

Cubesat Tech Demo P-POD

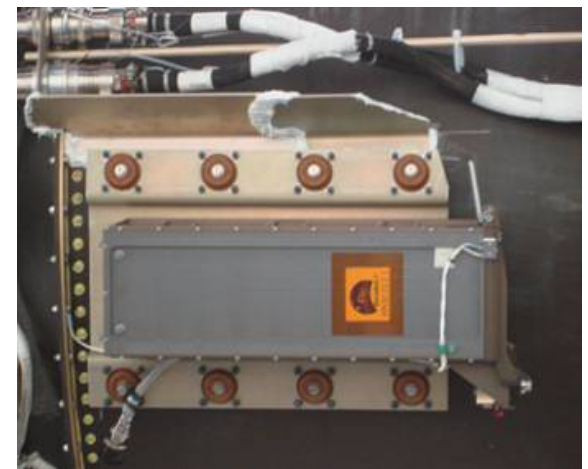
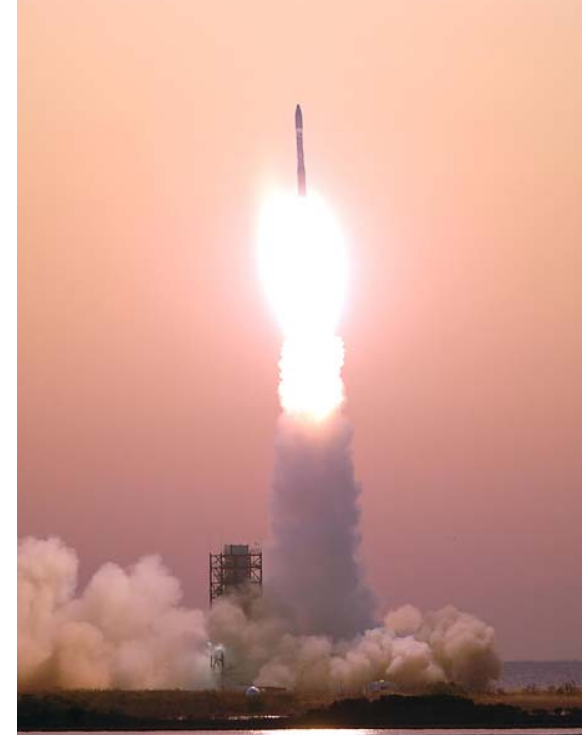
Prepared by
Hawk Institute for Space Sciences
in collaboration with
CalPoly

4th Annual CubeSat Developers' Summer Workshop
Logan, UT

Introduction

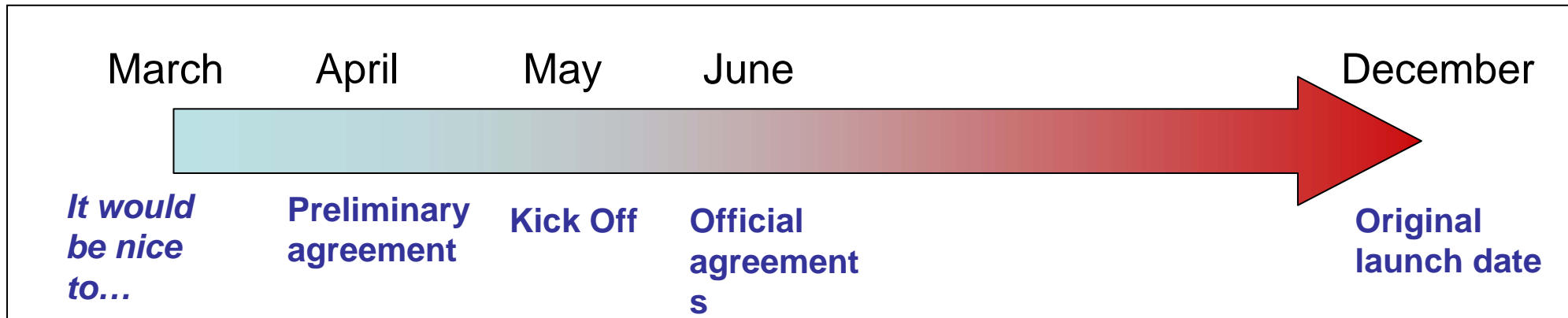
- Full potential still untapped due to limited launch opportunities
 - This is “a” solution, not “the” solution
- It is now understood that PPOD/Cubesat combination is a valuable asset also for NASA/DOD programs
 - Hardware
 - Human resources of tomorrow
- “Cubesat Tech Demo” P-POD will carry three cubesats with payload dedicated to test technology to be used for future picosatellites.
 - Very short time to create the flight manifest
- HISS and CalPoly will use this opportunity to establish mutual collaboration
 - HISS to provide support on the East Coast

TacSat 2 Launch on a Minotaur I from WFF – December 16, 2006



GeneSat I mounted on Minotaur I

Our approach to responsiveness



- Important to establish a long term relationship
 - Use TacSat3 flight to establish procedures and know-how for future opportunities.
 - Create a good experience with Wallops to increase future opportunities with pico and small satellites community.
- Everything will be as close as possible to a replica of the system used by AMES for GeneSat-1
 - Coordinate for complete symbiosis with PharmaSat
- AFRL/OSC has a single technical POC that coordinates the effort and represents the cubesats developers.
 - HISS provides the POC, NASA WFF provides program oversight

Cubesats

CP-X

- A continuing CP generic bus with a payload under development
 - Results will be key to establish future standards

AeroCube 3

- Mission goals
 - Test bus performance
 - Photograph LV final stage
 - Further develop mission operations for this satellite class

HawkSat I

- Main objective is to kick start the effort on the MD and VA Eastern Shore and validate first generation system.
- Carrying payload for private company
- Validate collaboration with WFF and access to facilities.

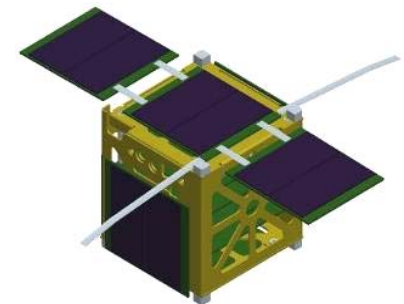
Backups available on short notice



Cubesat
Kit Pumpkin
Ltd.



Picture of AeroCube 2



HawkSat I

NASA Wallops involvement

- WFF will be the location for all I&T effort of the P-POD.
 - Cubesats Integration
 - P-POD and cubesats arrive at WFF
 - CP/HISS personnel integrate P-POD
 - Will have spare P-POD available
 - P-POD qualification
 - Environmental tests are performed at WFF
 - Final opportunity for cubesats' batteries charging and health monitoring
 - P-POD is then stored in controlled environment until delivery to OSC.
- Use of clean room for P-POD integration, functional test and storage.
 - Testing performed using base facilities

Future

- Tentative launch date is March '08
- Maintain a good relationship with SDTG and OSC through serious work and respecting deliverables
- Plan now for future flight opportunities
- Campaign for lowering price to broaden opportunity
- Continue develop cubesat with same level of professionalism... *they* will listen
 - But...be ready to compromise a little

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