Open Innovation: Crowdsourcing and Prize Competitions

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PSCR

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PSCR Overview

The Public Safety Communications Research (PSCR) Division is housed within the Communications Technology Laboratory (CTL) at the National Institute of Standards and Technology (NIST)

PSCR is the primary federal laboratory conducting research, development, testing, and evaluation for public safety communications technologies

PSCR Innovation Accelerator Program

- Section 6303 of the Middle Class Tax Relief and Job Creation Act of 2012 provides $300M to NIST to perform R&D critical to the success of a dedicated, nationwide LTE broadband network (FirstNet). NIST will focus the funding provided from the Public Safety Trust Fund on the following critical areas:
  - Development of broadband requirements, standards, technologies, and applications for public safety, including:
    - Mission Critical Voice over LTE
    - Land Mobile Radio (LMR) to LTE integration and eventual migration
  - Addressing R&D necessary for critical features identified by public safety entities beyond current generation of broadband technology, including:
    - Location-Based Services, Data Analytics, and Device Usability/User Interface
  - **Launch an open innovation program, consisting of contract awards, grants, and competitive research funding and prizes to address some of the highest priority public safety R&D needs**

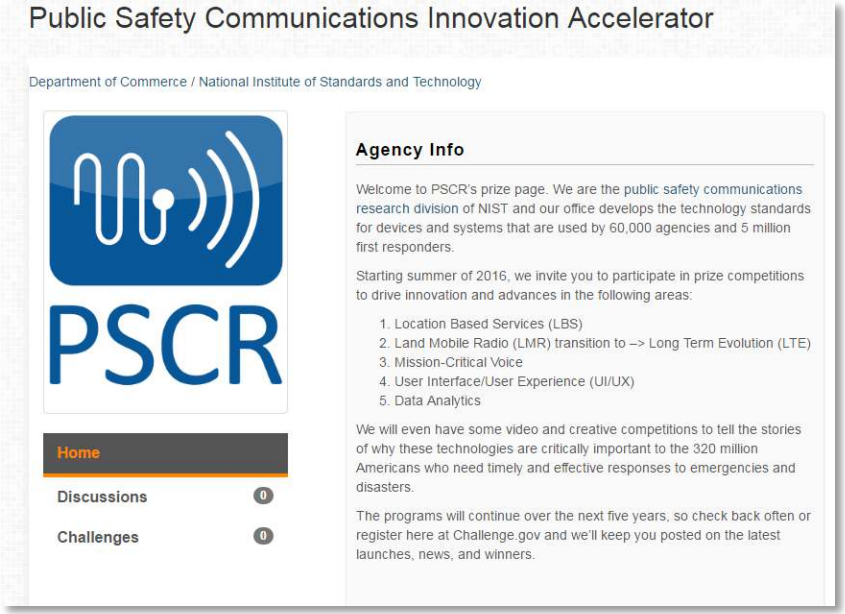
PSIAP Grant Program

- In December 2016 PSCR released a Notice of Federal Funding Opportunity that covers a broad range of research and development objectives across many technical areas
- Grants are available for research, advanced engineering, and product development
- Academic and industrial researchers (in both technology and human/social areas), public safety agencies, and product or system developers are all potential awardees

- The Notice of Funding Opportunities identifies the following focus areas that will drive R&D for the Innovation Accelerator
  - Mission Critical Voice
  - Location-Based Services
  - Public Safety Analytics
  - Public Safety Communications Demand Model
  - Research & Prototyping Platforms
  - Resilient Systems

For more information on the FFO and full rules and guidelines, please visit Grants.gov
The NIST Innovation Accelerator Program opportunity number is 2017-NIST-PSIAP-01
All questions can be sent to pscr@nist.gov

PSCR Open Innovation Mission



- ✓ Solve mission-centric problems in Public Safety Communications Technologies and set goals for future innovation.
- ✓ Engage broadly and openly, including entrepreneurs, inventors, start-ups, experts, academics, and industry.
- ✓ Measure and report impact.

bit.ly/PSprizes

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Defining Open Innovation

"No matter who you are, most of the smartest people work for someone else." ~Bill Joy, co-founder Sun Microsystems

- Define a problem to be solved or a goal to be reached.
- Participation is open to anyone,* regardless of credentials, experience, connections, or past performance.
- The solver has the flexibility to be creative and innovative in how they get to the solution.

