PLANETARY RESOURCES®

Secure World Foundation

May 2016

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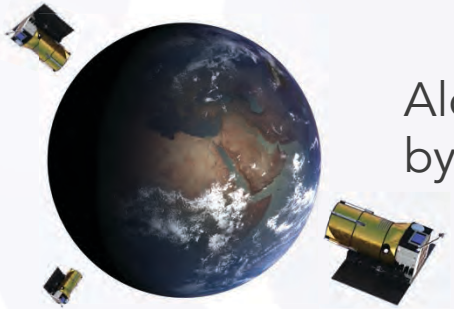
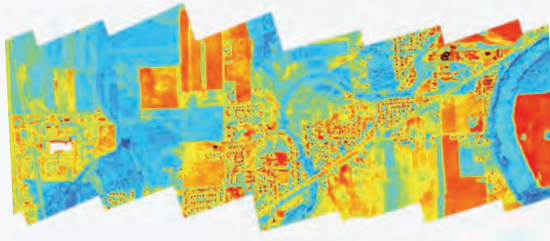
Planetary Resources provides space sensor platforms to better manage and increase humanity's access to natural resources.

To expand the economic sphere of humanity, we are developing the technology to visit, characterize and prospect resources on near Earth Asteroids.



Along the way we are proving these technologies in Earth orbit by performing targeted, advanced imaging for planet Earth.

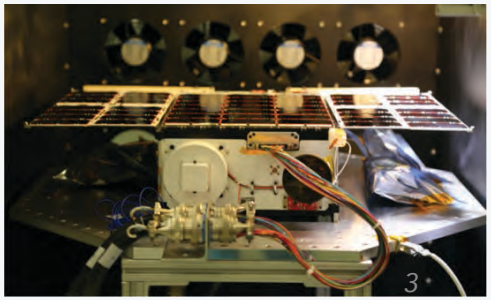
As a result, we'll produce global information-rich data sets that are not currently commercially available from space.



PLANETARY RESOURCES

Built the Foundation for a Leading Aerospace Company

- Attracted **amazing talent** from in and outside the aerospace industry
- Stood up a world-class small-sat manufacturing capability - **>90% vertical integration**
- Developed **industry changing IP** for spacecraft embedded computing systems – MORE TO COME
- Built and **launched first satellite** in 2015 – 2 MORE THIS YEAR
- **Policy risk retired** with passing of U.S. legislation
- Entering first **near-term market opportunity** in Earth Observation



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Team

Chris Lewicki
President and CEO

- *Flight director for Spirit and Opportunity Mars Rovers*
- *Surface Mission manager of Phoenix Mars Lander*
- *NASA's Exceptional Achievement Award, twice-awarded*
- *Asteroid 13609 Lewicki named in his honor*

Chris Voorhees
COO & Chief Engineer

- *Curiosity Rover Chief Engineer*
- *NASA's Exceptional Achievement Award*
- *NASA's Exceptional Engineering Achievement Award*
- *ASME Da Vinci Award for Design Excellence*

Akshay Patel
VP of Strategy & Business Development

- *Space and satellite industry investment banker at Morgan Stanley*
- *Former Lockheed Martin satellite engineer. HBS MBA, Cornell Engr.*
- *Sole financial advisor to Skybox Imaging on $500MM sale to Google*

Peter Marquez
VP of Global Engagement

- *White House Space Policy advisor to Presidents Bush and Obama*
- *Architect of current U.S. National Space Policy of record*
- *Decade of national space experience, science to national security*

Joe Landon
Chief Financial Officer
HBS / Boeing Satellites

Ray Ramadorai
Principal Avionics Engr.
Intel Core i7 Architect

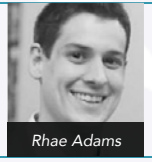
Marc Allen
Principal Software Engr.
JPL Flight Software Engr.

Hannah Goldberg
Instrument Systems Engr.
JPL Smallsat Engr.

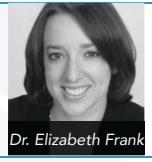
Peter Illsley
Principal Mechanical Engr.
JPL Lead Integration Engr.

