



New Legal Challenges for Earth Observation Data and Services?

2019 Conference on Big Data from Space (BiDS'19)

Dr. Ingo Baumann, BHO Legal

The changing EO market

- The **overall market** for EO data and services is showing **very positive developments**, with average yearly growth rates of around 10%.
- According to a recent Euroconsult report, the EO data and services market should reach \$8.5 billion by 2026 based on current growth trajectories.
- Among the different sub-segments (data supply, data (re-)distribution, value adding services, consultancy, hard- and software, ground station operations), the **market for value-added services shows especially high growth rates**
 - Value adding services traditionally are bespoke, delivered upon individual customer request in dedicated projects.
 - However, the **market shifts to online services**, with new business models such as automated delivery of regular scene updates.
 - According to stakeholder consultations, the market share of EO online services is estimated to grow rapidly, from less than 10% today of the overall EO services market to around 25% in 5 years.

EO online services

- **EO online services are provided through platforms with e-commerce type elements.** To handle the massive data volumes, such platforms are **backed with cloud computing services.**
 - In some cases, such cloud computing services are only used for data storage or longer-term archiving.
 - More and more, they are also used to handle data access as well as access to software tools for data analytics, processing, and value adding.
 - Even more elaborate, some platforms comprehensively offer data search, access, uploading, analytics, processing, and value adding, all based on cloud-backed online platform services.
- **The strong need for cloud computing services adds new stakeholders to the EO market.**
 - Over the last years, several large IT players such as Google, Amazon, ATOS, or SAP have developed special solutions for EO (or, more broadly, geospatial) data and services.
 - Similar solutions are also being developed by major players in the geospatial market such as Hexagon or ESRI.
 - These new players indicate that the EO market starts to move out of its relative isolation and becomes part of the broader geospatial, data, and digital markets.

New legal issues?

- From the legal perspective, the above-described developments generally **do not raise previously unknown issues**. Commercial e-commerce platforms are widespread and show similar approaches and functionalities as the already existing or planned EO platforms.
- **Specific legal issues of online platforms** include
 - e-commerce, consumer rights, and e-privacy,
 - cloud computing,
 - personal data protection,
 - liability for third-party content and hyperlinks.
- Other **well-known legal issues in EO come into new perspectives**. This includes
 - data policies, copyright and data licensing,
 - standardization and interoperability,
 - open source software,
 - as well as warranty and liability for EO data.

E-Commerce, consumer rights, and e-privacy

- EO online platforms are basically websites accessible on the Internet via web-browsers. Accordingly, they **must include various information**. The resulting information obligations mainly concern:
 - “Imprint” obligations (including, but not limited to, provider identification etc.),
 - provision of a “Privacy Policy” (or: “Information on Personal Data Protection”),
 - specific information on the use of “Cookies”.
- Where platforms enable the purchase of data, tools and services, the operators of such platforms also have to comply with applicable **e-commerce laws**:
 - information related to the conclusion of contracts by electronic means,
 - obligations regarding the placement of an order by electronic means.
- Where EO products and services are also offered to consumers, **distance-selling laws** will apply:
 - pre-contractual information duties in consumer contracts,
 - information and related duties in distance and off-premises contracts,
 - the right of withdrawal in such contracts.
- The obligations imposed by the previously mentioned legal frameworks **apply both to the operators of the EO platforms and to any third party offering EO data, tools, and services on such platform.**

Liability for third party content and hyperlinks

- As a rule, the operators of EO platforms – so called **intermediaries** –
 - are **exempt from liability** for third party content,
 - have **no general obligation to monitor** such content, and
 - have **no general obligation to seek** circumstances indicating **illegal activities**.
- In practice, so-called “**notice and take-down**” procedures, meaning that operators of an online marketplace have to remove infringing offers upon receipt of corresponding notifications by right owners.
- As for the liability for hyperlinks, the ECJ held that when a website is operated for profit, the operator that posts a hyperlink is under the obligation to **carry out the necessary checks to ensure that the hyperlinks do not provide access to “illegal” content**.
- Appropriate provisions need to be included in both the platform terms and conditions as well as in the contractual arrangement between the operator and the data/product/tool/service providers.

Cloud computing

- Future **EO value chains will be largely based on Cloud Computing**. One can differentiate various service approaches, including IaaS (Infrastructure as a Service), DaaS (Data as a Service), PaaS (Platform as a Service) and InfoaaS (Information as a Service).
- The applicable EU and national **legal frameworks for cloud computing are complex**. Most relevant on the EU level are the
 - the General Data Protection Regulation,
 - the E-Privacy Directive,
 - the E-Commerce Directive, as well as
 - the Directive on security of network and information systems (NIS Directive).
 - a 2015 proposal for a Directive on certain aspects concerning contracts for the supply of digital content may become relevant, if and once adopted
- **Uncertainties regarding legal issues, restrictive contractual terms and conditions, as well as lack of comparability of SLA** so far have prevented many public authorities from effectively moving to Cloud Computing solutions.
- **Space industry needs to familiarize with Cloud Computing and E-Commerce**, the process has only started. Google and Amazon have competitive advantages, currently AWS is still the most known and used EO cloud platform.

