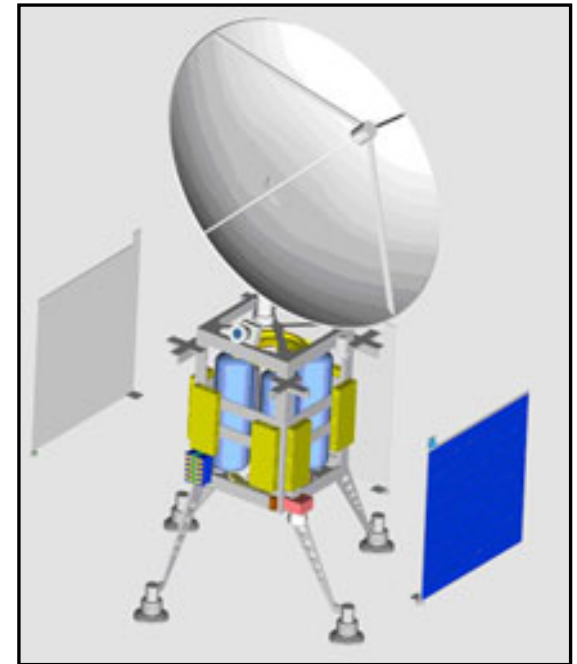




SpaceDev

Revolutionizing
Space
Through the
Microcomputer
Way of Thinking



Poway, California
www.spacedev.com

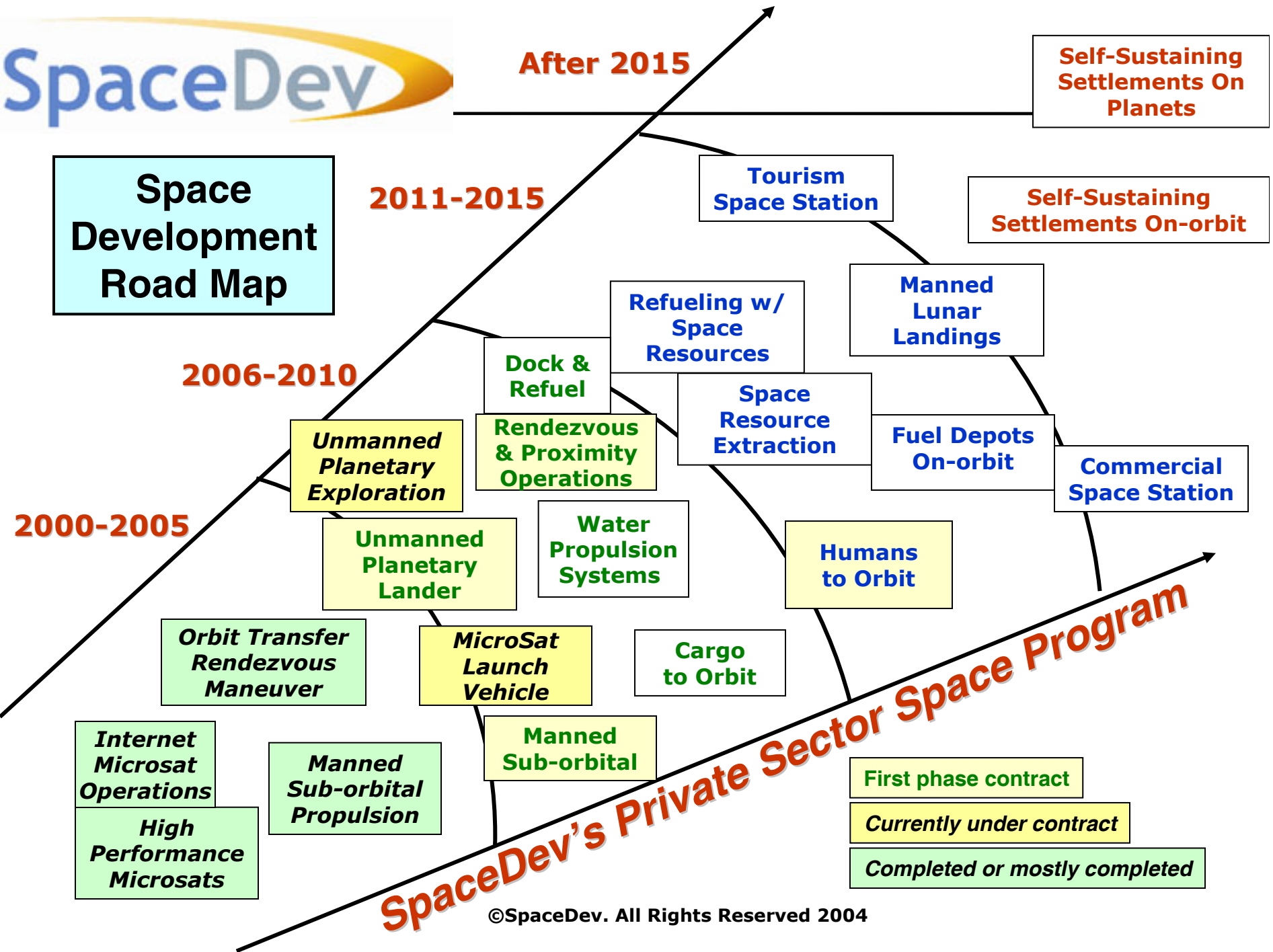
Trading Symbol: SPDV

Space is a place
not a
government program

If we want to go to
space to stay,
space has to *pay*.

