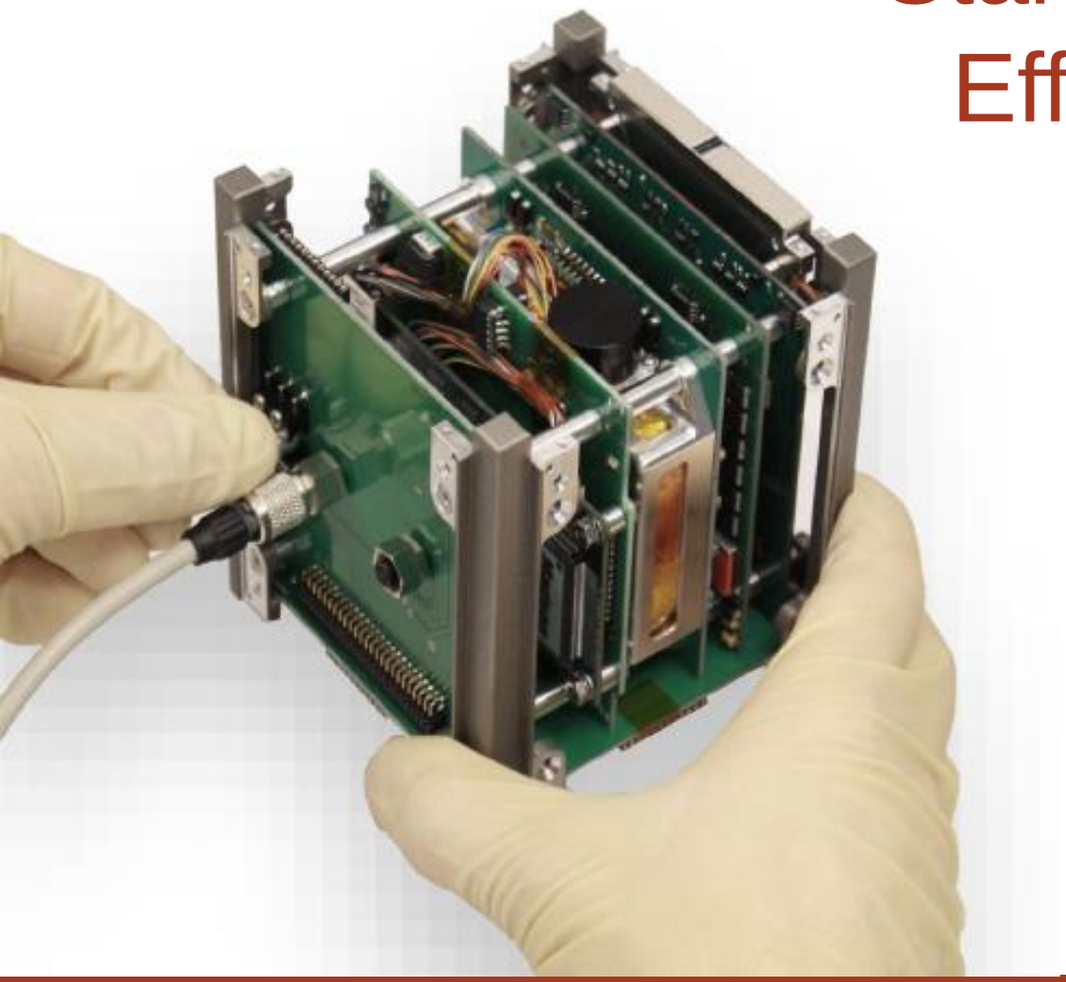
Group Discussion 10

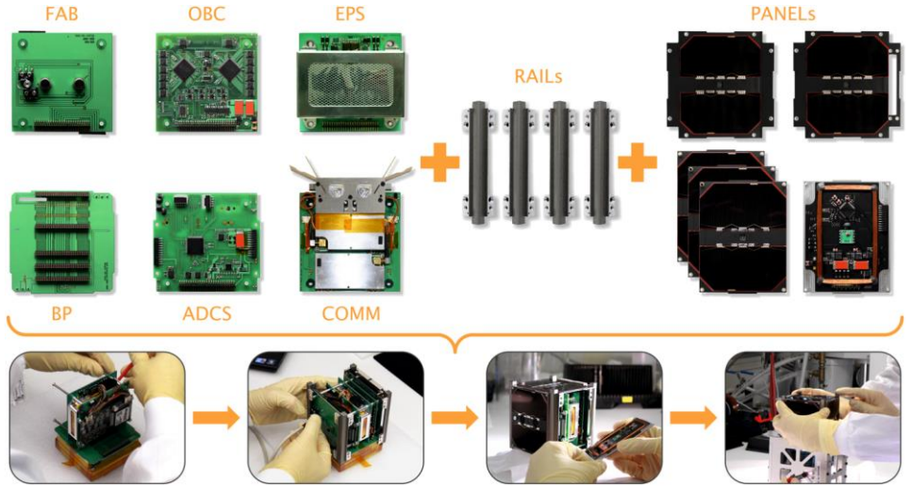
Standardization Approaches for Efficient Electrical Interfaces of CubeSats



Discussion Group 10

about a Standardization of Efficient Electrical Interfaces of CubeSats

- Points of discussion
  - advantages and limitations of current approaches
  - ongoing progress and proposed concepts for interface standardization
  - experiences from past and ongoing missions utilizing proposed/similar/better concepts

