UH Small-Sat Education

Crawl ➔ Walk ➔ Run

CricketSat ➔ BalloonSat ➔ Pico/Nanosat
Middle School ➔ High School ➔ Undergraduate

Undergraduate
<table>
<thead>
<tr>
<th>Year</th>
<th>Project Name</th>
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<tbody>
<tr>
<td>2002</td>
<td>Mea Huaka`i (Voyager)</td>
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<tr>
<td>2003</td>
<td>Ho`okele (Way Finder)</td>
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<td>2004</td>
<td>Hokulua (Twin Stars)</td>
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<td>2005</td>
<td>Ho<code>okia</code>i (Watchman)</td>
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<td>2006</td>
<td>Kumu a`o (Source of Learning)</td>
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<td>2007</td>
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<td>2008</td>
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UH Small-Sat Education

Crawl → Walk → Run → FLY!

CricketSat
Middle School
BalloonSat
High School
Pico/Nanosat
Undergraduate
Undergraduate
HSFL Objectives

Reliable, low-cost, rapid-response launch system

Aerospace education and training

End-to-end small-sat development
Payload

Payload Adapter/Deployer +

Payload Adapter/Deployer +

Payload Adapter/Deployer

 Payload Adapter/Deployer
Launch Vehicle

- Sandia 3 stage SuperStrypi
- ~250 kg to 400 km LEO
- 120 degree inclination (1st flight)
- Locally launched from Kauai
Integration and Testing

- On-campus test facility
- Dirty and clean room integration
- Thermo-vac
- Vibration
- Spin
- Machining
Operations

- On-campus groundstation
- Mission Operations Center
- UHF and S-band
Staffing

Management

Infrastructure & Support

Launch-1

Primary Satellite

Launch-2

Payload Adapter/Deployer

Launch-X

Administration

Currently ~17 Staff
# Timeline

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<tr>
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<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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<tbody>
<tr>
<td>Study Phase</td>
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<td>Design</td>
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<tr>
<td>Operations</td>
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Projected Launch Fall 2009
Wrap Up

- Evolution of existing technology
- Narrow access-to-space cost gap
- Transitional last leg in aerospace education
- Opportunity for small & secondary payloads
Questions?

Mea Huakaʻi
2002-2006
Rest in Peace