite return to EAR in 2014

- Most commercial communication satellites, low performance remote sensing satellites, planetary rovers, planetary and inter-planetary probes came to CCL (from Munitions List)

- NASA Ames Research Centre- Concerns of foreign national access control violations through contractor’s employees

EUROPE

- Rules at EU level
- Implementation at National level
- Council regulation 428/2009 - Dual use regime
- Annexure I listing of dual use items – export allowed within EU
- Annexure IV dealing with control of MTCR items
- Three regimes in Europe
  - EU General export authorizations
  - National authorizations
  - Case by case approach – global or exporter specific
- Common Position 2008/944/CFSP distinguish arms /military use items from dual use
- EU user guide

MTCR

- Missile Technology Control Regime is an informal and voluntary association of countries which share the goals of non-proliferation of unmanned delivery systems capable of delivering weapons of mass destruction, and which seek to coordinate national export licensing efforts aimed at preventing their proliferation. The MTCR was originally established in 1987 by Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. Since that time, the number of MTCR partners has increased to a total of thirty-five countries, all of which have equal standing within the Regime. Latest to join was India (2016)

http://www.mtcr.info/english/

MTCR AND TRADE

- **Export Licenses:** Export licensing is intended to prevent transfers contributing to delivery systems for weapons of mass destruction. MTCR controls are also not designed to restrict access to technologies necessary for peaceful economic development. The MTCR Guidelines guide suppliers to provide access to technology without such technology being diverted to WMD delivery system programmes.
- **End-user Undertakings:** MTCR partners obtain the following undertakings before the transfer of a controlled item:
- a statement on end use and location of the proposed transfer
- an assurance that the proposed transfers will not be used for any activities related to the development or production of delivery systems for WMD; and
- an assurance that a post shipment inspection may be made by the exporter or the exporting government.

MTCR AND TRADE

- Assurances that their consent will be secured prior to any retransfer to a third country of the equipment, material or related technology or any replica thereof.
- **Inter-partner Trade: M**embership in the MTCR does not involve an entitlement to obtain technology from another partner
- **Adherence to MTCR Guidelines & Annex by Non-Members:** MTCR partner countries are keen to encourage all countries to observe the MTCR Guidelines on transfers of missiles and related technology as a contribution to common security.
- A country can choose to adhere to the Guidelines without being obliged to join the group

MTCR GUIDELINES

- Include the MTCR Guidelines and the Equipment, Software and Technology Annex.
- The Guidelines define the purpose, the overall structure and rules
- The Equipment, Software and Technology Annex is designed to assist in implementing export controls on MTCR Annex items.
- **Category I items** (greatest restraint and case by case consideration). include complete rocket systems (including ballistic missiles, space launch vehicles and sounding rockets) and unmanned air vehicle systems (including cruise missiles systems, target and reconnaissance drones) with capabilities exceeding a 300km/500kg respectively for range/payload threshold; production facilities for such systems; and major sub-systems including rocket stages, re-entry vehicles, rocket engines, guidance systems and warhead mechanisms.
- **Category II** (greater flexibility) includes complete rocket systems and unmanned air vehicles not covered in item I, capable of a maximum range equal to or greater than, 300km. Also included are a wide range of equipment, material, and technologies, most of which have uses other than for missiles capable of delivering WMD.

WASSENAAR ARRANGEMENT

- The Wassenaar Arrangement has been established in order to contribute to regional and international security and stability, by promoting transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies, thus preventing destabilising accumulations. Participating States seek, through their national policies, to ensure that transfers of these items do not contribute to the development or enhancement of military capabilities which undermine these goals, and are not diverted to support such capabilities.
- Guidelines and control lists are agreed and control is through national mechanisms

Reference http://www.wassenaar.org/introduction/

WASSENAAR MEMBERS

- Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom and United States.

