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The Role of National Space Legislation in Strengthening the Rule of Law

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Regulatory aspects of Global Navigation Satellite Systems

Armel Kerrest
Institute of Law of International Spaces and Telecommunications

University of Western Brittany

Introduction

- **The US NAVSTAR Global Positioning System**

  Military purposes. Operational since 1978

  In 1983 destruction of the Boeing 747 of the Korean Airlines; GPS available for civil uses since 1984

  Initial difference of quality of precision suppressed in 2000 making civil/commercial utilisation more efficient.

- **The GLObal NAvigation Satellite System GLONASS (1976 full coverage 1991)**

  In May 2007 presidential decree providing open access.

- **GNSS augmentation Systems**
  - **Ground based Augmentation Systems**
    - **Radio towers**
  - **Satellite Based Augmentation System**
    - **Wide Area Augmentation System (WAAS of the US)**
      (a ground and a space segment) developed by FAA
    - **European Geo-stationary Navigation Overlay Service (EGNOS) – ESA – E.U. And Eurocontrol**
    - **...**

- **Gallileo (Europe)**
  - **European Union and the European Space Agency**
  - **EU Resolution in 1994**
  - **Approbation of the program in 2002**
  - **In 2007 agreement among the EU transportation Ministers for an entry into operation in 2014**
  - **30 satellites orbiting in 3 different orbital planes at an altitude of about 23200 km**
  - **An open service will be provided for every one;**
  - **Some services will be accessible for a cost.**

- **Beidou 2 – COMPASS system (China)**
- **Quasi-Zenith Satellite System (Japan)**
- **Indian Regional Navigational Satellite System**

The main issue : Liability for GNSS

Liability in case of damage caused by the stop of emission or a wrong message from one or some satellites.

- A damage caused by a space object: the liability convention
- The case of the GPS and GLONASS systems which are provided for free as by-product of their military use
- Le new age of GNSS: commercial endeavour Galileo and others (?)

A damage caused by a space object

Does the liability convention apply to such damage?

A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft flight.

What is the meaning of "*damage caused by its space object*"

- A large interpretation just considering the link between the damage and the object.
- A narrow interpretation : the necessity of a physical contact

- The aim and purpose of the obligation of the launching States
  - The connection with the freedom of use.
  - Protecting the States and people not taking part to the space endeavour by offering them a very protective liability mechanism.
  - The users of GNSS are in fact taking advantage of space activities, they are not really “third parties” as are people on earth when a satellite falls down.

- A by-product of a military program
  - US GPS
  - At the user's own risk
  - No liability recognized
  - "A Technological Dream Turned Legal Nightmare ?"
    - The immunity of States
    - The Federal Tort Claim Act
      - FTCA's Foreign country exception (where is committed the negligence ? In Outer Space or on the US territory?
      - FTCA's discretionary function exception
      - "nevertheless, the variability of courts deciding discretionary function exception makes it difficult to predict a particular court's holding"
      - US Congress should except the GPS from FTCA liability

- Commercial GNSS – Galileo.
- The services:
  - Navigation
    - Marine ; Space; Air; Rail
  - Timing
    - Banking
    - Telecommunications
    - Encryption
  - Positioning
    - Fishing industry
    - Agriculture
    - Building industry (Eurotunnel)

- I) Special liability regimes
- II) Common National Liability Rules

- In some cases it exits a special liability regime.
  - Usually setting a ... limited ... strict liability
  - But this does not eliminate the problem

1. The victim may prefer to sue the GNSS operator
   1. Because of a too low level of the ceiling
   2. Because of possible exoneration(s) of the liable entity under the special international instrument
2. The convention may not apply for instance if not ratified (forum shopping to avoid the convention)
3. The liable entity under the special instrument may have a recourse against GNSS provider in case of malfunction.

Some examples:

[Unidroit note on third party liability for GNSS (Rome 22 October 2010)]

- Convention for the Unification of Certain Rules for International Carriage by Air (Montreal 28 May 1999)
  - Limited Strict Liability
  - Limited scope of the convention (international flights)
  - Possibility for the operator or carrier to have a recourse against the GNSS operator

"Nothing in this Convention shall prejudice the question weather a person liable for damage in accordance with its provisions has a right of recourse against another person";

- Convention on Compensation for Damage Caused by Aircraft to Third Parties (Rome 1952 Montreal protocol 1978) (Montreal 2009)
  - Possibility for the operator or carrier to have a recourse against the GNSS operator

- Convention on Limitation of Liability for Maritime Claims (LLMC), 1976, and 1996 LLMC Protocol
  - Possibility to avoid the limit of liability set by the convention by proving the failure or malfunction of GNSS.

- International Convention on Civil Liability for Oil Pollution Damage (CLC), 1969

- Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (NUCLEAR), 1971

  – Channelization of the liability on the owner of the ship / operator of the nuclear installation concerned
  – Still possibility of recourse of both of them against the GNSS operator.

- In the absence of an international regime
  - Domestic law applies
  - Private International law deals with applicable rules and competent jurisdiction
    - Contractual liability
    - Tort liability
    - Recognition and enforcement of judgments
  - Forum Shopping

- The utility of an international Convention:
  - Uniform substantive Law of civil liability related to GNSS services.
    - Jurisdiction for claims
    - Conflict of law
    - Immunity of States

- Distinction to be made according to the relation of the victim with the GNSS system
  - User of a free open service
  - Contractual party of a commercial service
  - Strict Third Party not user

- Distinction to be made in case of fault especially Gross negligence or Wilful misconduct.

- Strict liability
- Limited amount
- Channelled liability
- The choice of the operator in order to “internalise” costs.
- Exonerations: armed conflicts, hostilities, civil war or insurrection acts of terrorism, fault of the victim
- Time limit
- Compulsory insurance – possibility to claim directly against the insurer
- Creation of a compensation fund (see 1971/1992 Oil pollution)
- State’s guarantee over the ceiling

- Conclusions

- The utility to set a comprehensive mechanism able to support the new GNSS because of the real utility of the systems
- The necessity to put the risk of the system on the people taking advantage of it and not to third parties.

- To keep in mind that liability is not only a process to indemnify victims but also a way to prevent damages and make operators more aware of their responsibility to take care.