

## 29<sup>th</sup> IAA/IISL Scientific-Legal Roundtable

### “Controlling the Eyes in the Sky: Preventing Abuse of Space Data”

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Chairpersons: Frans von der Dunk (The Netherlands), Rainer Sandau (Germany)  
Rapporteur: Marc Haese (Germany)

With the increasingly high resolution of space earth observation (EO) data, combined moreover with increasing location and navigation information provided by satellites, new questions arise regarding the risks and threats of abuse of such data, for example in areas of privacy, human rights and public order (terrorism). This concerns in particular the governments regulating, controlling and often even themselves undertaking such space activities but also, increasingly, private operators who undertake them, either for the governments or for their own private gain. Clearly, regulations, mechanisms and concepts to counteract such risks, both legally and technically/operationally, exist, but their usage is not necessarily beyond discussion. The 2014 IAA/IISL Scientific-Legal Roundtable has addressed these issues from an interdisciplinary perspective.

About 50 participants joined the session, welcomed by the Chairman of the IAA/IISL Scientific-Legal Liaison Committee Chair Kai-Uwe Schrogl and opened by the President of the IISL, Tanja Masson-Zwaan, and the Secretary General of the IAA, Jean-Michel Contant. The co-Chairs of the Roundtable, Frans von der Dunk and Rainer Sandau, introduced the speakers and the topic from the legal and the technical point of view, respectively. The lectures of the four invited speakers were followed by a discussion also involving the audience. All authors prepared full papers.

The presentational part of the Roundtable was opened by Sias Mostert of the Space Commercial Services Holdings (Pty) Ltd. in South Africa. He emphasized the fact that the type of EO data (e.g. optical/spatial or spectral or radiometric) as well as their resolution are crucial to which information can be obtained from them, and, therefore, whether there is potential risk for abuse. Nowadays basically everyone can obtain data from ‘spy satellites’ and the question is how the data are being used. The line of acceptability is not always clear, even within areas like socio-economic development, disaster monitoring, military surveillance and environmental monitoring. Kristof Ostir of the Slovenian Centre of Excellence for Space Sciences and Technologies underlined that basically EO provides significant benefits to society. However, the number of satellites and other means for observation (balloons, Google Street View, planes, drones), as well as data volume and accessibility are rapidly increasing. At the same time the resolution of publicly available images is has reached 25cm. On the other side perception and legislation are only following slowly. He calls for the public, governments, satellite developers and operators to be involved in establishing common standards and technical measures of regulation.

Catherine Doldirina of the Joint Research Center of the European Commission opened the legal part of the Roundtable. She pointed out that within national and international frameworks various interests are protected by law, such as national security, public economy, intellectual property rights and privacy. In EO this may lead to conflicts of interests. Additionally, privacy regulations differ on international and national/regional level and reflect different approaches to regulation. One way may be to consider different phases of EO data usage (e.g. observation technology; quality of data; data transmission, processing and distribution) to find a balance between the right to privacy and the right to get information.

Fabio Tronchetti of the Harbin Institute of Technology in China confirmed the high value of high-resolution (HR) satellite images from a civil perspective, but warned against the associated security implications. They may reveal secrete military information, which may be misused by

hostile entities. Influential factors are technology advancement, privatization and commercialization of remote sensing, and the developing cyberworld. International law is very general and a common approach is difficult due to diverging national economic, commercial and strategic interests. Currently, national legislative measures are just adequate to mitigate security implications of HR images, but changes may be required in the future.

Subsequently, both the speakers and the audience engaged in a thorough discussion addressing diverse aspects of the topic. The following conclusions and key points can be noted:

- Resolution and accessibility of data are key factors with respect to the risk of misuse of information from remote sensing.
- Major conflicts of interests arise from
  - Advancing commercialization in remote sensing, which increasingly causes security and privacy implications.
  - Using EO information for the benefit of society vs. privacy rights of persons and legal entities.
- ‘Blacklists’ are only part of the solution to cope with misuse of data. The content of images is highly relevant too when considering potential risks for their misuse. However, it would be difficult to establish common standards respectively.
- International legal frameworks are existing (e.g. UN Declaration on Human Rights, International Covenant on Civil and Political Rights, European and American Conventions on Human Rights), however, their regulations only formulate very general principles.
- On national level regulations for private, commercial and security sectors are existing for relevant parts of the data processing (infrastructures, data storage and processing, distribution). However, there is no uniformity amongst different national regulations.

The discussion led to the understanding that the lack of international regulations for remote sensing data, their processing and distribution should be addressed and debated with the objective of reaching commonly agreed principles.

### Table of Speakers

	Name	Institution, Country	Presentation
1	Sias Mostert	Space Commercial Services Holdings (Pty) Ltd, South Africa	Capabilities of Earth Observation Satellites– Potential for Human Scale Development or Abuse
2	Krištof Oštir	Slovenian Centre of Excellence for Space Sciences and Technologies	Earth Observation - Between Public Interest and Privacy
3	Catherine Doldirina	Joint Research Centre (JRC) of the European Commission, Italy	Privacy, Earth Observations and Legal Ways to Reconcile the Two
4	Fabio Tronchetti	Harbin Institute of Technology, China / School of Law, Univ. of Mississippi	Security and Potential (Anti-) Terrorism Aspects of High Resolution Earth Observation Data