

Legal aspects of GNSS applications – the case of liability

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UN/Argentina Workshop

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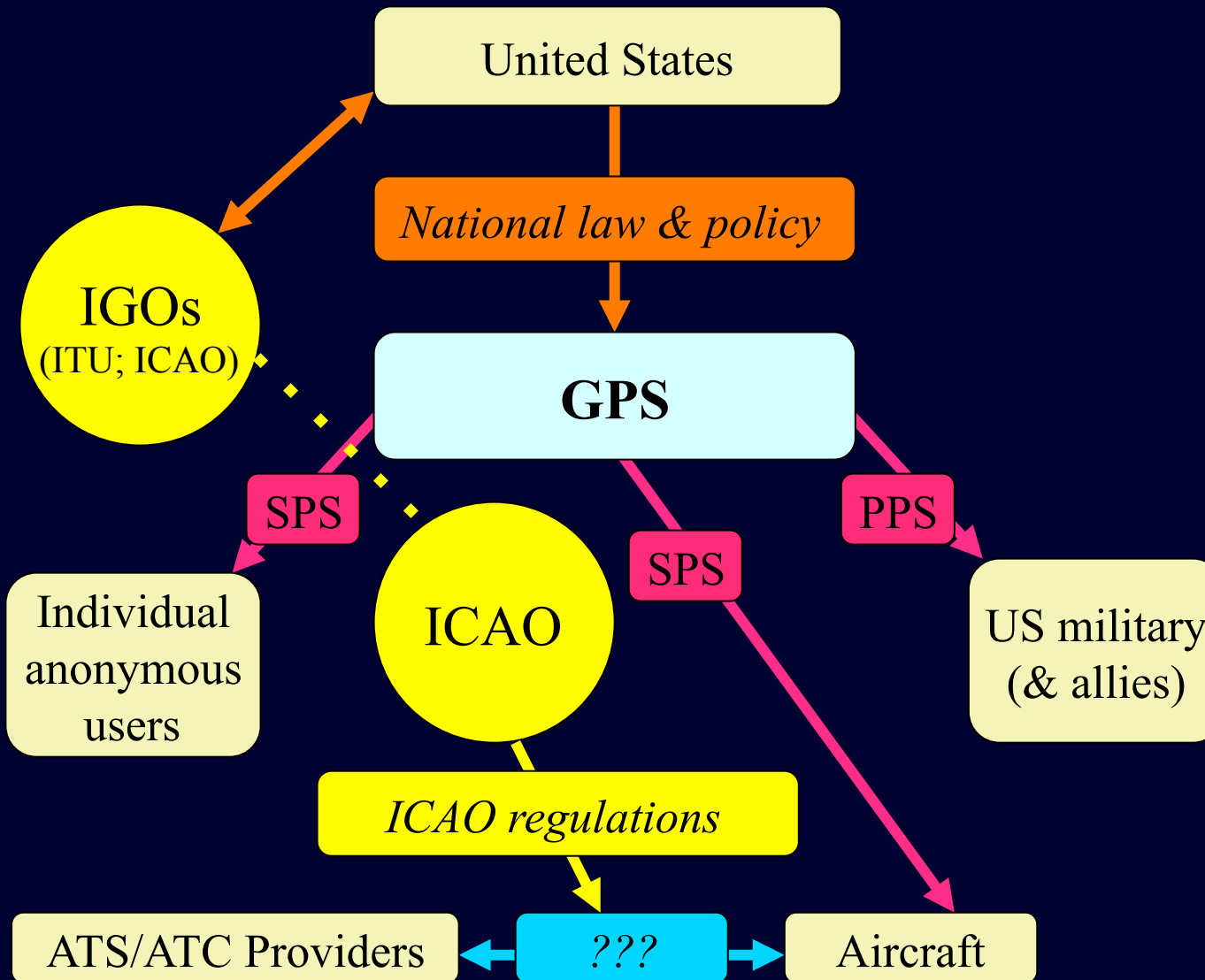


Introduction

- Primary systems & augmentation
 - GPS & GLONASS ↔ Galileo & others
- No GNSS-(applications-)dedicated legal regime ↔ general existing law
- Overarching: GNSS sats & ops
 - E.g. space law; international telecom law (ITU)
- ↔ Sector-specific: per application
 - E.g. air law, maritime law, railroad law, etc.