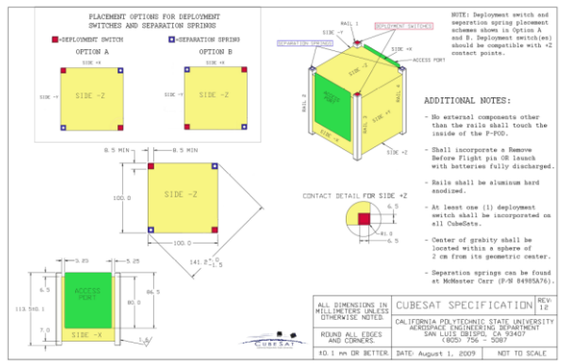


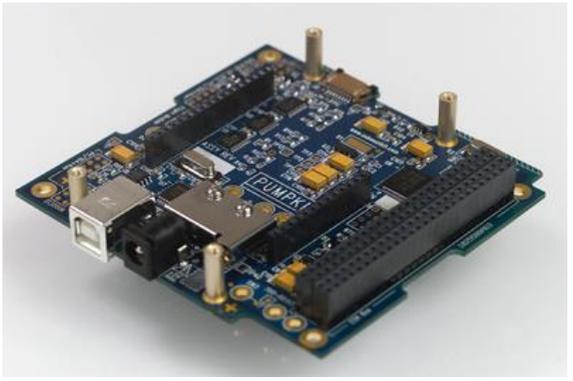
- Representative Group
  - Industry: 2
  - Students: 6
  - Academic Project Manager / System Engineers: 2

Conclusions from Group Discussion

for a Standardization of Efficient Electrical Interfaces of CubeSats

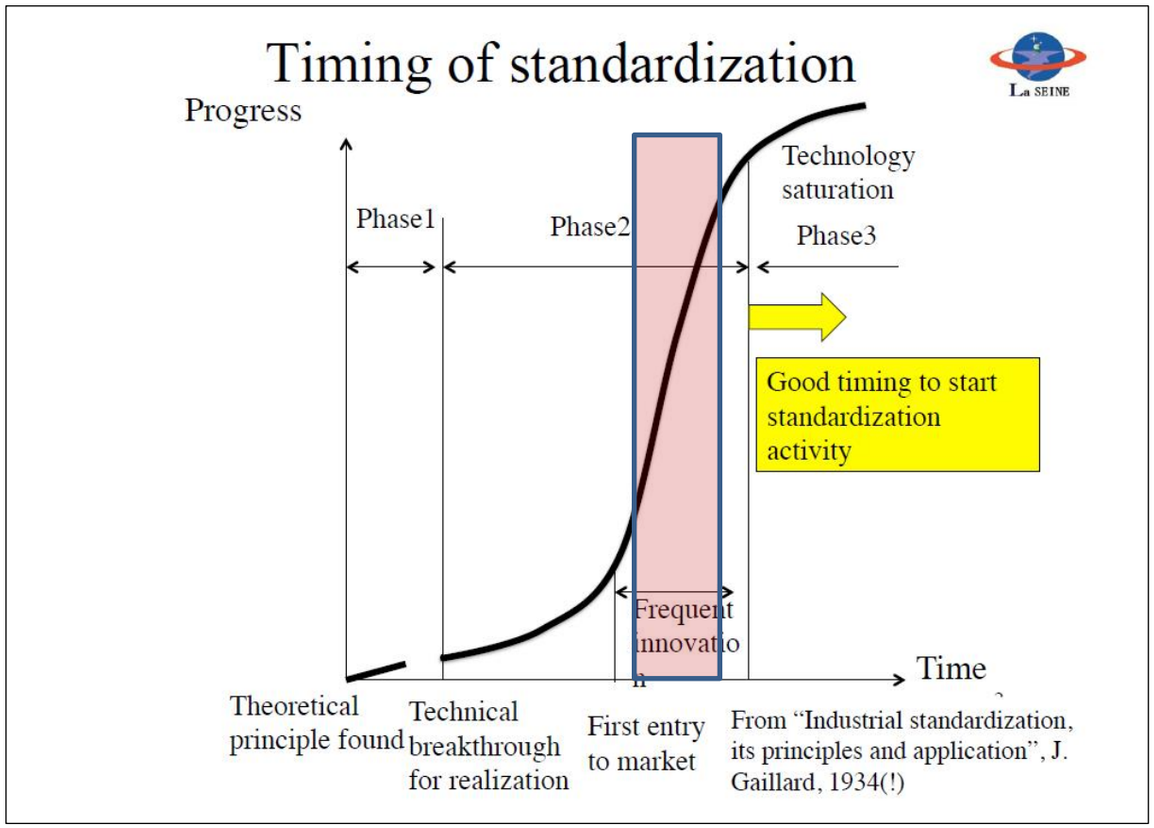
- great success of CubeSats driven by (de-facto) standards in the past
  - Cubesat Design Specification, Cubesat Kit Bus (PC104),…
- new standards can further significantly contribute to
  - robustness
  - safety
  - cost reduction
- esp. by further standardizing
  - testing
  - mechanical, electrical, protocol interface of subsystems





How to promote a standard?

- not easy to introduce a standard if a lot of players are already around
- When is the right time to standardize?
  1. design guidelines and best practices
  2. reference designs
  3. detailed definitions
- Who is involved?
  - start from users (user-driven approach)
  - invite all stakeholders
    - Industrial component suppliers
    - launch providers



How to promote a standard?

- How
  - Transparency!
  - make as much available as possible (open-source)
    - general how-to’s and design guidelines
    - definitions
    - Use cases: how to use particular sub-interfaces for typical applications, and what to avoid
    - reference designs
  - provide design kits

Discussion on technical aspects

- What are the requirements for a common test and debug interface for maintenance , testing, and precise calibration of the integrated satellite
- …

- Discussion goes on…

Thank You