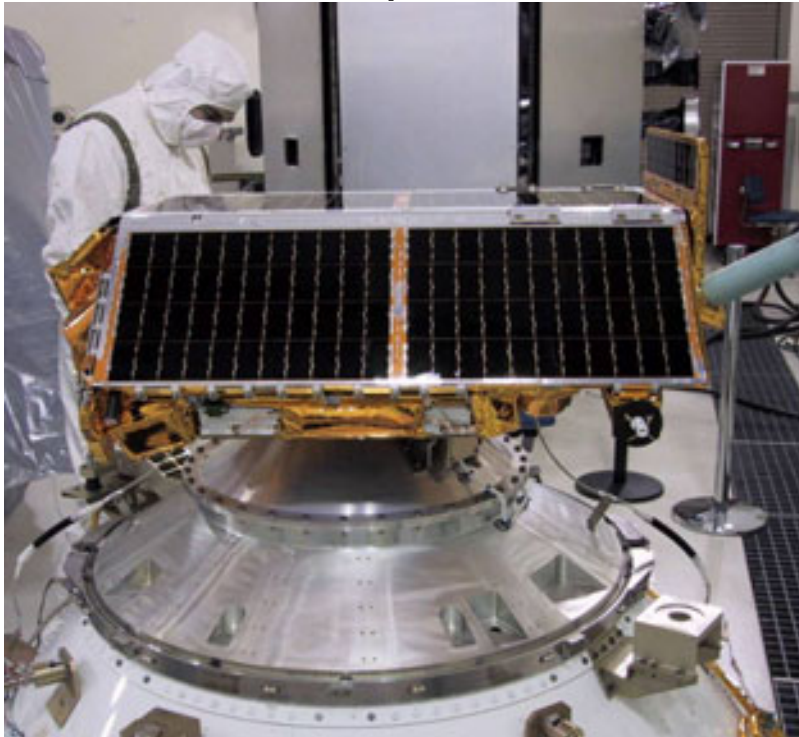
Space is the Infinite Frontier.

Space opportunities are
infinite.



Microsatellites

- *Mission Analysis & Design*
- *Spacecraft & Subsystem Design & Development*
- *Microsatellite Mission Control & Operations*

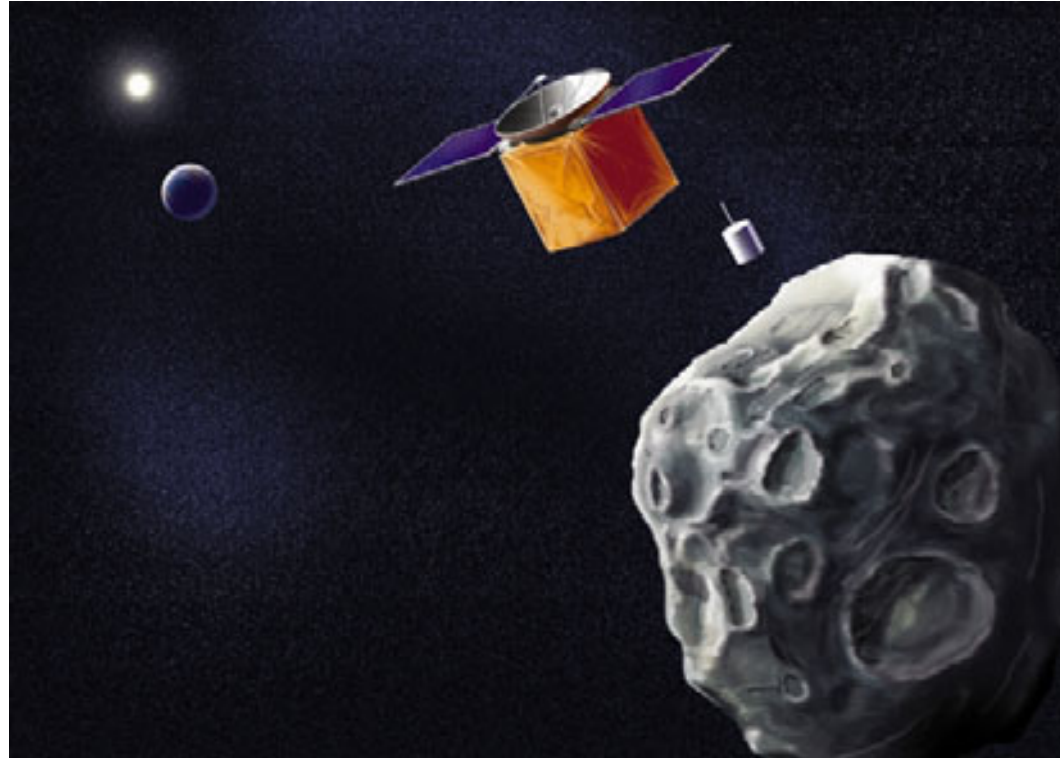


Hybrid Propulsion

- *MoTV (Maneuvering and orbital Transfer Vehicle)*
- *Hybrid Rocket Propulsion Systems of all sizes*

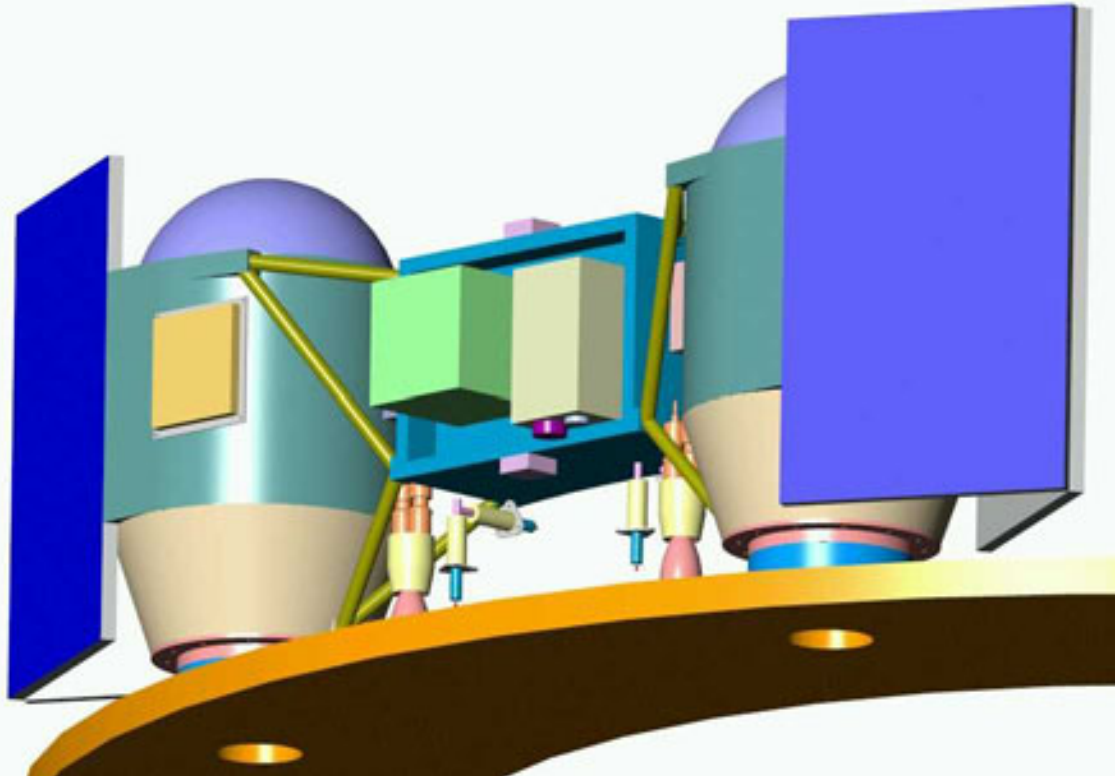


Examples of low cost missions and developments



In 1997, UCSD conducted a study of SpaceDev's proposed Near Earth Asteroid Rendezvous mission to explore a low cost alternative to NASA's then recently launched \$250 million NEAR mission.

