

Return to the Moon (02)
Lunar Surface Outposts and Enabling Technologies (4)

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THE INTERNATIONAL LUNAR RESEARCH PARK (ILRP): EXPANDING EARTH'S ECONOMIC
SPHERE INTO THE SOLAR SYSTEM

Abstract

Since the dawning of the Space Age in October 1957, the primary drivers of space exploration and space operations have been national pride, national defense, and scientific discovery. Objectives such as commerce, technology commercialization, economic development, and education have been secondary tangential benefits (a.k.a. “spinoffs”). To date, only satellite communications, space-based remote sensing, and the launch services that enable these functions have emerged as viable commercial space industries. Consequently, the Earth’s economic sphere ends at geostationary orbit.

In 2012 and beyond, a resource constrained world will be looking for new value propositions for space exploration and operations. Increasingly, taxpayers from all space fairing nations are asking if the benefits derived from their nation’s space program justify its cost. In the future, space programs worldwide must place greater emphasis on delivering more direct and tangible economic value to the citizens of Earth. It is now time to extend our planet’s economic sphere to include the Moon, Mars, Near Earth Objects (NEOs), and the Asteroid Belt to address socio-economic challenges here on Earth. In doing so, we will open new markets, create new industries, and spark an educational revolution.

Expanding the Earth’s economic sphere in this way will require multinational public-partnerships that promote a range of common goals including commerce, exploration, scientific discovery, and education. Partnerships that spur collaboration between nations and engage a wide range of industries are critical to initiating and sustaining space exploration campaigns that can deliver the economic, scientific, and educational returns required to justify the investments.

Toward this end, a group of individuals dedicated to this new economic space paradigm have proposed a plan for an International Lunar Research Park (ILRP). Prototyped through terrestrial analog facilities in Hawaii and eventually deployed robotically to the lunar surface, the ILRP would be the premiere research park for international public-private collaboration involving the development and testing of innovative

space systems to enable both robotic and human exploration of the Moon, Mars, and NEOs – extending the Earth’s economic sphere beyond geostationary orbit, and applying advanced space technology to addressing important global challenges such as clean energy, resource conservation, and environmentally sustainable practices. The ILRP will also deliver significant educational impacts in science and technology to students and the public.

This paper describes the ILRP, details how it will enable a new economic space paradigm, and outlines the current status of ILRP planning.