SANCTIONS

- UN Security Council Framework
  - Non proliferation, counter terrorism, human rights and conflict resolution goals
  - Sanctions take various forms like freezes, arms embargo, travel restrictions etc.
- US approaches
  - Administered by Treasury, Commerce and State Depts
  - List based sanctions
  - Country based sanctions

  - Specifically Designated National (SDN)list is the Office of Foreign Asset Control's (OFAC's) primary restricted party list.
  - US Dept of Commerce maintains Entity list and specifies export licensing requirements
  - Foreign sanctions evaders list – non US persons who abetted with persons subject to sanctions

EU FRAMEWORK OF SANCTIONS

- The EU applies economic sanctions to further specific objectives of the EU Common Foreign and Security Policy (CFSP), which include preserving peace, strengthening the security of the EU and international security, and developing democracy, the rule of law, respect for human rights and fundamental freedoms.

- EU restrictive measures require unanimous consent of Member States to take effect.

- Once passed by the EU Council and published in the Official Journal of the European Union, regulations are directly binding on Member States.

SANCTIONS AND SPACE INDUSTRY

- US sanctions against China and the China Great Wall Industrial Corporation (Post Tiananmen Square protests of 1989)
- 1991, the US issued targeted sanctions against Chinese entities (CGWIC) involved in the transfer of missile technology to Pakistan. (< 1year)
- 1993, one more case of above transaction by CGWIC and sanction (<1year)
- 1998 issue of 12 Presidential national interest waivers to allow satellite launches to continue from China.
- In 2004 and 2008, US sanctions against CGWIC recurred, following instances of Chinese technology transfers to Iran
- 1998, the US issued economic sanctions against India and Pakistan following Nuclear tests
- US DoC added several hundred governmental and private persons involved in nuclear or missile activities in India and Pakistan to the Entity List, Partial lifting in 2001. Delisting of Indian entities in 2010.
- Action against Cirrus Electronics LLC (Cirrus) for fraudulent end-use certificates (2002-2006)
- 2014 US and EU sanctions against Russia following its military intervention in Ukraine (EU exemptions for launch items in the interest of its industry, US also relaxes for import of RD-180 LV engines) Conflict of interest- 50% rule.
- India’s contract on Cryogenic engine Tech transfer with Russia – US actions on grounds of MTCR

IMPORT CONTROLS

- Customs regulations
- Tariffs
- Non-tariff measures such as licensing requirements, quotas, subsidies, currency restrictions or prohibitions and embargoes.
- Preferential trade and tariff programmes for importers
- World Trade Organization (WTO) (since 1995) is the most common clearing house for the negotiation of trade agreements and the establishment of tariffs and non-tariff measures
- WTO framework spans a multitude of agreements that set the trade rules for member countries' trade in goods, services and intellectual property (IP).
- WTO agreements influence market access, reduce technical barriers to trade, establish import licensing and customs requirements, and provide for trade related investment measures
- 2015, the multilateral Information Technology Agreement (ITA) (53 participants agreed to the products under the ITA's zero-tariff policy – namely, to include telecommunications satellites and many related components.

TRADE REMEDIES AND DISPUTES

- Anti dumping actions- duties
- Counter vailing duties (to compensate the subsidies of foreign states)
- Safeguard actions /emergency protective measures for dom. Industry
- WTO dispute settlement may include any number of four major phases:
  - State-to-State consultations;
  - panel hearings;
  - appeals; and
  - implementation of any recommendations of the panel or Appellate Body.
- State based process/ nonstate entities are not parties to WTO
- EU case with Japan on Japan's procurement specs (US specific)of navigation satellite as violation of pluralistic Govt Procurement Agreement

INTERNATIONAL AGREEMENTS

- 1988 – US China agreement for communication satellites
- CSLA discussions between US India
- 2015- 5 US companies obtained waivers for Launches on PSLV
- Intl. Space Station Agreement- Article 18(3) Duty free import/export provisions
- Art 19- Framework of exchange of technology/goods against export controls

WTO AND SPACE ACTIVITIES

- GATT against Technical barriers to trade
- TRIPS
- Public Procurement GPA
- GATS
  - Promoting growth through liberalization- a political issue, not a neutral policy option
  - Multilateralism vs Regionalism
  - Uruguay round …pragmatic approach for Article V of GATS (Economic integration)
  - WTO is not universal yet