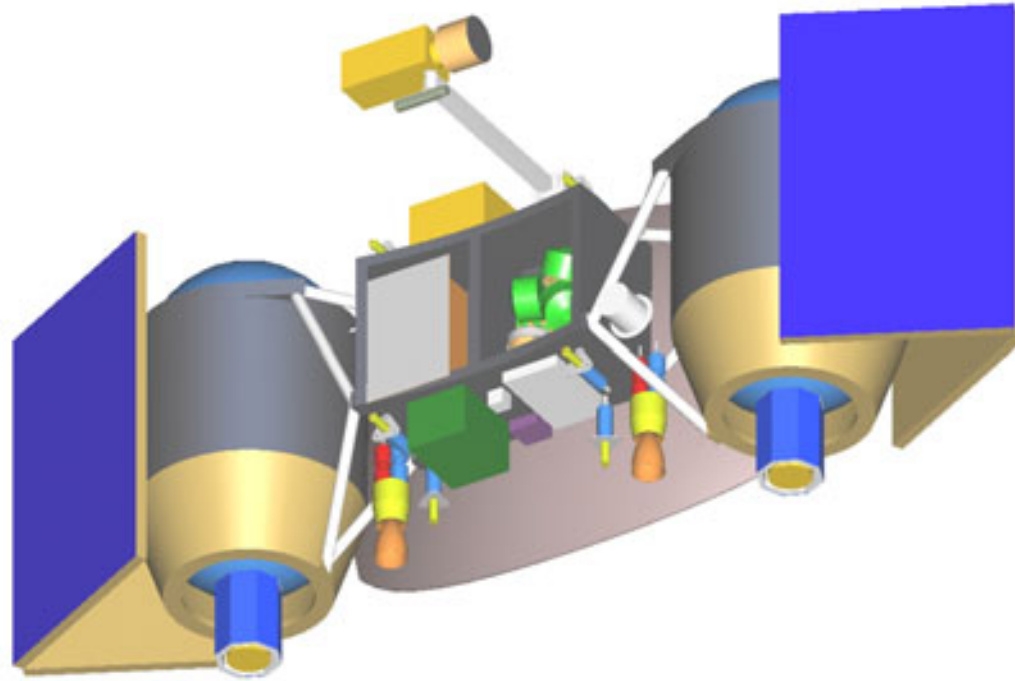
UCSD concluded that such a mission could be performed profitably in the private sector for about \$25 million.



In 1999 SpaceDev won a competitive contract to perform a conceptual design for Mars MicroMissions for JPL.

SpaceDev concluded that data relay orbiters and atmospheric payload delivery missions could be flown for about \$25 million.

SpaceDev Streaming HDTV Lunar Orbiter -- \$35 million



In 2000, Boeing contracted with SpaceDev to analyze our Mars MicroMission to determine the technical & economic feasibility of a streaming High Definition TV (HDTV) lunar orbiter.

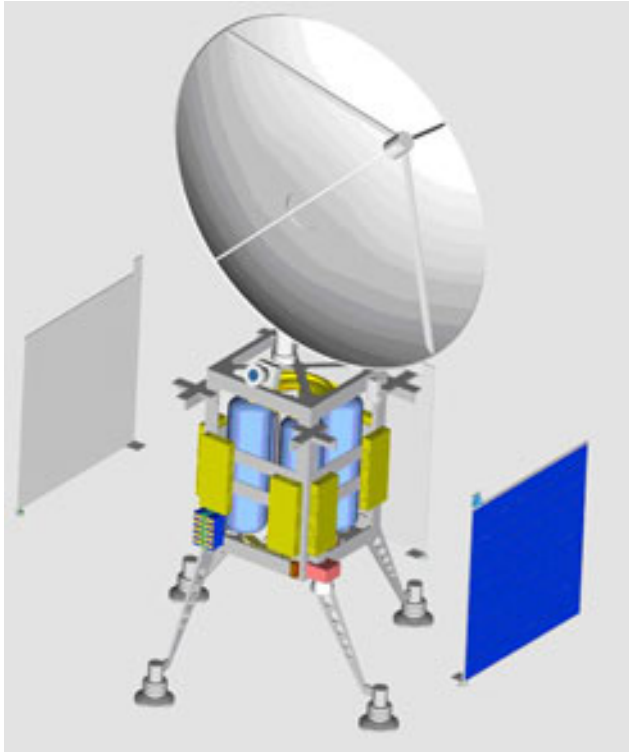
SpaceDev concluded the mission could be completed profitably for about \$35 million, using the data relay orbiter we had designed for JPL.



In 1998 Spectrum Astro's founder told Mr. Benson that it was impossible to build microsats for less than \$40 million. In 2000, SpaceDev began the development of NASA's CHIPSat for \$7.8 million.

