

**U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY**

HEARING CHARTER

Prizes to Spur Innovation and Technology Breakthroughs

Wednesday, April 9, 2014

10:00 a.m. - 12:00 p.m.

2318 Rayburn House Office Building

Purpose

On April 9, 2014, the Research and Technology Subcommittee will hold a hearing to examine the role of prizes funded by the private sector and Federal science agencies in spurring technical innovation. The FIRST Act (H.R. 4186) encourages more public-private partnerships for science and technology prize competitions, especially to spur breakthrough innovations that will spur new economic growth and jobs.

Witnesses

- **Mr. Christopher Frangione**, Vice President, Prize Development, XPRIZE Foundation
- **Mr. Donnie Wilson**, CEO, Elastec AmericanMarine
- **Mr. Narinder Singh**, Co-Founder and Chief Strategy Officer, Appirio and President, TopCoder
- **Dr. Sharon M. Moe**, MD, FASN, President-Elect, American Society of Nephrology.

Overview

Prize competitions have played an important role in spurring innovation. The Longitude Prize of £20,000 in the 1700s (approximately worth \$4 million today) was a reward offered by the British government for a simple and practical method for the precise determination of a sailing ship's longitude. The prize, established through an Act of Parliament (the Longitude Act) in 1714, was eventually awarded in 1765 to John Harrison for the development of the chronometer. The Orteig Prize of \$25,000 in 1927 (worth approximately \$340,000 today) inspired Charles Lindbergh to fly nonstop from New York to Paris, and spurred the American imagination for air travel. Inspired by the problems in cleaning up the damage caused by the Deepwater Horizon oil spill in 2009, the Wendy Schmidt Oil Cleanup X CHALLENGE of \$1 million demonstrated a technology that had more than four times the existing recovery rate for cleaning oil off the ocean's surface.¹

¹ Implementation of Federal Prize Authority: Fiscal Year 2012 Progress Report, Dec. 2013
http://www.whitehouse.gov/sites/default/files/microsites/ostp/competes_prizesreport_dec-2013.pdf

A McKinsey report in 2009² found that philanthropic and private-sector investment in prizes increased significantly in recent years; between 2000 and 2007, there was \$250 million in new prize money. In 1996, the X-Prize Foundation offered a \$10 million prize to the first privately-financed team that could build and fly a suborbital vehicle 100 km into space. The prize motivated 26 teams from seven nations to invest more than \$100 million, significantly more than the prize amount.

Federal science agencies have sponsored prizes to spur innovation for many years. The America COMPETES Reauthorization Act of 2010 (PL 111-358) granted all federal agencies broad authority to conduct prize competitions that spur innovation and advance their agency's core mission. Congress provided OSTP the responsibility to lay the policy and legal framework for agencies to take advantage of the prize authority. This authority has been utilized to a limited degree by a few federal science agencies. As many agencies expand their use of the authorities provided to them under COMPETES, some agencies have continued to administer prizes and challenges developed under other pre-existing authorities, including agency-specific authorities, grant-making authority, and procurement authority. However, the FIRST Act (H.R. 4186) encourages more federal-private prize competitions, especially prizes to spur breakthrough technologies leading to healthcare improvement, economic growth and the creation of new jobs.

Issues for Consideration

Though the federal prize authority was granted to agencies in 2010, some federal science agencies have taken a greater interest in utilizing prize authority to spur innovation. According to an Office of Science and Technology Policy (OSTP) report for prize activity released in December 2013, 27 prizes were conducted by seven federal science agencies. Some prize winners received cash prizes of a few thousand dollars to solve problems that did not have wide participation. In Fiscal Year 2013, the National Science Foundation (NSF) sponsored 7 prizes, with most cash awards less than \$10,000.

Another important policy issue concerns intellectual property. The majority of prize contests in recent years, such as the Qualcomm Tricorder XPRIZE³ and the Foresight Institute Feynman Grand Prize⁴, allow competitors to keep their intellectual property, except in limited circumstances. This combination of innovation prizes and intellectual property rights “reward the successful development of specific products,” creating economic growth and innovation that may not have as readily occurred through only subsidized research.⁵ It is important to understand the policy implications of allowing innovators and entrepreneurs to continue utilizing the intellectual property that they create during these competitions.

² And the winner is...Capturing the promise of philanthropic prizes, March 2009
http://www.mckinseysociety.com/downloads/reports/Social-Innovation/And_the_winner_is.pdf

³ <http://www.qualcommtricorderxprize.org/competition-details/faqs#ip>

⁴ <https://www.foresight.org/GrandPrize.1.html>

⁵ <http://economics.mit.edu/files/7823>