



# 7<sup>th</sup> JOINT MEETING

**SPACE RESOURCES  
ROUNDTABLE**

**PTMSS**  
Planetary & Terrestrial Mining Sciences Symposium

Colorado School of Mines  
June 7-9, 2016



# **SPACE RESOURCES ROUNDTABLE**



**... 1999**

**“ ... a recoverable resource,  
technology to recover it,  
and a customer. ”**

**Mike Duke at SRR I**



# SRR-PTMSS Technical Committee



**Leslie Gertsch (MST)**



**Dale Boucher (Deltion)**



**Angel Abbud-Madrid (CSM)**



**Stephen Mackwell (LPI)**



**Sherry Schmidt (Deltion)**

# Sponsors







## Lunar Resource Prospector Mission

# The Value of Exploring the Moon

## Open the gateway to the Solar System

Lunar resources can be used for fuel and life support for operations in Earth-Moon space as well as for voyages to Mars and beyond.



## Pioneer development of new technologies

The development of advanced hardware and infrastructure will expand commercial opportunities and create new wealth on Earth.

## Enable new scientific discoveries

Scientific activities on the surface of the Moon uniquely support studies of early Solar System processes and enable telescopic investigations of the early Universe.

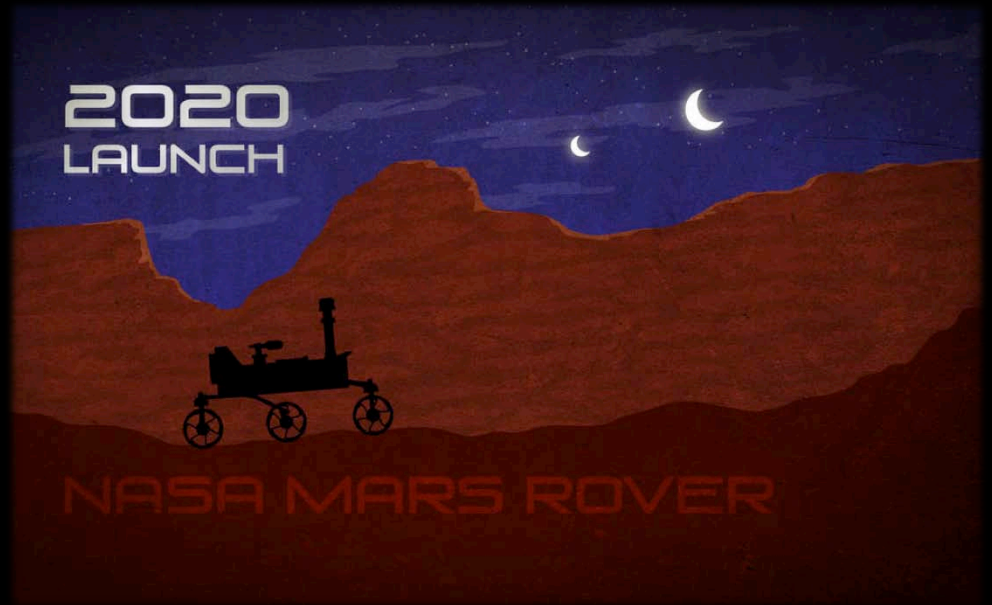
## Promote international partnerships

America can still lead the world beyond low Earth orbit by forging collaborations to make the frontier of space accessible to all.



