

# Indian Law on Space Commerce

Space Commercialization and legal Issues  
Master of Space & Telecommunications Law  
NALSAR

# Space Commerce Ecosystem - India

- Government Space Programs
- Space Infrastructure and Markets for Space products and services
- Industry in Manufacturing and in supply chain
- Industry In Services
- Innovations
- Start ups
- Financing
- Regulation and regulatory mechanisms
- Human resources and competences
- Insurance against risks
- International environment
- Cross border flow of investments, technologies and materials/parts/equipment

## MAIN CHALLENGES TO SPACE COMMERCE

- ❖ Diversity of policies on market access in different countries and disruptive trends
- ❖ Regulatory uncertainties and challenges
- ❖ Risk reduction mechanisms for industry is inadequate
- ❖ Competition uneven / calls for level playing field
- ❖ Export controls
- ❖ High capital investment
- ❖ Human resources imbalances
- ❖ Security concerns

# Space Activities Bill, 2018

## Objective:

- To facilitate the overall growth of space activities in India
- To enhance the participation of non-governmental entities/ private sector industries in space activities in compliance with the obligations under international treaties on space activities.

## Salient features:

- Establishment of a Regulatory mechanism for Authorization and Licensing of non governmental space activities,
- Liability for damages caused by space objects – on Licensee with risk sharing -  
Registration of space objects
- Provisions for Safety measures, Supervision, IPR Protection, Rules making, Penalty for offences, etc.

# Space-based Remote Sensing Policy (SpaceRS Policy 2020)” draft guidelines (SpaceRS NGP 2020)

- 1.promote Indian Industries to carry out space based remote sensing activities within and outside India.
- 2. enable easy access to space based remote sensing data, except for “sensitive data and information”.
- 3. concentrate on realisation of space based remote sensing systems to cater to the country’s needs, that cannot be effectively, affordably and reliably satisfied by the commercial entities, either due to national security concerns or economic factors.
- 4. provide a timely and responsive regulatory environment for the commercial Indian industry to establish and operate space based remote sensing systems.

# Norms, Guidelines and Procedures for Implementation

- **IN-SPACE:** Indian National Space Promotion & Authorization Center is an independent body constituted by Government of India, under DOS, to promote, hand hold, permit, monitor and supervise space activities by NGPEs and accord necessary permissions as per the regulatory provisions, exemptions and statutory guidelines
- **Sensitive data:** Very high resolution data having ground sampling distance of better than fifty centimeter.

# End to End services by industry

- increased participation of Indian Industries to provide end-to-end space based remote sensing services, that includes building and operating space assets, establishing ground stations, satellite data acquisition and dissemination, to compete as a provider of space based remote sensing capabilities within and outside India, on commercial basis.
- the realisation of any space asset by an Indian entity permitted through a process of authorization

# Easy access of satellite based remote sensing data

- Any service provider will be free to provide remote sensing data and services to any user in the country with a simple process of registration/authorisation of space asset to keep the Government informed
- For national security considerations, data category identified as 'sensitive' to have different mechanism for dissemination. Govt can control imaging and distribution of such data for national security or foreign policy considerations

# Public policy measures

- **Govt to concentrate on realisation of space based remote sensing systems to cater to the country's needs, that cannot be effectively, affordably and reliably satisfied by the commercial entities, either due to national security concerns or economic factors**
- **Provision of timely and responsive regulatory environment for the commercial Indian industry to establish and operate space based remote sensing systems. DoS will be administrative ministry for authorisations**

# Access to govt. facilities and Private space assets / ground segment authorisation

- Indian entities can avail state-of-the-art facilities of the Government for manufacturing satellite and associated ground segment. It can be availed from designated PSU/CPSE under DOS on commercial terms, subject to availability
- space asset owned by Indian entity shall need authorisation
- Any Non Govt Private Enterprise, intending to set up the ground station for satellite data reception, facilities for satellite tracking, controlling and monitoring, within Indian territory, shall need authorization

# Liability for damages

- NGPEs which owns and operates a space asset for remote sensing shall be liable for any potential damages caused to other space objects in outer space
- This obligation shall be fulfilled by the entity by providing a financial guarantee or insurance cover to a sum, as determined by the authorizing body

# Sensitive data dissemination

- The very high resolution data having Ground Sampling Distance (GSD) less than fifty centimeter will be treated as 'sensitive' and requires specific authorization for dissemination. The dissemination of such data will be regulated/controlled by the Government of India, as per the consideration of national security and prevailing foreign policy

# Access to IRS data

- In the interest of promoting research, innovation, societal applications and value addition, DOS shall make IRS satellite data having GSD of 5 meter and coarser, easily accessible on 'free and open' basis.
- IRS satellite data and services which have commercial value, shall be made easily accessible through the designated PSU/CPSE under DOS, on commercial terms.
- All available archived satellite data and satellite derived thematic data shall be made available for further value addition, research and development purposes on 'as is where is' condition.

