

ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY

EXECUTIVE SUMMARY

- **Federal Agency Name:** Technology Innovation Program (TIP), National Institute of Standards and Technology (NIST), Department of Commerce
- **Funding Opportunity Title:** Technology Innovation Program
- **Announcement Type:** Initial Announcement
- **Funding Opportunity Number:** 2008-TIP-01
- **Catalog of Federal Domestic Assistance (CFDA) Number:** 11.613, Technology Innovation Program
- **Dates:** The due date for submission of proposals is 3 p.m. Eastern Time, Thursday, September 4, 2008.
- **Proposal Submission Address:**
 - Paper submission: National Institute of Standards and Technology
Technology Innovation Program
100 Bureau Drive, Stop 4701
Gaithersburg, MD 20899-4701
 - Electronic submission: www.grants.gov
- **Funding Opportunity Description:** The Technology Innovation Program (TIP) National Institute of Standards and Technology (NIST), United States Department of Commerce (DoC), is soliciting high-risk, high-reward research and development proposals.
- **Total Amount to be Awarded:** Fiscal year 2008 appropriations include funds in the amount of approximately \$9 million for new TIP awards.
- **Anticipated Amounts:** TIP anticipates funding approximately 9 projects. A single company can receive up to a total of \$3 million with a project period of performance of up to 3 years. A joint venture can receive up to a total of \$9 million with a project period of performance of up to 5 years.
- **Funding Instrument:** Cooperative Agreement
- **Who Is Eligible:** Single companies and joint ventures may apply for TIP funding as provided in 15 C.F.R. §§296.2, 296.4, and 296.5.
- **Cost Sharing Requirements:** At least 50 percent of the yearly total project costs (direct plus all of the indirect costs).

- **Where to obtain the TIP Proposal Preparation Kit:** The Kit is available at <http://www.nist.gov/tip/helpful.html>. Requests for a paper copy of the Kit can be made by calling 1-888-847-6478.
- **Public Meetings (Proposers' Conferences):** TIP is holding public meetings (Proposers' Conferences) at several locations around the country. Proposers' conferences will provide general information regarding TIP, guidance on preparing proposals, and the opportunity for questions and answers. Proprietary technical discussions about specific project ideas with NIST staff are not permitted at these conferences or at any time before submitting the proposal to TIP. Therefore, you should not expect to have proprietary issues addressed at proposers' conferences. Also, NIST/TIP staff will not critique or provide feedback on project ideas while they are being developed by a proposer. However, NIST/TIP staff will answer questions about the TIP eligibility and cost-sharing requirements, evaluation and award criteria, selection process, and the general characteristics of a competitive TIP proposal at the Proposers' Conferences and by phone and email. Attendance at TIP proposers' conferences is not required.

TIP Proposers' Conferences are being held at the following dates, times, and locations:

July 16, 2008, 9 a.m. - 1 p.m. Central Time: St. Louis Airport Marriott, 10700 Pear Tree Lane, St. Louis, MO (314-253-5121)

July 16, 2008, 9 a.m. - 1 p.m. Central Time: Renaissance Houston, 6 Greenway Plaza, East Houston, TX (713-850-2310)

July 17, 2008, 9 a.m. - 1 p.m. Eastern Time: Holiday Inn Atlanta Airport North, 1380 Virginia Avenue, Atlanta, GA (404-838-0029)

July 17, 2008, 9 a.m. - 1 p.m. Pacific Time: Holiday Inn Portland Airport, 8439 North East Columbia Boulevard, Portland, OR (503-914-5253)

July 18, 2008, 9 a.m. - 1 p.m. Pacific Time: Doubletree San Jose, 2050 Gateway Place, San Jose, CA (408-437-2124)

July 21, 2008, 1 p.m. - 5 p.m. Eastern Time: Boston Courtyard Downtown, 275 Tremont Street, Boston, MA (781-537-5594)

July 22, 2008, 9 a.m. - 1 p.m. Eastern Time: NIST Red Auditorium, 100 Bureau Drive, Gaithersburg, MD (301-975-8910). **Pre-registration is required by 5 p.m. Eastern Time on July 16, 2008 for the Proposers' Conference being held at NIST Gaithersburg, MD only.** Due to increased security at NIST, **NO on-site registrations** will be accepted and all attendees **MUST** be pre-registered. Photo identification must be presented at the NIST main gate to be admitted to the July 17, 2008 conference. Attendees must wear their conference badge at all times while on the NIST campus. Same day registration will be allowed at the other locations. **Electronic Registration:** At http://www.nist.gov/public_affairs/confpage/080722.htm.

