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Reaching for the Moon

Naive or not, NASA's next shot at landing on the Moon can succeed only if it is launched as a genuinely international collaboration.

In 2018, according to a timetable announced last month, the United States will send astronauts to the Moon for the first time since 1972. Four people would stay on the lunar surface for up to a week, having arrived in a new lander attached to a new crew transport launched by rockets derived from the space shuttle. Eventually they would live for six months at a time in Antarctica-style outposts.

The estimated price tag to develop all this new hardware is $104 billion between now and the first landing. Or rather, the seventh lunar landing as NASA likes to call it, to emphasize continuity with the past. The goal this time is not just flags and footprints, not just beating the Russians, but the beginning of humanity's permanent expansion into the Solar System. To even talk in such terms implies a particular view of human progress that some find inspiring and others dismiss as almost childish. In a time of war, hurricanes and soaring energy prices, is shooting for the Moon optimism or hubris? Either way, NASA seems to be set on this particular course.

Given that public opinion is divided on the subject, and that there's no real rush to return to the Moon, the space agency has a responsibility to execute the idea with as little waste as possible. That will require a major change of tack at NASA, as well as bold new approaches to both domestic and international politics.

On the domestic front, Congress needs to back off from the parochial meddling that has long contributed to NASA's inefficiency. Senators from Texas and Florida, where key NASA centres are located, are already trying to fend off cuts to the space shuttle and space station that are needed to pay for the Moon missions. NASA administrator Mike Griffin, who has an engineer's instinct for efficiency, has said that NASA's workforce will remain about the same size as it is today. But the agency may need skills in new areas, and the jobs may be in different congressional districts. Griffin needs the freedom to make these decisions based on his practical needs, not on political considerations.

Nor should the United States try to go it alone to the Moon. Japan and India are taking their own first (robotic) steps in the same direction in 2007, with scientific missions sent to lunar orbit. So is China, which is also building up a modest capability to launch people into space. Europe and Russia are making their own cautious plans for lunar exploration as they watch NASA's plans unfold.

All these partners are interested in building up their own domestic capabilities in space, so a certain amount of duplication of effort is inevitable. But to every extent possible, the construction of a lunar base should be an international venture that takes advantage of each partner's strengths and interests. Canada and Japan might emphasize robotics, for example. Russia builds reliable spacecraft and rockets. A lunar programme should include no more overlap than is required to ensure a back-up for essential technologies.

The International Space Station has hardly been an inspiring model for such an enterprise. So far the coalition that is building it has held together — but NASA's partners in Europe, Japan and Canada are still nervous over whether the United States will renege on its commitment to launch their modules. It is unclear, to put it mildly, that any of the partners will get their money's worth.

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Building a permanent human presence away from Earth is a far more daunting venture, and can't be handled in the same way, with a single memorandum of understanding between the international partners. The collaboration will take place in many shapes and forms over decades, and must, therefore, be truly collaborative in both spirit and practice, in a way that the US-led space station has never been.

If we are to accept the high-minded premise that humanity is poised to take its next evolutionary step, then the politics of the Moon programme should be high-minded too. The alternative is to admit that this is just another pork-barrel project. The onus remains on Griffin, the Bush administration and their prospective international partners to show that it will be any more than that. ■

In need of rehab

The reputation of one of the world's most respected regulatory agencies is on the wane.

The US Food and Drug Administration (FDA) is in trouble. Last month's abrupt resignation of its commissioner, Lester Crawford, leaves the agency again bereft of leadership as it struggles to absorb the aftermath of last year's traumatic withdrawal of the painkiller Vioxx.

The Vioxx episode has left the agency in crisis, facing immense, conflicting pressures from watchdog groups and the pharmaceutical industry on how it should handle drug approvals. In these circumstances, the agency needs a commissioner who can rise above the political fray and convince the public that the FDA is in safe hands, while taking a sophisticated and innovative approach to drug approval. Unfortunately, there is little sign that it's going to get one.

The reasons for Crawford's departure, only two months after his confirmation in the position by the Senate, remain murky. The timing of the announcement — on a Friday afternoon as Hurricane Rita bore down on the Gulf coast — bore all the hallmarks of an effort by the Bush administration to bury the event (see *Nature* **437**, 606; 2005).

To the surprise of the agency's supporters and detractors alike, the