GATS

General		-	-
Preamble		Jurisprudence	-
Article I	Scope and Definition	Jurisprudence	Practice
Article II	Most-Favoured-Nation Treatment	Jurisprudence	Practice
Article III	Transparency	-	Practice
Article III bis	Disclosure of Confidential Information	Jurisprudence	-
Article IV	Increasing Participation of Developing Countries	-	Practice
Article V	Economic Integration	Jurisprudence	Practice
Article V bis	Labour Markets Integration Agreements	-	Practice
Article VI	Domestic Regulation	-	Practice
Article VII	Recognition	-	Practice
Article VIII	Monopolies and Exclusive Service Suppliers	-	Practice
Article IX	Business Practices	-	Practice
Article X	Emergency Safeguard Measures	-	Practice
Article XI	Payments and Transfers	Jurisprudence	-
Article XII	Restrictions to Safeguard the Balance of Payments	-	Practice
Article XIII	Government Procurement	Jurisprudence	Practice
Article XIV	General Exceptions	Jurisprudence	Practice
Article XIV bis	Security Exceptions	-	Practice
Article XV	Subsidies	Jurisprudence	Practice
Article XVI	Market Access	Jurisprudence	Practice
Article XVII	National Treatment	Jurisprudence	Practice
Article XVIII	Additional Commitments	Jurisprudence	Practice
Article XIX	Negotiation of Specific Commitments	-	Practice

GATS

Article XX	Schedules of Specific Commitments	Jurisprudence	Practice
Article XXI	Modification of Schedules	-	Practice
Article XXII	Consultation	-	-
Article XXIII	Dispute Settlement and Enforcement	Jurisprudence	Practice
Article XXIV	Council for Trade in Services	-	Practice
Article XXV	Technical Cooperation	-	-
Article XXVI	Relationship with Other International Organizations	-	Practice
Article XXVII	Denial of Benefits	-	-
Article XXVIII	Definitions	Jurisprudence	Practice
Article XXIX	Annexes	-	-
	Annex on Article II Exemptions		Practice
	Annex on Movement of Natural Persons Supplying Services under the Agreement	-	Practice
	Annex on Air Transport Services	-	Practice
	Annex on Financial Services	Jurisprudence	-
	Second Annex on Financial Services	-	-
	Annex on Negotiations on Maritime Transport Services	-	-
	Annex on Telecommunications	Jurisprudence	-
	Annex on Negotiations on Basic Telecommunications	-	-

GATT AND TRADE IN GOODS: INFORMATION TECHNOLOGY (ITA) AND STANDARD SETTING

- December 1996, at the first WTO Ministerial Conference an agreement on trade of information technology products (ITA) was concluded among a large number of WTO members representing 91% of the world IT market. (to eliminate customs duties by 2000)
- (ITA 2) under negotiation
- ITA 1 and ITA 2 cover physical goods, including some of direct interest to space activities.
- Move towards WTO principle of neutrality of technology, accommodating different levels of economic development.
- IT technology, suitable to broadest spectrum of liberalization covering intermediate and final goods and an example of business-led liberalization
- Standards should not become a technical barrier to trade
- GATS encourages the use of international standards, but leaves the task of developing them to other competent international organisation

GATS AND TRADE IN SERVICES: TELECOMMUNICATION AND REMOTE SENSING

- Uruguay round agreement covering all the service sectors, with a large amount of flexibility (larger than the GATT) and of follow-up work, defining only a few basic principles, that is transparency, most favoured nation, market access and national treatment.
- The problem of binding market access commitments of members (the barriers to trade being regulations, not quantifiable tools as tariffs or quotas) was dealt with the introduction of schedules for each members.
- Services are classified in the GATS in 11 sub-sectors following the IMF classification
- the three more important sectors (transport, telecommunication, finance) were left to further specific negotiations in the form of Annexes to the Agreement.
- Satellite services were not included in the GATS services classification list and were not negotiated as TLC services during the Uruguay Round
- Satellite TLC services to be on the basis of the principle of technological neutrality?

