

**Realizing the Gemini Vision
A Strategy to Maintain Leadership
May 2003**

Report of Strategic Planning Group, and Gemini Board response

"The Board noted the Director's ambitious vision for the aspirations of the Observatory beyond 2005 and the plans underway for the Aspen Workshop to help define the scientific vision that motivates these aspirations. The Board established a strategic planning group, chaired by Wayne Van Citters and consisting of Richard Wade and representatives of Canada, Australia, and Brazil to be named. The group is charged with developing and recommending to the Board a strategy for obtaining the necessary resources to implement the scientific vision that is established over the next year. The working group should report on progress at the May, 2003 Board meeting."

Background and Challenge

Planning has now begun within the Observatory, as indicated in the resolution by the Board quoted above, for the next phase of Gemini operations. This phase, post-2005 and after the expiration of the agreed "5% ramp" strategy for the first years of full operation, will see the Gemini telescopes, with superb image quality and infrared performance, operating in a highly competitive and scientifically exciting era. The partnership, as stewards of the Observatory and its scientific promise, must develop strategies to maximize the scientific output and to provide the resources necessary to assure leadership in that scientific endeavor. As noted at the November 2002 meeting of the Gemini Board, by the end of the current cooperative agreement with AURA, Inc. to operate the Gemini Observatory in 2005, the partnership will have expended well over \$350M to design, build, and operate two 8-meter telescopes. Bluntly put, the partnership must now look to the protection of its investment in the Gemini enterprise.

The Context

The competition for resources in all partner countries will be stiff in the period under consideration. Construction of ALMA, pursuit of technology development for the next generation of extremely large telescopes, including multi-conjugate adaptive optics and other variants, LSST, ATST, and many other aspirations of the combined communities will compete at the same sources that provide the operations and development funds for Gemini. There will not only be what might be seen as competing operating installations and groups, such as ESO's Very Large Telescope, Keck, the Large Binocular Telescope, Magellan I & II, but also facilities and communities competing, in some sense, for scientific and public attention in other wavelength regions- the EVLA, the Large Millimeter Telescope (LMT), CMB experiments and so on.

Outline of a Strategy

In the face of the needs projected by the Director and the context outlined above, the working group is convinced that the cornerstone of a successful strategy must be the insightful identification of, subscription to, and careful enunciation of a compelling set of scientific questions whose answers demand the unique contributions that Gemini can make. Gemini can no longer command the resources simply because it is a new observatory coming on-line. It is unlikely that the partnership will be able to provide sufficient support to allow world-class performance across all of the "traditional" functions of large telescopes. Hence the Observatory, in concert with its user community, should maximize its contributions to answering the scientific questions through judicious choice and justification. The partnership must then, through the

individual mechanisms available to and required by each member, identify the resources that are likely to be available over an extended period of time, and, in an approach similar to the “5% ramp”, allow the Observatory to plan and execute within that envelope. Obviously this process must be subject to the actual availability of funds, but deviation from the plan must only be contemplated as a result of drastic changes in the fortunes of agencies. The plans and activities likely to be undertaken in the 2006-2010 period will be challenging enough without constant re-budgeting and *ab initio* justification. The 5% ramp approach worked well for the early years of our Observatory. We should build something similar into its future.

Marketing the Strategy

The set of questions, presented at differing levels of detail, from detailed arguments made to the partner scientific communities to one-page expositions that can be presented to politicians and policy-makers, must be the key. Properly phrased and skillfully presented such questions can capture the imagination of all. The natural extension of this spectrum of detail is a carefully designed program to increase public awareness and capture public imagination, in all phases being careful to explain how the Gemini activity will relate to the other efforts that will inevitably be in the public eye. The partnership must take a page from the book of our colleagues at NASA (though not necessarily a gilt-edged page) and take to heart the fact that a solidly supported and well-executed program of public outreach and education will be an extremely wise and productive investment for the future of our scientific enterprise.

Response from the Gemini Board of Directors meeting, May 2003

Resolution 2003.A.13

The Board notes the report of the Strategic Planning Group, chaired by Wayne Van Citters and supports their outline of a strategic approach that rests on the definition of compelling science questions to which Gemini can uniquely contribute. The Board urges the Aspen 2003 participants to focus on the development of key science questions for Gemini operating in a scientifically exciting era. With a sufficiently compelling science case, the designated representatives from the partner funding agencies will actively pursue efforts to find the resources to enable the Gemini community to address these scientific issues in a highly competitive environment.