Dr. Matt Beasley
Principal Instr. Scientist
Univ. of Colorado

James Orsulak
Director of Sales & BD
Clean Energy Fuels

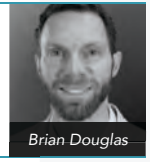


Rhae Adams
Biz Dev Manager
Accenture Strategy



Dr. Elizabeth Frank
GIS Analyst, Planet Mapper
Carnegie Inst. for Science

John Shriver
Data Scientist
U. Mich., FarmLogs,



Brian Douglas
Principal Systems Engr.
Boeing Phantomworks

50 world-class engineering professionals from JPL, Intel, SpaceX, Google, and other silicon valley companies

Peter Diamandis — Board Member
Co-Founder, Executive Co-Chairman

- *Named by Fortune Mag as one of the world's 50 greatest leaders*
- *Founder, Exec-Chairman of X PRIZE & Singularity University*
- *Engineering degrees from MIT, MD from Harvard*
- *Author of New York Times best seller ABUNDANCE & BOLD*

Eric Anderson — Board Member
Co-Founder, Executive Co-Chairman

- *Successful CEO in aerospace and software industries, Ernst & Young Entrepreneur of the Year*
- *Personally sold over $1B of commercial space services*

Bryan Johnson — Board Member
Series-A Lead Investor

- *Founder, Braintree (acquired by PayPal for $800M)*
- *Serial tech entrepreneur*
- *Created the OS Fund*

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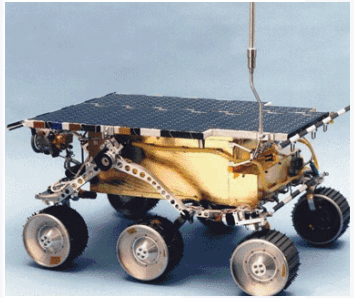
Team Achievements



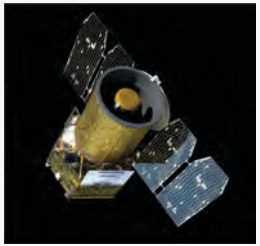
Mars Sojourner

Spirit & Opportunity

Curiosity

Mars Phoenix Lander

Mars Pathfinder



GALEX

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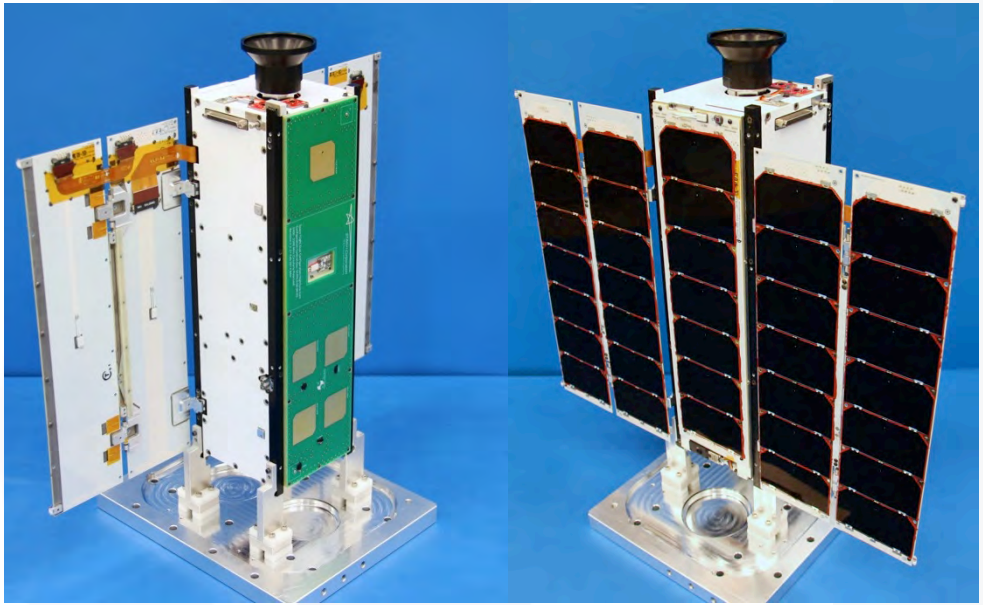
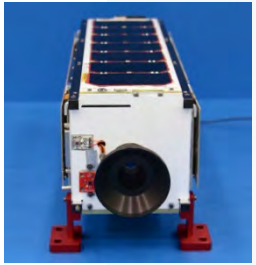
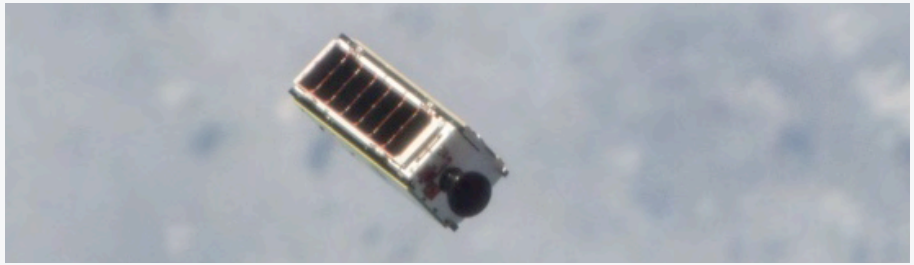
First technology towards Asteroid Mining – July 16, 2015







