Small Satellites:
The Industry Perspective

Neta Palkovitz, Legal Adviser
ISIS – Innovative Solutions In Space BV

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There are “Satellites”
...and there are “Small Satellites”...
But size is not the only thing that matters...

28 ‘Dove’ Satellites by Planet Labs Inc.

‘Duchifat-1’ Satellite by Herzliya Science Center
Small Satellites Projects Differ from “Traditional” Satellite Projects:

- Technology base
- Cost
- Development Timelines
- Different Risk Philosophy
- Different Players
- Larger Numbers
- Launch Flexibility

One of the relevant physical differences is connected to the fact that most of small satellites cannot be further maneuvered once deployed in orbit.
The special characteristics common to most small satellites projects often create challenges, mostly on the regulatory level, since the majority of existing regulations were created in order to accommodate “traditional” satellites.

What are the challenges in applying the traditional space-legal framework to the case of small satellites?
National Space Laws & State Responsibility

Our personal experience in the Netherlands:

- The Dutch Space Activities Act, 2007, includes a narrow concept of “space activities”:
  
  “the launch, flight operation or guidance of space objects in outer space”

- Due to the fact that the Dutch small satellites could not have been guided after deployment, ISIS’ activities did not enter under the scope of the Act, and the administration never invoked the Act or attempted to license the activities.

- A solution was found by an ad hoc authorization to launch the three Dutch CubeSats in November 2013.

- Following the need to include small satellites under the definition of “space activities” the Government is currently drafting an amendment to the Act.
Liability

- Two different liability regimes - Liability Convention:
  - Damage on Earth & in air space: **absolute liability** (Art. II)
  - Damage in outer space: **fault liability** (Art. III)

- In the case of small satellites there is usually more than one liable-launching state:
  - Article I(c) The term “launching State” means:
    - (i) A State which *launches* or *procur*es the launching of a space object;
    - (ii) A State from whose *territory* or *facility* a space object is launched;

- Some administrations do not view themselves as launching states in case of a launch which is procured by their national - a private entity.

- Third party liability insurance.
Registration

- Not all states are parties to the Registration Convention.

- State Parties might not have national laws creating a national register or authorising a specific organ to register satellites with the UN.

- State Parties might not be willing to register because of the implied liability as a launching state (Art. II Reg. Conv.) when the operator is a private entity.

- Yet launch service providers generally require satellite-registration in piggy-back launches.

QB50p Satellite- will be registered by Belgium
ITU Coordination Procedures

- The full coordination process is unproportionally long for small satellites projects.

- Use of amateur bands as practice will not be appropriate for commercial missions.

- A reform creating a special process for small satellites is under consideration- World Radio Conference 2015, 2018.
Space Debris Mitigation and Remediation

- No internationally legal binding instruments reliance on Guidelines, CoC, UNGA Res; Very few national space laws have provisions relating to space debris mitigation.

- Some standards are not relevant to small satellites or are practically almost impossible to comply with.
To Conclude (1):

Notes: Refer to end notes 1, 2, 4, 5, and 6.
To Conclude (2):

- The small satellite industry is growing, together with the need to have workable adjusted regulations.

- Legal regulation of space activities employing small satellites should be sufficiently flexible in order to allow for exploration and use of outer space on the one hand, and to ensure that states’ international obligations are met on the other hand.

- A comprehensive legal regime should address state responsibility, liability and registration issues, in order to clarify the distribution of rights and obligations between private entities in the space industry and the states concerned.

- Traditional legal instruments like the Liability Convention may not be effective when damage is caused by/to small satellites; Risks related to third party liability can be mitigated using appropriate insurance.
Thank you!

Questions?

e-mail: n.palkovitz@isispace.nl
web: www.isispace.nl
www.isilaunch.com
www.cubesatshop.com
www.innovativedataservices.com