How We Work in Open Innovation

Tools

- Crowdsourcing
- Citizen Science
- Collaborative Innovation

Forms

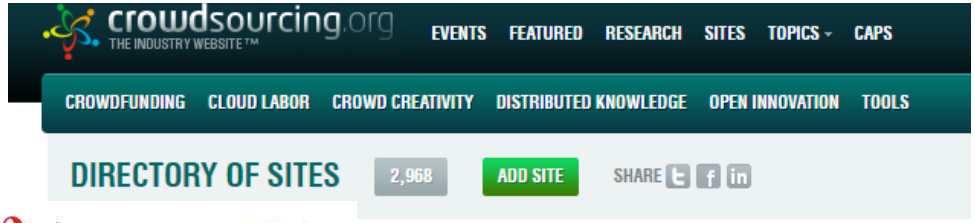
- Hack-a-thons
- Data Jams
- Prize Competitions

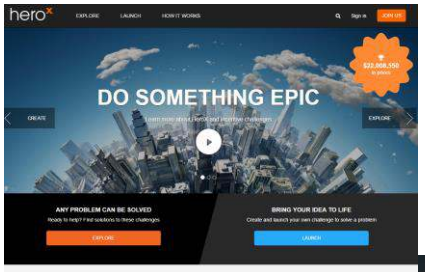
History of Prize Competitions/Challenges

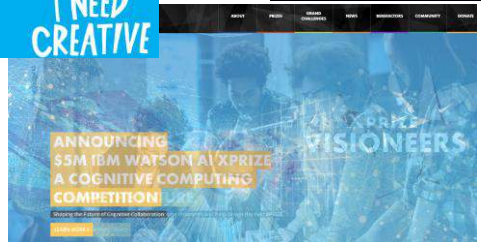
Competitions have been around for hundreds of years:

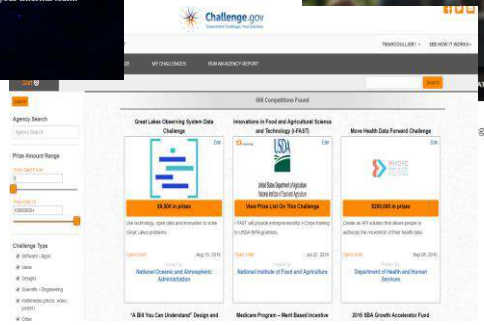
- England's Longitude Prize of 1714 that sought to develop an accurate method of calculating longitude at sea.
- Napoleon's food preservation prize competition resulting in canning.
- The 1927 Orteig Prize, the transatlantic flight that made Charles Lindbergh famous.

Crowdsourcing Across Industry









gement platform that uses crowdsourcing to help you find and develop the next big thing.

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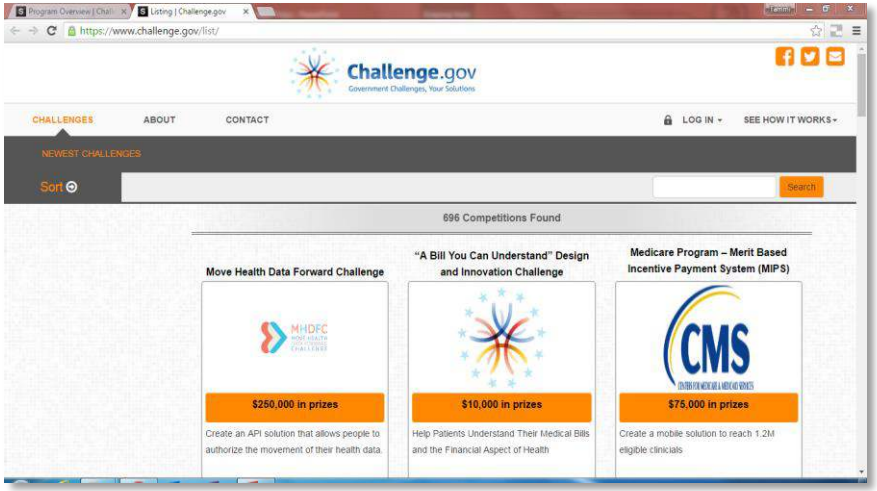
Prizes & Challenges in Federal Government