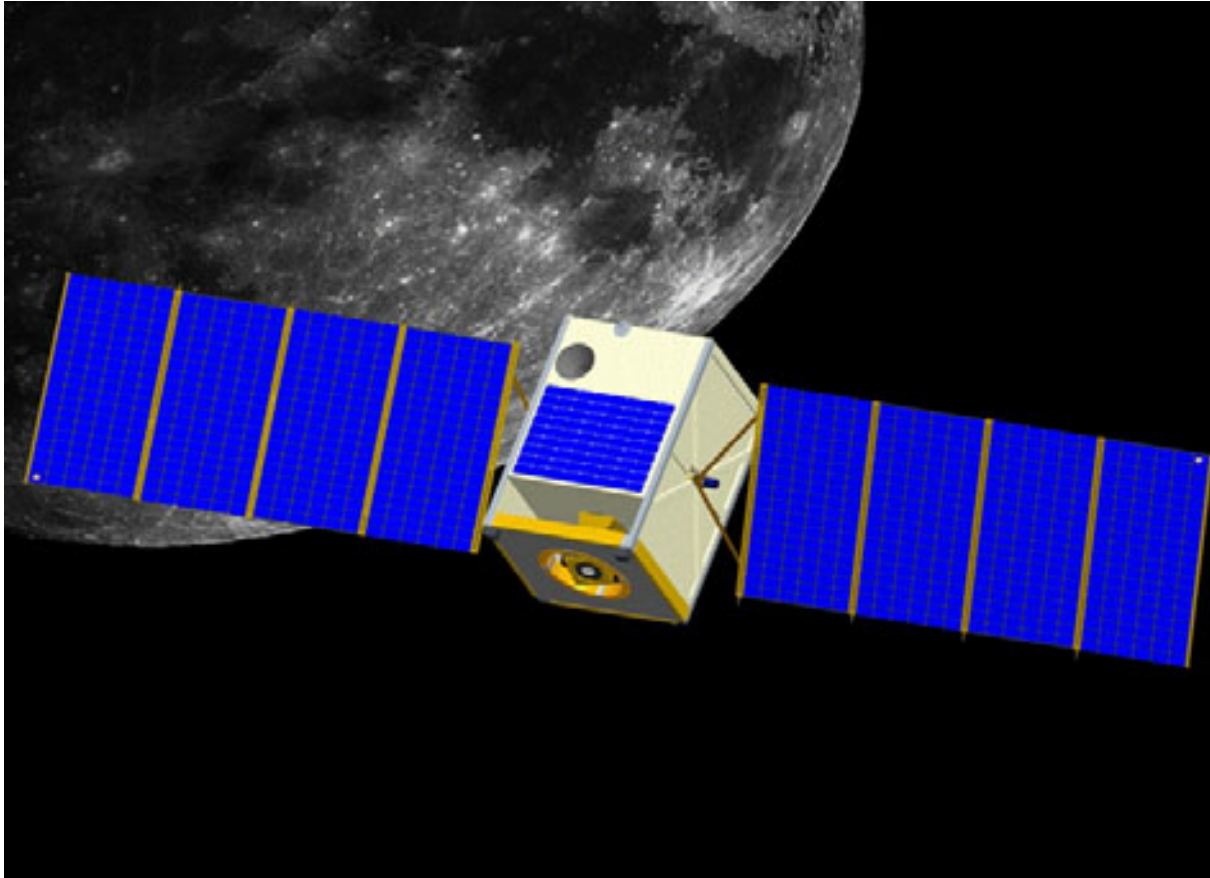
Launched in 2003 with an 18 month design life, CHIPSat is still fully functional. CHIPSat is this country's smallest, low cost, high performance microsat, the world's first satellite whose only means of communication is the Internet, and mission control and operations is from a laptop computer located anywhere with access to a dial tone.

Lunar Lander -- <\$50 million

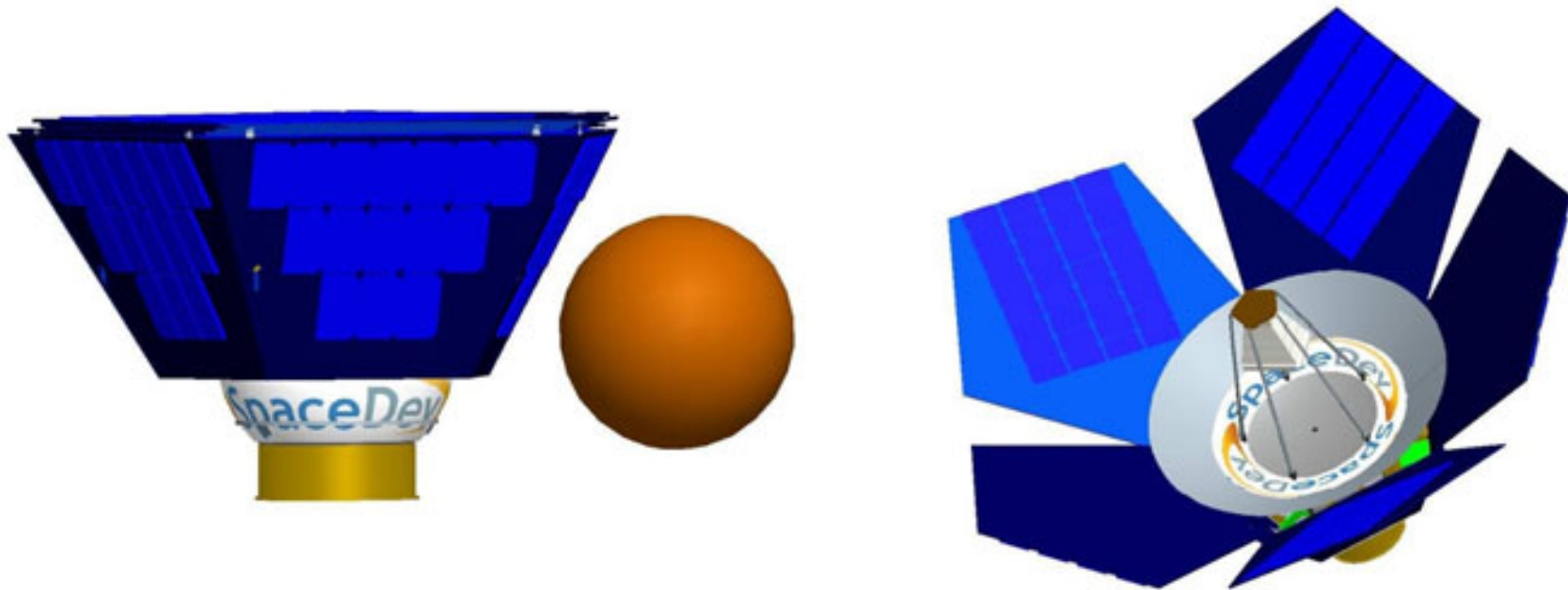


For Lunar Enterprises, SpaceDev performed a conceptual design for a small robotic lunar lander dish observatory, targeted for a high altitude location near the Lunar south pole on a "peak of eternal light".

SpaceDev estimates a mission cost of less than \$50 million including launch. The second phase focused on options for a precision landing.