No registration fee will be charged for any of the Proposers' Conferences. Presentation materials from Proposers' Conferences will be made available on the TIP Web site.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

The America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act, Pub. L. 110-69 (August 9, 2007), 15 U.S.C.A. §278n (2008), was enacted to invest in innovation through research and development and to improve the competitiveness of the United States. Section 3012 of the COMPETES Act established TIP for the purpose of assisting United States businesses and institutions of higher education or other organizations, such as national laboratories and nonprofit research institutions, to support, promote, and accelerate innovation in the United States through high-risk, high-reward research in areas of critical national need. High-risk, high-reward research is research that has the potential for yielding transformational results with far-ranging or wide-ranging implications; addresses areas of critical national need that support, promote, and accelerate innovation in the United States and is within NIST's areas of technical competence; and is too novel or spans too diverse a range of disciplines to fare well in the traditional peer review process. The TIP implementing regulations are published at 15 C.F.R. Part 296, 73 Fed. Reg. 35,913 (June 25, 2008), and included in the TIP Proposal Preparation Kit as Appendix B.

TIP is soliciting proposals under this fiscal year 2008 competition in one area of critical nation need entitled "Civil Infrastructure" as described below.

Civil Infrastructure: The objective of this area of critical national need is to address two elements of a Civil Infrastructure Structural Integrity societal challenge. The two elements are inspection and monitoring of the United States' Civil Infrastructure Structural Integrity as outlined in the white paper "Advanced Sensing Technologies for the Infrastructure: Roads, Highways, Bridges and Water Systems" (<http://www.nist.gov/tip/helpful.html>).

The solutions to this societal challenge require advancement beyond the state-of-the-art of sensing technologies that will assess the structural integrity and/or deterioration processes of bridges, roads, water mains, and wastewater collection systems, that are more accurate, easier to use, and more economically feasible. The need for advanced sensing technologies is of national importance because nearly all municipalities and states in the nation face infrastructure management challenges. The need for TIP's investment is justified because portions of infrastructure are reaching the end of their life spans and there are few cost effective technical means to monitor infrastructure integrity and to prioritize the renovation and replacement of infrastructure elements. Transformational research beyond incremental advancements is required to achieve the objectives for this area of critical national need. Incremental improvements of current technologies will not meet the challenges of providing cost-effective, widely deployable solutions to the problems of sensing structural integrities and/or deterioration processes widely across infrastructure systems.

Proposals are being sought to create and validate new advanced, robust, network capable, nondestructive evaluation and test sensing systems, or system components, to cost effectively and quantitatively inspect and evaluate the structural integrity of the civil infrastructure.

The targeted system should be capable of, but not limited to, detection of corrosion, cracking, and delamination or failure of critical infrastructure elements and the materials of which they are made.

Solutions are needed for improved inspection systems for roads, highways, bridges, drinking and wastewater systems that provide real-time understanding of the integrity and service life through the use of portable, mobile or remote sensing capabilities.

Innovations are being sought in all aspects of a system to provide an advanced, cost effective, networked system, either fixed or mobile, that is easily deployable, self powered, and self monitoring. A complete system could include all system components, hardware, and software.

Proposals that include validation by potential end users will be considered as having strong potential.

Also within scope are:

1. Systems that provide new and advanced methodologies for the detection of fluid leaks from water piping systems; and
2. Single components of a system solution that include a demonstration of the component in a system setting.

Ineligible projects under this competition are:

1. Advancements in a system component without a prototype demonstrating that the component is functional within a system solution, as part of the proposed technical plan;
2. Integration projects using only existing state-of-the-art components;
3. Straightforward improvements to existing components without the potential for a transformational increase in performance to the technical requirements; and
4. Software development that is predominantly straightforward, routine data gathering using applications of standard software development practices.