Open Source Software

- EO industry, and space industry in general, **increasingly work with Open Source Software (OSS).**
- This **trend is expected to continue** as the use of OSS saves development and maintenance costs for the individual users, avoids lock-in situations with the original creator(s), facilitates rapid evolution, and encourages reuse.
- The knowledge on what Open Source really is and what the legal implications are is not well developed. **Perception is that you can do whatever you want.**
- However, OSS is copyright protected and the term **“open” itself does not have the meaning of “unconditional.”**
- OSS is subject to license terms
 - Open Source licenses stipulate – sometimes strict – **copyleft or share-alike regimes**, so that the same conditions also apply to all derivative work build upon Open Source elements. Enforcement of copyleft in courts is increasing.
 - Open Source licenses also include **far-reaching exclusions of warranty and liability.**
- If platforms provide virtual workspace with numerous software tools, all based on different licenses, including Open Source, how can this be managed in practice? **Legal interoperability is a serious issue** also in this respect.

Data policies, copyright and licenses

- **Data policies set the high-level principles** of how EO data are provided and can be used. They provide the framework for more detailed provisions contained in data licenses.
- Due to the lack of intellectual creation, **raw data** (in absence of specific legislation) are generally **not subject to copyright**. Due to the increasing automation of processing and value-adding, **even final products may not be protected**
- As copyright protection is increasingly questioned also for processed data and final products, **effective license management through the whole distribution chain becomes even more important** to protect the ownership rights of the mission operator.
- From a user perspective, understanding, accepting, and observing **multiple EO data licenses with complex and divergent provisions** is very challenging.
- The existence of multiple data licenses with diverging terms and conditions restricts the **“legal interoperability”** of such data licenses.
 - This becomes a critical issue, when different data sets are to be merged and processed towards final products or services.
 - The issue of legal interoperability becomes delicate where data access is run by machines.
- **Over the last years, an EU-ESA-Industry Working Group discussed potential means for harmonization of licenses, facilitating interoperability.**

Personal data protection

- Over the past years, there has been a growing sensitivity in the general public regarding geospatial data. Overestimating the capacities of EO systems, media talk about “**spies in the sky**” or even of “**paparazzi satellites.**”
- Objectively, **EO data per se are not very sensitive** regarding personal data
 - it is not (yet) possible to directly identify an individual person from space.
 - it is not (yet) possible to “track” movements of individuals in real-time.
- However, **high-resolution optical data**, depending on their spatial resolution, may have the same quality as aerial photography and therefore **may raise respective privacy issues.**
- Even if EO data can be considered personal data, the **lawfulness of its processing in general depends on the purpose of such processing.**
- EO data may be **combined with other data sets** and then may raise privacy concerns, even if the raw or pre-processed data itself do not.
- For EO online platforms, platform operators need to comply with the applicable personal data protection laws, when processing **user data for registration, identity checks, and user account management.** For these aspects, compliance with GDPR is mandatory.

Warranty and liability

- Far-reaching limitations or even exclusions of warranty and liability for EO data are still standard, both for public and commercial data.
- As to now, users seem to accept the exclusions/limitations of warranty and liability in data licenses.
- However, three considerations justify prudence regarding future developments.
 - First, there is a **general trend in the EO sector to move from licenses for the provision of individual data towards more comprehensive EO services contracts**. While limitations of warranty and liability may be regarded as appropriate for individual data (especially where provided free of charge), this is not the case for the provision of EO services.
 - Second, the EO sector becomes **more and more part of the broader geospatial and ICT sectors**. As convergence continues, the attitude and practice regarding warranty and liability may change.
 - Finally, far reaching exclusions of warranty and liability **may hinder the growth of the commercial EO market**. Customers will more and more expect warranty for products delivered, as well as performance obligations for services provided. Value adding providers however have often no possibility of taking recourse against the input data providers due to respective license terms.

Conclusions

- The evolution of the EO market changes the legal framework considerably. Following technical convergence and the growing advent of online services, **EO becomes part of the larger data and digital economy.**
- Consequently, new legal issues may fall under IT law much more than under international or national space law. The issues are not necessarily new; **the challenge is how to apply existing regulations and best practices from the IT to the EO market.**
- It might be **required to rethink some of the heritage legal issues in EO.**
 - The growing automatization in data acquisition, processing and value adding potentially reduces the availability of copyright protection under the applicable law.
 - Data interoperability requires more harmonized licensing conditions.
 - The growing combination of EO data with other data sets may raise privacy concerns.
 - The shift from data supply to service contracts will likely change the approach regarding limitations of warranty and liability.
- Public as well as commercial satellite operators, data distributors, platform providers, and value adding service companies still have to find reliable answers to these issues.

Contact

www.bho-legal.com