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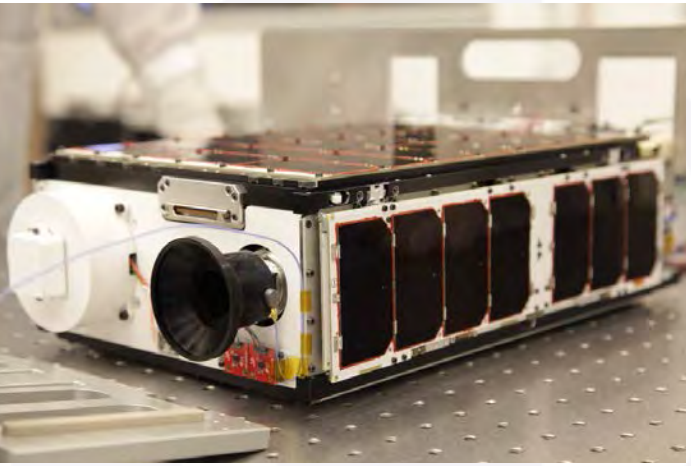
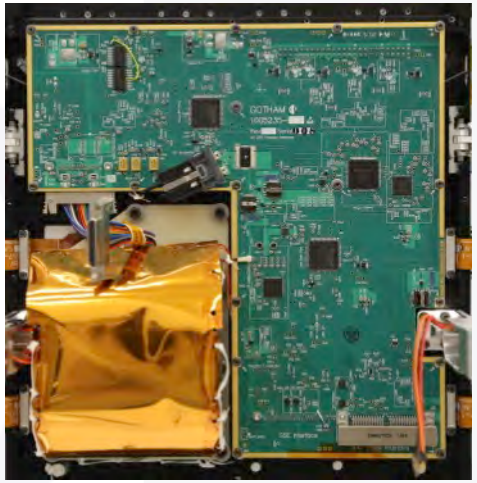
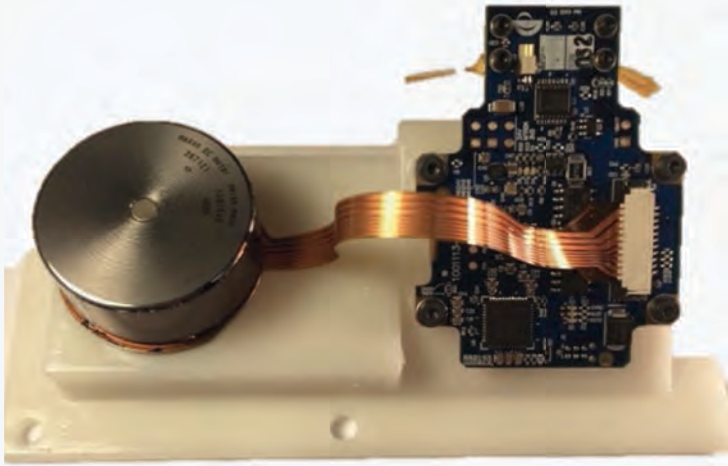
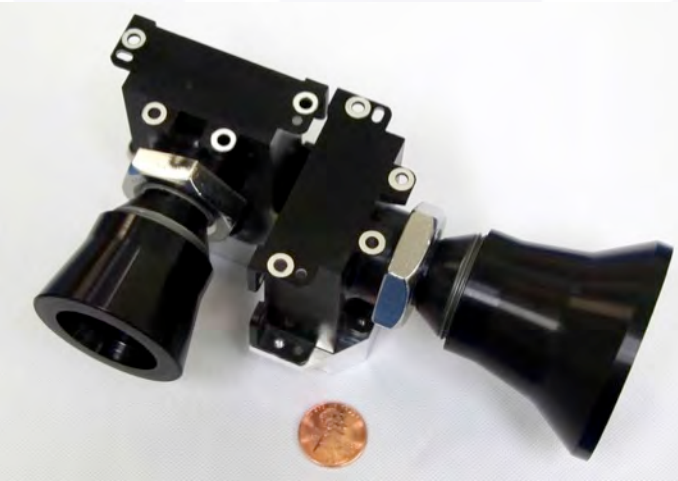
Demo of Distributed Embedded Systems

