



# *Innovative Lunar Demonstrations Data (ILDD) Overview*

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*George Xenofos  
Johnson Space Center  
Exploration Missions and Systems Office*



# Google Lunar X-Prize



- ◆ The Google Lunar X PRIZE, abbreviated GLXP, sometimes referred to as Moon 2.0, is organized by the X-Prize Foundation, and sponsored by Google. It was announced at the Wired Nextfest on 13 September 2007.
- ◆ The goal of the Google Lunar X Prize is similar to that of the Ansari X-Prize: to inspire a new generation of private investment in hopes of developing more cost-effective technologies and materials to overcome many limitations of space exploration that are currently taken for granted.
- ◆ The Google Lunar X PRIZE is a \$30 million competition for the first privately funded team to send a robot to the moon, travel 500 meters and transmit video, images and data back to the Earth.
- ◆ Teams must be at least 90% privately funded and must be registered to compete by December 31, 2010.
- ◆ The first team to land on the Moon and complete the mission objectives will be awarded \$20 million; a second place prize of \$5 million will be available for the second team to complete the competition objectives
- ◆ The final deadline for winning the prize **was** December 31, 2014. **This deadline has been extended 1 year.**
- ◆ Currently there are 29 international teams participating for the prize
- ◆ Additional information on GLXP can be found at: <http://www.googlelunarxprize.org/>

# ILDD Acquisition Overview



- ◆ NASA's intent is to obtain data and gather knowledge that reduces risks for future human and robotic lander designs by employing these missions as unique demonstration testbeds
- ◆ Innovative Lunar Demonstrations Data (ILDD) Contracts will buy data associated with the development and operations of a robotic lunar lander.
- ◆ Multiple Award IDIQ BAA
  - BAA Structure
    - 4 Contract Line Item Numbers (CLINs) with well defined descriptions & set fixed prices in the solicitation
    - Basic contract award to approximately 10 contractors. Fair opportunity provided to all contractors to submit proposals for each CLIN.
      - Goal of up to 3 equal awards for each CLIN
        - CLINs 3 and 4 have the potential for multiple (>3) awards
      - **Maximum Purchase:** \$10.01M – If a contractor is awarded and successfully performs all 4 CLINs in their entirety it would earn a total of \$10.01M
      - **Minimum Purchase:** System Definition Review data package submission valued at \$10K
  - Why BAA?
    - Purpose of the activity is for study and experimentation directed toward increasing knowledge and understanding of lander design and capabilities.
    - Government wants to acquire research on development not related to the development of a specific Government defined system or hardware
  - Why IDIQ?
    - Allows for healthy competition throughout the process
    - Allows for broader participation throughout the maturation process resulting in a better chance for the government to receive the desired data from a lunar landing
    - Government anticipates meaningful proposals with varying technical approaches and varying schedules

# Current ILDD Tasks



- ◆ Buying data resulting from completion of the tasks below, via data packages for each CLIN
- ◆ Contractors are not required to compete/bid on every CLIN or Delivery Order (DO)

CLIN	CLIN Title	Value (\$M)
Min	System Definition Review Package (FY10)	0.01
1	Critical Component Demo (FY11)	0.5
2	Ground Test/Mission Simulation of Flight Hardware	0.6
3	Basic Capabilities	2
3.1	Pre-launch -- \$0.5M	
3.2	In-Flight Activities -- \$0.5M	
3.3	Lunar Landing -- \$1M	
4	Enhanced Capabilities	6.9
4.1	Human Mission Profile Landing -- \$2.5M	
4.2	Identification of Hazards During Landing -- \$1M	
4.3	Precision Landing -- \$1M	
4.4	Video Survey of Lander Post-Landing -- \$0.4M	
4.5	Imagery of Landing Path -- \$0.5M	
4.6	Participatory Exploration -- \$0.5M	
4.7	Extended Duration Operations -- \$1M	
<b>TOTAL</b>		<b>10.01</b>

# ILDD Surveillance



## ◆ Deliverables

- Basic Deliverable, minimum order: requiring submission of SDR data package by all contractors
  - Valued at \$10K
  - Detailed description of the products necessary for an acceptable SDR data package provided in the contracts
- Delivery Order CLIN Data Package
  - Each CLIN will provide further definition in the specific delivery order
  - In general, all CLINs will require written submissions of the data outlined within the BAA and further defined in the delivery orders
  - Data may also be required in non-written formats: orally, visually, or direct telemetry (to be specified in delivery order)

## ◆ Project Office personnel will be, as needed, tasked to:

- Provide input into the CLIN Task Requests consistent with the themes provided in the BAA
- Evaluate the DRD submissions associated with each CLIN task
- Support the COTR in additional informational packages necessary

