RocketPod™ Update

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Pasadena, CA and Moffett Field, CA

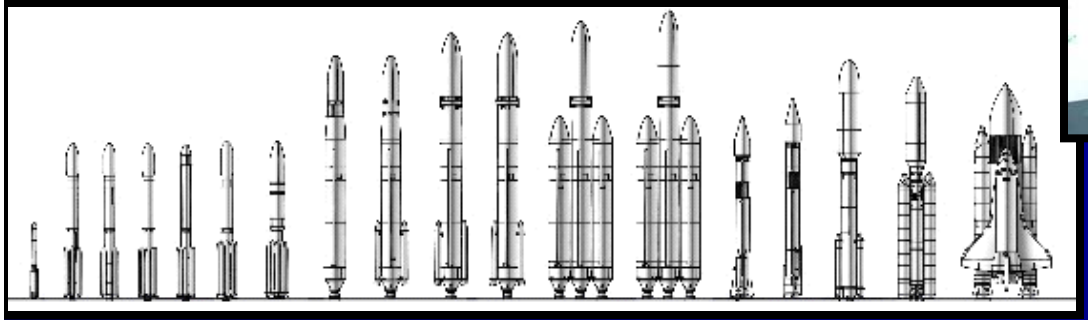
Ecliptic Products

- **RocketCam™: Get the picture.**

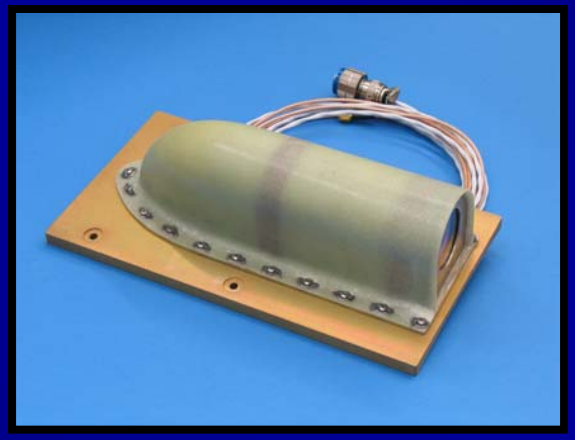
- **RocketPod™: Get the ride.**

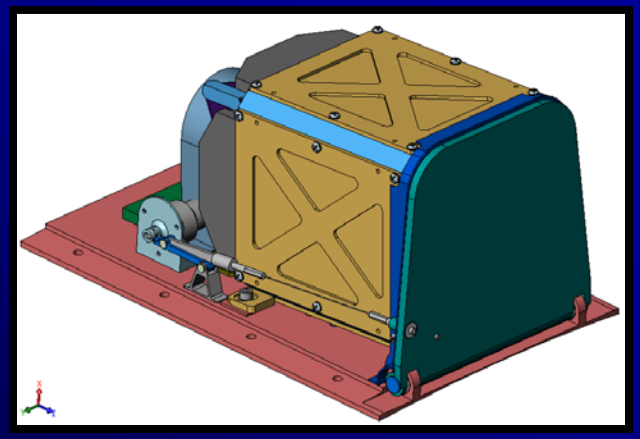
RocketCam Space Heritage

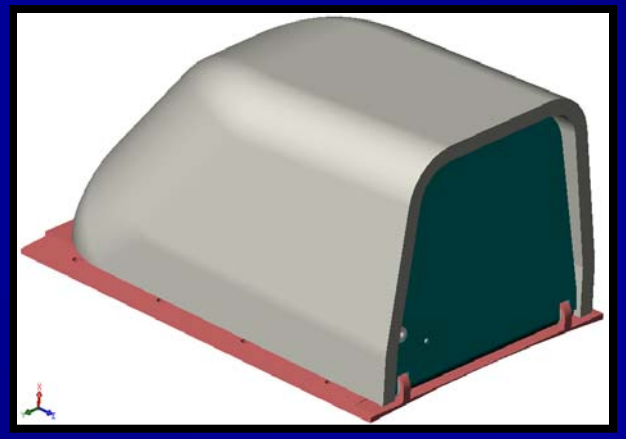
- **Launched on 59 projects since 1997**
  - 35 rockets to orbit (76 cameras)
  - 22 suborbital launches (52)
  - 2 spacecraft (6)
- **All relatively simple integrations**
- **All relatively low cost**
- **All successful**
- **Many more to come**