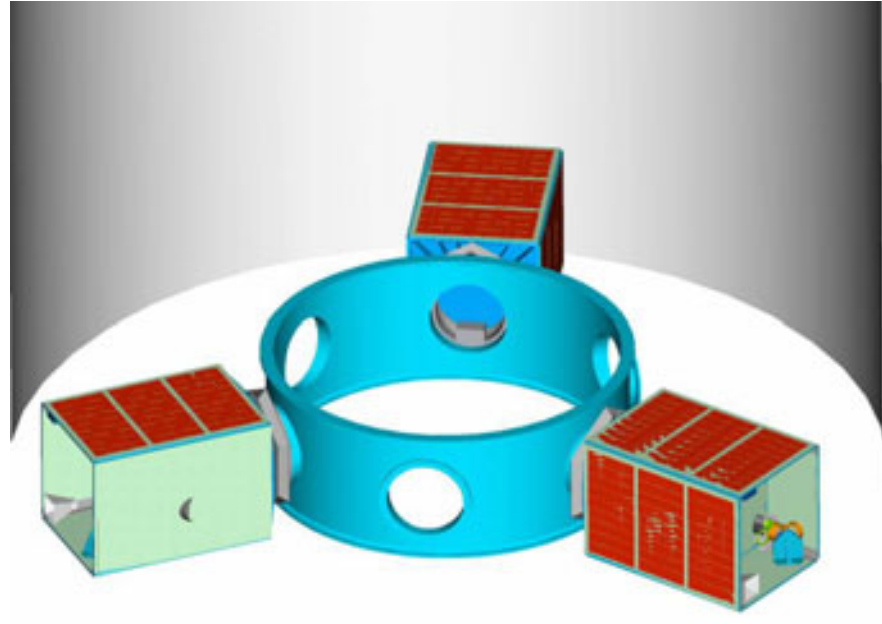
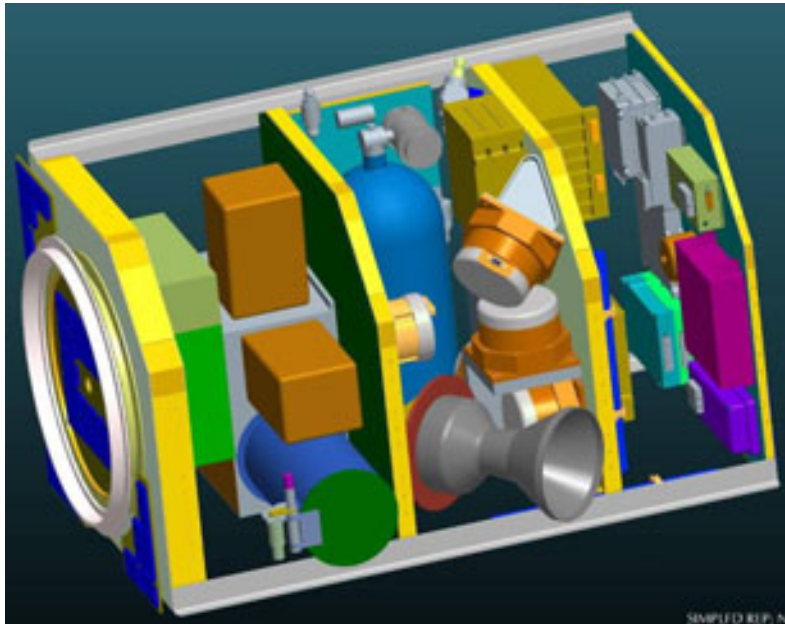


In 2005, SpaceDev was awarded a \$9 million subcontract from Andrews Space to design, build and operate the \$18 million NASA H&RT SmallTug mission to the Lunar L1 point.



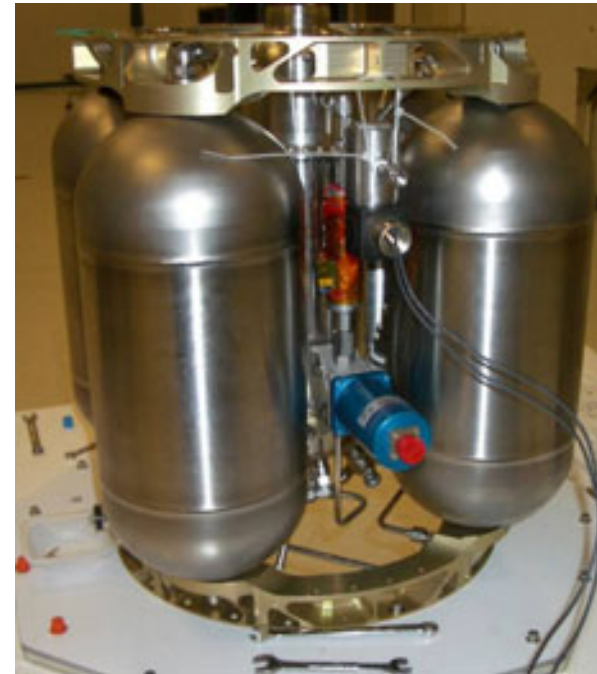
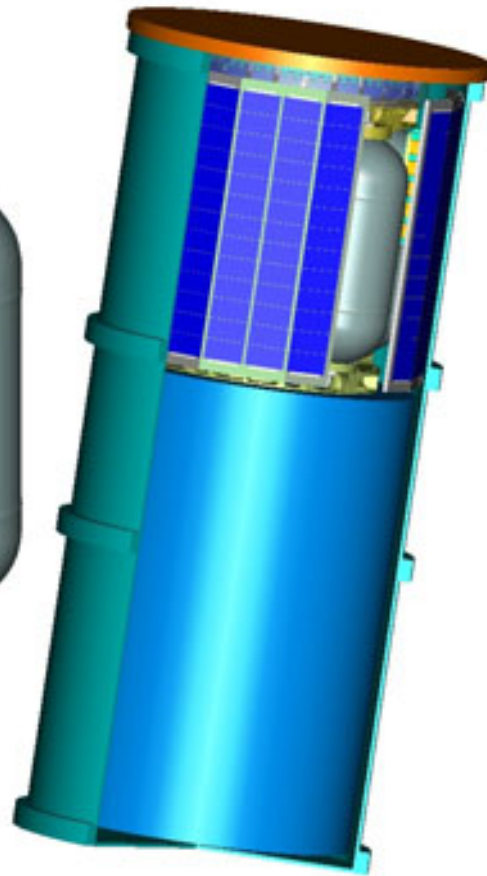
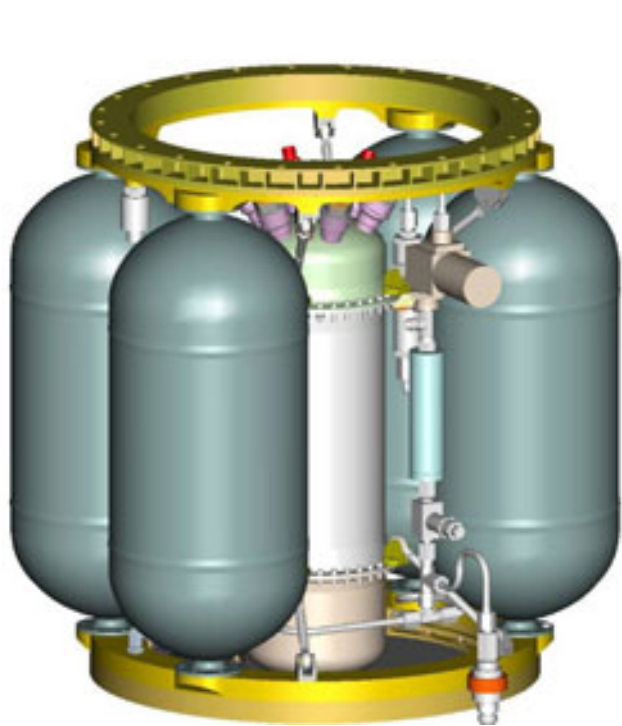
SpaceDev is funded by AFRL to design a 12 kg nanosat that can undock from its host and change orbits. The design includes a high gain dish antenna & Cassegrain telescope.