In addition to the competition-specific ineligible projects, the following are ineligible projects:

1. Straightforward improvements of existing products or product development.
2. Projects that are Phase II, III, or IV clinical trials. TIP will rarely fund Phase I clinical trials and reserves the right not to fund a Phase I clinical trial. The portion of a Phase I trial that may be funded must be critical to meeting Evaluation Criterion (a)(1) addressing the scientific and technical merit of the proposal. The trial results must be essential for completion of a critical R&D task of the project. The definitions of all phases of clinical trials are provided in the *TIP Guidelines and Documentation Requirements for Research Involving Human & Animal Subjects* located at <http://www.nist.gov/tip/helpful.html>.
3. Pre-commercial-scale demonstration projects where the emphasis is on demonstrating that some technology works on a large scale or is economically sound rather than on R&D that advances the state of the art and is high-risk, high-reward.
4. Projects that TIP determines would likely be completed without TIP funds in the same time frame or nearly the same time frame, or with the same scale or scope.

5. Predominantly straightforward, routine data gathering (e.g., creation of voluntary consensus standards, data gathering/handbook preparation, testing of materials, or unbounded research aimed at basic discovery science) or application of standard engineering practices.
6. Projects in which the predominant risk is market oriented—that is, the risk that the end product may not be embraced by the marketplace.
7. Projects with software work, that are predominantly about final product details and product development, and that have *significant* testing involving users outside the research team to determine if the software meets the original research objectives, are likely to be either uncompetitive or possibly ineligible for funding. However, R&D projects with limited software testing, involving users outside of the research team, may be eligible for funding and contain eligible costs within a TIP award when the testing is critical to meeting Evaluation Criteria and/or Award Criteria and the testing results are essential for completion of a critical task in the proposed research. This type of testing in projects may also be considered to involve human subjects in research.

II. Award Information

Fiscal year 2008 appropriations include funds in the amount of approximately \$9 million for new TIP awards. Approximately 9 awards are anticipated. The anticipated start date is January 1, 2009. The period of performance depends on the R&D activity proposed. A single company can receive up to a total of \$3 million with a project period of performance of up to 3 years. A joint venture can receive up to total of \$9 million with a project period of performance of up to 5 years.

Continuation funding is based on satisfactory performance, availability of funds, continued relevance to program objectives, and is at the sole discretion of NIST.

The funding instrument used in TIP awards is a cooperative agreement. Through the use of the cooperative agreement, TIP fosters public/private partnerships to accomplish a public purpose to support, promote, and accelerate innovation in the United States through high-risk, high-reward research in areas of critical national need. TIP plays a substantial role beyond the levels required normally for program stewardship of grants. This includes but is not limited to providing technical assistance and monitoring of the technical progress against established milestones, and maintaining fidelity against the TIP award and evaluation criteria; review and approval of key personnel, including the Principal Investigator (PI) and designated staff other than the PI; significant changes in project participants that impact the technical approach; and tracking impact statements for use in the TIP Annual Report.

III. Eligibility Information

1. Eligible Applicants/Proposers

A U.S.-owned, single, small-sized or medium-sized company doing a majority of its business in the United States or a joint venture may apply for TIP funding. Members of joint ventures that are companies must also be doing a majority of their business in the United States. In addition, a company incorporated in the United States that has a parent company incorporated in another country may apply provided that certain requirements are met as discussed below. The term business or company means a for-profit organization, including sole proprietors, partnerships, limited-liability companies (LLCs), and corporations (15 C.F.R. §296.2).

- a. Single Company—a small-sized or medium-sized company. If the single company proposal includes contractors, the single company must be substantially involved in the R&D, with a leadership role in the project and defining the research agenda.
- b. Joint Venture—a business arrangement that includes either:
 - (1) At least two separately owned small-sized or medium-sized for-profit companies that are both substantially involved in the project and both of which are contributing to the cost-sharing requirement, with the lead entity of the joint venture being either a small-sized or medium-sized company; or
 - (2) At least one small-sized or medium-sized for-profit company and one institution of higher education or other organization, such as a national laboratory, governmental laboratory (not including NIST), or nonprofit research institute, that are both substantially involved in the project and both of which are contributing to the cost sharing requirement, with the lead entity of the joint venture being either that small-sized or medium-sized company or that institution of higher education.

TIP joint venture members must formally agree (i.e., sign a Joint Venture Agreement as discussed in Chapter 3, Section D) to collaborate on the project. The joint venture may include additional companies, institutions of higher education, and other organizations, such as national laboratories, governmental laboratories (not including NIST), and nonprofit research institutes, that may or may not contribute nonfederal funds to the project.

A large-sized company is not eligible to apply for TIP funding. A large-sized company is defined as any business, including any parent company plus related subsidiaries, having annual revenues in excess of \$1.63 billion. This number is based on the May 2008 issue of *Fortune* magazine's Fortune 1000 list. (Note that the revenue amount will be updated annually and will be noted in future annual announcements of availability of funds.)