RocketCam to RocketPod
(Delta II example)

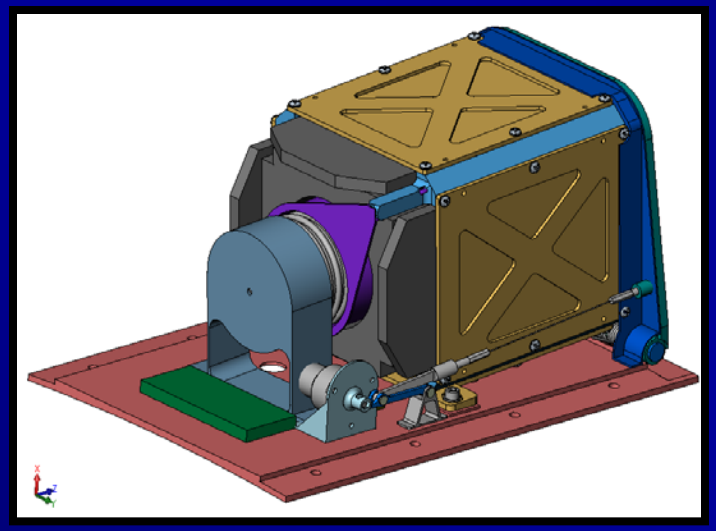


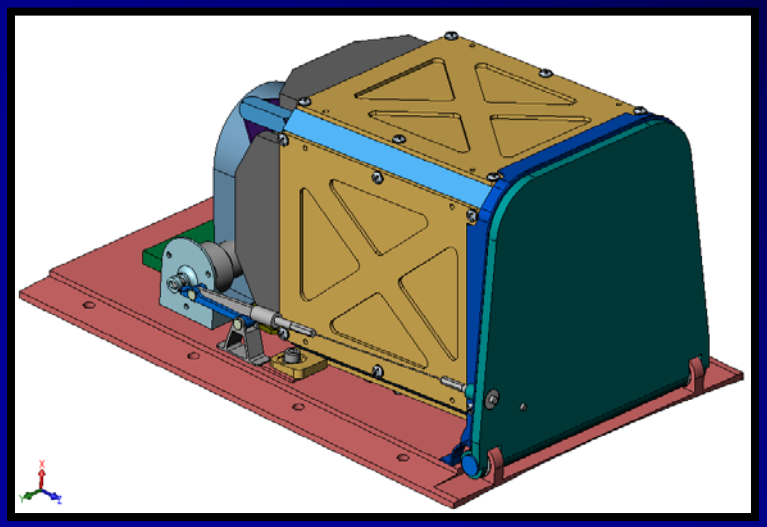


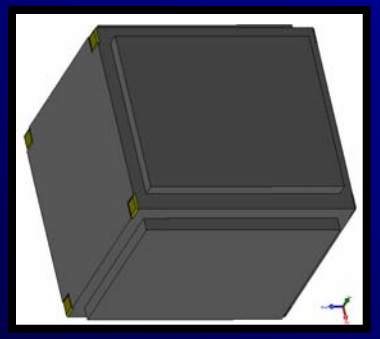


RocketPod™ patented in U.S. and Europe

RocketPod Internal View

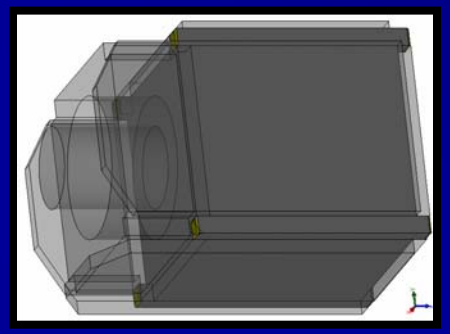






Sep velocities:

- **2.6 m/s for 0.6 kg payload**
- **2.0 m/s for 1.0 kg**
- **1.4 m/s for 2.0 kg**