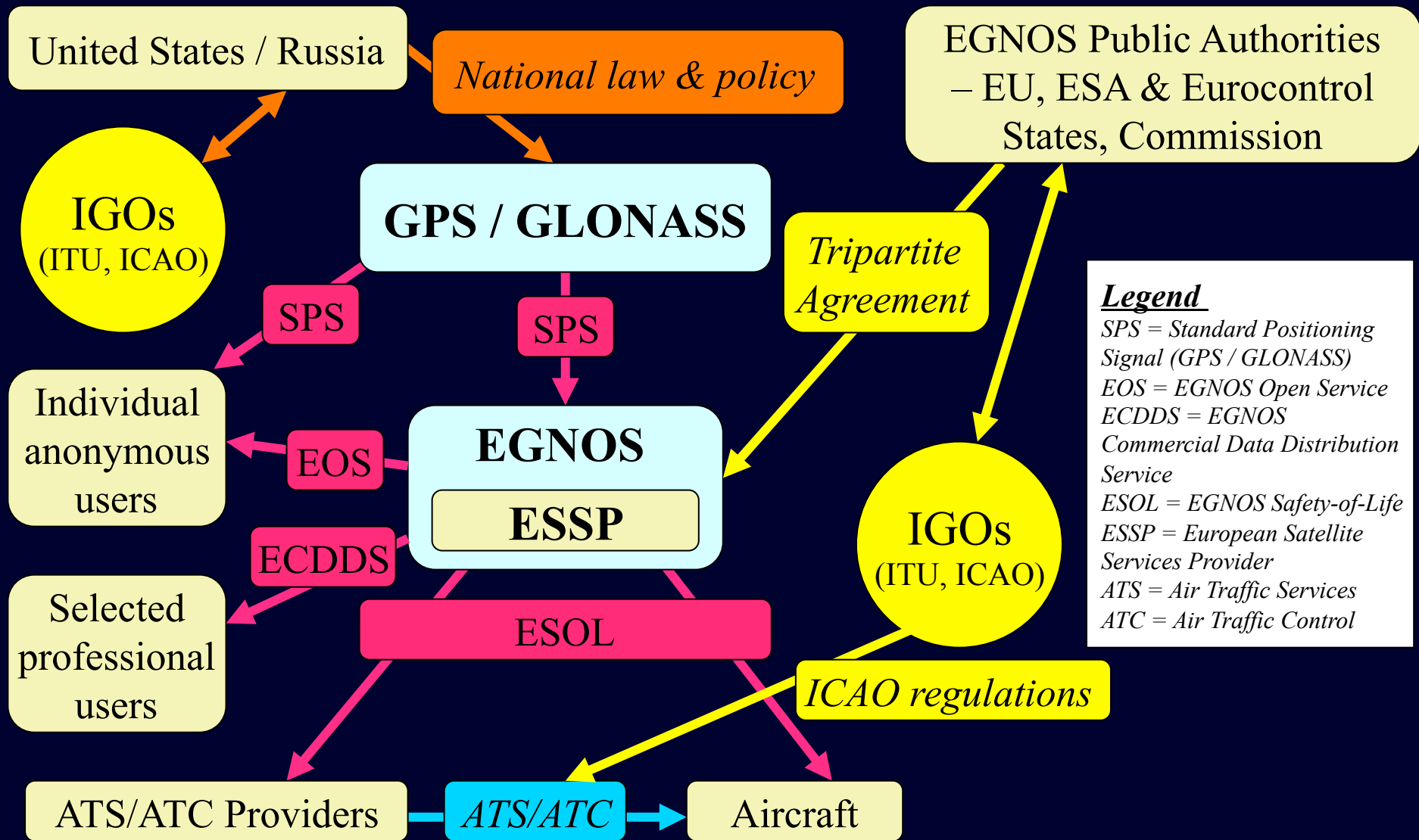


GPS Legal / Functional Model & aviation



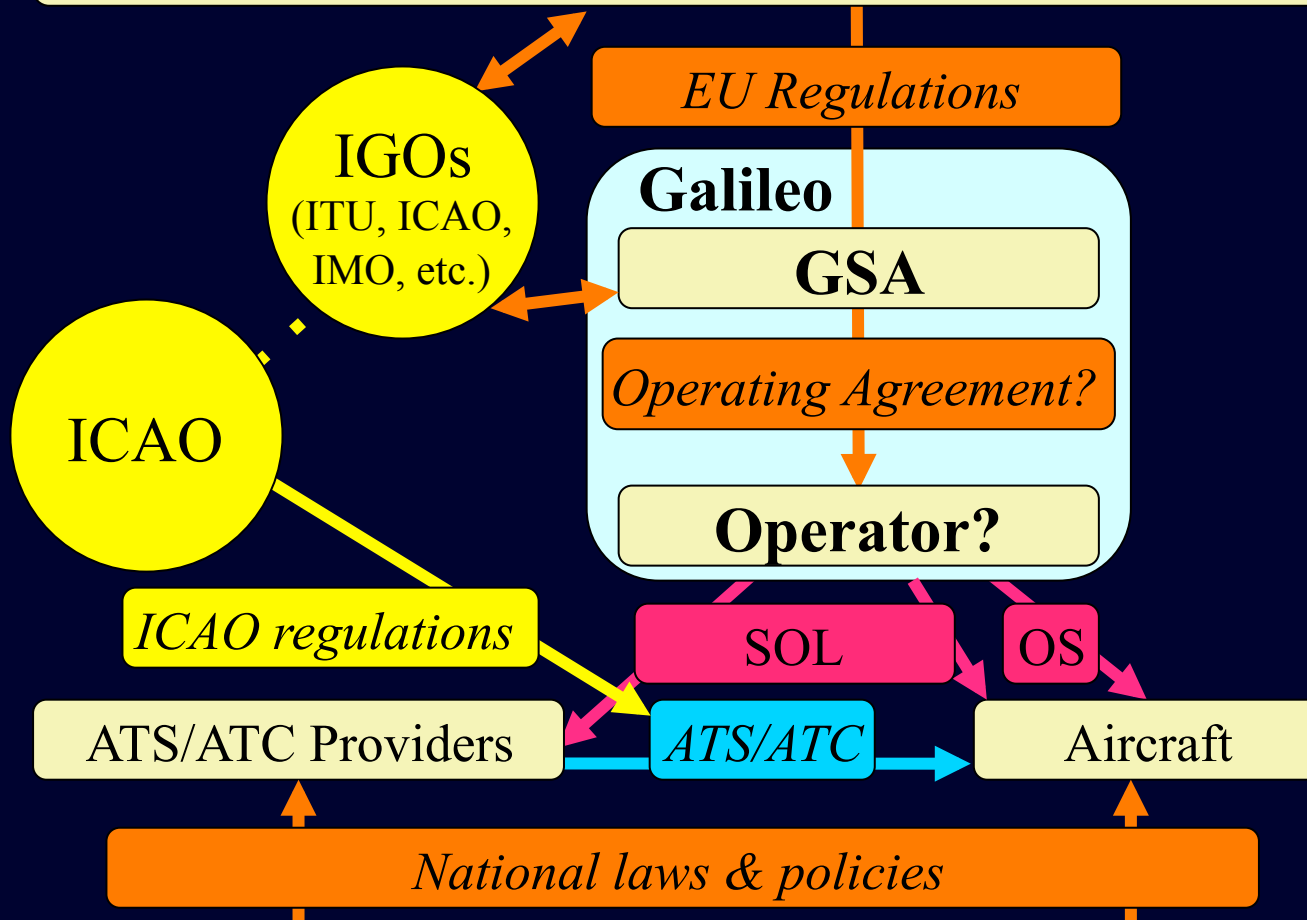
Legend
 GPS = Global Positioning System
 IGOs = InterGovernmental Organisations
 ITU = International Telecommunication Union
 ICAO = International Civil Aviation Organisation
 PPS = Precise Positioning Signal
 US = United States
 SPS = Standard Positioning Signal
 ATS = Air Traffic Services
 ATC = Air Traffic Control

GPS/GLONASS+EGNOS Legal / Functional Model & aviation



Galileo Legal / Functional Model & aviation

Galileo Public Authorities – EU & ESA States, Commission, Others?



