

Prizes and Crowdsourcing at NASA

Briefing to the NASA Advisory Council
Commercial Space Committee

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July 30, 2013

“From the Centennial Challenges Program, to the NASA Open Innovation Pavilion, to the NASA Tournament Lab, NASA leads the public sector in the breadth and depth of experience and experimentation with prizes and challenges.”

**--White House Office of Science and Technology
Policy Report to Congress on Government Prize Use,
2012**

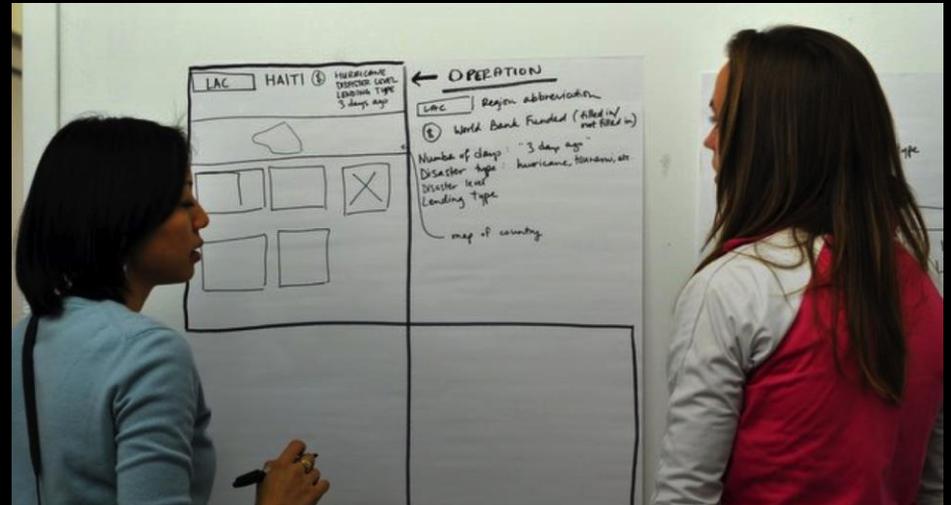
Engaging the Public in Solving Tough Problems



Building Hardware....



Developing Software and Algorithms...



Sharing Ideas and Methods...

Benefits of Prizes

- Shine a spotlight on a problem or opportunity
- Pay only for results
- Explore a wide breadth and depth of potential solutions
- Target an ambitious goal without predicting which team or approach is most likely to succeed
- Reach beyond usual suspects to tap top talent
- Stimulate private sector investment many times greater than the prize purse
- Bring out-of-discipline perspectives to bear
- Inspire risk-taking by offering a level playing field

Prize Competitions are not right for solving EVERY problem, but could be *transformative* for the right problem. They are another tool in NASA's toolkit for solving problems.

A Variety of Potential Utilities for Competition Outcomes and Solutions

- Research or TRL Advancement
- NASA Operational Integration
- NASA Operational Use
- External Use
- Education/ Outreach
- Advance State of Art/ Demonstrate Proof of Concept
- Enable Product to be Brought to Market
- Creation of New Aerospace Vendors/ Companies

“The Federal government should ... use high-risk, high-reward policy tools such as prizes and challenges to solve tough problems.”

*-President Barack Obama
August 5, 2009*

“[T]otal funds from large prizes have more than tripled over the last decade to surpass \$375 million.”

*- And the winner is ...
McKinsey 2009*

Aggregate Prize Purses over \$100k



Prizes Have a Long Track Record of Spurring Innovation



In navigation...⁷



In aviation...



In aerospace...

Reach beyond the “usual suspects” to increase the number of minds tackling a problem.

[Watch the SDO: Year 2 Video](#)

**Discover a
wide breadth
and depth of
potential
solutions.**



Pay only for results.



Increase cost-effectiveness to maximize the return on taxpayer dollars.



**Encourage the
emerging
commercial
space industry.**



After the Challenge

- LaserMotive
- Flagsuit LLC
- Final Frontier
- Masten Space Systems
- Armadillo Aerospace
- Synergy Aircraft
- Pipistrel USA



Some Open Prizes and Challenges



NIGHT ROVER CHALLENGE

NASA's Centennial Challenges program announces the

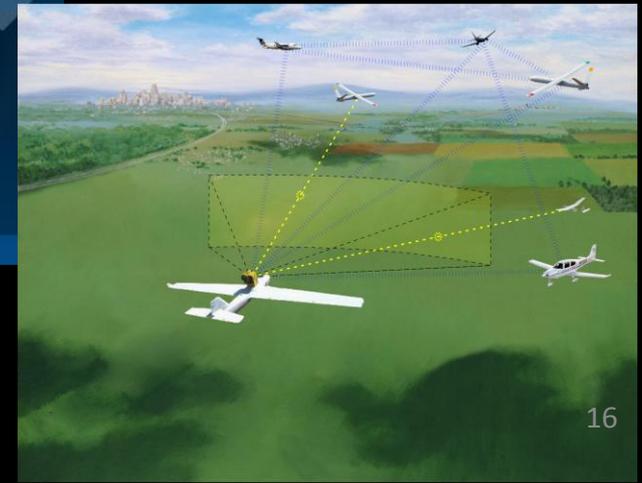
**SAMPLE
RETURN
ROBOT
CHALLENGE**



[Click to learn about the ISS](#)

ISS Challenge Series

Welcome to the ISS Challenge Series sponsored by the NASA Tournament Lab! The ISS Challenge Series is comprised of three TopCoder Challenges that look to explore and improve the International Space Station. Check out the challenges below for more information and to participate.



Coming Soon

- Prizes and crowdsourcing related to the Asteroid Grand Challenge
- New NASA Policy Directive on the use of Challenge-Driven Open Innovation at NASA
- The phased roll out of a new website and public portal for all NASA prize and challenge opportunities

For more information see:

<http://www.nasa.gov/challenges> (Centennial Challenges Program)

<http://www.innocentive.com/pavilion/NASA>
(Innocentive)

<http://community.topcoder.com/ntl/> (TopCoder)

<http://www.nasa.gov/offices/COECI/> (Center of Excellence for Collaborative Innovation)