TRIPS

- Addresses the long-standing question of trade in counterfeited goods and need of challenging the unilateralism of the US legislation in this area
- TRIPS negotiations were aimed, and succeeded, at establishing positive obligations setting common minimal standards of protection of IPR’s rights as for instance, the 20 years minimum for patents
- The TRIPS Agreement, like the WIPO, covers the entire range of Conventions on intellectual property
- important added value of TRIPS is the possibility of activating the WTO dispute settlement procedure.

GPA AND GOVERNMENT PROCUREMENT

- GPA's main obligations are the introduction of national treatment, non-discrimination in purchase by government entities and more transparent detailed procedures for tendering. As a consequence the old principle of national preference is prohibited and selective procedures severely restricted.
- 11 States, counting 1 the EEC, subscribed to it. developing countries have always consistently and strongly rejected this proposal.
- Tendering in satellite technologies and services is mainly, if not exclusively, of interest to the most advanced economies. Since the WTO dispute settlement procedure (DSU) applies to the GPA, possible controversial issues between them could be submitted to WTO panels

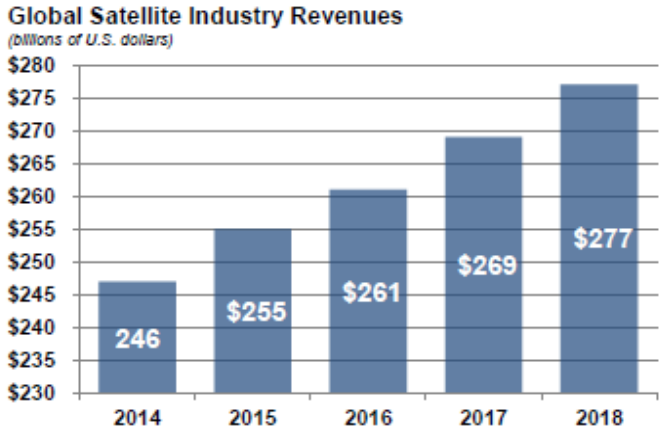
GLOBAL SPACE ECONOMY

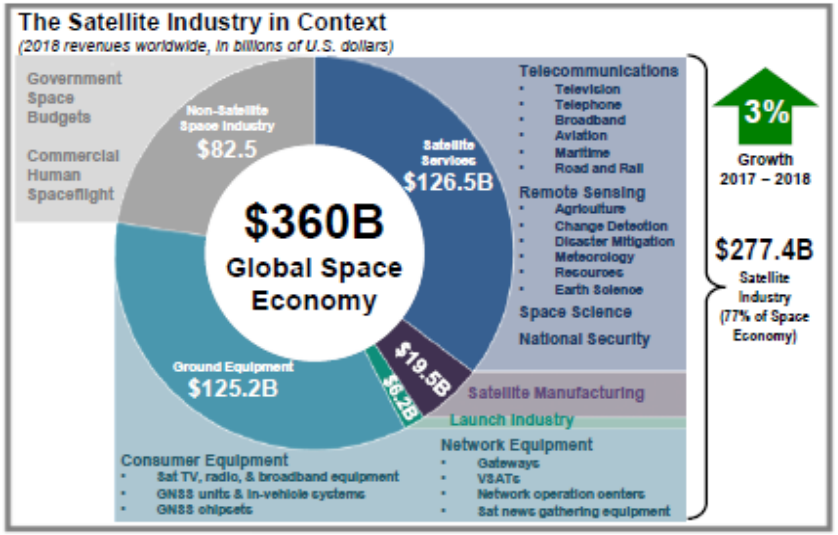
2019 State of the Satellite Industry

2018 Growth

Satellite manufacturing and launch

Markets for value-added services across multiple segments





Satellite Services

1.7%

2018 Revenues
$126.5B

Television	$94.2B
Radio	$5.8B
Broadband	$2.4B
Fixed	$17.9B
Mobile	$4.1B
Remote Sensing	$2.1B

