

# Technology Innovation Program

## Programmatic Plan: FY 2011 – FY 2014

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Critical National Need Area	Societal Challenge Topic	FY 2011	FY 2012	FY 2013	FY 2014
Civil Infrastructure (#1)	Inspection, Monitoring, Repair	Advanced sensing technologies			
		Advanced repair materials			
Manufacturing (#2)	Manufacturing Processes for Advanced Materials	Advanced materials			
	Critical Processes	Biomanufacturing			
	Intelligent Automation	Manufacturing			
		Robotics & intelligent automation (#3)			
Energy	Smart Grid	Technologies to enable a smart grid (#4)			
Healthcare	Proteomics, Data Integration & Analysis, and Biomanufacturing for Personalized Medicine	Technologies for personalized medicine (#5)			
Water	Ensuring & managing water availability	Technologies for water availability (#6)			
Complex Networks		Complex networks			
Sustainability		Sustainability			

The Technology Innovation Program (TIP) will continue to refine this plan as it works to address changing national priorities. Final decisions regarding the area(s) of critical national need and the specific societal challenge topic(s) for TIP investment will be announced publicly in the Federal Register, on [Grants.gov](https://www.grants.gov) (notice of Federal Funding Opportunity), and on the TIP website.

For additional information on specific societal challenge topics, or to provide comments on TIP's authored white papers on the critical national need areas currently under consideration, see [TIP White Paper Information](#). TIP also seeks white papers from the public in any areas of critical national need, including those not listed above. To submit your ideas to TIP, see [Technology Innovation Program \(TIP\) Seeks White Papers Federal Register Notice](#).

TIP addresses the nation's critical needs by offering competitive, cost-shared funding opportunities for high-risk, high-reward research. TIP identifies critical national needs and associated societal challenges that are national in scope and of sufficient magnitude to justify Government attention. TIP only funds projects that have a promising technological solution for problems that are not being addressed, for which funding is not reasonably available through other public or private sources, and that are within NIST's areas of technical competence.

TIP was established by Congress in the America COMPETES Act of 2007. TIP is a program within the National Institute of Standards and Technology (NIST), located in Gaithersburg, Maryland. The NIST mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life. Since 1901, NIST, a non-regulatory agency, has been supplying the measurements and tools—from standardized high-precision gage blocks needed to manufacture interchangeable parts to the world's most accurate atomic clock—to help U.S. industry compete successfully through innovation. Over the last few decades, NIST has been assigned important new roles and responsibilities, including awarding competitive grants to foster development of promising, high-risk technologies; diffusing advanced technologies and business practices to smaller manufacturers; and promoting quality management methods in key sectors. Old and new, all NIST programs support the nation's vast innovation system.

#### Reference: TIP White Papers

- #1 FY 2009 - [Civil Infrastructure: Advanced Sensing Technologies and Advanced Repair Materials for the Infrastructure: Water Systems, Dams, Levees, Bridges, Roads, and Highways](#)
- #2 FY 2010 - [Manufacturing: Manufacturing and Biomanufacturing: Materials Advances and Critical Processes](#)
- #3 Whitepaper - [Manufacturing: Advanced Robotics and Intelligent Automation](#)
- #4 Whitepaper - [Energy: Technologies to Enable a Smart Grid](#)
- #5 Whitepaper - [Healthcare: Advanced Technologies for Proteomics, Data Integration and Analysis, and Biomanufacturing for Personalized Medicine](#)
- #6 Whitepaper - [Water: New Technologies for Managing and Ensuring Future Water Availability](#)