# ILDD Contractors



- ◆ Six teams awarded ILDD Contracts



Astrobotics Tech, Inc



Draper Labs



Frednet, Inc



Moon Express

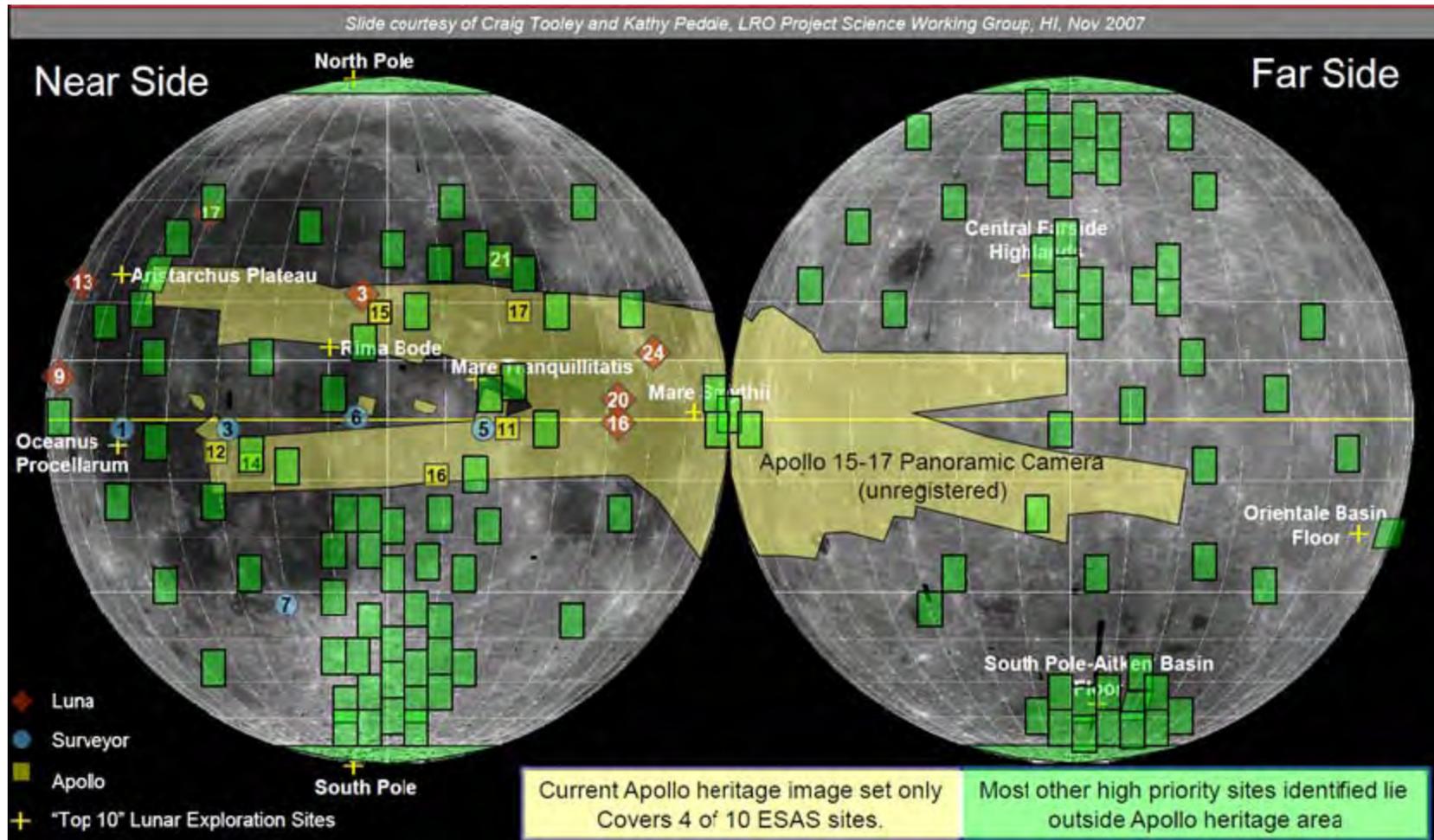


Earthrise, Inc



Dynetics, Inc

# Lunar Exploration



- ◆ Luna 9 was first soft lander mission (landed February, 1966)
- ◆ Surveyor 1 was first US soft lander mission (landed June, 1966)
- ◆ Luna 24 was last soft lander mission (landed August, 1976)

# Summary



This procurement will allow the project office to increase its knowledge and understanding of the design, testing, and flight lessons to be learned through data obtained from these landers. Additionally, this information will enable the project office to quickly and efficiently implement a plan for building and testing relevant components of lander hardware to be utilized in future human and robotic landers.

# Backup