Legend

EU = European Union
ESA = European Space Agency
IGOs = InterGovernmental Organisations
ITU = International Telecommunication Union
ICAO = International Civil Aviation Organisation
IMO = International Maritime Organisation
GSA = European GNSS Supervisory Authority
OS = Open Service
SOL = Safety-Of-Life Service
ATS = Air Traffic Services
ATC = Air Traffic Control

Liability as a case study

- Liability = directly quantifiable (...)
- ↔ Very frequently used concept
- Definition here: *“the accountability of a person or legal entity to compensate damage caused to another person or legal entity, as determined by specific legal rules and principles and based upon specified sources of law”*



Key elements concept

1. Type of liability

- Contractual; tort / third-party; product

2. Fault *versus* absolute character

3. Accountable entities & claimants

4. Compensable damage

- Direct / indirect / moral / lost revenue / punitive

5. Level of compensation

- Unlimited or subject to (tiered) limit(s)



Liability & GNSS

- No GNSS-dedicated legal regime
 - ↔ many partially applicable ones
 - Space law liability – to damage caused by sats
 - Air law liability – to damage caused by aircraft
 - Maritime liability – to damage caused by ships
 - Railroad liability – to damage caused by trains
- ➔ Nature of damage to be focused on
 - ‘Indirect’ from space law perspective:
‘downstream accidents’ = key



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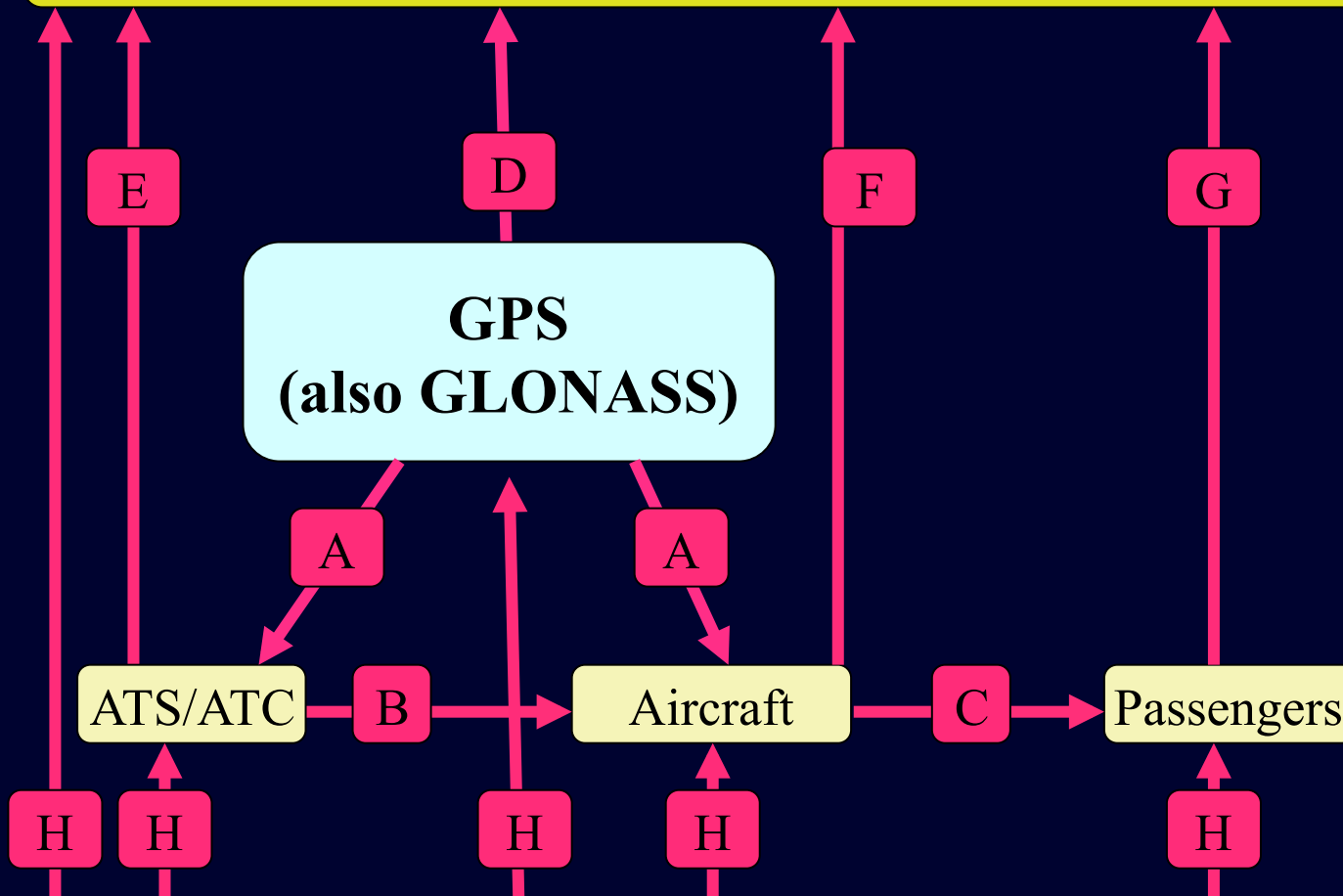
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GPS Legal / Functional Model for aviation & liability

