



Canadian Space
Agency

Agence spatiale
canadienne



Panel 2: Moon Next Scenario Canadian Space Agency

Jean-Claude Piedbœuf

Director, Space Exploration Development

Human Exploration Community Workshop on the GER

Nov 15, 2011
San Diego

© Canadian Space Agency 2011

Canada

EXPLORATION SPATIALE
SPACE EXPLORATION



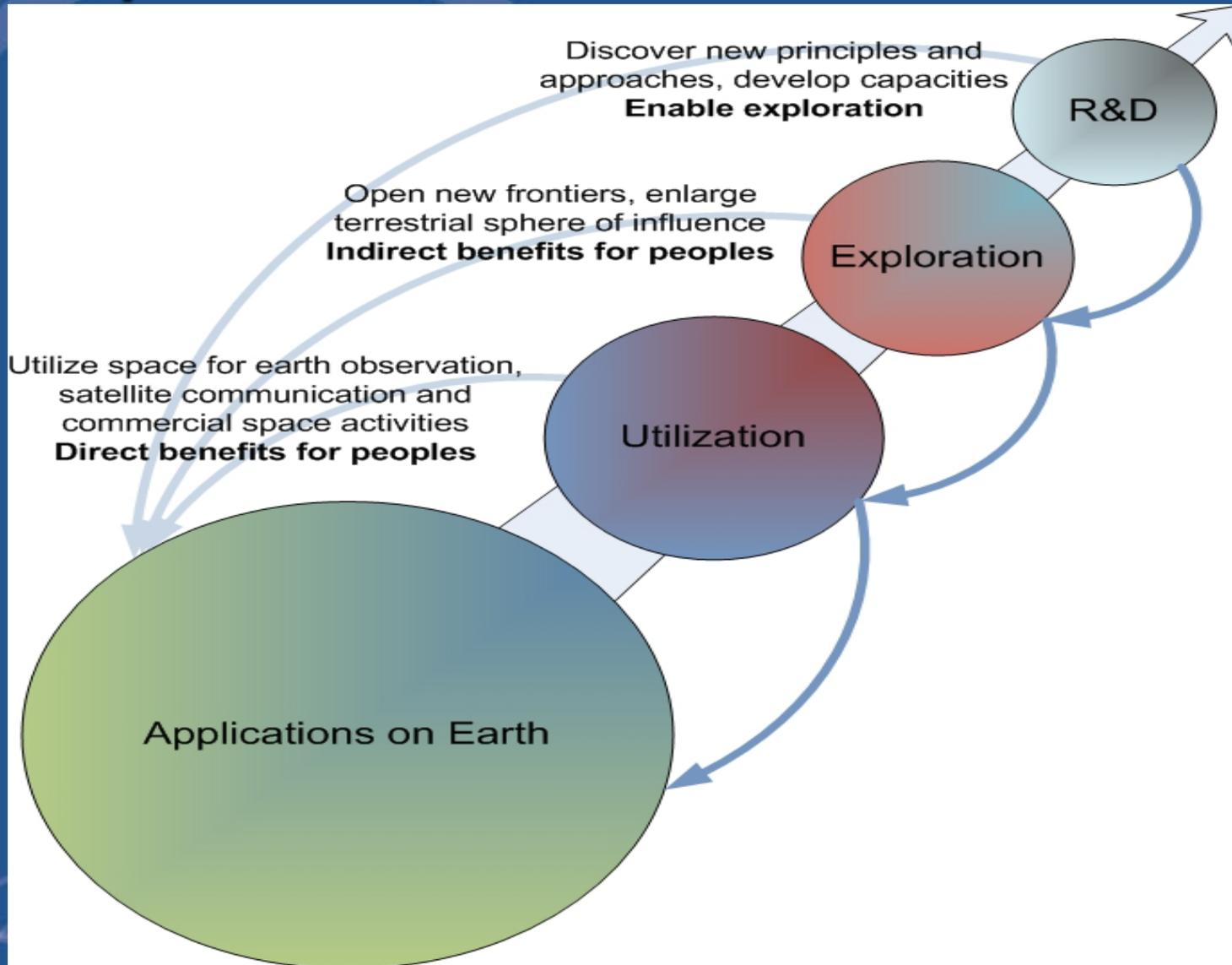


Why the Moon?

- Been there, done that!
- Why not human to Mars now?
 - ◆ Challenges are not greater than those to go the Moon in 1960's
- Do we want Apollo+?
 - ◆ Similar number of human missions
 - ◆ Similar span of time
 - ◆ Longer stay on the surface



Exploration to Utilization





Why Explore?

- Why do we speak English here or Spanish south of the border?
- What could we learn from the European “colonization” of America?
- Is Mars the ultimate destination?





Low Earth Orbit

- Commercial Satcom and EO satellites
 - ◆ Governments as initial anchor customers
- Human presence in LEO since more than 50 years
- ISS: project with life longer than 30 year
- Commercial services for human spaceflight are just starting
 - ◆ Demand is mainly from governments
 - ◆ Commercial service providers are emerging



Moon as the Next Frontier

- Include the Moon in Earth economic sphere
- Maintain a permanent human presence
 - ◆ With robots and humans
 - ◆ Required to initiate long-term activities
 - ◆ E.g. Communication & navigation network, ISRU
- Governments as initial customers
 - ◆ Industry unlikely to take the risk



Moon in CSA Plans

- Next step for human exploration
- Offer long-term opportunities
 - ◆ For Canadian astronauts
 - ◆ For Canadian technologies
 - ◆ For commercial services
- More potential for international collaboration
- Preparatory activities under way