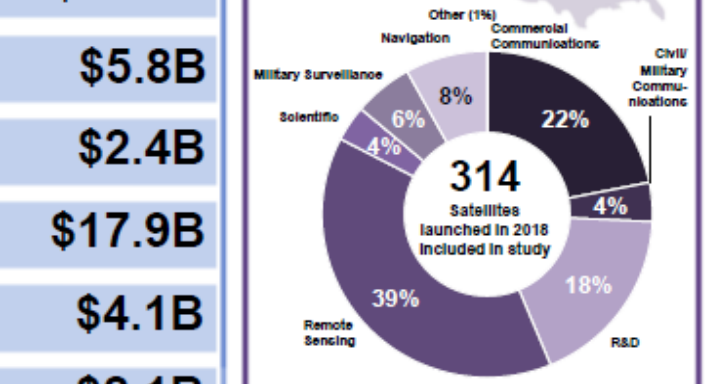
Satellite Manufacturing

26%

2018 Revenues
$19.5B

$8B

$11.5B

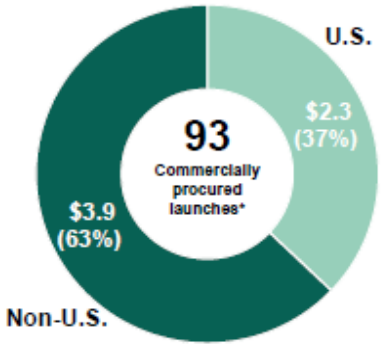


Satellites Launched by Mission Type

Launch Industry

34%

2018 Revenues **$6.2B**



** There were 114 total orbital launches in 2018. Of these, 93 were commercially procured, 15 involved space vehicles, and 6 were not commercially procured*

Commercial Launch Revenues by Region

Ground Equipment

5%

2018 Revenues **$125.2B**

$18.1B
Consumer Equipment

$93.3B
GNSS Equipment

$13.8B
Network Equipment
(VSATs, gateways, etc.)

BRYCE
space and technology

SATELLITE COMMUNICATIONS COMMERCIALIZATION

COMSAT ACT OF THE USA

- Enshrined the policy of the United States to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial communications satellite system, as part of an improved global communications network, which will be responsive to public needs and national objectives, which will serve the communication needs of the United States and other countries, and which will contribute to world peace and understanding
- In order to facilitate this development and to provide for the widest possible participation by private enterprise, United States participation in the global system shall be in the form of a private corporation, subject to appropriate governmental regulation.

SOME IMPORTANT LAWS OF US ON COMMERCIALISATION

- The 1984 Commercial Space Launch Act (P.L. 98-575) that designated the Department of Transportation (DOT) as the federal agency responsible for facilitating and regulating commercial space launch activities (a task currently assigned within DOT to the Federal Aviation Administration's Office of Commercial Space Transportation),
  - its 1988 amendments (P.L. 100-657) that provided for government indemnification of commercial space launches for amounts between $500 million and $2 billion (which was extended in several subsequent laws)
  - its 2004 amendments that provide for regulation of commercial human spaceflight
- The 1992 Land Remote Sensing Policy Act (P.L. 102-555), which repealed an earlier law (the 1984 Land Remote-Sensing Commercialization Act) and established a regime for facilitating and regulating commercialization of land remote sensing satellites while returning responsibility for the Landsat system to the government. Oversight of commercial remote sensing satellites is assigned to the Department of Commerce and its National Oceanic and Atmospheric Administration (NOAA).
- The 1998 Commercial Space Act (P.L. 105-303), which, inter alia, gave the Department of Transportation regulatory authority over commercial spacecraft that return from space ("re-enter"), as well as launches into space.
- 2015 Commercial Space Launch Competitiveness Act grants rights to resources extracted from asteroids and other celestial bodies
- Refer @ http://www.spacepolicyonline.com/space-law

NASA COMMERCIAL SPACE ACT 1998

- TO ENCOURAGE THE DEVELOPMENT OF A COMMERCIAL SPACE INDUSTRY IN THE UNITED STATES, AND FOR OTHER PURPOSES

- **PROMOTION OF COMMERCIAL SPACE OPPORTUNITIES**

  Sec 101. Commercialization of Space Station.
  Sec. 102. Commercial space launch amendments.
  Sec. 103. Launch voucher demonstration program.
  Sec. 104. Promotion of United States Global Positioning System standards.
  Sec. 105. Acquisition of space science data.
  Sec. 106. Administration of Commercial Space Centers.
  Sec. 107. Sources of Earth science data.

