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21st-Century Public Servants: Using Prizes and Challenges to Spur Innovation

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Summary: The Obama Administration has taken important steps to make modern approaches, such as prizes and challenges, standard tools in every Federal agency's toolbox. Nearly 400 prizes and challenges have been posted on challenge.gov since September 2010, and thousands of Federal employees across the government are using these approaches to deliver services more effectively and efficiently, and to solve problems that relate to the missions of their Agencies.

Thousands of Federal employees across the government are using a variety of modern tools and techniques to deliver services more effectively and efficiently, and to solve problems that relate to the missions of their Agencies. These 21st-century public servants are accomplishing meaningful results by applying new tools and techniques to their programs and projects, such as prizes and challenges, citizen science and crowdsourcing, open data, and human-centered design.

Prizes and challenges have been a particularly popular tool at Federal agencies. With 397 prizes and challenges posted on challenge.gov since September 2010, there are hundreds of examples of the many different ways these tools can be designed for a variety of goals. For example:

- **NASA's Mars Balance Mass Challenge:** When NASA's Curiosity rover pummeled through the Martian atmosphere and came to rest on the surface of Mars in 2012, about 300 kilograms of solid tungsten mass had to be jettisoned to ensure the spacecraft was in a safe orientation for landing. In an effort to seek creative concepts for small science and technology payloads that

could potentially replace a portion of such jettisoned mass on future missions, NASA released the Mars Balance Mass Challenge. In only two months, over 200 concepts were submitted by over 2,100 individuals from 43 different countries for NASA to review. Proposed concepts ranged from small drones and 3D printers to radiation detectors and pre-positioning supplies for future human missions to the planet's surface. [NASA awarded the \\$20,000 prize](#) to Ted Ground of Rising Star, Texas for his idea to use the jettisoned payload to investigate the Mars atmosphere in a way similar to how NASA uses sounding rockets to study Earth's atmosphere. This was the first time Ted worked with NASA, and NASA was impressed by the novelty and elegance of his proposal: a proposal that NASA likely would not have received through a traditional contract or grant because individuals, as opposed to organizations, are generally not eligible to participate in those types of competitions.

- [National Institutes of Health \(NIH\) Breast Cancer Startup Challenge \(BCSC\)](#): The primary goals of the BCSC were to accelerate the process of bringing emerging breast cancer technologies to market, and to stimulate the creation of start-up businesses around nine federally conceived and owned inventions, and one invention from an Avon Foundation for Women portfolio grantee. While NIH has the capacity to enable collaborative research or to license technology to existing businesses, many technologies are at an early stage and are ideally suited for licensing by startup companies to further develop them into commercial products. This challenge [established 11 new startups](#) that have the potential to create new jobs and help promising NIH cancer inventions support the fight against breast cancer. The BCSC turned the traditional business plan competition model on its head to create a new channel to license inventions by crowdsourcing talent to create new startups.

These two examples of challenges are very different, in terms of their purpose and the process used to design and implement them. The success they have demonstrated shouldn't be taken for granted. It takes access to resources (both information and people), mentoring, and practical experience to both understand how to identify opportunities for innovation tools, like prizes and challenges, to use them to achieve a desired outcome.

The Obama Administration has taken important steps to make prizes and challenges standard tools in every agency's innovation toolbox. To make these tools easier to use by more Federal employees, the Administration committed in the [2013 Second Open Government National Action Plan](#) to "convene an interagency group to develop an Open Innovation Toolkit for Federal agencies that will include best practices, training, policies, and guidance on authorities related to open innovation, including approaches such as incentive prizes, crowdsourcing, and citizen science." Work on developing one half of this open innovation toolkit, the citizen science and crowdsourcing toolkit, [began in fall 2014](#).

Last month, the [Challenge.gov program](#) at the General Services Administration (GSA), the Office of Personnel Management (OPM)'s Innovation Lab, the White House Office of Science and Technology Policy (OSTP), and a core team of Federal leaders in the prize-practitioner community began collaborating with the [Federal Community of Practice for Challenges and Prizes](#) to develop the other half of the open innovation toolkit, the prizes and challenges toolkit. In developing this toolkit, OSTP and GSA are thinking not only about the information and process resources that would be helpful to empower 21st-century public servants using these tools, but also how we help connect these people to one another to add another meaningful layer to the learning environment.



On March 6, 2015, the White House OSTP, the Office of Personnel Management (OPM)'s Innovation Lab, and the GSA Challenge.gov program convened an all-day, user-centered design workshop to develop user needs for a Federal prizes and challenges toolkit. Thirty members of the Federal Community of Practice for Prizes and Challenges participated. (Photo credit: Arianne Miller)

Creating an inventory of skills and knowledge across the 600-person (and growing!) Federal community of practice in prizes and challenges will likely be an important resource in support of a useful toolkit. Prize design and implementation can involve tricky questions, such as:

- Do I have the authority to conduct a prize or challenge?
- How should I approach problem definition and prize design?

- Can agencies own solutions that come out of challenges?
- How should I engage the public in developing a prize concept or rules?
- What types of incentives work best to motivate participation in challenges?
- What legal requirements apply to my prize competition?
- Can non-Federal employees be included as judges for my prizes?
- How objective do the judging criteria need to be?
- Can I partner to conduct a challenge? What's the right agreement to use in a partnership?
- Who can win prize money and who is eligible to compete?

Often there are not “one-size-fits-all” answers to these questions, which is what makes peer-to-peer consultation so valuable. Making it easier for public servants to find each other and know who to reach out to for consultation will help expand prize design and implementation capacity in the Federal workforce, and will enable organic scaling the use of these tools.

As more and more Federal employees are equipped with modern tools and techniques such as prizes and challenges, 21st-century public servants will have more options for making meaningful progress towards solving tough problems and delivering services more efficiently and effectively in areas of national priority such as energy, health care, precision medicine, education, and the economy.

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Learn More:

- [Fact Sheet and FAQ on Prize Authority in the America COMPETES Reauthorization Act](#)
- [Guidance on the Use of Challenges and Prizes to Promote Open Government](#)
- [Federal Community of Practice for Challenges and Prizes](#)
- [Center of Excellence for Collaborative Innovation](#)
- [Using Prizes to Engage Citizen Solvers: A Progress Report](#) (May 2014, OSTP Blog)
- [Challenge.gov: Two Years and 200 Prizes Later](#) (September 2012, OSTP Blog)





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