



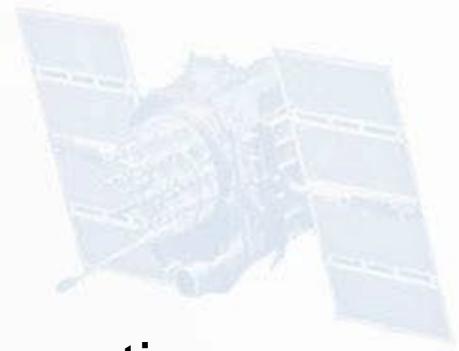
SWF/ IFRI

**Legal Challenges of OOS and ADR
Liability: An Overview**

Prof. Dr. Lesley Jane Smith, LL.M.
Leuphana University Lüneburg, Germany

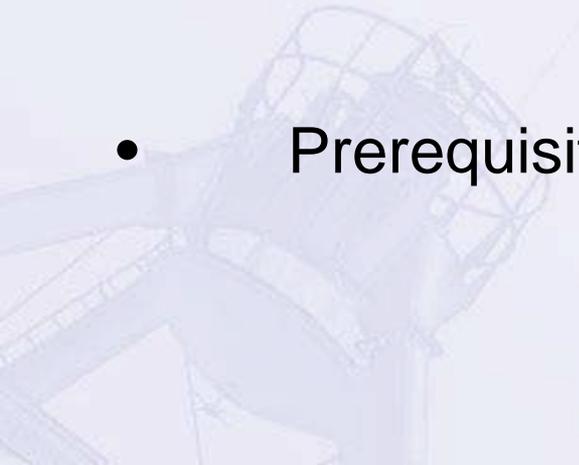


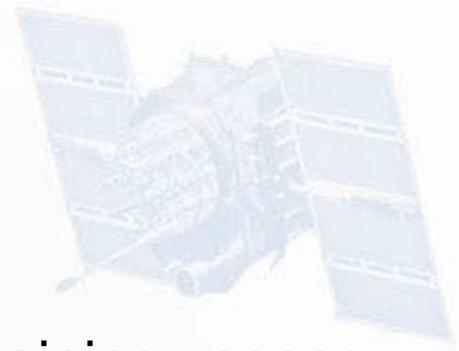
Brussels, 30th October 2012



Overview

- Drivers for ADR and OOS from legal perspective
- Backdrop of international liability system
- Discussion of 'fault'
- Models for risk allocation and insurance
- Prerequisites for ADR + OOS missions





I. Drivers

- ADR and OOS: essential tools in sustaining space activities
 - Balance of interests between all actors
 - Debris remediation as expression of ‘precautionary principle’
- Accompanied by inevitable risks
 - Models to be developed for risk allocation, taking traditional philosophy of space activities into account
 - Assumption of (own) risk; insurance coverage (?)
 - Cooperation subject to conditions conform to international law
- Notification and ‘informed consent’ of States
 - Art IX OST (protection of outer space); Art IV REG (registry details as indication of ‘sovereign’ rights over satellites)