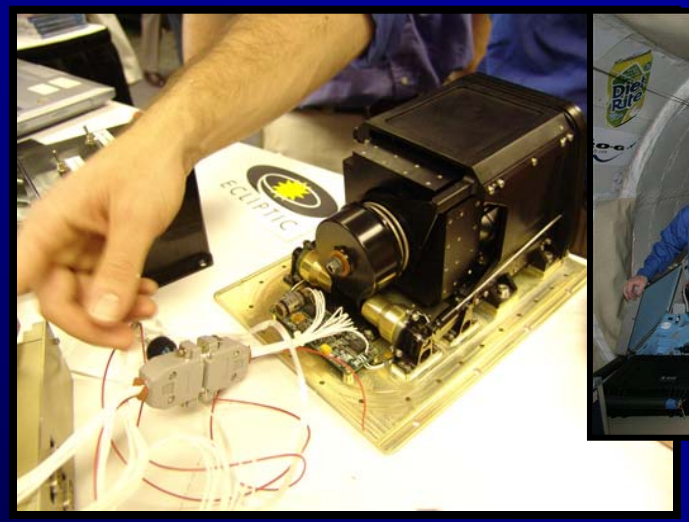


Std. CubeSat

“CubeSat+”

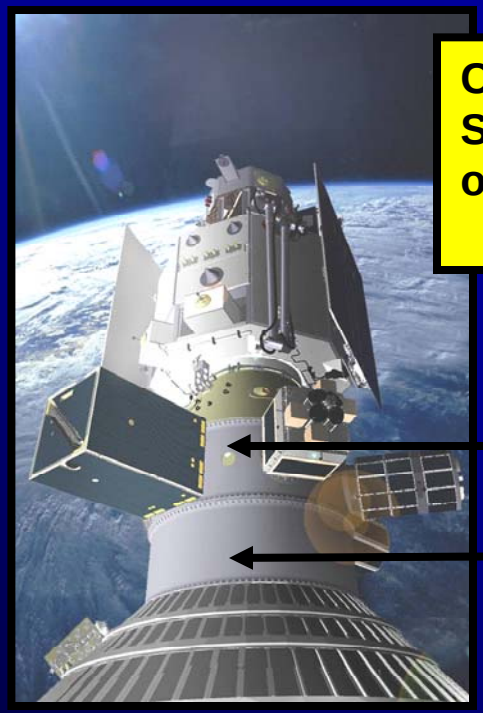
Project Accomplishments
2002-2004

- **Delivered a flight-like RocketPod working model**
  - 8 mos. after contract start (delivered 2004 Jul)
  - Verified functionality in lab and in simulated microgravity
- **Delivered a preliminary User's Manual**
- **Secured add-on funding for definitive Delta II secondary payload assessment via USAF/SMC**
  - Completed 2004 Dec by Boeing



Project Accomplishments
2005-2006

- **Assessed integration issues for most other U.S. ELVs, plus some spacecraft**
  - Delta IV, Atlas 5, Minotaur, Taurus, Falcon 1
- **Settled on Atlas 5 "C Ring" as most desirable RocketPod (and P-Pod) location**

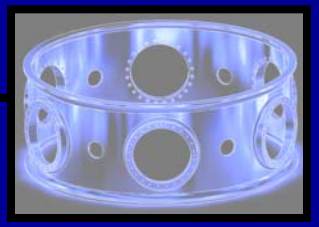


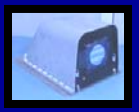
Completed DARPA Phase-1 STTR with Cal Poly SLO to identify and work <u>orbital</u> launch opportunities for RocketPod and P-Pod
-- Focused on 2009 Atlas 5 launch

