National Aeronautics and Space Administration

Participatory Exploration

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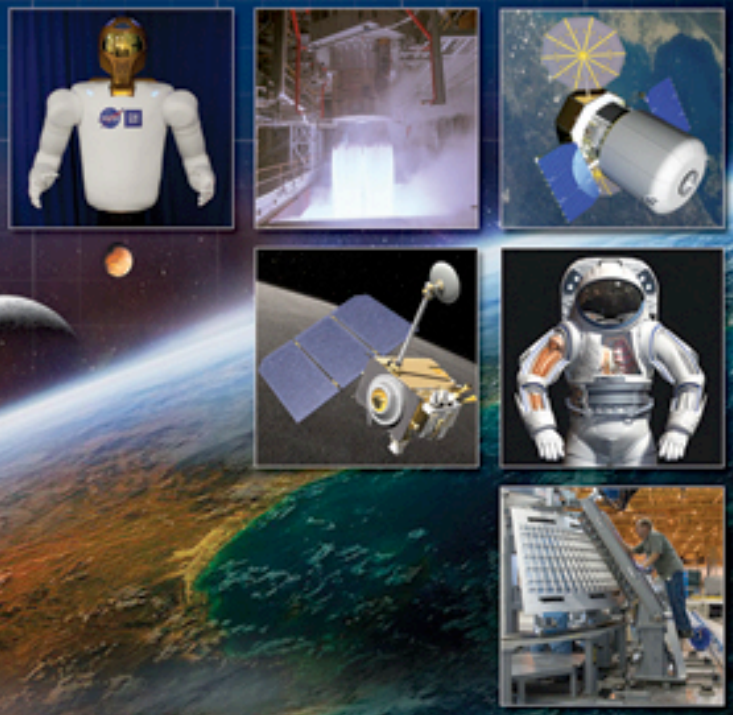


Disclaimer

This chart set was presented by the Participatory Exploration (PE) study team on May 25, 2010 at the NASA Exploration Enterprise Workshop held in Galveston, TX. The purpose of this workshop was to present NASA's initial plans for the potential programs announced in the FY2011 Budget Request to industry, academia, and other NASA colleagues. Engaging outside organizations allows NASA to make informed decisions as program objectives and expectations are established.

The participatory exploration presentation begins with a definition of what is meant by the term, participatory exploration, an explanation of the role of the proposed Participatory Exploration Office, and a discussion of how NASA intends to approach achieving its goals in the participatory exploration focus areas. The charts capture the five degrees of public engagement and then give examples of how NASA's current outreach efforts fit within that framework. The presentation gives an update on the technologies that NASA is currently pursuing to improve openness with regard to its missions and notes some that NASA may consider pursuing in the future. Finally, there is a schedule of potential missions that could demonstrate participatory exploration.

DISCLAIMER: The following charts represent at "point of departure" which will continue to be refined throughout the summer and the coming years. They capture the results of planning activities as of the May 25, 2010 date, but are in no way meant to represent final plans. In fact, not all proposed missions and investments fit the in budget at this time. They provide a starting point for engagement with outside organizations (international, industry, academia, and other Government Agencies). Any specific launch dates and missions are likely to change to reflect the addition of Orion Emergency Rescue Vehicle, updated priorities, and new information from NASA's space partners.

Overview

In FY11, NASA plans to establish a Participatory Exploration Office.

The new office will:

1. Support research in new technologies to increase public participation.
2. Coordinate NASA-wide efforts to ensure that Participatory Exploration activities are included in future missions. The Office also will coordinate and promote the inclusion of participatory exploration activities in other Agency projects, outreach and education practices.
3. Act as a clearinghouse for identifying and communicating best practices in Participatory Exploration.

Participatory Exploration

Participatory Exploration is

the active involvement of individuals in the experience of, as contributors to, and collaborators in, NASA's research, science and discovery activities.

Participatory Exploration will foster, facilitate and support active public engagement and collaboration by combining improved technology and Open Government practices to provide a spectrum of engagement possibilities.

Participatory Exploration will increase:

- Opportunities for personal connections with NASA and its missions
- Public interest in STEM
- NASA's access to the interest, knowledge, skills, creativity and innovation that exists outside the NASA community

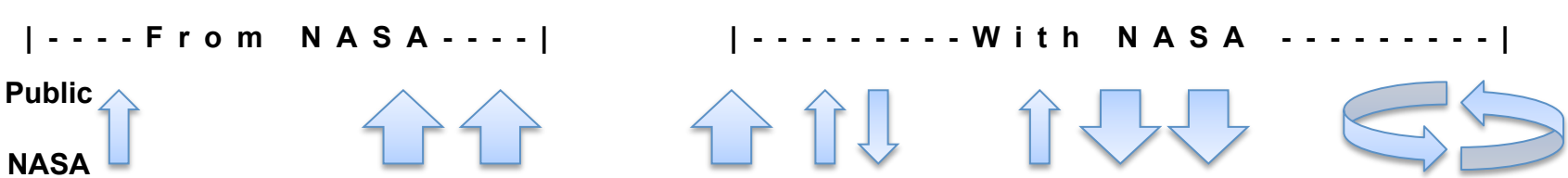
Focus Areas

- **Support Research in New Technologies**
  - Leverage investments in current technologies with careful application of seed funds to augment or expand opportunities
  - Develop a robust approach to identifying and supporting new technologies
  - Partner with world-class organizations to expand opportunities