- **FEDERAL ACQUISITION OF SPACE TRANSPORTATION SERVICES**

http://www.nasa.gov/offices/ogc/commercial/CommercialSpaceActof1998.html

UPDATED SPACE TRANSPORTATION POLICY 2013

- The overarching goal of the policy is to have assured access to diverse regions of space, from suborbital to Earth's orbit and deep space, in support of civil and national security missions.
- To further this goal, the policy prescribes actions aimed at improving U.S. launch industry robustness, cost effectiveness, innovation, entrepreneurship, and international competitiveness
- For Details http://www.space.commerce.gov/transportation/

INTERNATIONAL TRADE IN SPACE LAUNCH SERVICES

- Launches and legal issues
  - Obligations and duties as per international law
  - Principle of State responsibility
  - Liability on launching state – a state which launches, which procures, whose territory or facility is used
  - State supervision .. Regulatory burdens on private launch providers may vary from country to country
  - Prohibition of launching nuclear weapons or weapons of mass destruction
  - Retaining jurisdiction and control over space objects maintained in the national registry
  - Due regard to interests of other states
- Commercial launches
  - Presence of both private and govt providers in the market
  - Issues of Subsidies
  - Preferential treatment for government satellites
  - Export controls on satellites

COMMERCIAL SPACE LAUNCHES – MARKET ISSUES

- Sustaining launch industry – govt role
- US agreements with Russia, China, Ukraine
- CSLA discussions with India
- Changing scenario

INDIA AND IMPORT/EXPORT CONTROL

- Import export policy and SCOMET list (Special Chemicals, Organisms, Materials, Equipment & Technologies)
- Export of SCOMET items in Appendix 3 (Schedule 2 of ITC (HS) Classification of Export and Import Items, 2018) regulated)*
- Generally export of SCOMET items permitted against a licence unless
  - Export is prohibited or
  - Permitted without licence subject to fulfilment of conditions as indicated against specific category/item

PENAL PROVISIONS

- Violation of Export Policy and Procedures for Export Of SCOMET Items attracts Penal Provisions under the FT(D&R) Act,1992, Customs Act, 1962 & WMD Act, 2005

Updated SCOMET List 2020 (as on 11.06.2020).pdf (dgft.gov.in)

PROVISIONS

- Sec. 11 –No person shall export any material, equipment or technology knowing that such material, equipment or technology is intended to be used in the design or manufacture of a Biological Weapon, Chemical Weapon, Nuclear Weapon or other Nuclear Explosive Devices, or in their Missile Delivery Systems
- Sec. 13 (1) –No item notified under this Act shall be exported, transferred, re-transferred, brought in transit… except in accordance with the provisions of this Act or any other relevant Act
- Sec.13 (2) –Any transfer of technology of an item whose export is prohibited under this Act or any other relevant Act relating to relevant activity shall be prohibited

- Penal Provisions under FT (D&R) Act
- u/s 8 (1)(B) –suspension/cancellation of „IE CODE"
- u/s 11(2) –fiscal penalty upto 5 times the value of the goods exported can be imposed
- u/s 7 of Foreign Trade (Regulation) Rules , 1993 –further licences can be refused

Penal Provisions under WMD Act

- Contravention of the above provisions of the Act –shall be punishable with imprisonment for a term which shall not be less than six months but which may extend to 5 years and shall also be liable to fine.
- For a second and every subsequent offence –punishment not less than 1 year but which may extend to 7 years and shall also be liable to fine.