The nanosat could undock from SmallTug or RLEP-2 and put itself into lunar orbit, or transfer to a halo orbit at LL2.



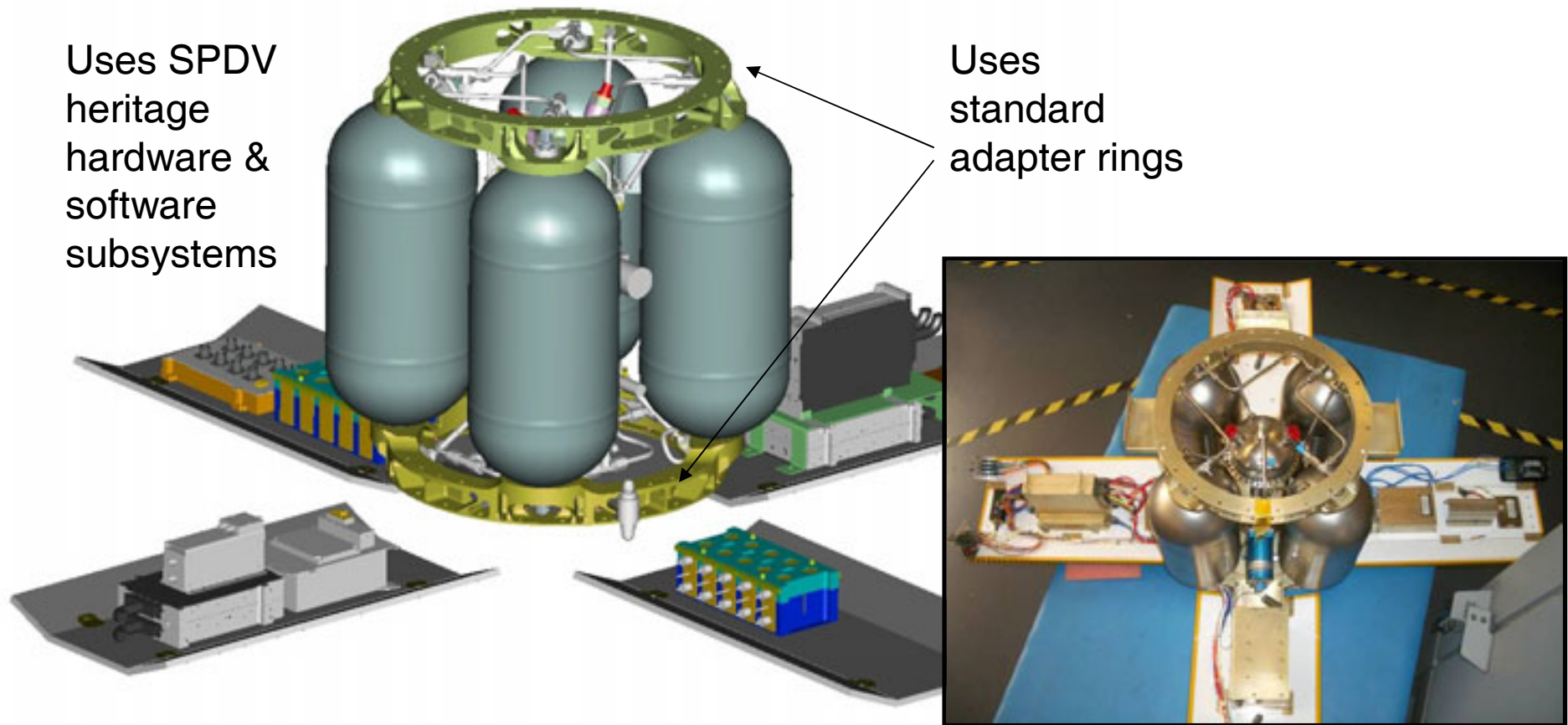
SpaceDev has a \$43 million contract from the Missile Defense Agency to design, build and operate two sets of three formation-flying, in-space local area networked microsats

The all-inclusive average cost (including NRE) is \$7 million per microsat. These six microsats are believed to be the highest performance microsattellites ever developed.



Modular, Shuttle-compatible, hybrid-based platform for moving payloads between orbits: GTO->LEO; GTO -> GEO; LEO -> LEO. Developed under contract to AFRL & NRO.

