

THE CASE FOR THE MOON

A practical plan for establishing
humanity's first permanent
foothold beyond Earth

**Draft
Copy**



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The Case for the Moon

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Famous Quotes

"If God wanted man to become a spacefaring species, He would have given man a Moon."

- Krafft Arnold Ehricke

"The Earth is the cradle of humanity, but one cannot live in the cradle forever."

- Konstantin Tsiolkovsky

"The Moon is not simply an object of scientific curiosity; it is the nearest place in space where we can learn to live and work productively away from Earth."

- Paul Spudis

Foreword

I have written this book, at this point in time, in the hope that America's space policy decision makers will stop and realize the significance of the moment we are now approaching. For the first time, we are about to have cheap access to space (CATS) in the form of fleets of reusable heavy lift vehicles. The implications of such capability demand that our current plans be fundamentally changed to take advantage of this opportunity while remaining within our current budget.

What can be achieved is truly remarkable. This book describes how we can establish humanity's first permanent foothold (technically off-Earth settlement) in the form of an Initial Permanent Crew. It also describes how America can lead the world in both the establishment of a large and growing International Lunar Base (ILB) and gain a significant foreign policy win by coordinating with the other nations for their national astronauts to explore the Moon on behalf of their own people. As flight rates go up and costs come down, private individuals can settle down by taking advantage of the technical foundation that the ILB established.

Consider the inspiration that such achievements would have on upcoming generations and how such approaches will ensure that the values which Americans cherish will be the same values that bases and settlements beyond Earth operate with.

That said, the default is to continue current programs and to enter into expensive, decades-long activities until we come to the realization that it isn't achieving anywhere what we could hope for. We have been doing that since the 1980s. It is my hope that, by reading this book, our space policy decision makers will come to understand the remarkable opportunity before us and to have the vision and courage to choose the Innovative Plan.



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Acronyms & Terms Used in This Book

AGRx	Artificial gravity prescription
AgWG	Agriculture Working Group
Atm	Atmosphere of pressure (1 atm = 14.7 psi)
BMD	Bone mineral density
GCR	Galactic cosmic rays
CATS	Cheap access to space
CLPS	Commercial Lunar Payload Service
CNC	Computer numeric control
COTS	Commercial Orbital Transportation System
DexBot	Dexterous (tele)robot
DV	Delta-v (change in velocity)
EML1	Earth-Moon Lagrange point #1
GDP	Gross domestic product
GEO	Geostationary orbit
HSF	Human spaceflight (program)
ILB	International Lunar Base
ILEP	International Lunar Exploration Phase
InstaBase	Instant (inflatable) base
iSAS	Intensive Space Agriculture Session
ISRU	In Situ Resource Utilization
ISS	International Space Station
KREEP	Potassium (K) rare earth elements and Phosphorus
LCROSS	Lunar Crater Observation and Sensing Satellite
LEO	Low Earth Orbit
LogWG	Logistics Working Group
MSTS	Modular Surface Transport System
mSv	Millisieverts
NASA	National Aeronautics and Space Administration
NRHO	Near Rectilinear Halo Orbit
OST	Outer Space Treaty
PELs	Peaks of Eternal Light
PSR	Permanently shadowed regions
SANS	Spaceflight-Associated Neuro-ocular Syndrome
SDN	The Space Development Network
SHLV	Super Heavy Lift Vehicle
SLS	Space Launch System
SPE	Solar particle event
StarHab	Starship habitat
Tonne	A metric ton (1,000 kg)
VR	Virtual reality

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