SCOMET CATEGORIES

- Category 0: Nuclear materials, nuclear-related other materials, equipment and technology
- Category 1: Toxic chemical agents and other chemicals
- Category 2: Micro-organisms, Toxins
- Category 3: Materials, Materials Processing Equipment, and related Technologies
- Category 4: Nuclear-related other equipment and technology, not controlled under Category 0
- Category 5: Aerospace systems, equipment, including production and test equipment, and related technology
- Category 6: (Reserved) Category
- 7: Electronics, computers, and information technology including information security

IMPLEMENTATION MECHANISMS

- Apply in the prescribed Form ANForm2E
- Relevant parts of the form may be filled
- Applications for export licence for SCOMET items considered by DGFT(Hqrs.),New Delhi
- Applications placed before an Inter Ministerial Working Group (IMWG)
- IMWG recommends cases for grant of permission for export licence
- Applications for export licence for SCOMET items/technology considered case by case
- Based on general criteria given in Para 2.50 of Handbook of Procedure, Vol. I
- Members of the IMWG undertake pre-license checks on the stated end-use as well as end user to verify their activities

THE AGREEMENT ON TRADE-RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS (TRIPS AGREEMENT)

- The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) does not specifically address the question of outer space as such. In addition, the principle of national treatment in Article 3, Article 4 provides that, in principle, any advantage, favour, privilege or immunity granted by a Member to the nationals of any other country shall be accorded immediately and unconditionally to the nationals of all other Members ("most-favoured-nation treatment").
- According to Article 27.1, patents must be available and patents rights enjoyable without discrimination as to the place of invention. Therefore, national law has to ensure that, with respect to inventions created in outer space, patents must be granted and enforceable in the territory in which it applies under the same conditions applicable to inventions created elsewhere.

SPACE TREATIES AND IPR

- Outer Space treaty
  - Principles of exploring and using space for the benefit and interests of all countries, non appropriation, and, freedom of access
  - jurisdiction and control over space objects by the state of registry
- Registration Convention
  - Article 1a – definition of launching state
  - Article 1b- space object definition
  - Article VII- registering in case of IGO
  - Joint launching and jurisdiction & control in such case

UN DECLARATION

- An explicit reference to intellectual property rights is made in the Declaration by the United Nations Committee on the Peaceful Uses of Outer Space on International Cooperation in the Exploration and Use of the Outer Space for the Benefit and the Interest of All States, Taking into Particular Account the Needs of Developing Countries, which was adopted in 1996. Its second paragraph states:
- “States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually acceptable basis. Contractual terms in such cooperative ventures should be fair and reasonable and they should be in full compliance with the legitimate rights and interests of the parties concerned as, for example, with intellectual property rights.”

RECOMMENDATIONS OF WORKSHOP ON IPR DURING UNISPACEIII

(a) More attention should be paid to the protection of intellectual property rights, in view of the growth in the commercialization and privatization of space-related activities. However, the protection and enforcement of intellectual property rights should be considered together with the international legal principles developed by the United Nations in the form of treaties and declarations, such as those relating to the principle of non-appropriation of outer space, as well as other relevant international conventions;

(b) The feasibility of harmonizing international intellectual property standards and legislation relating to intellectual property rights in outer space should be further explored with a view to enhancing international coordination and cooperation at the level of both the State and the private sector. In particular, the possible need for rules or principles covering issues such as the following could be examined and clarified: applicability of national legislation in outer space; ownership and use of intellectual property rights developed in space activities; and contract and licensing rules;

(c) All States should provide appropriate protection of intellectual property rights involving space-related technology, while encouraging and facilitating the free flow of basic science information;

(d) Educational activities concerning intellectual property rights in relation to outer space activities should be encouraged.

OBSERVATIONS

- National (and regional) laws on the protection of intellectual property in general apply only to the territory of the relevant country (or region)

- There still remain considerable differences among national/regional intellectual property laws which lead to a different level of intellectual property protection in the territory of each country

OUTSTANDING QUESTIONS

- (a) whether there is need for clarification on the principle of Article 5*ter of the Paris Convention;*
- (b) whether Member States of WIPO should clarify that the laws applicable to inventions in the territory of a country will also apply in the spacecraft registered by (under jurisdiction of) the said country;
- (c) whether there is case for standardization of contractual clauses on the protection of inventions and confidential information, which are created or used in international cooperative agreements between the space faring nations?

US LAWS -

- Section 105 of 35 U.S.C. (Inventions in outer space) reads as follows:
- “(a) Any invention made, used, or sold in outer space on a space object or component thereof under the jurisdiction or control of the United States shall be considered to be made, used or sold within the United States for the purposes of this title, except with respect to any space object or component thereof that is specifically identified and otherwise provided for by an international agreement to which the United States is a party, or with respect to any space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space

US LAW..