ESPA Ring

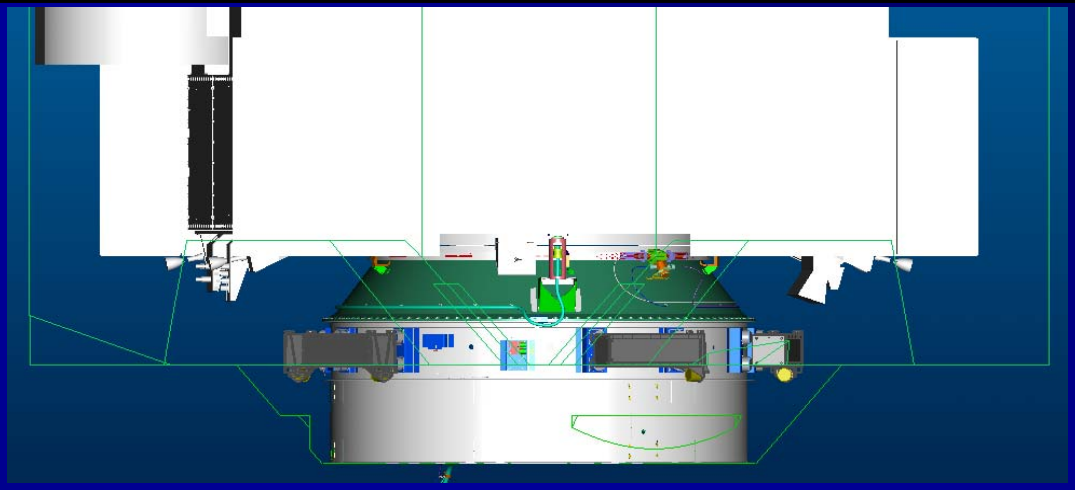
C Ring

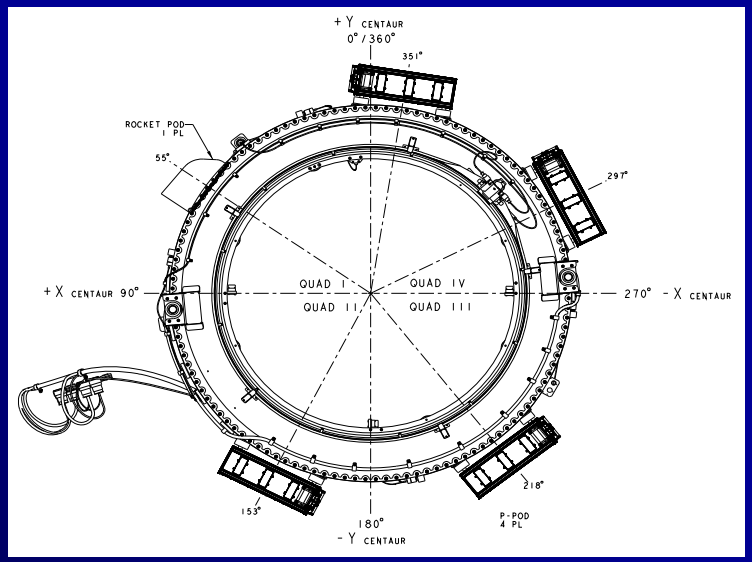
RocketPod (xN)





Mid-2007 Baseline Atlas 5 Concept





5 slots

2007-2008 Developments

- **2007-present: Continued with suborbital launch plans**
  - Garvey Spacecraft Corp. reusable rocket
- **2007: Ecliptic and Cal Poly proposed DARPA Phase 2 STTR, continuing with C-Ring baseline**
  - Awarded but not on contract yet
  - ULA funded by KSC to perform initial NRE for accommodating ** 6 ** standard P-Pod mounting locations
  - Make this interface the same for a single RocketPod mounting
  - Make P-Pod and RocketPod qualification and CubeSat integration processes nearly identical
- **2008: KSC funding for ULA halted before PDR**
  - STTR plan and milestones in re-work now
  - Will re-assess other launchers such as Minotaur
  - Expect to be on contract this quarter; 2010 launch target

