Risks and Opportunities of Open-Source Intelligence(OSINT)

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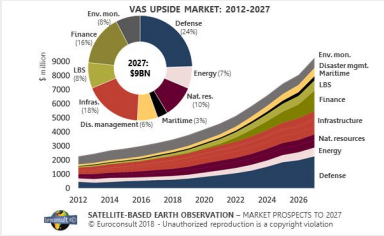
Introduction

In this current age of technology, information accessibility is the primary driver for innovation. In the open-source intelligence sector, satellite imagery is the fastest-growing medium for high-resolution and in-depth imaging that any party can access. The current global earth observation satellite market is valued at $9.4 billion, with a trajectory to double in 8 years, including the number of satellites in orbit, creating a whole slew of issues to govern.



ELMASRY, F. (2018, October 19). *Earth Observation Data Market to reach $2.4 billion, vas market potentially at $9 billion by 2027*. Novaspace.

As the industry continues to grow, it is imperative to develop the legislative framework for the exponential growth of satellite observation and the technology that governs its limits. Currently, there is no global standard for commercial EO companies to monitor at, with ranges of resolution between 5 m to as low as 10 cm per pixel. With the current trajectory of the industry, there is no doubt that this resolution limit will be lowered even further, making sensitive information available to the entire public at all times and all locations by both private and public entities. Without unified regulation, a global divide over an information war is imminent, along with a developed standard to disregard the privacy of citizens and countries.

Basket 1: Ethical Concerns

Satellite imagery offers significant benefits. In agriculture, it allows farmers to monitor crop health, first responders use real-time data to track natural disasters, and aid in unearthing human atrocities. However, it also poses concerns in violating privacy as satellites take pictures of everything at all times at extreme resolutions without consent. This raises questions about using satellite imagery for criminal evidence, the free use of open-source imagery, and, the growing conflicts in power between nations for higher resolution images

Basket 2: Public-Private Partnerships

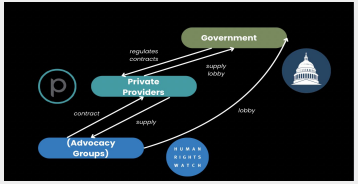
The current EO sector is split 50/50 between public and private satellites, with a growing dominance by the private sector. With more of a reliance on private satellite operators, PPPs is a growing concern to regulate mixed with relaxed resolution standards around the globe, feeding into the power dynamics between top nations. PPPs are enabled through research grants, SBIRs, and defense contracts that companies bid for by incentivizing higher resolution standards and discrepancies in imagery access.

Basket 3: Emerging Industries

Current space legislation, such as the Outer Space Treaty, doesn't account for emerging technologies such as AI, data downlinking, space traffic, SAR, etc. Due to this, there is limited enforcement of treaty and policy breaches due to a lack of a standard. One example can be the use of Starlink to aid in the Ukraine conflict, which while beneficial in preventing further disputes, can be seen as a breach of various treaties for utilizing data processing for military purposes.

Gaps to Address

As we draft our solution, we have to acknowledge prominent shortcomings. Our main focuses are on addressing various global regulations, representing market stakeholders, and properly enforcing national superpowers. If we can solve these core issues, a new standard can be made for the EO industry.



Recommendations

Differences in State Regulations

Our recommendation for creating unified resolution standards is to include private companies in policy discussions, allowing for sector-specific regulations(defense, agriculture, climate control, etc).

Market Complexities

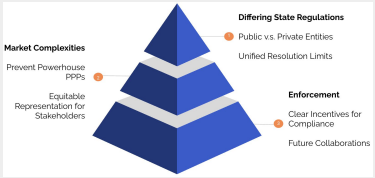
Variable regulations on different stakeholders will allow for equitable governance on powerhouse entities(US, EU), developing space nations, and titans of industry, lessening dangerous PPPs.

Enforcement

Clear Incentives for Compliance is the goal for our solution. By having certain companies and parties adhere to stricter regulations, they will have access to certain contracts as a result.

Proposed Solution

Our overall proposed solution is to execute our recommendations by generating a UN-backed international committee. Through a governing entity, discrepancies within the emerging market and current stakeholders can be properly addressed, along with the proposed incentives to enforce such policies. By adapting frameworks such as the Hague International Space Resources Governance Working Group, we can include private partners when addressing EO resolution limits.



Costs and Benefits

The proposal of a UN-backed committee is a big expenditure, but with the estimated yearly funding, around $19 million, it will still come out to 0.2% of total funding for EO global agencies. As for the benefits, while results will show an exponential development in the sector as policies trickle down the supply chain. Along with reduced political friction there will also be a strong ethical framework for AI-driven data analytics and space traffic management. Finally, the committee can also open doors for developing frameworks for future collaborations for crisis-response data sharing opportunities.

Acknowledgements

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