U.S. achievements in space have led to the development of technologies that have widespread applications to address problems on Earth, as well as in space. In preparation for future human exploration of space, we must advance our ability to live and work safely in space and at the same time develop technologies to extend our reach to the Moon, Mars, and beyond. Outreach is a critical part of this process. This subtopic places emphasis on the effective implementation and analysis of outreach activities.

The Biological and Physical Research enterprise (BPR) seeks to use its research activities to encourage educational excellence and to improve scientific literacy from elementary school through the university level and beyond. The Enterprise delivers value to the American people by facilitating access to the experience and excitement of space research. NASA wants to provide access to information and data about microgravity research experiments and commercial investigations to schools, industry, and the general public.

Proposals are sought that provide a system, or systems, based on commercial solutions to develop outreach products for the improvement of education and public outreach planning and implementation. These systems should allow outreach participation in NASA programs, including the science and operational levels. Systems could provide for the general public and the educational community access to NASA and commercial science activities and operations through low-cost technologies, and outreach and education activities. The systems should be capable of facilitating secondary and college-level students' access to, and the ability to participate in, science activities. Similarly, the systems should be able to accommodate institutions and organizations that promote the use of science and technologies, e.g., museums and space camps. Examples of potential outreach activities include, but are not limited to the following:

- Exhibits and educational/informational material for conferences, workshops, and schools.
- Development and distribution of outreach brochures, newsletters to the general public, and student flight experiment programs.
- Adult Ambassador Program, e.g., advocacy speakers for community education and outreach events, alliance with Collegiate Alumni Learning Weekend Programs, development of a partnership with retirement
organizations for the planning and implementation of a program with appropriate learning experiences, development and implementation of "learning laboratories" for science centers and museums, publication of articles in general interest periodicals, publication of articles and reports in scientific journals, multimedia outreach products, outreach Web sites, education briefs, fact sheets, and press releases.

- In addition to the development of new tools for planning and implementation, BPR seeks to evaluate the effectiveness of outreach activities. Systems are sought to assess and analyze the implementation and effectiveness of education and outreach activities and goals associated with BPR research. Assessment of available learning venues for varied age groups and priority order of attendance would be valuable in helping to formulate which venues and audiences to target.