TERRESTRIAL OBSERVATION
EXTRATERRESTRIAL CAPITAL

URBAN THEORY LAB II
Fall 2014
Cris Bennett with Neil Brenner - Professor of Urban Theory
Harvard University Graduate School of Design
LEVEL 5
Observation
+22,000 miles

LEVEL 4
Communication
22,000 miles

LEVEL 3
Navigation
6,000 - 12,000 miles

LEVEL 2
Scientific Research
3,000 - 6,000 miles

LEVEL 1
Earth Observation
80 - 1,000 miles
Corona 1 photographic image of Mys Shmidta Air Field, Chukotka, Russia, USSR. 18 August 1960. (National Reconnaissance Office)

The Cuban Missile Crisis, 1962. U2 Spy Plane Image
Dnepr booster, derived from an SS-18 missile built to carry Russian nuclear weapons
Skybox + Google!

› LEARN MORE  › EXPLORE DATA
ECU

COPU

TREY

LIABILITY FOR DAMAGE
UN Resolution 2777: Delegates whom is responsible for accidents in space and distribution of damage costs

UNESCO DECLARATION
Satellite Broadcasting for the Free Flow of Information, the Spread of Education and Greater Cultural Exchange

1972

EUROPEAN SPACE AGENCY
Twenty member states dedicated to the exploration of space

1975

1982 EUTELSAT
European Telecommunications Satellite Organization: a French-based satellite provider, providing coverage over the entire European continent

1992 RUSSIAN SPACE AGENCY
Russian government act 85: 'management of space activity in the Russian Federation'

1992

COMMERCIAL SPACE LAUNCH ACT
Designated the Department of Transportation (DOT) as the federal agency responsible for facilitating and regulating commercial space launch activities

1984

REMOTE-SENSING ACT
The continuous collection and utilization of land remote sensing data from space are of major benefit in studying and understanding human impact on the global environment

1984

CELESTIAL BODIES
UN Resolution 2232: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies

1979

1980 USBB FOUNDED
Founder Stanley S. Hubbard, would lead to merger with RCA and launch DirecTV

1990 LAUNCH SERVICES PURCHASE ACT
Required data to purchase launch services from private companies

1980
1992 **RUSSIAN SPACE AGENCY**
Russian government act 88: ‘management of space activity in the Russian Federation’

1990 **LAUNCH SERVICES PURCHASE ACT**
Required max to purchase launch services from private companies

1992 **INTERNATIONAL SPACE LAUNCH ACT**
The Department of Transportation (DOT) as the responsible for facilitating and regulating launch activities

2010 **SPACE ACT OF 2010**
$88.4 billion be spent on NASA programs over the course of the next three years

2004 **COMMERCIAL SPACE LAUNCH ACT**
Lays out the definition of a suborbital space passenger vehicle, solidifies the process for licensing such vehicles, and allows paying passengers to fly into space at their own risk.
Commercial Imagery, Data, and Programs Overview
Dan Schuresko
NGA Source CIDAP
JACIE Presentation
March 29, 2011

Available Commercial Imagery Daily Capacity

Commercial Imagery Today

United States Commercial Satellite Imagery Footprints
MEMORANDUM FOR: Director, National Imagery and Mapping Agency

SUBJECT: Expanded Use of US Commercial Space Imagery

It is the policy of the Intelligence Community to use US commercial space imagery to the greatest extent possible. Therefore, I request that you take the following actions:

- Direct that US commercial satellite imagery be the primary source of data used for government mapping, regardless of whether the production work is performed by NIMA or is outsourced; national technical means (NTM) will only be tasked under exceptional circumstances as determined by the Director of NIMA. You should review your determinations to use NTM for mapping with the Assistant Director of Central Intelligence for Collection on at least an annual basis.

- Position NIMA to facilitate the acquisition of commercial imagery for other federal agencies that request such support on a reimbursable basis in order to encourage and streamline the acquisition of such data and products in an effort to expand the market for the imagery.

- Seek the concurrence of the Secretary of Defense and myself should you need to reprogram funds appropriated for commercial imagery or realign funds budgeted for the purchase of commercial imagery in the president's budget.

- Finally, I request that you take the lead for the Intelligence Community in communicating this policy to the US commercial imagery industry in order to ensure them of our commitment.

My goal in establishing this policy is to stimulate, as quickly as possible, and maintain, for the foreseeable future, a robust US commercial space imagery industry. You have been a champion of commercial imagery for the community and I encourage your efforts to continue. You should take all possible steps to remove any remaining institutional obstacles to its use in meeting government needs. If you need additional resources to implement this policy, please include your requirements in your FY 2004 NIMA request. I appreciate your leadership in this area and I am committed to supporting you in this endeavor.

George W. Bush
4 June 2002

F03-5469-02
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- Seek the concurrence of the Secretary of Defense and myself should you need to reprogram funds appropriated for commercial imagery or reallocate funds budgeted for the purchase of commercial imagery in the President’s budget.

- Finally, I request that you take the lead for the Intelligence Community in communicating this policy to the US commercial imagery industry in order to assure them of your full support.

My goal in establishing this policy is to stimulate, as quickly as possible, and maintain, for the foreseeable future, a robust US commercial space imagery industry. You have been a champion of commercial imagery for the Community and I encourage your efforts to continue. You should take all possible steps to remove any remaining institutional obstacles to its use in meeting government needs. If you need additional resources to implement this policy, please include your requirements in your FY 2004 NIMA request. I appreciate your leadership in this area and I am committed to supporting you in this endeavor.

[Signature]

Deputy Director of National Intelligence

[Signature]

[Signature]
QUESTIONS? NEXT STEPS

What areas of Earth are most 'mapped by satellites'?

What does this 'mapping' look like over the last 50 years?

What is being observed? Extraterrestrial capital to monitor terrestrial capital.

How is that represented cartographically? textually? 3D modeling?