



Public-Private Sector Policy Tensions in Geospatial Industries

GeoBUIZ
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Dr. Scott Pace
George Washington University
Elliott School of International Affairs
1957 E Street, NW - Suite 403
Washington, DC 20052
space1@gwu.edu
(202) 994-7248

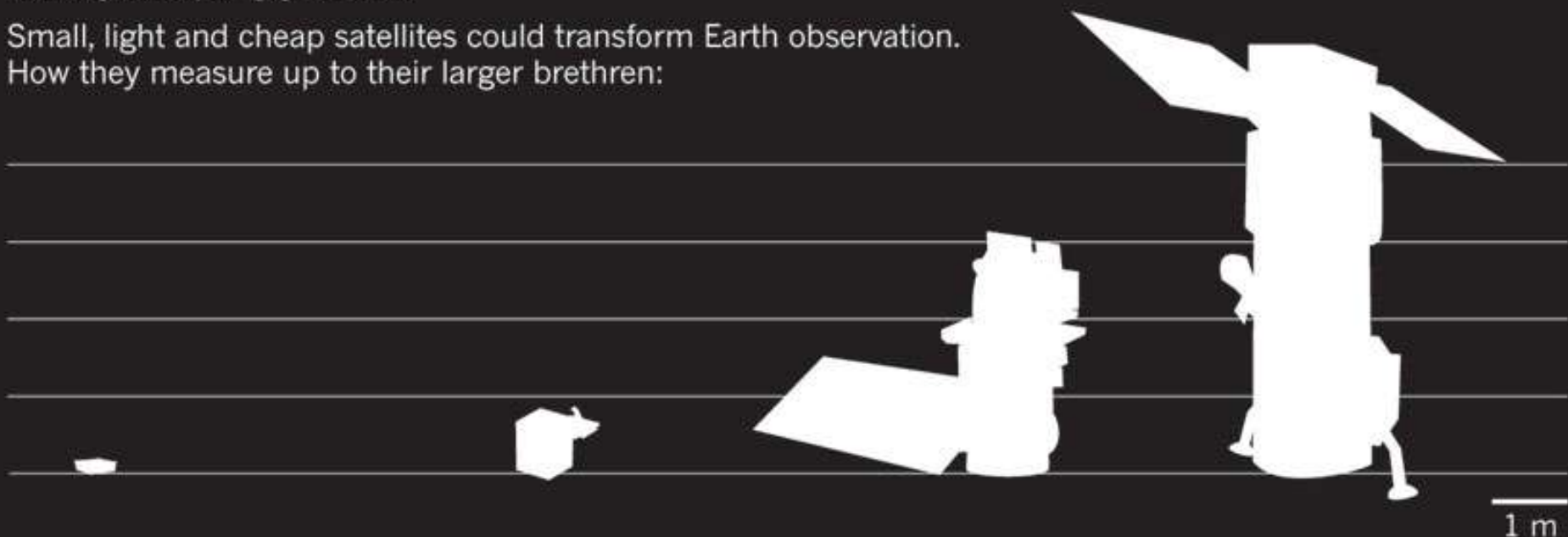
Space Entrepreneurs



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

Operator: Skybox Imaging

Number of satellites*: 24

Weight: ~100 kg

Instruments: Optical and near-infrared spectral bands

Spatial resolution: ~1 m

LANDSAT 8

Operator: NASA

Number of satellites*: N/A

Weight: 2,071 kg[†]

Instruments: Multiple spectral bands

Spatial resolution: 15–100 m[‡]

WORLDVIEW-3

Operator: DigitalGlobe

Number of satellites*: N/A

Weight: 2,800 kg

Instruments: Multiple spectral bands

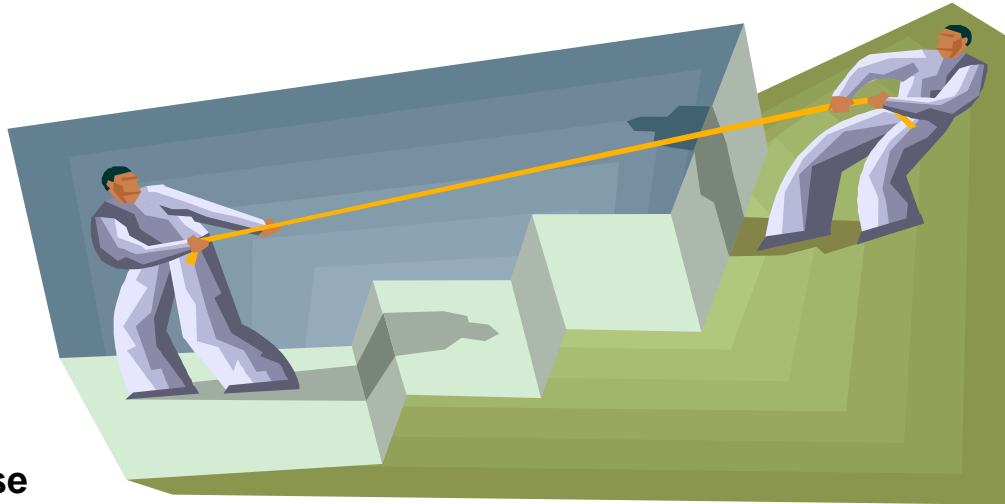
Spatial resolution: 0.3–30 m[‡]

*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

Potential for cost and schedule efficiencies
(costs factors of 3-7x)

Attraction of non-government stakeholders to
support the partnership

Weaknesses

Less opportunity to build in-house expertise

Unrealistic or optimistic expectations that
misread cost, schedule, and demand and
create implicit risks

Fewer accountability mechanisms for
performance and insight

Opportunities

Allows agency to reallocate attention and
resources to higher priority objectives

Attraction of private investment that aligns with
government missions

Allows for more innovative experiments

Threats

Policy and budget instability

Private investment fails to occur, private
providers fail to perform, and public missions
placed at risk

Becoming captive to a monopoly supplier, lack
of government IPR