



***CNS/ATM systems: framework
regulation on GNSS. Experiences in
Europe***

***Prof. Anna Masutti
University of Bologna***

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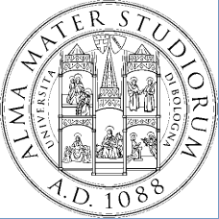
WHY A TPL REGULATION FOR GNSS?

- During the process of implementing the Galileo Programme, the EU believed that a regulation for catastrophic events deriving from a malfunctioning of a GNSS system was necessary to ensure compensation for the victims, offering Galileo a guaranteed signal that will be used for commercial services.
- The Italian Government has tried to contribute to this process by encouraging the development of legal solutions, including the development of a draft TPL Regulation.
- In consultation with the European airspace industry, a draft regulation has been drawn up in accordance with the most important international legal treaties.
- It is clear that any service or product is commercially viable (and insurable) if civil liability is properly regulated and the legal and financial responsibility for an incident is clearly defined.
- Now the need to implement a TPL regulation has become urgent as EGNOS, the precursor of Galileo, will be operative from the beginning of 2009.
- This presentation examines principles contained in the draft TPL Regulation for Galileo, which could be used for EGNOS.
- Implementing a TPL strategy for EGNOS is vital as EGNOS will be used mainly for air navigation services (ATM), which is the sector that potentially can cause the greatest damage.



The European GNSS System: Galileo and Egnos

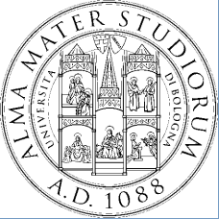
- **Galileo**: a 30 satellite constellation covering the globe, providing a vast number of services - including air navigation.
- **Egnos**: a 4 satellite system covering all Europe and North Africa, temporarily utilizing GPS Signal and after 2014, the Galileo Signal.
- The Egnos signal should be certified by the European Authorities at the end of 2008. The use of the Egnos signal for air navigation should start within March 2009.
- Further services will be developed, employing the EGNOS signal, until the completion of Galileo Full Operational Capability (FOC). The European Union intends that Egnos will be integrated into Galileo.



Considerations for a Legal Framework for GNSS in Europe

What are the key elements?

- Intellectual property rights (and design risk);
- Financial and market risks;
- Procurement rules;
- Governance/ Structure and administration of the system;
- System Certification;
- Civil Liability for the malfunctioning of the system/signal.



Considerations for a Legal Framework on CNS/ATM including EGNOS

What are the key elements?

- **Certification:** a) responsibility of the certifying authority;
b) prerequisites for the certification of an ANSP.
- **Governance of the system;**
- **Contractual provision** → risk allocation and mitigation (design risk, market risk, etc.);
- **Civil Liability for the malfunctioning of the system: identification of the liable party and liability regime.**



Main International Conventions for Civil Liability

- **Convention on Civil Liability for Oil Pollution Damage, Brussels 1969, as modified by the Protocol of London 1992,**
- **International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND), 1971,**
- **Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992,**
- **Convention on Civil liability for Nuclear Damage, Vienna, 1963,**
- **International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea, London, 1996,**
- **Convention on Third Party Liability in the Field of Nuclear Energy, Paris 1960, as amended by the Additional Protocol 1964 and by the Protocol of 1982,**
- **Protocol to Amend the Vienna Convention, 1997, Supplementary Convention for Nuclear Damage, Vienna, 1997,**
- **Protocol on Liability and Compensation for Damage resulting from Transboundary movements of hazardous wastes and their disposal, 1999.**



Main principles of the TPL regulation applicable to EGNOS

- The channelling of liability to a single liable party (LP).
- Strict liability of the liable party.
- Limited liability of the liable party (**first tier**).
- Compulsory insurance of the liable party, up to the limit of the first tier, and direct claim against the insurer.
- Intervention of Member States if the damages exceeds the first tier (**second tier-compensation fund**).
- Limitation of the amount of compensation.



The balance of Interests in the TPL regulation applicable to EGNOS

The future set of regulations for Egnos aims at creating a fair balance between the:

- **protection of victims**
(the channelling of liability and strict liability), and
- **economic/financial interests of the players in the marketplace**
(limitation of liability, sharing the risks between private and public players).



Definition of Damage

General principle: compensation for material losses as represented by **physical damage derived from **personal injury or the loss of property**.**

In keeping with the general principle the regulation covers:

- **loss of life, personal injury*** and **loss of / or damage to property**;
- **economic loss arising** from the above loss or damage, if incurred by a person **entitled to claim** in respect of such loss or damage;
- the **costs of measures to reinstate impaired environments**, unless such impairment is insignificant;
- the **costs of preventive measures**, and further loss or damage caused by such measures.

* **Personal injury means:**

any physical damage with the exclusion of any psychological damage.



Definition of the MALFUNCTIONING of GNSS Signal/Services and END USER EQUIPMENT

Malfunctioning of the GNSS signal/service is defined as:

Signal:

- the absence of the GNSS signal,
- errors in the GNSS signal, and/or
- the degradation of performance below the thresholds defined by the Key Performance Indicators (KPIs).

