National Science Foundation
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News Release 15-103

Cultivating smart and connected communities

NSF exhibits commitments in support of White House Smart Cities Initiative

NSF has long supported the fundamental research that underlies smart and connected communities.

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September 14, 2015

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The White House today kicked off the first-ever Smart Cities Week (/cgi-bin/good-bye? http://www.smartcitiesweek.com/) (Sept. 15-18, 2015), announcing new steps in support of a National Smart Cities Initiative.

As part of this initiative, the National Science Foundation (NSF) committed nearly $40 million to help intelligently and effectively design, adapt and manage the smart and connected communities of the future at today's event.

The NSF awards span next-generation prototype applications that demonstrate the capabilities of ultra-high-speed and advanced networking infrastructure; research on cyber-physical systems that safely embed computing, sensing and control into physical devices

and critical infrastructure and take into account social, behavioral, and economic factors; and partnerships between academia and industry to transition promising research into practice.

"NSF's investments are helping to cultivate increasingly smart and connected communities for the future," said NSF Director France Córdova. "The effective integration of networked computing systems, physical devices, data sources, and infrastructure, all with humans in the loop, is improving the quality of life for people all across the nation."

NSF involvement and announcements:

NSF has long supported fundamental research that underlies smart and connected communities, including advanced networking and connectivity; sensing and real-time data analytics; and control, automation and decision-making. The agency has also been instrumental in transitioning these technologies to widespread use, as in the case of the US Ignite initiative <https://www.whitehouse.gov/the-press-office/2012/06/13/we-can-t-wait-president-obama-signs-executive-order-make-broadband-const> , which seeded the development of numerous new "gigabit applications" that can process large amounts of information, from improved regional radar systems <http://www.nsf.gov/news/special_reports/science_nation/casa.jsp> to interactive fitness <http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=134550> apps.

Today, NSF announced the following funding commitments that continue to expand upon NSF's existing leadership in enabling smart and connected communities:

Approximately $12 million for new projects funded through US Ignite <http://www.nsf.gov/news/news_summ.jsp?cntn_id=136263> to support research leading to prototype applications that leverage gigabit and advanced networking connectivity and impact multiple national priority areas, including healthcare, energy, transportation, manufacturing, education and learning, and public safety. The awards will also build "living labs" that provide the support needed to scale up these prototype applications across cities and regions, leading toward an ecosystem of smart and connected communities.

Approximately $10 million in new Cyber-Physical Systems (CPS) research projects with a focus on Smart and Connected Communities and the Internet of Things.

More than $3 million to support the creation of a new instrument--the Array of Things <http://www.nsf.gov/news/news_summ.jsp?cntn_id=136252> --in Chicago that will be the first research infrastructure to allow researchers to rapidly deploy sensors, embedded systems, computing and communications systems at scale in an urban environment.

Nearly $2.5 million to enhance the design and operation of efficient, secure and Critical, Resilient, Interdependent Infrastructure Systems and Processes (CRISP) <http://www.nsf.gov/news/news_summ.jsp?cntn_id=136266> that provide essential goods and services in the context of cities and communities.

$2.5 million to enable NSF-funded researchers to participate in the National Institute of Standards and Technology Global Cities Team Challenge <http://www.nsf.gov/news/news_summ.jsp?cntn_id=136250> .

Approximately $2 million in new Smart and Connected Health research projects to accelerate the development of next-generation health care solutions to enable patient-centered care

and wellness that extend to the home, workplace, and community.

$375,000 to establish a Research Coordination Network to stimulate novel international research on how to integrate data from physical sensors, social media and other sources.

Nearly $4 million to support academic and industry partnerships through the Partnerships for Innovation: Building Innovation Capacity <http://www.nsf.gov/news/news_summ.jsp?cntn_id=136268> program that facilitate integration of breakthrough research discoveries into human-centered service systems, with an emphasis on emerging technologies that can contribute to smart cities/communities.
In addition to the commitments listed above, NSF issued a new Dear Colleague Letter <http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf15120> today encouraging the academic research community to submit high-risk, high-reward research proposals in support of smart and connected communities.

In particular, computer and information scientists, engineers and social, behavioral, and economic scientists are encouraged to collaborate with industry, non-profits, local governments, and anchor institutions, such as schools, libraries, and hospitals. These awards will nurture and grow a research community focused on smart and connected communities and pilot early-stage efforts to expand ongoing research activities to integrate data sources and networked computing systems with people, physical devices and infrastructure and anchor institutions.

The investments NSF announced today build on the agency's leadership in accelerating research that will help create the smart and connected communities of the future.

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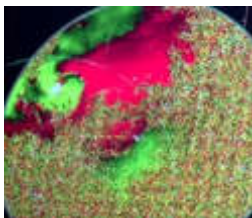
The agency has been instrumental in transitioning new technologies to widespread use.
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New designs and technologies that learn from data bring intelligence to service systems.
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Fundamental research, prototypes and partnerships advance smart and connected communities.
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NSF-supported projects help nurture and grow the research community.
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Related Websites
Creating Smarter Cities through Science, Technology and Civic Participation:
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