Scalable MoTV for On-orbit Servicing



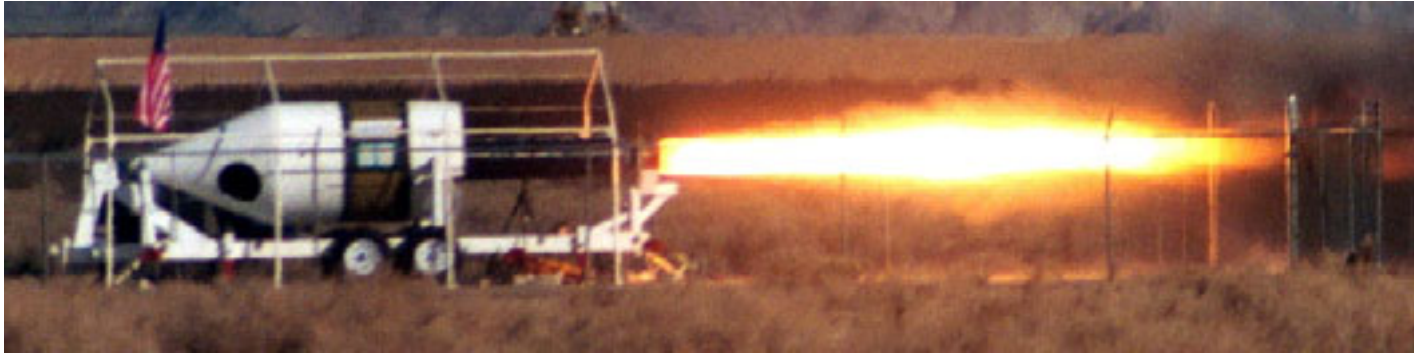
Uses SPDV heritage hardware & software subsystems

Uses standard adapter rings

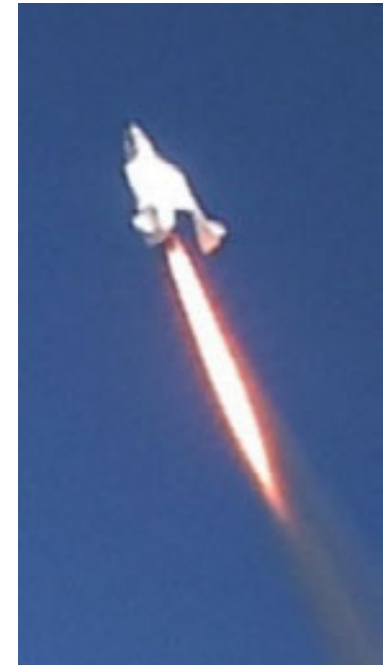
Compact, low cost, elegantly simple, high performance design makes the MoTV suitable for a wide variety of commercial, civil and military applications: space tug, orbit transfer, upper stage.



SpaceShipOne Rocket Motor -- <\$1 Million



SpaceDev hybrid rocket motor for Paul Allen's SpaceShipOne



SpaceDev developed the hybrid rocket motor, the largest of its kind, for SpaceShipOne under a commercial, fixed price contract.

SpaceDev successfully developed and test fired this safe, non-explosive motor in less than one year for less than \$1 million, and began propelling civilians to astronaut status the following year.



450 kg to LEO -- <\$6 million



SpaceDev Streaker™ SLV Family
Sounding Rocket, Air-launched 100 kg, Ground launched 450 kg



Four Passenger Suborbital -- \$15 million

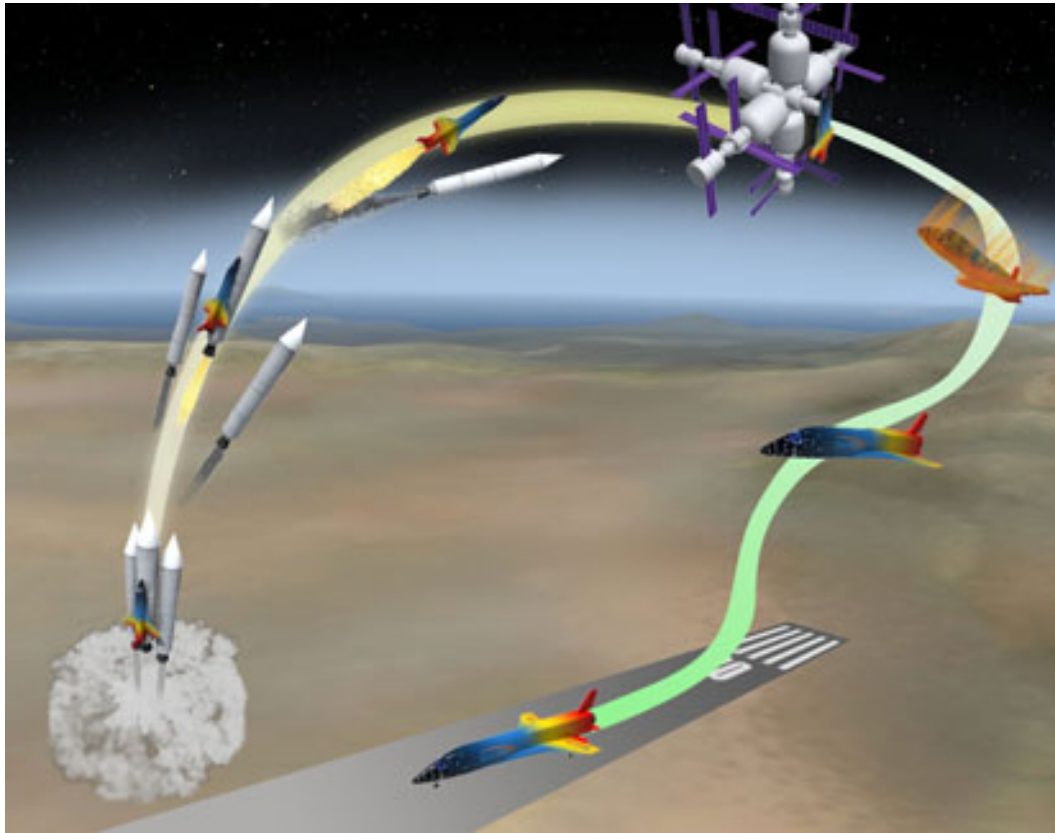


In 2002 SpaceDev developed a conceptual design for safe and affordable human space flight, based on NASA's X-34 – SpaceDev Dream Chaser™.

The development cost, using an existing vehicle design, and SpaceDev hybrid rocket motors funded by the Air Force, would be only \$15 million, and would take less than two years.