Third party victims of accidents related to aviation navigation by satellite



Legend

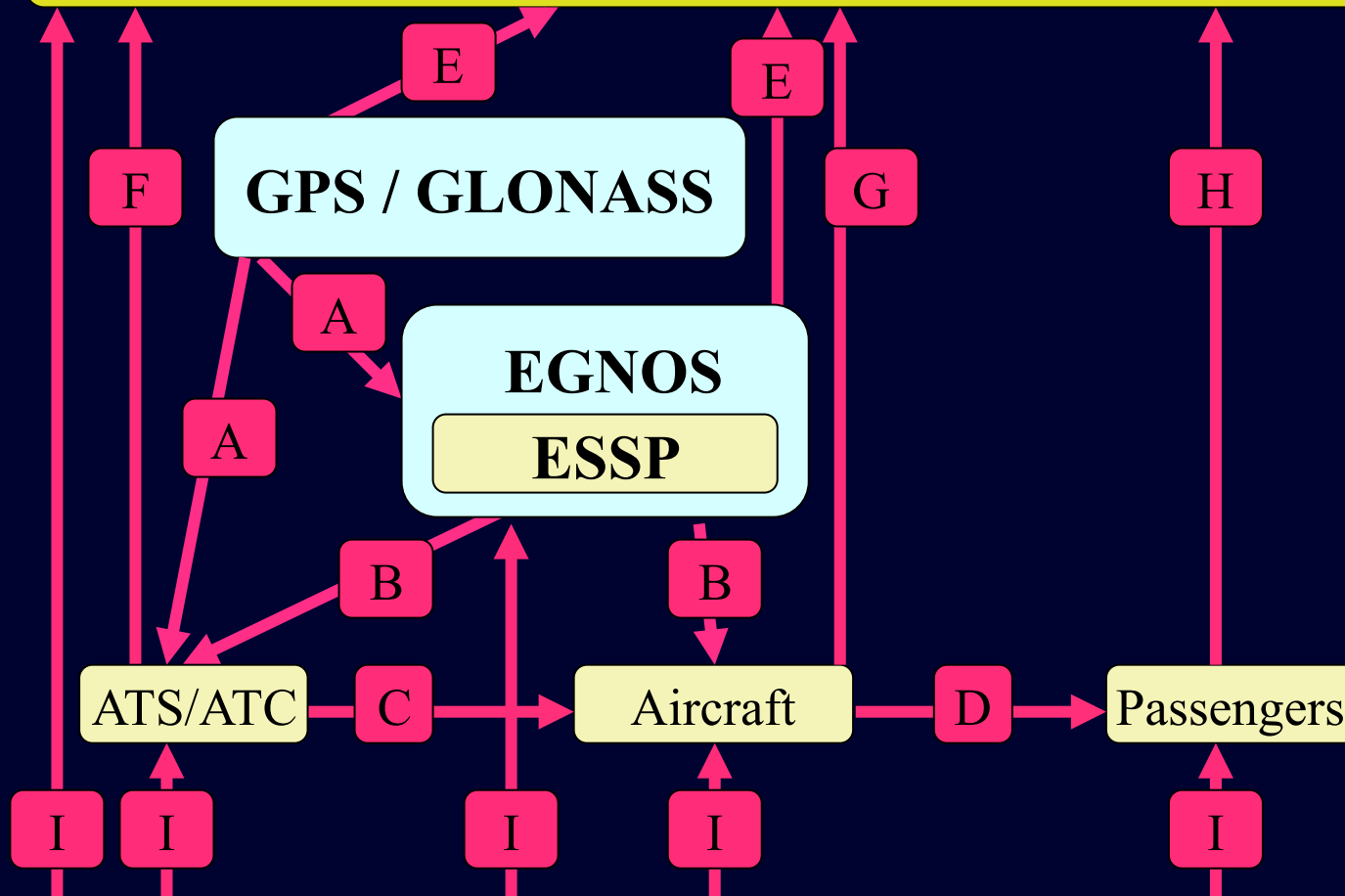
ATS = Air Traffic Services
ATC = Air Traffic Control