- **Coordinate NASA-wide Efforts to Include Participatory Exploration in Future Missions**
  - Lead and promote the benefits of Participatory Exploration to organizations across the Agency, ensuring that Participatory Exploration is fully incorporated into future missions
  - Update NASA policies, requirements and processes to ensure the effective implementation of Participatory Exploration
  - Support NASA's OpenGov goals as a flagship initiative

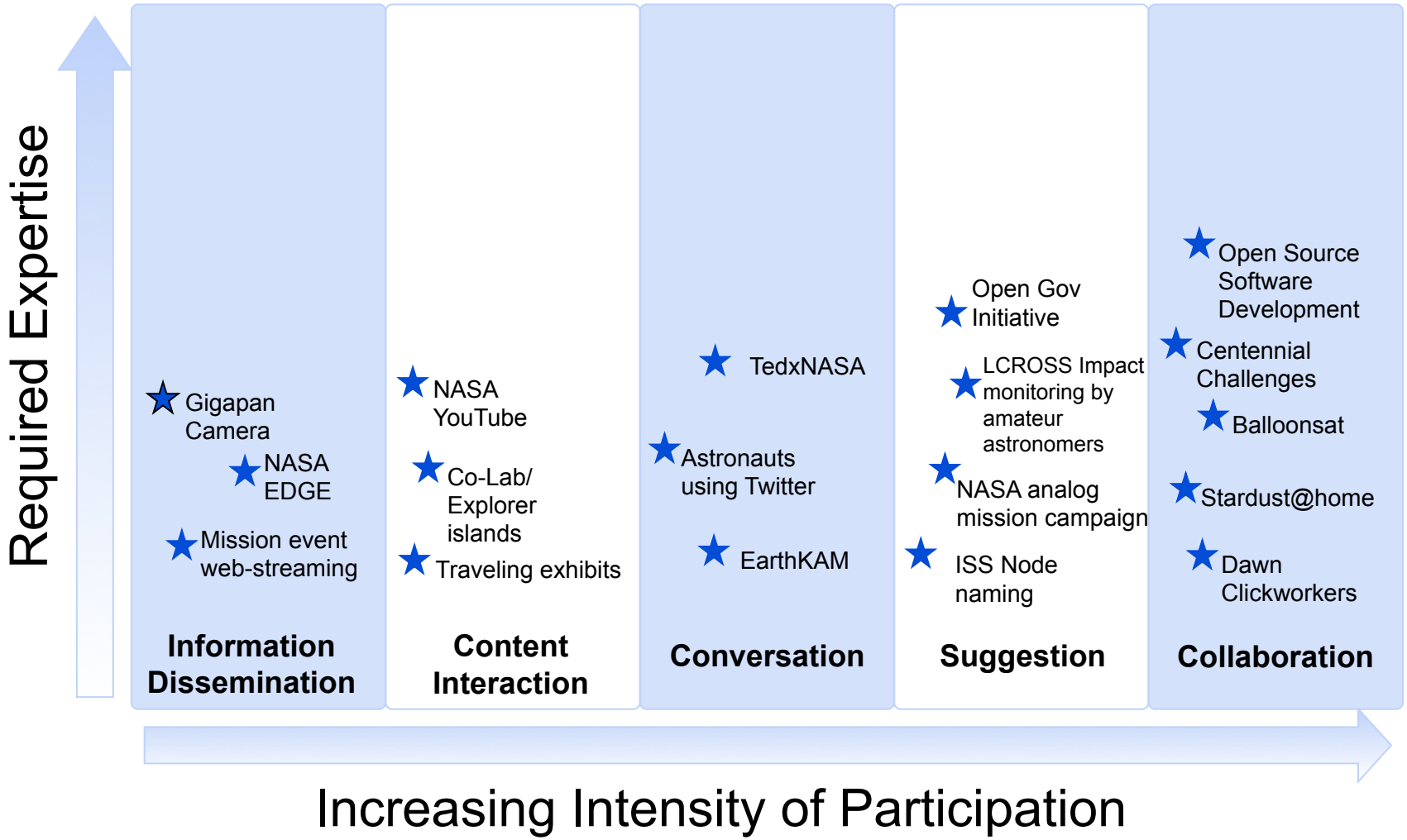
- **Act as a Clearinghouse**
  - Organize an annual NASA workshop to identify best practices
  - Develop a website that will be a resource for Participatory Exploration projects, ideas, best practices, and suggestions from the public
  - Communicate with other government, academic and non-government organizations, including the private and international sectors, to share our programs/experiences and learn from theirs

Five Degrees of Public Engagement



Information Dissemination	Content Interaction	Conversation	Contribution	Collaboration
NASA pushes out pre-planned content.	The public pulls live, near real-time, or immersive content from NASA.	NASA encourages conversation to happen with the public.	NASA requests input from the public.	The public and NASA have two-way exchange that enables discovery.
Invites awareness of NASA information	*Invites immersion in NASA content*	*Invites discussions about NASA activity*	*Invites public content submissions*	*Invites pursuit of common goals*