Services:

- inadequate quality of the service (e.g. incorrect AIP procedures; wrong vectoring by ATC regardless of the correct or incorrect functioning of Egnos signal).

Malfunctioning of GNSS certified end user equipment means:

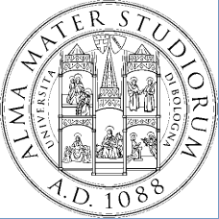
- incorrect information or data, different from that for which the end user equipment has been produced and certified to process, supplied in the presence of a correct functioning of the signal.



The principle of Channelling Liability

The channelling of liability is the most common solution adopted at international level to:

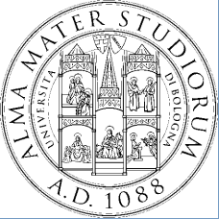
➤ **protect victims**, who can easily identify the liable party and take legal action without risk that their claims will be rejected.



The Channelling of Liability and the Burden of Proof

➤ With the channelling of liability:

- Only one party will be identified as liable for the damage.
- This liability will only be recognised if the **victims can prove** that such an incident was caused by:
 - (i) a malfunctioning of the GNSS signal, or
 - (ii) inadequate quality of the service, or
 - (iii) a malfunctioning of **certified** end user equipment.



The Advantages of a Strict Liability Regime

➤ Further protection of victims:

- the victims of damage do not need **to prove** the liable party **negligent or at fault** in order to make the it liable.

➤ Mitigation of the strict liability regime:

- there is no liability in case of ***force majeure***.

➤ [Exemption for open services:

- exclusion of liability if the damage is caused by a malfunctioning of the GNSS Signal **used to provide an open service (OS)]**.



Limited Liability of the Liable Party (*first tier*)

➤ Protection of the liable party

- The amount of the liable party's liability cannot exceed [X*] million euros.

➤ Flexibility of the rule on the limitation of liability.

(ii) Within the **first tier**, a liable party of a member state may establish a **lower amount** for the liability of the LP (but not less than [1/6 of X*] million euros), considering the real risks involved or the financial strength of the LP.

(iii) In this case, the LP's member state must guarantee the availability of sufficient public funds to offset the reduction.

* The actual amount will be established in consultation with the insurance market.



Loss of the Benefit of the Limitation of Liability

- **The Liable Party will cease to benefit from the limitation of liability if the **claimant proves** that:**
 - (i) **The damage resulted from a **deliberate act or omission** by the Liable Party, or**
 - (ii) **the damage resulted from a **reckless action** taken in the knowledge that damage would probably result.**



Compulsory Insurance of the Liable Party

- **The aim of compulsory insurance is twofold:**
 - (i) To assure victims of the financial strength of the liable party.
 - (ii) To avoid the risk of financial difficulties or bankruptcy of the LP.

- The liable party shall be required to maintain insurance or other financial security covering its liability for damage up to the maximum of the first tier, or a lower amount if so established by its member state.



Direct claims against the Insurer

- **Direct claims against the insurer is a common solution adopted at the international level to:**
 - (i) **protect victims**, who have stronger guarantee of compensation, and
 - (ii) rationalise/reduce the cost of claims.



Supplementary Compensation (*second tier*)

It is appropriate to establish a two-tier liability system that comprises a first tier of compulsory financial security, arranged by the supplier of the service, and a second tier of public funds made available by the member states.

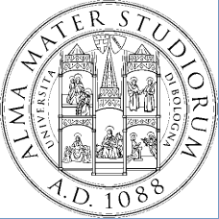
The **second tier** of compensation has two basic purposes:

- (i) increase the amount of compensation available to the victims (up to [2 x (X)] million euros per incident, and
- (ii) share the financial risk borne by private industry with public parties, in order to avoid impairing the competitive supply of the services.



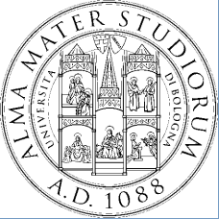
Circumstances in which Supplementary Compensation is envisaged

- **Supplementary compensation is envisaged in three cases:**
 - when the damage **exceeds** the liable party's liability,
 - when the LP is not liable because the damage was a consequence of **force majeure**,
 - when the LP liable for the damage under this regulation is **financially incapable** of meeting its obligations in full, and any financial security available does not cover the claims or is insufficient.



Contribution to supplementary compensation (I)

- The total contribution by member states will not exceed $[2x(X)^*]$ million euros, if they have to supplement the compensation paid by the LP. Therefore the total amount available for victims will be not more than $[3x(X)^*]$ million euros.
 - If the LP is not required to pay compensation because of a ***force majeure*** exception, or it is financially incapable of meeting its payment obligations, the total contributions by member states will not exceed $[3x(X)^*]$ million euros.
- * the actual amount must be made in agreement with the insurance market and the Member States.



Contribution to supplementary compensation (II)

- **The amount of public funds that must be made available by each member state has not yet been established.**

Possible solutions:

- **Member states could contribute to the second tier in proportion to their contributions to the EU budget.**
- **Member States could contribute to the second tier in proportion to their contributions to the GNSS Programme.**
- **Member States can contribute to the second tier in proportion to the total turnover of the LP controlled by each Member State or its nationals.**

THANK YOU