Six Passenger LEO / ISS -- \$150 million



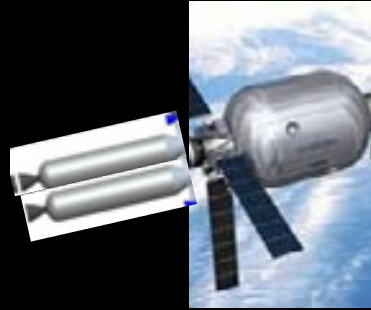
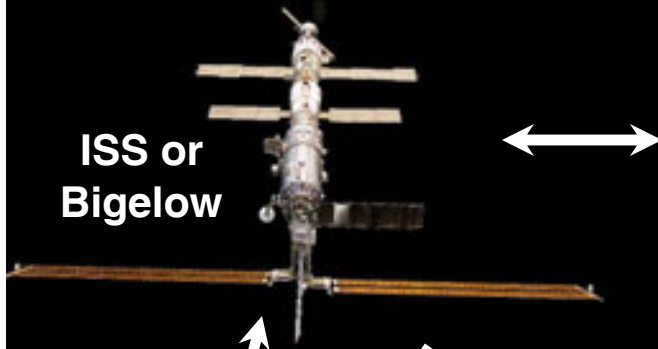
In 2005, funded by NASA Ames, SpaceDev expanded the Dream Chaser design to include safe and affordable LEO / ISS human space flight.

The development cost, using an existing vehicle design, and scaled up hybrid rocket motors, would be approximately \$150 million, and could be completed by 2010.

SpaceDev

ILO Servicing Mission -- <\$5 billion

**ISS or
Bigelow**



Bigelow Genesis

Approx 8500 kg

**Includes food, water
for round trip**

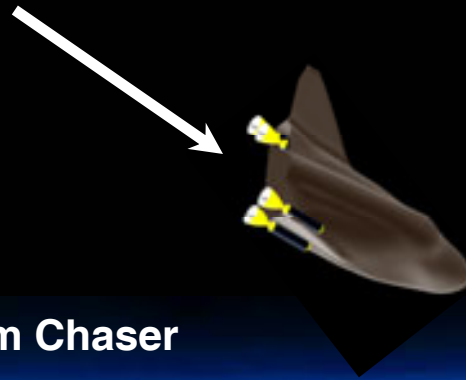
**Propelled by 12 SCBs
(round trip)**



**Lunar Lander
Uses Hybrid
Upper Stage**

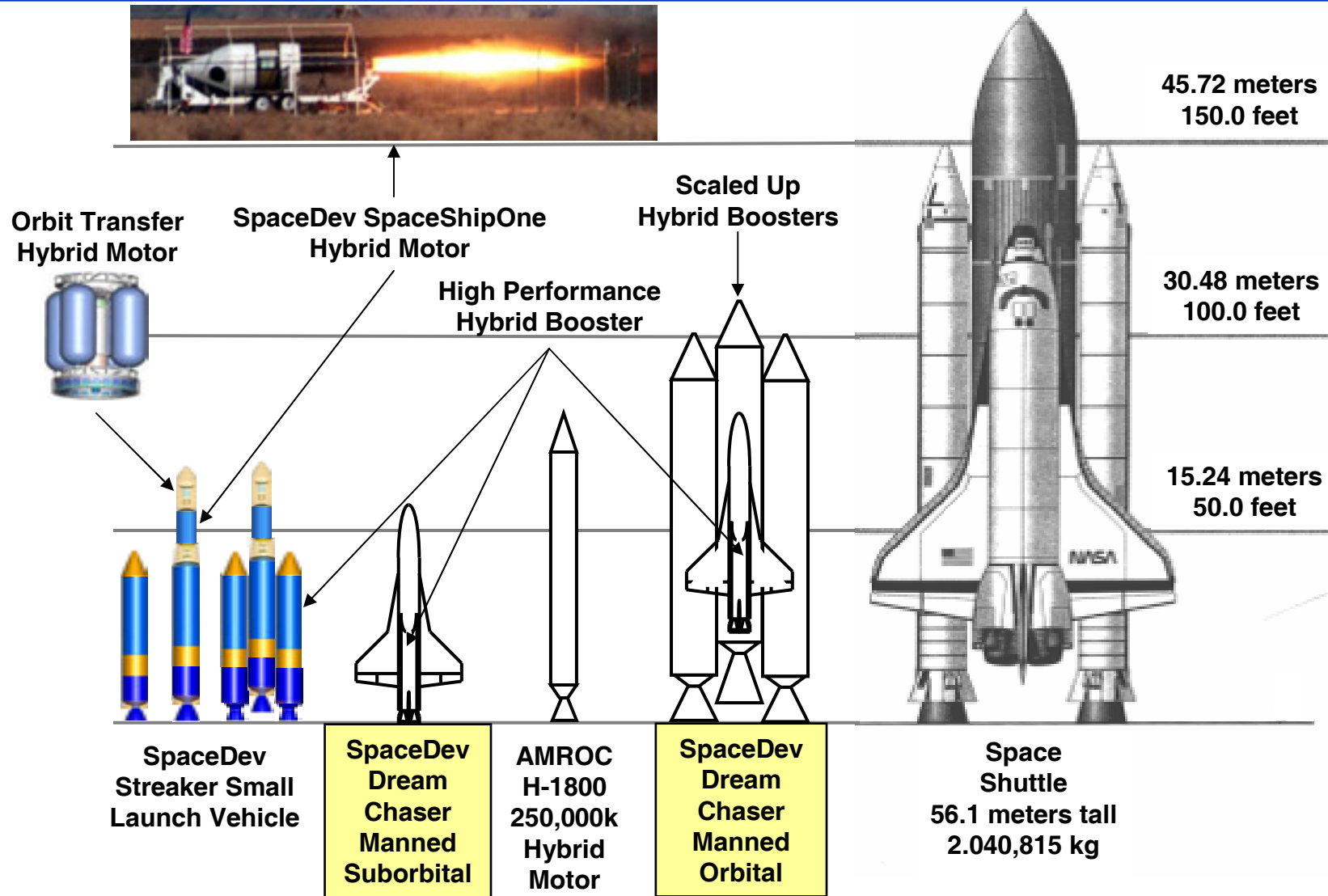


Dream Chaser



For Lunar Enterprises, SpaceDev is defining a rapid, low cost human servicing mission to the International Lunar Observatory. The study uses innovative combinations of existing technology, or technology believed to be available in time for a 2012 launch.

Launch Vehicle & Hybrid Rocket Motor Size Comparisons



- Microcomputer way of thinking
- Empowered small teams
- Elegant simplicity – combined with practicality
- Utilize commercially available components
- Commercial product orientation *for* each project
- Future: Fixed price commercial products *from* each project

Since our founding in 1997, SpaceDev
has completed every project
successfully,
on-time and
on-budget.

We are the low cost,
innovative partner
you can trust.