# Spacecom Policy 2020

- adopt measures to monitor and authorize use of space assets for communication to or from Indian territory.-
- ensure protection of space assets already put in place and adopt measures to bring in more space assets under the administrative control for enhancing ability to utilize space based communication for national needs
- promote increased participation of commercial Indian industry to provide space based communications both within the country and outside.-
- concentrate on realization of space based communication systems for addressing the requirements that cannot be effectively, affordably and reliably satisfied by commercial Indian industry either because of national security concerns or economic factors.
- provide a timely and responsive regulatory environment for the commercial Indian industry to establish and operate space based communication systems.

# Administrative ministry

- Department of Space being the administrative ministry in respect of space activities in India as per the allocation of Business Rules of Government of India, shall issue appropriate norms, guidelines and procedures including approval-mechanism from time to time for the services in the areas of secured communication, commercial and societal services under Spacecom-2020.

# Authorisations for space communications

- Authorizations
- Establishment of space based systems for communications over India - using Indian orbital resources .....
- Establishment of space based systems for communications over India - using Non-Indian orbital resources .....
- Establishment of space based systems for communications exclusively outside India .....
- Establishment and utilization of NGSO communication systems.....
  - Establishment of Ground Segments for Space Asset Operations .....
  - Applications for seeking authorizations .....
  - Other Considerations for Authorization.....

# WHY old SATCOM POLICY UNDER PERFORMED

- The fundamental aim of the Policy Frame-work for Satellite Communications in India approved by the Cabinet is :
- to develop a healthy and thriving communications satellite and ground equipment industry, satellite communications service industry in India.
- Also, use and further development of the capabilities built in India in the area of satellites, launch vehicles and ground equipment design and sustaining these capabilities is an equally important aim.
- Making available the infrastructure built through INSAT to a larger segment of the economy and population is another corner stone of the Policy.
- Encouraging the private sector investment in the space industry in India and attracting foreign investments in this area are other specific goals.
- The norms, guidelines and procedures have been evolved so as to help reach these aims and goals.

# Technology transfer guidelines

- 1.0 Scope
- 2.0 Preamble
- 3.0 Objectives of technology transfer programme
- 4.0 Sources of technologies for transfer
  - 4.1 In-house R&D programme
  - 4.2 Joint development work and technology utilisation with industry
  - 4.3 ISRO sponsored research at academia (RESPOND)
- 5.0 Identification of technology and assessment of technology readiness for technology transfer
  - 5.1 criteria to assess technology readiness

# Technology transfer guidelines...

- 6.0 Technology transfer organisation at ISRO
- 6.1 Technology Transfer Group (TTG)
- 6.2 Centralised Technology Transfer Committee (CTTC)
- 6.3 Technology..JEransfer.CeJL(-EEC.)
- 6.4 Centre level Technology Transfer Committee
- 6.5 New Space India Ltd. (NSIL)
- 6.6 Technology transfer work flow
- 7.0 Costing Guidelines
- 8.0 Motivation and organisational incentives 8

# Technology transfer guidelines...

- 9.0 Technology Transfer: Special cases
- 9.1 Technology transfer through incubation
- 9.2 Technology transfer to entrepreneurs
- 9.3 Technology transfer for societal applications, NGO's, NPO's and CBO's
- 9.4 Dual use technology/Restrictive technology
- 9.5 Foreign access to ISRO technology transfer
- 9.6 Software licensing
- Enclosure: Costing guidelines for technology transfer
- Technology Transfer Special cases

# India and export control

- Foreign Trade policy of India and Special Chemicals, Organism, Materials, Equipment and Technologies (SCOMET ) list, which regulates brokering, transshipment and export of items covered by it
- SCOMET list is aligned to the control list of all the multilateral export control regimes and conventions
- Policy and procedure laid down by DGFT for export of controlled items listed in categories 1 to 8
- (DGFT Web Portal : <http://dgft.gov.in> )

# International Environment

# Export Controls (USA)

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/wp-content/uploads/2017-export-controls-guidebook.pdf>

# 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

<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:** Membership 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

# 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 (dual use goods and technologies and munitions list) are agreed and control is through national mechanisms

Reference <http://eoivienna.gov.in/?10248?000>

# Satellite Services

| CONSUMER SERVICES   | FIXED SATELLITE SERVICES | MOBILE SATELLITE SERVICES | RS/IMAGING SERVICES    |
|---------------------|--------------------------|---------------------------|------------------------|
| Satellite TV        | Transponder lease        | Mobile data               | Down link distribution |
| Satellite Radio     | Managed Network services | Mobile Voice              | Value added services   |
| Satellite Broadband |                          |                           | GIS & applications     |
| Positioning         |                          |                           |                        |