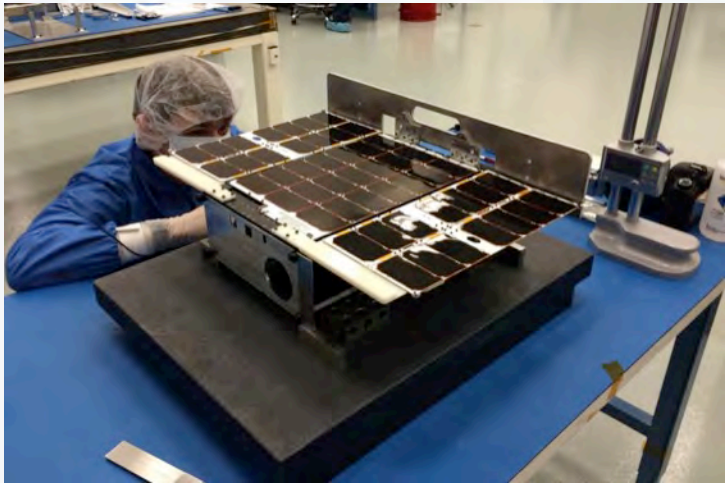
Flight hardware on schedule for next launch

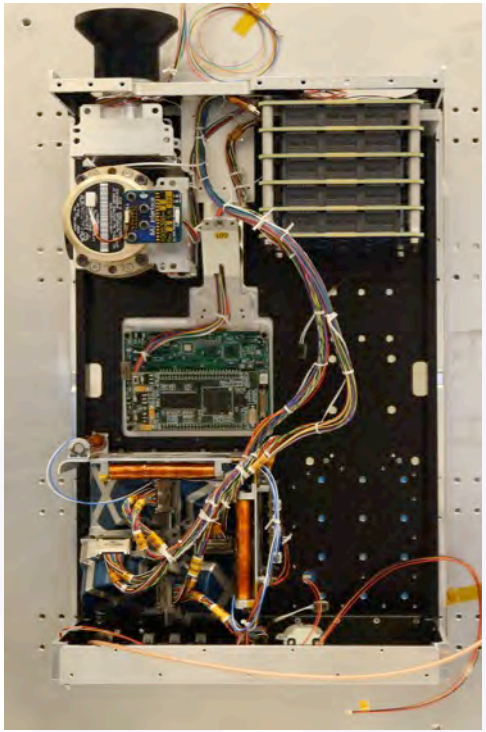


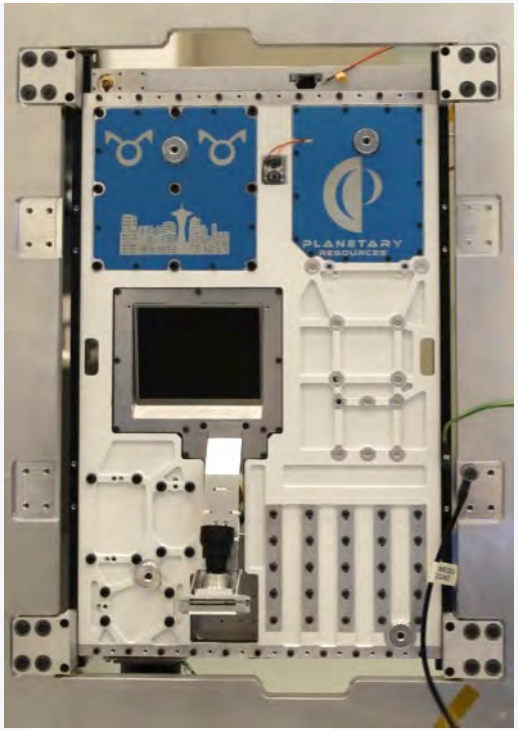


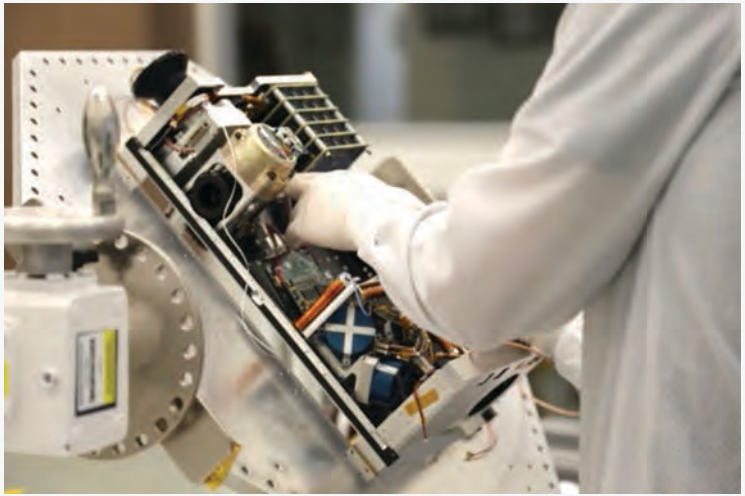


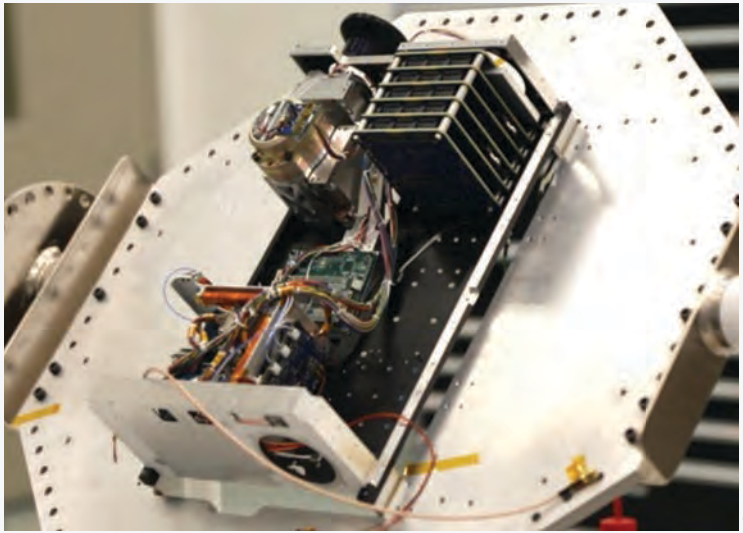












Arkyd 6 Technology Pathfinder
> 90% Planetary Resources Technology

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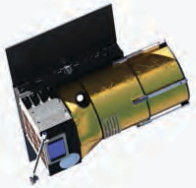
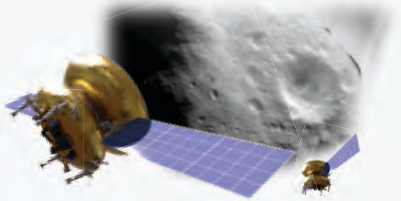
Technical Roadmap





	Arkyd 3 Core Tech Pathfinder	Arkyd 6 Precision Instrument Platform	Arkyd 100 Commercial Earth Observation (CERES)	Arkyd 200 Asteroid Vehicle Demo / SSA	Arkyd 300 Asteroid Rendezvous Mission
	2014-15	**2015-16**	**2016-18**	**2018-19**	**2019-20**
1 **Autonomous Software and Embedded Systems**	• *Core power & avionics* • *Core ADCS* • *Ops infrastructure*	• *Precision pointing* • *Flight autonomy* • *Multi-vehicle ops*	• *Autonomous scheduling* • *On-vehicle data optimization* • *Global ground network*	• *Deep space navigation* • *Bright object rendezvous* • *Proximity operations*	• *Swarm operations* • *Inter-satellite communications*
2 **Compact Low-Cost Sensor Systems**	→	• *First commercial MWIR sensor on orbit* • *Image product delivery and fulfillment*	• *MWIR Imager with 15m GSD* • *VNIR-Hyperspectral Imager with 10m GSD*	• *Integrated multi-function instrument* • *MWIR / HS functionality with shared aperture*	• *Full NEA prospecting instrument suite* • *In-situ demonstration*
3 **3D Printed Structures and Propulsion**	→	→	• *RCS propulsion for phasing and station-keeping* • *3D printed prop elements* • *Use of green propellant*	• *Integrated propulsion and S/C structure* • *High delta-V maneuvers*	• *Earth departure and NEA rendezvous* • *5 km/s delta-V*
4 **Laser Communications**	→	→	→	• *High power transmitter* • *Miniature optical receiver*	• *Optical comm. at interplanetary distance* • *Ground receiver network*

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