A company incorporated in the United States that has a parent company incorporated in another country is eligible to participate and receive TIP funding if it meets the conditions in the TIP legislation (15 U.S.C. § 278n(1)(1)) and regulations (15 C.F.R. §296.5). Before making a final award, TIP will make a foreign-eligibility finding based on these conditions regarding the company's participation in a TIP project. The foreign eligibility finding involves the collection of evidence of whether the following conditions are met:

- a. The company's participation in the TIP project would be in the economic interest of the United States, and
- b. The home country of the parent company provides all of the following:
 - (1) Comparable opportunities to those afforded to any other company for U.S.-owned companies to participate in government-funded programs similar to TIP,
 - (2) Comparable local investment opportunities to those afforded to any other company for U.S.-owned companies, and
 - (3) Adequate and effective protection of U.S.-owned companies' intellectual property rights.

TIP takes responsibility for gathering information related to the above requirements. The submitting organization must provide with the proposal a form NIST-1022G, Foreign-Owned Company Questionnaire (see Exhibit 10), that relates to the role of the foreign-owned company in the project to help address foreign eligibility requirement 4.a. above. If there is more than one such company, a separate questionnaire must be submitted for each one.

It is important that the information requested on the form NIST-1022G, Foreign-Owned Company Questionnaire, be provided in complete form at the time of proposal submission because it is used to assess the foreign-owned proposer's ability to bring about economic benefits to the United States. Information requested on this questionnaire relates to evidence that the company's participation is in the economic interest of the United States as stated in 4.a. above and includes the following:

- a. A sound justification that the involvement by the company and its role in the project is necessary to achieve the technical objectives and goals of the project;
- b. Evidence that the company makes investments in research, development, and manufacturing in the United States (an example might be the location and square footage of facilities and special equipment where the project will be carried out);
- c. Evidence that the company makes significant contributions to employment in the United States (i.e., number of employees); and
- d. Evidence that the company agrees to promote the manufacture of products within the United States resulting from the TIP-supported technology and to procure supplies from competitive U.S. suppliers. (For instance, will the company incorporate the technology into existing product lines or processes, or will the company develop new products or processes?)

2. Cost Sharing or Matching Requirement

- a. Single small- or medium-sized company recipients can receive up to a total of \$3 million in TIP funding for R&D activities spanning up to 3 years. TIP funds may only be used to pay direct costs. Single company recipients are responsible for funding all of their indirect/overhead costs. Small-sized and medium-sized companies applying as single company proposers must cost share at least 50 percent of the yearly total project costs (direct plus all of the indirect costs).
- b. Joint venture recipients can receive up to a total of \$9 million for R&D activities spanning up to 5 years. TIP funds may only be used to pay direct costs. Joint ventures are responsible for funding all of their indirect/overhead costs. Joint ventures must cost share at least 50 percent of the yearly total project costs (direct plus all of the indirect costs).

If an award is issued to a joint venture, each joint venture member will be responsible for meeting its committed cost share in accordance with the approved budget incorporated in the award. No joint venture member will be responsible for the cost-share commitment of any other joint venture member. However, with the agreement of the joint venture members, along with notification to the NIST Grants Officer, a joint venture member that has exceeded its cost-share commitment may allow its excess cost share to be applied to the cost-share deficit of another joint venture member, so that the overall joint venture cost share is met.

Cost sharing is that portion of project costs not borne by the federal government. Sources of revenue to satisfy the required cost share include cash and third party in-kind contributions. Cash may be

contributed by any nonfederal source, including but not limited to recipients, state and local governments, companies, and nonprofits (except contractors working on a TIP project). Third party in-kind contributions can be made by any nonfederal source (except contractors working on a TIP project) and include but are not limited to equipment, research tools, software, supplies, and/or services. Except as specified in 15 C.F.R. §296.6, the value of in-kind contributions shall be determined in accordance with 15 C.F.R. § 14.23 (Uniform Administrative Requirements for Grants and Cooperative Agreements With Institutions of Higher Education, Hospitals, Other Non-Profit, and Commercial Organizations <http://www.nist.gov/tip/helpful.html>) and will be prorated according to the share of total use dedicated to the TIP project.