A = No (tort ?) liability (SPS)
B = Nat'l ATS/ATC liability? / Contractual liability?
C = Contractual liability
(Int'l: from Warsaw Conv. 1929 to Montreal Conv. 1999)
D = Third-party liability
(Int'l: Liability Conv. – for sats)
E = No / non-aviation related tort / third-party liability?
F = Third-party liability
(Nat'l / Int'l: Rome Conv. 1954 (Montreal Conv. 2009?))
G = No liability (normally)
H = Product liability as applicable (nat'l law)

Manufacturers of relevant products – aircraft, avionics, satellite devices, etc.

EGNOS Legal / Functional Model for aviation & liability

Third party victims of accidents related to aviation navigation by satellite



Legend

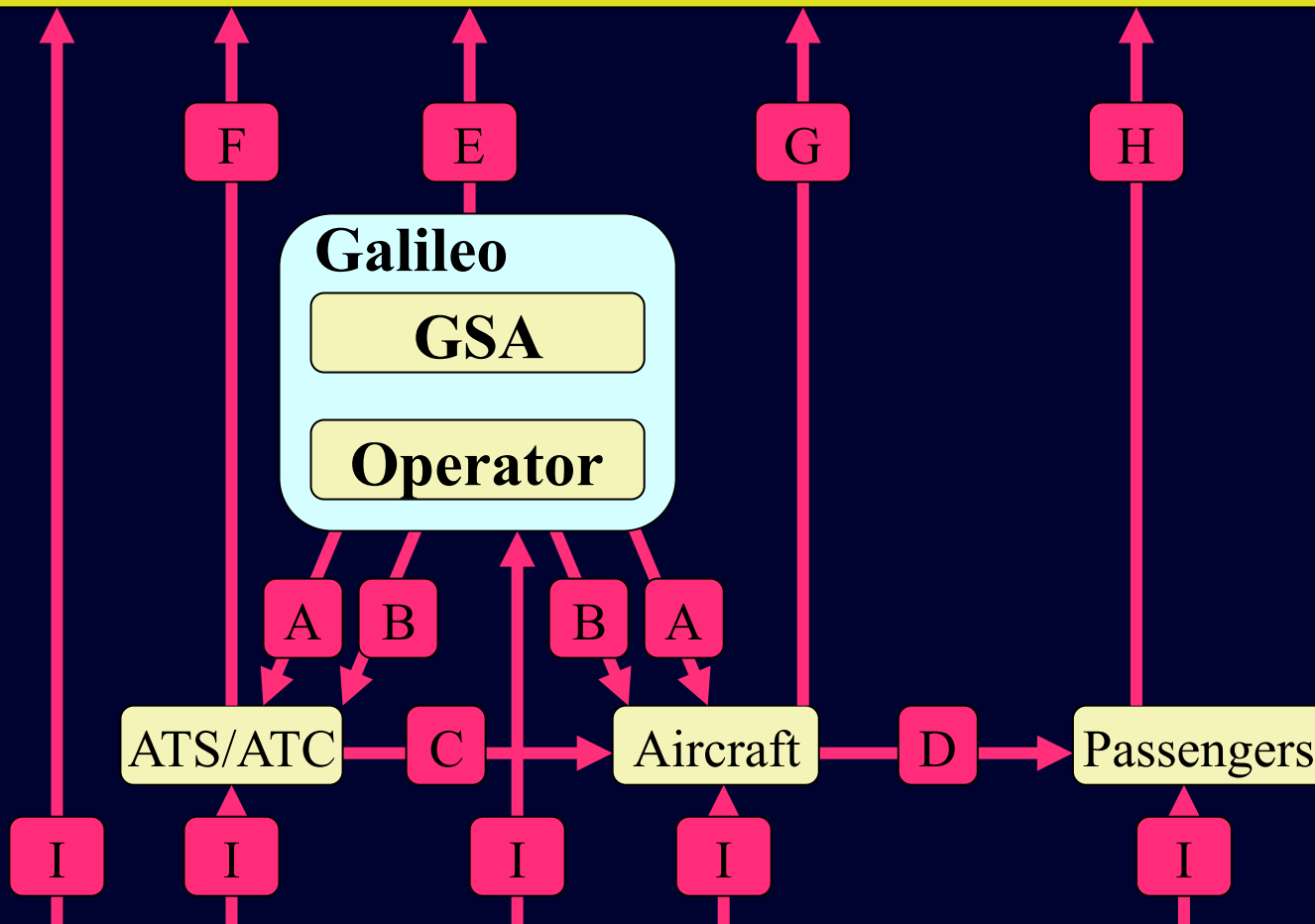
ESSP = European Satellite Services Provider

- A = No (tort ?) liability (SPS)
- B = Contractual liability ...?
- C = Nat'l ATS/ATC liability? / Contractual liability?
- D = Contractual liability (Int'l: from Warsaw Conv. 1929 to Montreal Conv. 1999)
- E = Third-party liability (Int'l: Liability Conv. – for sats)
- F = No / non-aviation related tort / third-party liability?
- G = Third-party liability (Nat'l / Int'l: Rome Conv. 1954 (Montreal Conv. 2009?))
- H = No liability (normally)
- I = Product liability as applicable (nat'l law)

Manufacturers of relevant products – aircraft, avionics, satellite devices, etc.

Galileo Legal / Functional Model for aviation & liability

Third party victims of accidents related to aviation navigation by satellite



Legend:
 GSA = European GNSS Supervisory Authority
 A = No / tort (?) liability (OS)
 B = Contractual liability (SOL)
 C = Nat'l ATS/ATC liability? / Contractual liability?
 D = Contractual liability (Int'l: from Warsaw Conv. 1929 to Montreal Conv. 1999)
 E = Third-party liability (Int'l: Liability Conv. – for sats)
 F = No / non-aviation related tort / third-party liability?
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Manufacturers of relevant products – aircraft, avionics, satellite devices, etc.

Concluding remarks

- The case study of liability shows the complexity also of the *legal* issues involved in GNSS & applications
- Same legal/functional model could also be used to map legal 'landscape' in other substantive areas: licensing, intellectual property rights, trade issues, data protection & privacy ...

