



Public-Private Sector Policy Tensions in Geospatial Industries

GeoBUIZ
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Space Entrepreneurs

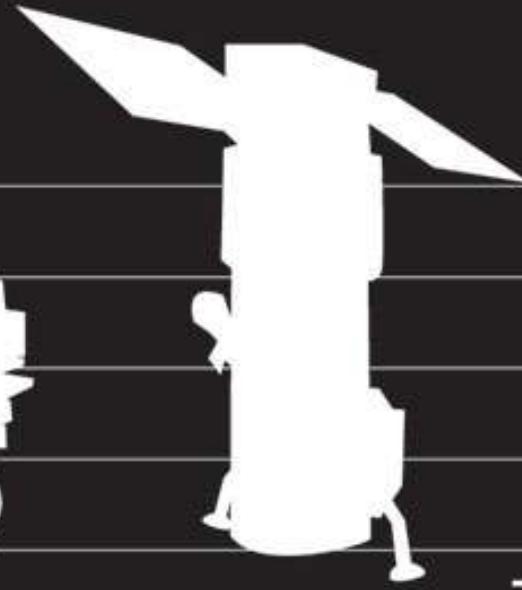


New Commercial Remote Sensing Satellites are Getting Smaller

THE SWARM COMETH

Small, light and cheap satellites could transform Earth observation.

How they measure up to their larger brethren:



DOVE

Operator: Planet Labs

Number of satellites*: 32

Weight: ~5 kg

Instruments: Optical and near-infrared spectral bands

Spatial resolution: 3–5 m

SKYSAT

Skybox Imaging

24

~100 kg

Optical and near-infrared spectral bands

~1 m

LANDSAT 8

NASA

N/A

2,071 kg[†]

Multiple spectral bands

15–100 m[‡]

WORLDVIEW-3

DigitalGlobe

N/A

2,800 kg

Multiple spectral bands

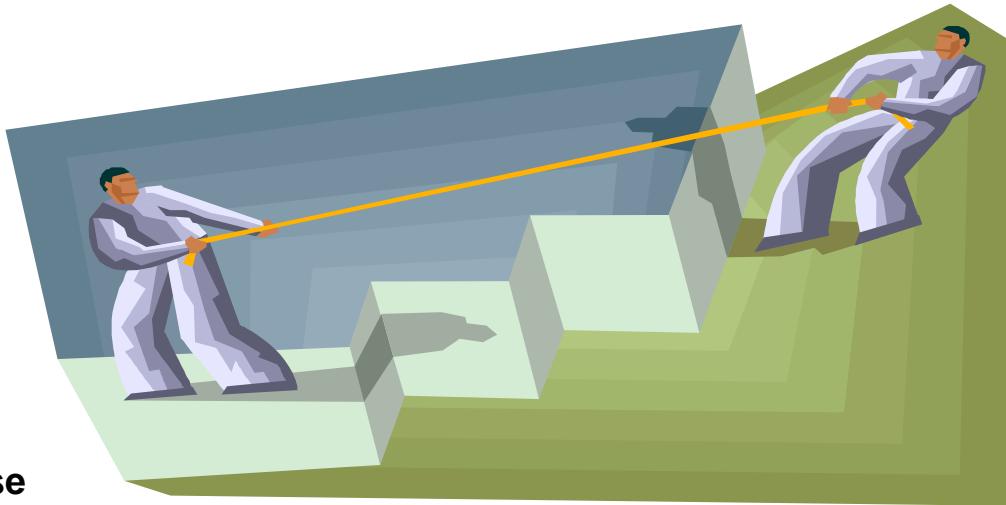
0.3–30 m[‡]

*When fully operational † Without instruments ‡ Depending on spectral frequency

Overview

- Global Trends
 - Technology, Capital, and Markets
 - Mixing terrestrial, airborne, and space platforms
 - Big Data as a new exogenous demand source
 - New security, safety, and privacy challenges
- Difficult/slow government regulatory adaption creates commercial risks
 - Licensing of commercial remote sensing systems
 - Outsourcing environmental data acquisition
 - Commercial radiofrequency interference

Two Cultures in Policy and Regulation



Merchants

Group of people whose culture encourages energy and risk taking. Examples are mostly found in business and to a lesser extent international science, they are sometimes represented in government, the military, and academia

Guardians

Includes members of the political class who are responsible for governing and teaching. In space policy examples include civil servants, military officers, political appointees, congressional staff, journalist, academics, corporate officer, and professional politicians

- The roles of Guardians and Merchants are in tension, but intimately linked.
- While they may be necessary to society, they can create serious problems when they fail to do their duty or seek to take on the role of the other
- Conflicts occur when government does not carry out its duties and inhibits industry and conversely Merchants should not be made responsible for Guardian functions (e.g. enforcement of export controls)

Backup

Agency SWOT Perspectives on PPP

Strengths	Weaknesses
<p>Potential for cost and schedule efficiencies (costs factors of 3-7x)</p> <p>Attraction of non-government stakeholders to support the partnership</p>	<p>Less opportunity to build in-house expertise</p> <p>Unrealistic or optimistic expectations that misread cost, schedule, and demand and create implicit risks</p> <p>Fewer accountability mechanisms for performance and insight</p>
Opportunities	Threats
<p>Allows agency to reallocate attention and resources to higher priority objectives</p> <p>Attraction of private investment that aligns with government missions</p> <p>Allows for more innovative experiments</p>	<p>Policy and budget instability</p> <p>Private investment fails to occur, private providers fail to perform, and public missions placed at risk</p> <p>Becoming captive to a monopoly supplier, lack of government IPR</p>