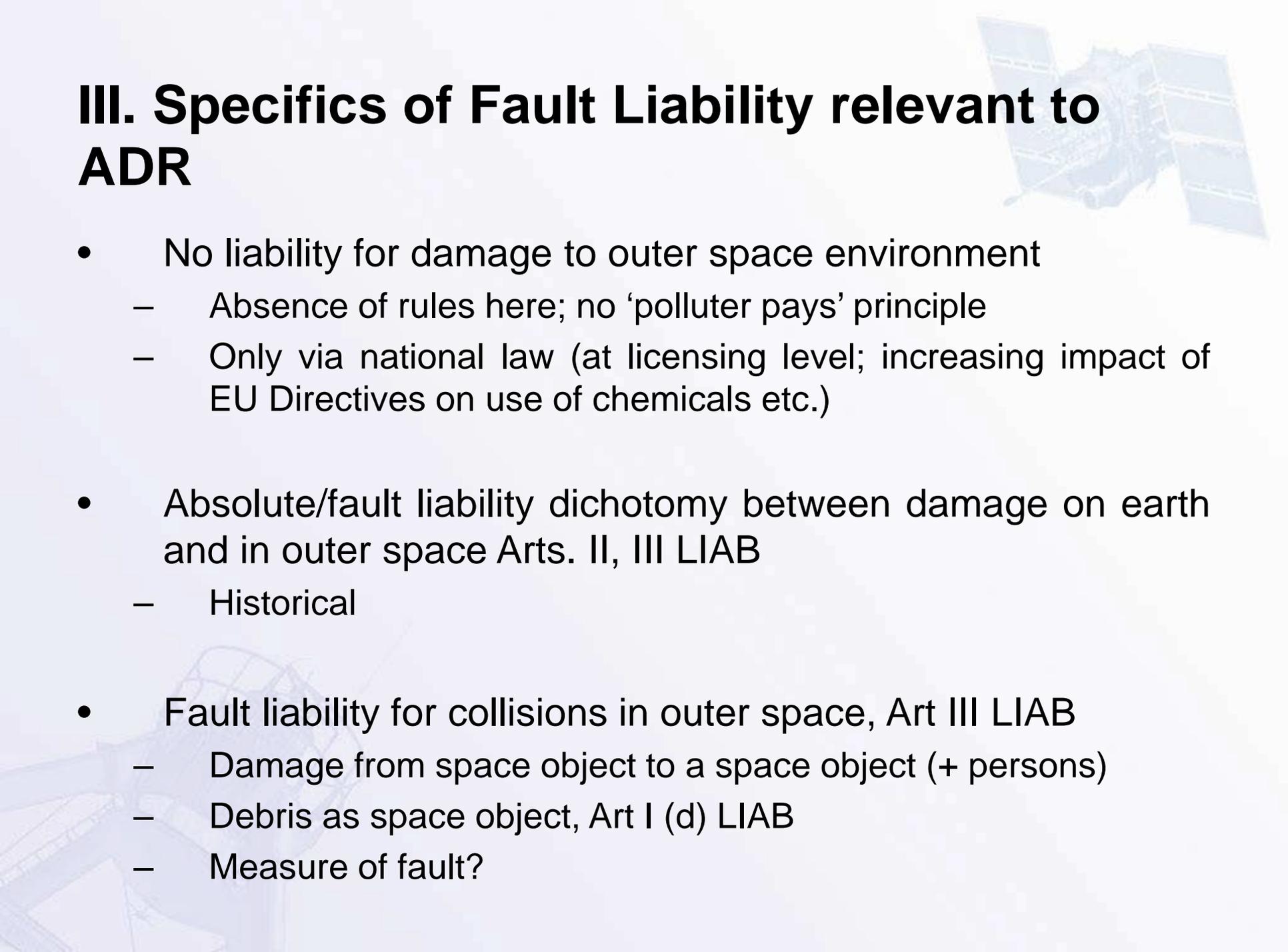


II. Legal Backdrop

- Heritage of 5 UN Treaties, notably OST, REG and Liability Convention LIAB
 - Provisions on conduct of space activities; duties of States
- Arts I, III OST
 - International cooperation and understanding; peaceful use
- Art VI OST
 - International State responsibility
- Art VII OST and LIAB
 - Launching state liable for damage caused by space object

*ITU aspects not covered here

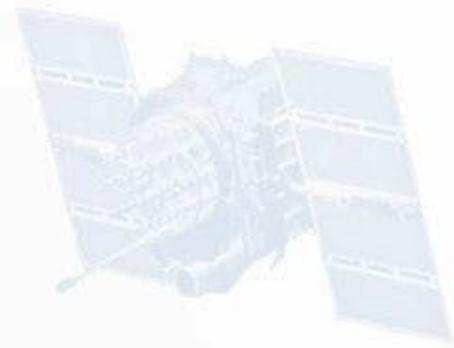
III. Specifics of Fault Liability relevant to ADR



- No liability for damage to outer space environment
 - Absence of rules here; no ‘polluter pays’ principle
 - Only via national law (at licensing level; increasing impact of EU Directives on use of chemicals etc.)
- Absolute/fault liability dichotomy between damage on earth and in outer space Arts. II, III LIAB
 - Historical
- Fault liability for collisions in outer space, Art III LIAB
 - Damage from space object to a space object (+ persons)
 - Debris as space object, Art I (d) LIAB
 - Measure of fault?

IV. Measure of Fault

- Definitions: *per* general ‘common’ law
 - Failure to maintain accepted level of ‘professional’ standard
 - Gross negligence clearer = willful, manifestly reckless conduct
- Difficulties with ‘fault’ in outer space
 - Technical recommendations, not binding, but relied on
 - IADC/ UN/ EU/ ITU Debris Mitigation Guidelines
 - State practice? Guideline terms cannot be ignored
- Time factor re guidelines, particularly as to state of the art?
 - Non-retroactivity of technical standards; parallels in tort liability
 - N.B. standards alone do not always dictate liability in law



