



Overview and Goals for Centennial Challenges

- **What Is Centennial Challenges?**
 - Program of contests in which NASA will establish prize purses to stimulate innovation and competition in technical areas of interest to space exploration and ongoing NASA priorities.
- **Program Goals for Centennial Challenges**
 - Stimulate innovation in ways that standard federal procurements cannot
 - Enrich NASA research by reaching new communities
 - Help address traditional technology development obstacles
 - Achieve returns that outweigh program investment
 - Educate, inspire and motivate the public



Origins of Centennial Challenges

- **Long History of Prizes for Technological Innovation**
 - 18th Century: British Longitude Prize
 - 20th Century: Aviation prizes including Orteig Prize (Lindberg)
 - Current: X-Prize and DARPA Grand Challenge
- **1999 National Academy of Engineering Workshop**
 - “Concerning Federally Sponsored Inducement Prizes in Engineering and Science,” 1999
 - Blue ribbon committee recommended that “Congress encourage federal agencies to experiment more extensively with inducement prize contests in science and technology”
- **2003 NASA Space Architect Study**
 - X-Prize Foundation assisted
 - Interviews at field centers and headquarters generated list of 129 candidate challenges
 - Winnowed to 15 candidate challenges based on enterprise interests and other considerations
 - Estimated purse sizes and expected time to completion
 - Formed basis for Centennial Challenges program formulation





Program Assumptions for Centennial Challenges

- **Challenges Will Address NASA Vision With Emphasis on Exploration**
 - To Improve Life Here
 - To Extend Life to There
 - To Find Life Beyond
 - Lean program with low overhead to preserve funding for challenges

} *Exploration Emphasis*
- **Program Plan and Individual Challenges To Be Finalized After External Inputs**
 - Spring workshop to solicit external challenge ideas and refine best candidates
 - Website, including listserv and form for submitting challenge ideas
 - Press announcement on workshop and website expected shortly
- **Challenges Will Be Initiated on Annual Cycles**
 - FY 2004 cycle limited to purses \$250K or less
 - FY 2005 and later cycles to include larger purses contingent on specific authority
 - Repeat workshops annually and solicit external ideas



Centennial Challenges Frequently Asked Questions

- **What Kinds of Challenges?**
 - Revolutionary advances in fundamental technologies
 - Breakthrough robotic capabilities
 - Very low cost space missions
 - Final challenges selected after external inputs and internal review and approval
- **Who Can Participate?**
 - U.S. citizens who are not federal employees (including FFRDCs) unless otherwise specified in challenge rules
 - Industry, academia, non-profits, students, individuals
 - Contestants will be required to register
- **How Can I Help?**
 - Word of Mouth: Challenges improve with number and quality of contestants
 - Expertise: Help with rules formulation and judging
 - Participation: Attend workshops and compete!

