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## Looking for Money On the Lunar Surface



ONCE APOLLO 11 LANDED in the Sea of Tranquility and Neil Armstrong picked up a few rocks to prove he'd been there, the urgency that got NASA to the moon vanished. Within a few years, the mis-

sions stopped. "The country basically made a decision that it was worth beating the Russians to the moon but it was not worth it to do scientific exploration of the moon," says Kent Joosten of NASA's Exploration Office. For years, humans went to the moon only in science fiction. But now some people whose pockets are as deep as their eyes are wide are looking to the moon again. This time, though, it's about profits, not patriotism.

NASA still thinks space is the final frontier, but like the rest of the shrinking government, the agency wants the private sector to pick up more responsibility—and more of the tab. NASA's plan is to put more emphasis on research and development. "NASA shouldn't be building the towns of the future, they should be building the highways," says Bettie Greber, the executive director of the Space Studies Institute in Princeton, N.J. In the future, NASA will probably act as the advance team for the entrepreneurs and big-name aerospace companies that have business plans in space as grand as, but more profitable than, Kennedy's mission of the 1960s. NASA will lead the scouting parties. Let others build the colonies.

The Lunar Resource Co.'s Artemis Project is one of the most ambitious plans. But it is so reminiscent of sci-fi fantasy that even LRC vice president Ian Randal Strock says that one of the main obstacles to finding investors is "getting over the giggle factor." LRC wants to send tourists to the moon, set them up in luxury hotels and let them walk on soil "no one has ever walked on before." The moon would be the most exotic vacation spot possible—and only a three-day, zero-G space shot away. Right now LRC is starting small—moon mugs, moon T shirts and moon calendars. It estimates the first tourist junket won't arrive on the lunar surface for 15 years or



*A marvelous night for a moonwalk*

so, and the first retirement community will open 20 years after that "because that's when the founder of the project wants to retire," Strock says.

The moon wouldn't just be a tourist destination. Some see it as the next Saudi Arabia. LRC and other firms have plans to mine the moon's surface for a rare-on-Earth, abundant-on-the-moon isotope of helium used for cheap fusion. And the potential for solar energy on the moon is unlimited because it has no atmosphere to break through, and the days are long and bright. The cheap, unlimited energy could be beamed back to Earth as microwaves.

Sending up the tools to harness the sunlight and dig up the helium would be prohibitively expensive, so companies like the Shimizu Corp. want to strip-mine the lunar surface for, among other things, the raw materials to build the machinery on the moon itself. Silicon exists in moon soil in extremely high concentrations; it could be used for mirrors for solar-power gener-

ators, and there's plenty of iron for the wiring.

These raw materials could also be used to turn the moon into the shipbuilding capital of the solar system. Building shuttles and satellites on the moon would allow them to be launched from the low-gravity lunar surface. Less fuel, and thus less money, would be needed.

Lunar land will eventually be quite valuable. Buy now. For 18 years the Lunar Embassy of Rio Vista, Calif., has been offering 1,800-acre plots of land on the moon and the planets for the low, low price of \$15.99 (plus lunar tax). Whether it is legal to sell the Sea of Tranquility is somewhat unclear. The United Nations has said that no country can claim sovereignty over a celestial body, but it doesn't say anything about individuals. Dennis Hope, the Lunar Embassy's founder, says that both Ronald Reagan and Jimmy

Carter own plots, as well as Tom Cruise and Harrison Ford. There may soon be a boom in intergalactic real-estate litigation. If only NASA had thought of that earlier, it wouldn't have needed the cold war.

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