V. 'Fault' as seen through Calculus: Heralding a new light on liability for ADR?

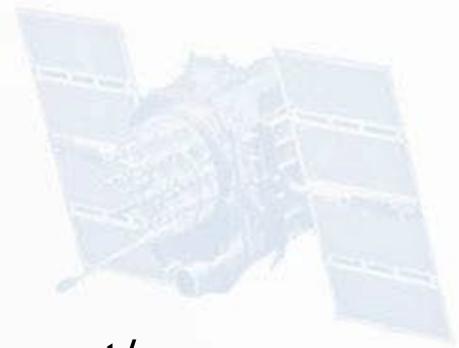
- **Interpretation of fault by US Supreme Court: $B < PL$**
 - B** = burden of taking precautions
 - P** = probability that risk or collision will occur
 - L** = cost of injury (or liability)
- **Liability arises where burden (of debris removal/collision avoidance) is less than cost of injury, multiplied by probability of occurrence**
- **Where $B \geq$ cost of injury, no liability**
 - See e.g. UK 2011 Impact Assessment, with probability calculations for collisions in LEO
 - $7.7 \cdot 10^{-6}$ = rare, but potential occurrence

VI. Expediencies of Liability for Outer Space Activities and ADR: Forms of Dispute Resolution

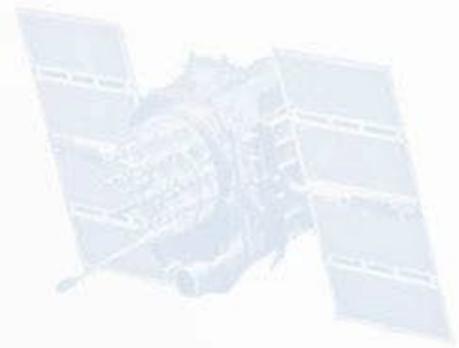
- **Firstly**, international liability system not exclusive
Art XI.2 LIAB: domestic courts are competent to hear disputes
or: International arbitration
 - Applicable law likely to play decisive role *in casu*
- **Secondly**, a further expediency of international law
- State responsibility continues for outer space activities
 - Art VI OST
 - Presupposes national monitoring and control
 - **Possibly even duties to undertake ADR?**
 - Debris removal highly relevant for sustainability

VII. Models for ADR and OOS

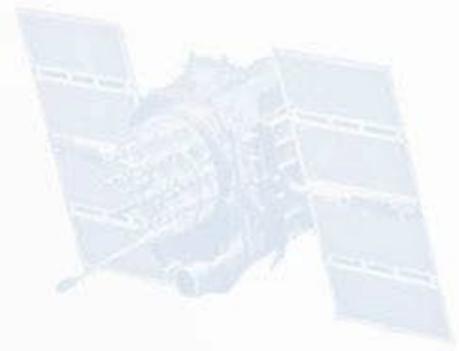
- For service contractors or client States: agreement/ acceptance by Agency, State or IGO of international liability
 - General exclusion of international state resp.+liability in outer space not possible
 - Unless inter-partes dedicated project model e.g. ISS
 - Assumption of 'own risk' preferred = risk lies where it falls
- Liability apportionment agreements; prototypes exist in field of launchers' liability
 - E.g. Declaration by certain European Governments on the Launchers Exploitation Phase of Ariane, Vega, and Soyuz from the GSC 2007, entry into force 2009



VIII. Commercial OOS

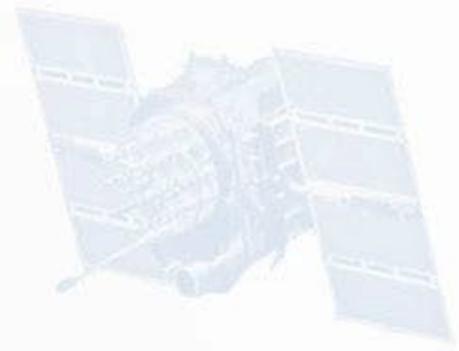


- Realistic concept, where ventures backed by acceptance of state or IGO external ,fault' liabilities as indicated
- Risk allocation between contract partners traditionally known in commercial sector, with liability waivers between parties and contractors
- No exceptions for gross negligence
 - National space laws
- Insurance? Mathematics of TPL?
- States and Agencies: coordinated re-entry management systems



IX. Outlook

- Authorisation, Notification and Collateral risk
 - ADR Missions for plurality of states through service provider?
- Collateral risk: insurance and TPL?
- Process of consultation and notification
- Fault; status of guidelines: UNCOPUOS SubC working group D. Q re failure to
- Negligence if ADR not undertaken ?
- Concepts for fees and reward for successful missions



Contacts:

Prof. Dr. Lesley Jane Smith

ljsmith@barkhof.uni-bremen.de

smith@weber-steinhaus.com