Examples of Existing NASA Public Engagement Activities



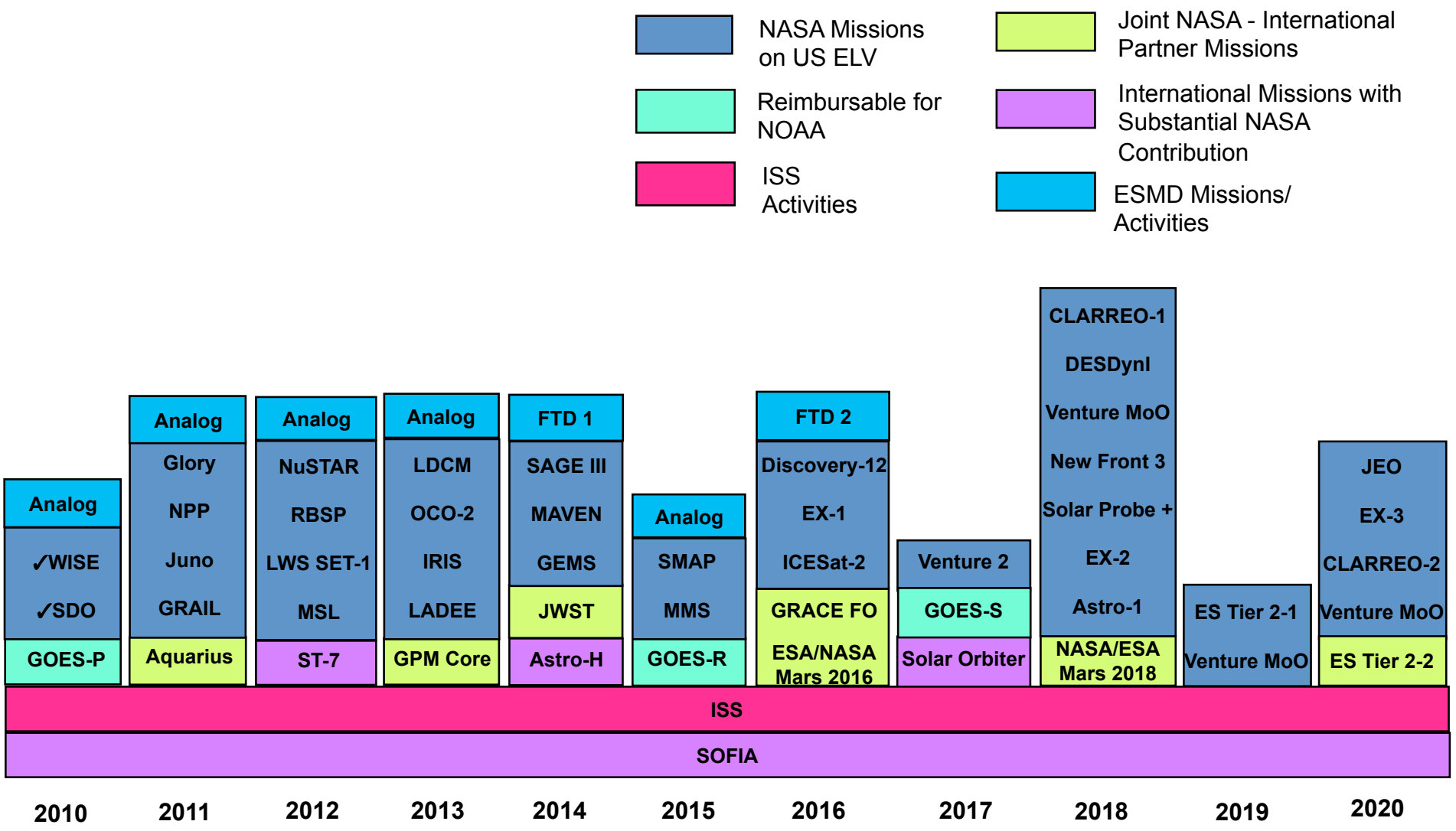
Technologies to Improve Openness of NASA Missions to Participatory Exploration

- **Currently pursuing**
  - Immersive technologies to enhance public's experience with NASA content.

    A 3-D version of Gigapan is under development.
  - Data analysis tools (i.e., a MATLAB data entry system) to allow non-experts participate in science and discovery.

- **Consider pursuing**
  - Optical Communications
  - High-bandwidth compression technologies
  - Highly immersive virtual reality technologies
  - Web 2.0 based Internet protocols
  - HD 3-D imagery
  - Auto-stereoscopic displays
  - Human Interface VR technologies

Potential Missions to Demonstrate Participatory Exploration (Fiscal Years 2010-20)



Summary

- **The PE Office will be responsible for developing and implementing policies across the Agency**
- **A variety of technologies fall under the broad definition that will be pursued**
  - This could include flight hardware, software and communications systems
  - Many approaches will be used to identify and support new technologies

This conversation has just begun…

what are your views?