- “(b) Any invention made, used or sold in outer space on a space object or component thereof that is carried out on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space, shall be considered to be made, used or sold within the United States for the purposes of this title if specifically so agreed in an international agreement between the United States and the state of registry.”

EC

- The Proposal for the Council Regulation on the Community Patent, issued by the European Commission (document COM(2000) 412), provides that the Regulation should apply to inventions created in outer space, which are under the jurisdiction and control of one or more member States in accordance with international law.

COPY RIGHTS IN SPACE

- As regards copyright protection, the determination of jurisdiction of a spacecraft is less important, because it is the author’s nationality which, in the first place, determines the status of the work as regards its protection

ISS

- The determination of the jurisdiction as far as intellectual property is concerned should be clearly defined, particularly where more than one country is involved in the launching of the elements of a space station. A good example of how a joint government administration can lead to a specific agreement on jurisdiction and control over the elements of an international space station is the Agreement on Cooperation in the Detailed Design, Development and Operation and Utilization of the Permanently Manned Civil Space Station among the governments of the United States of America, the Member States of the European Space Agency (ESA), Japan and Canada (the Intergovernmental Agreement (IGA)), concluded in 1988.
- Article 21, contains a provision establishing an intellectual property regime for the international space station

IPR OCCURRING IN EUROPEAN FLIGHT ELEMENTS OF INTERNATIONAL SPACE STATION

- In principle, Article 21.2 of the IGA stipulates that, for the purposes of intellectual property law, an activity occurring in or on a Space Station flight element should be deemed to have occurred only in the territory of the Partner State of that element's registry. As regards the European Partner States, a separate rule is necessary, since the European Partner States delegate to the ESA the responsibility to register the ESA flight elements.

- Article 21.2 of the IGA provides that, for the purposes of intellectual property law, any European Partner State may deem the activity to have occurred within its territory for ESA registered elements. Thus, with respect to all types of intellectual property law, the principle of quasi-territoriality is implemented on the Space Station, though ESA registered elements could be considered as a "common territory" of the European Partner States.

ISSUES/ NOTES

- Taking cognisance of the territorial jurisdiction under intellectual property law, a separate consideration as to the applicability of general intellectual property rules may be needed only in so far as activities carried out in outer space
- Though treaties under the auspices of WIPO as well as the TRIPS Agreement have achieved a certain level of harmonization among national/regional laws. However, there still remain considerable differences among national/regional intellectual property laws which lead to a different level of intellectual property protection in the territory of each country (region).
- While launching state, according to international space law, retains jurisdiction and control over the space object under its registry, the outer space is not subject to national appropriation

- In the context of determining jurisdiction over space object , the current Registration Convention raised some practical difficulties, such as a different interpretation of the definition of the term “space object” and the accuracy of the registration carried out by the Contracting States. Further, the Registration Convention does not contain a provision regarding changes of ownership of the registered space object, which was probably not foreseen at the time the Convention was concluded.

SUM UP

- Harmonization of national intellectual property law and practice is a desirable goal to eliminate some of the difficulties

- Legal regime for identifying and exercising intellectual property rights in connection with extraterritorial activities is yet to be fully accomplished

MANAGING RISKS IN SPACE BUSINESS

RISK TYPE	APPROACH
LAUNCH / ORBIT FAILURE	INSURANCE & LRG, PERFORMANCE INCENTIVES
THIRD PARTY LIABILITY	INSURANCE
IPR	INDEMNITIES
EXPORT EMBARGOS	EXPLORE/ DEVELOP NEW SOURCE
VENDOR QUALITY	INSPECT/ CERTIFY, QUALIFY
TECH. OBSOLESCENCE	R&D, PRODUCT UPGRADE
FINANCIAL (FE, ESCALATIONS)	REVIEW & BUDGET APPROPRIATION, CONTRACTUAL MEASURES
HUMAN RESOURCES	MULTI- PRONGED

THANK YOU