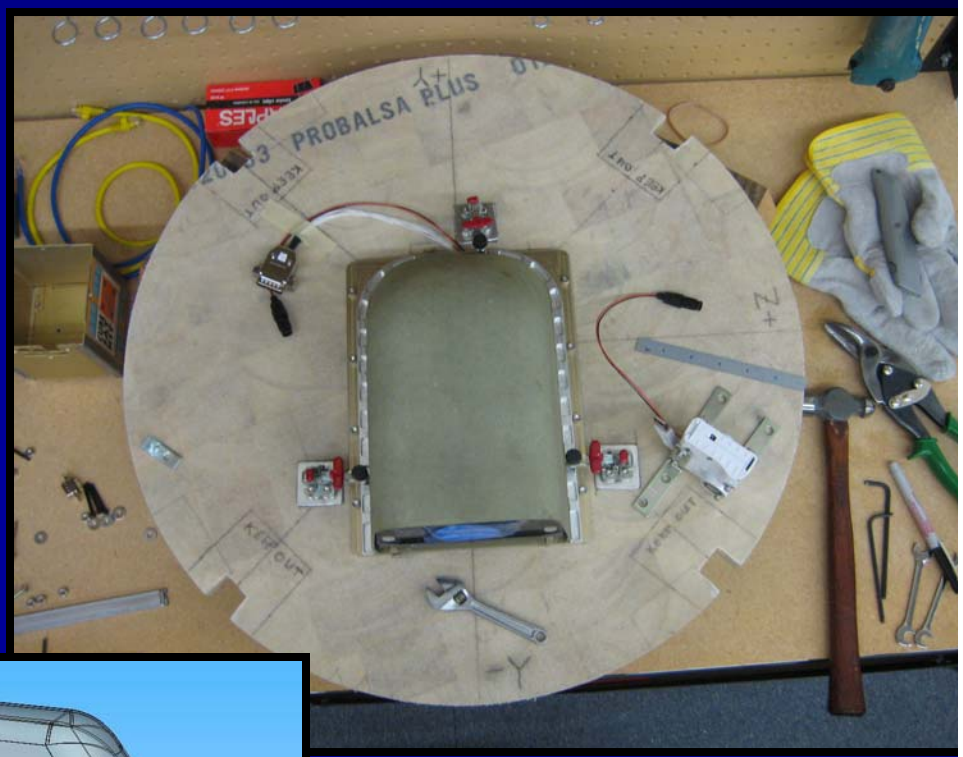
Suborbital Launch Plans

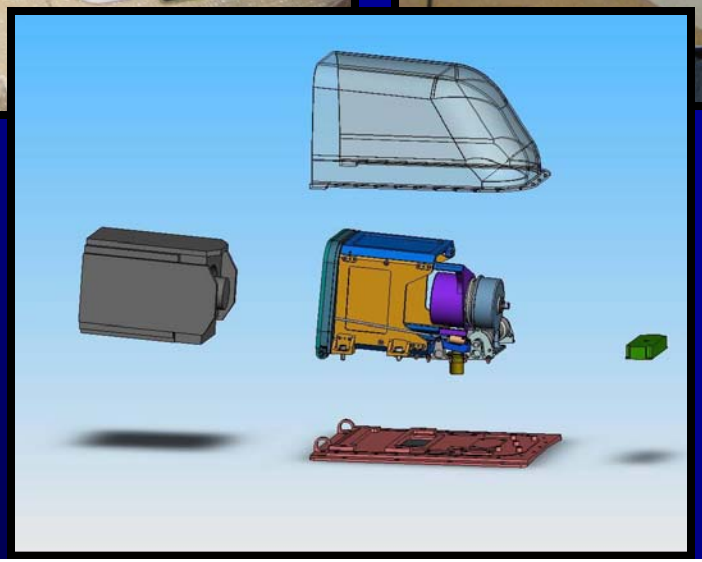
- **Two suborbital RocketPod launches (same day) originally planned for last fall on Garvey P-9A/B reusable rocket**
  - Now scheduled for early June
  - Hardware layout designed and built up last summer by two Caltech undergrad interns
  - Final system tests, pre-ship review and hardware delivery planned for this month

Ecliptic Summer Internship
(2007)

Jason Cerundolo (l) and Brian Hires (r)