Benefits:

- **Attract** new and diverse talent
- **Discover** new concepts and techniques
- **Stimulate** the marketplace
- **Accelerate** the timeline for innovation



Precedent for Success:

- **960+** competitions since Sept. 2010
- **98** agencies launched programs
- **$250+** million in prizes offered
- **400,000+** solvers engaged

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Prizes & Challenges in Federal Government

- Desalinization - **USAID**
- Lunar Lander - **NASA**
- Sun Shot Catalyst – **Energy**
- Ultra High Speed Apps –**Justice**
- Robocalls – **U.S. Trade Commission**

Success Stories: https://www.challenge.gov/success-stories/

NIST: Head Health Challenge III

Seeking advanced materials with improved impact resistance

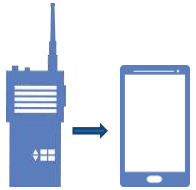
- **125** Abstracts
- **21** Full Proposals with Material Samples
- **5** First Round Winners were awarded $250,000 each
- December 2016: Grand Prize Winner **$500,000**

PSCR Open Innovation: 5 Key Areas

- Mission Critical Voice

- Location Based Services

- LMR to LTE



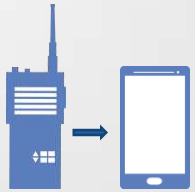
- UI/UX

- Analytics

PSCR Open Innovation: 5 Key Areas

Mission Critical Voice

Location Based Services



LMR to LTE

Analytics

UI/UX

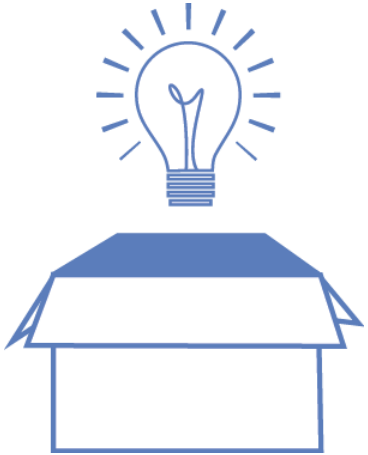
NIST Benefits

Prizes and challenges advance our mission, by:

- Forging new partnerships
- Advancing the state of science and technology
- Disseminating NIST products
- Increasing awareness about NIST

Public Benefits To Participation:

- Winning a prize and valuable incentive
- Access to peers & experts
- Exposure to business opportunities and VC funding
- Labs and testing facilities
- Access to grants and cooperative agreements
- Future collaboration and partnerships



How To Get Involved:

- Share suggestions for problems to solve
- Follow the prize page at **bit.ly/PSprizes**
- Partner with people and companies to bring solutions
- Sign up for PSCR's Quarterly Newsletter

Upcoming Events & Publications

- PSCR's annual Public Safety Broadband Stakeholder Meeting
  - June 12-14, 2017
  - San Antonio Marriott Riverwalk, San Antonio TX
- *Public Safety Analytics Summit Report* (February 2017)
- *Public Safety Enhanced User Interface Technology Roadmap* (Spring 2017)
- Enhanced User Interface Summit (Spring/Summer 2017)
- *Public Safety Mission Critical Broadband Report* (Summer 2017)

Public Safety Innovation Accelerator

THANK YOU!

YOU are the key to success in solving these mission-critical problems and YOU have **the intelligence, capabilities, and brilliance** to drive the innovative leaps.

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Website: bit.ly/PSprizes

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