

# Global Space Applications using the LeanSat Approach

**Working Group #1 report**

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# What is a LeanSat?

- “Mass” nor “size” is not suitable definition to capture satellite concept
  - “Small satellite” is not an appropriate word
- Should be defined by philosophy of design, manufacturing, mission, program management, etc.
- **“Lean Satellite” is meant to capture aspects of**
  - Low-cost satellite
  - Experimental satellite
  - Agile satellite
  - Small-scale satellite
  - Compact satellite
  - etc.

# What are benefits of LeanSats?

1. Low cost (relative to traditional satellites)
2. Ownership (quick response, no queue)
3. Short development time (can include state-of-art tech on actual mission)
4. Flexible, creative missions possible
5. R+D
6. Human resource development on order of months to ~2 years

# Low-cost equatorial communication network

1. 100 million people with no connection whatsoever +/- 10 degrees latitude
2. Goal: provide messaging service + device at \$1/year
3. If capture 1% of market have annual revenue of \$1M USD
4. How to raise funds for device for users?
  - Sell advertising space on user terminals
  - Embed company logo in all messages (ex 10 characters out of 160 character limit)
  - Charities/donations

# Train using existing satellites at EOL

1. After educational satellite launches and completes mission, may be more value to other institution (not operating institution)
2. Consider educational opportunities for others
  - NOTE: May be legal issues if try to transfer

# Human Resource Development

1. Very difficult for engineers from developing countries to go back home and find jobs in space engineering when none exist
2. Consider opportunities in related fields (such as applications of satellite data)
3. During education institutions should teach students how present the value of satellites
  - Service/data/benefit that is provided to home country