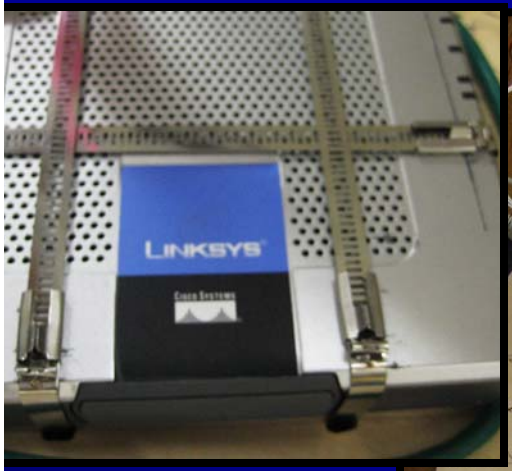
Prepping for P-9A/B
(late last summer)

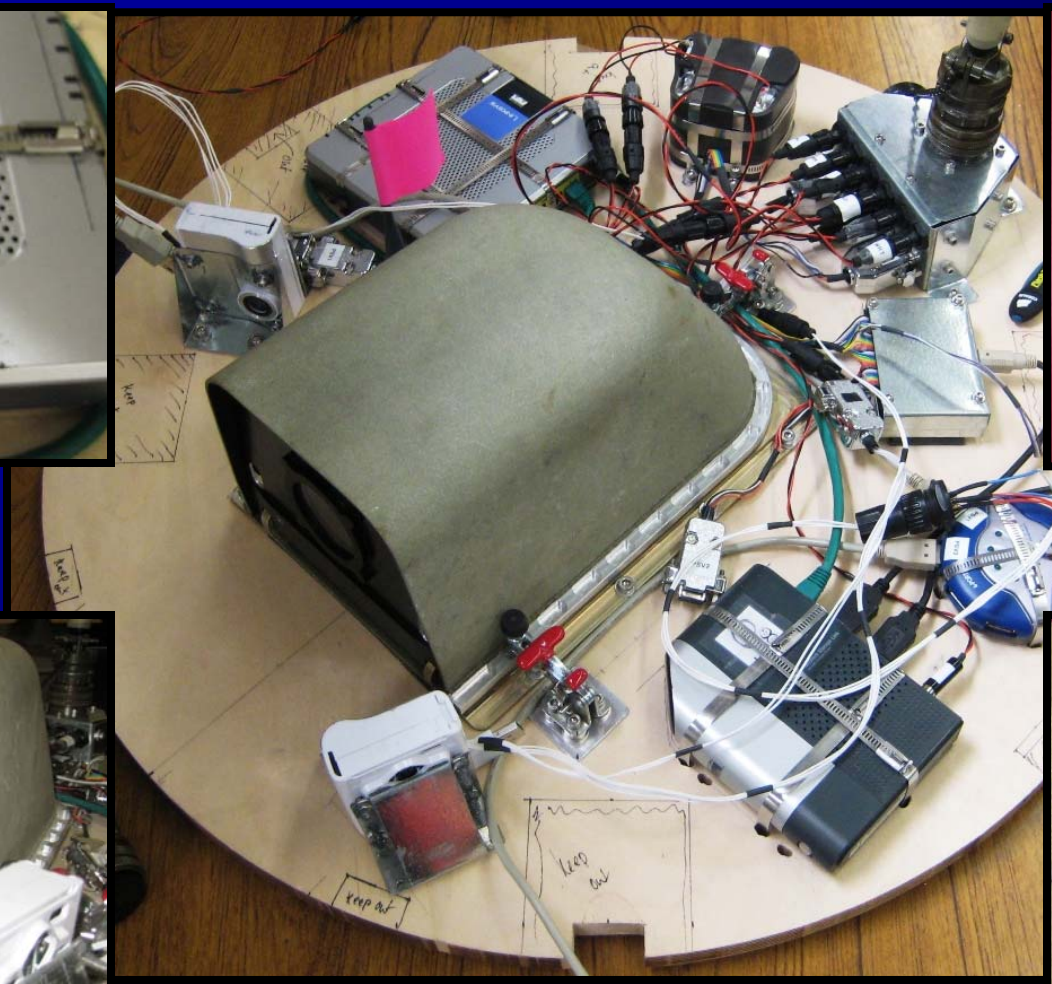




Garvey P-9A/B in Work
(2007 Dec)

Prepping for P-9A/B
(last week)





Garvey P-9A/B in Work
(Last week)