**LEAG**

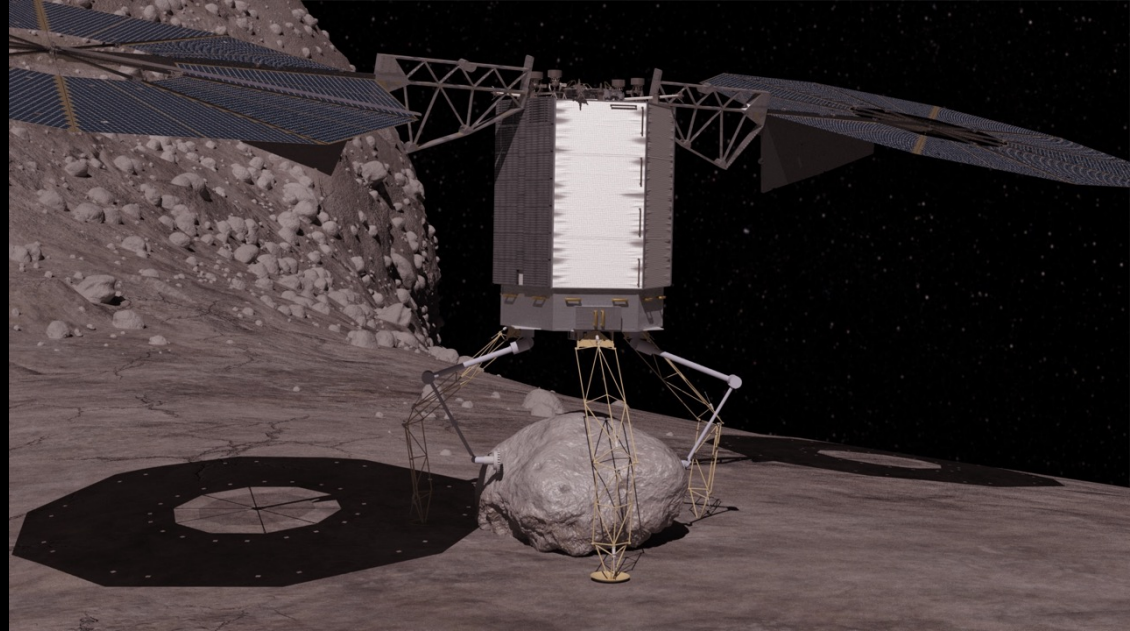
Strategy developed by the Lunar Exploration Analysis Group (LEAG)



MARS

First Landing Site/Exploration Zone  
Workshop for Human Missions  
to the Surface of Mars





## Asteroid Redirect Mission (ARM)



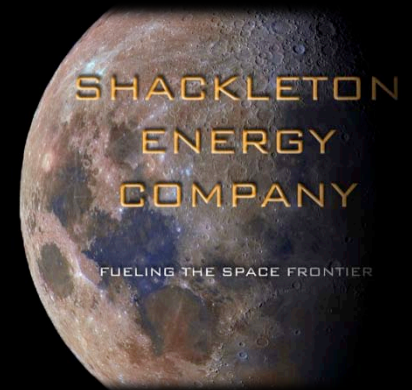
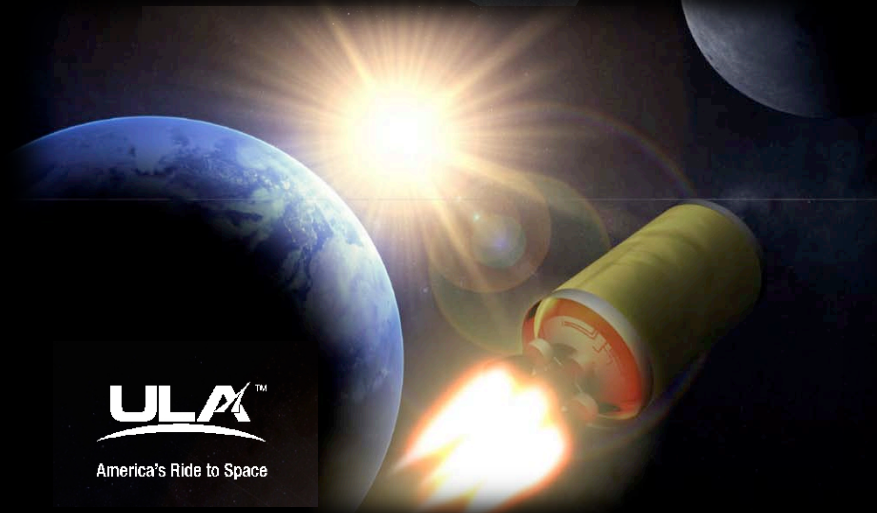
Asteroid Redirect Mission  
Formulation Assessment  
and Support Team

# SERVI

SOLAR SYSTEM EXPLORATION RESEARCH  
VIRTUAL INSTITUTE







# U.S. Set to Approve Moon Mission by Commercial Space Venture

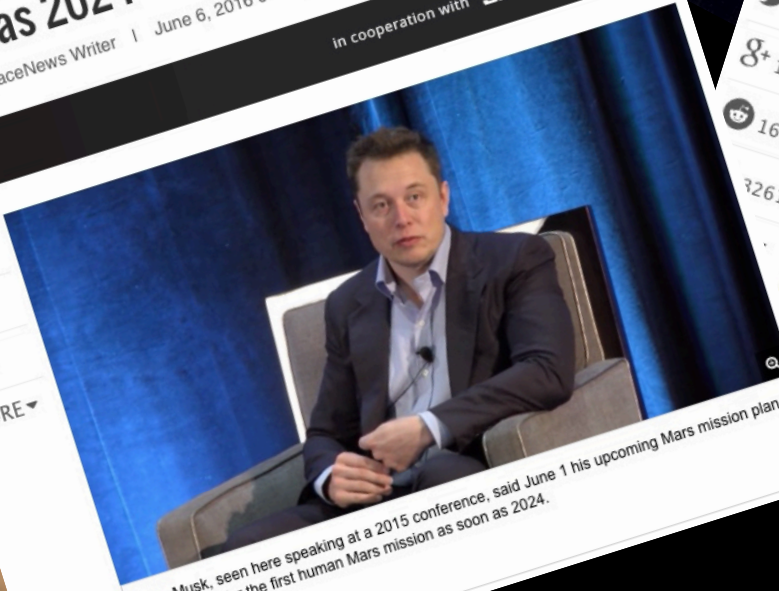
Startup proposes to land payload of scientific gear on lunar surface some time next year

## Elon Musk Wants to Send Astronauts to Mars as Soon as 2024

By Jeff Foust, SpaceNews Writer | June 6, 2016 01:30pm ET

in cooperation with **SPACENEWS**

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Elon Musk, seen here speaking at a 2015 conference, said June 1 his upcoming Mars mission plan would allow for the first human Mars mission as soon as 2024.  
Credit: CASIS video still

## Plan to Turn Asteroids Into Spaceships Could Spur Off-Earth Mining

By Mike Wall, Space.com Senior Writer | June 6, 2016 07:00am ET

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**Water and other volatiles are  
on the Moon...**



**The challenge is getting to them.**



114TH CONGRESS  
1ST SESSION

# H. R. 1508

To promote the development of a United States commercial space resource exploration and utilization industry and to increase the exploration and utilization of resources in outer space.

IN THE HOUSE OF REPRESENTATIVES

MARCH 19, 2015

Mr. POSEY (for himself and Mr. KILMER) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

## A BILL

To promote the development of a United States commercial space resource exploration and utilization industry and to increase the exploration and utilization of resources in outer space.

H. R. 2262



## One Hundred Fourteenth Congress of the United States of America

AT THE FIRST SESSION

*Began and held at the City of Washington on Tuesday,  
the sixth day of January, two thousand and fifteen*

## An Act

To facilitate a pro-growth environment for the developing commercial space industry by encouraging private sector investment and creating more stable and predictable regulatory conditions, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE; TABLE OF CONTENTS; REFERENCES.

(a) SHORT TITLE.—This Act may be cited as the "U.S. Commercial Space Launch Competitiveness Act".

(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

Sec. 1. Short title; table of contents; references.

TITLE I—SPURRING PRIVATE AEROSPACE COMPETITIVENESS AND ENTREPRENEURSHIP

Sec. 101. Short title.  
Sec. 102. International launch competitiveness.  
Sec. 103. Indemnification for space flight participants.  
Sec. 104. Launch license flexibility.  
Sec. 105. Licensing report.  
Sec. 106. Federal jurisdiction.



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG



THE  
MARTIAN



# MARS

OUR FUTURE ON THE RED PLANET

LEONARD DAVID

FOREWORD BY RON HOWARD

COMPANION BOOK TO THE SERIES SEEN ON



# SRR Scholarship 2016



**Armando Delgado**  
**Ph.D. student**

*Environmental Science and  
Engineering Energy Track*

**University of Texas at El Paso**

**Intern: NASA KSC**



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