Additionally, as with the federal share, any costs included as cost share must be allowable under the following applicable federal cost principles available at <http://www.nist.gov/tip/helpful.html>:

- a. For-profit companies: 48 C.F.R. Part 31.
- b. Universities: 2 C.F.R. Subtitle A, Chapter II, Part 220 (OMB Circular A-21).
- c. Nonprofit organizations: 2 C.F.R. Subtitle A, Chapter II, Part 230 (OMB Circular A-122).
- d. State and Local Governments: 2 C.F.R., Subtitle A. Chapter II, Part 225 (OMB Circular A-87).
- e. Hospitals: 45 C.F.R. Part 74, Appendix E.

Letters of commitment; letters of support; and letters of corroboration, documenting efforts to secure other funding, required or as appropriate, are identified in the TIP Proposal Preparation Kit in Chapter 2.

IV. Application/Proposal and Submission Information

1. Application/Proposal Package

The June 2008 version of the TIP Proposal Preparation Kit must be used to prepare and submit all proposals under the fiscal year 2008 competition. The Kit is available at <http://www.nist.gov/tip/helpful.html>. Requests for a paper copy of the Kit can be made by calling 1-888-847-6478.

The Kit contains proposal cover sheets, other required forms, and all the necessary guidelines for developing a TIP proposal. Information on electronic proposal submissions via grants.gov is also available in the Kit. All proposals must be prepared in accordance with the guidelines in the Kit.

2. Content and Form of Application/Proposal Submission

All paper (hard copy) and electronic proposal submission requirements are discussed in detail in Chapters 2 and 3 of the TIP Proposal Preparation Kit. The Kit also includes the “Human Subjects Determination Checklist” in Chapter 4, and General Instructions for Submitting TIP Proposals Electronically Via Grants.gov in Chapter 5 to assist potential proposers in their proposal preparation and submission. Additionally, all of the required forms are included in the TIP Kit as Exhibits.

TIP does not accept pre-proposals, unsolicited proposals, or letters of intent.

3. Submission Dates and Times

The due date for submission of proposals is 3 p.m. Eastern Time, Thursday, September 4, 2008. This deadline applies to any mode of proposal submission, including hand-delivery, courier, express mailing,

and electronic. Do not wait until the last minute to submit a proposal. TIP will not make any allowances for late submissions, including incomplete Grants.gov registration or delays by guaranteed overnight couriers. To avoid any potential processing backlogs due to last minute registrations, proposers are highly encouraged to start their Grants.gov registration process at least four weeks prior to the proposal submission due date.

Any proposals not received by the due date will not be considered and will be returned to the proposer without review. TIP determines whether a proposal has been submitted before the deadline by date/time stamping the proposals as they are physically received in the TIP office or in the case of electronic submission, as the time stamped on the automatically generated notification indicating successful submission.

4. **Executive Order 12372 (Intergovernmental Review of Federal Programs)**

Proposals under this program are not subject to Executive Order 12372.

5. **Funding Restrictions**

- a. The Federal share of a project funded under the Program shall not be more than 50 percent of total project costs.
- b. Federal funds may be used only for direct costs and not for indirect costs, profits, or management fees. However, indirect costs may be used to meet the cost sharing requirement.
- c. Regardless of any approved indirect cost rate applicable to the award, the maximum dollar amount of allocable indirect costs for which the recipient may use as cost sharing shall be the lesser of the line item amount of indirect costs contained in the approved budget of the award, or the recipient's share of the total allocable indirect costs of the award based on the indirect cost rate approved by an oversight or cognizant federal agency and current at the time the cost was incurred, provided the rate is approved on or before the award end date.
- d. No large-sized business may receive funding as a recipient or subrecipient of an award under the Program. When procured in accordance with procedures established under the Procurement Standards required by part 14 of Subtitle A of this title, recipients may procure supplies and other expendable property, equipment, real property and other services from any party, including large-sized businesses.
- e. **Unallowable/Ineligible Costs.** The following items, regardless of whether they are allowable under the federal cost principles, are ineligible/unallowable under TIP:
 - (1) Bid and proposal costs unless they are incorporated into a federally approved indirect cost rate (e.g., payments to any organization or person retained to help prepare a proposal).
 - (2) Construction costs for new buildings or extensive renovations of existing laboratory buildings. However, costs for the construction of experimental research and development facilities to be located within a new or existing building are allowable provided the equipment or facilities are essential for carrying out the proposed project and are approved by the NIST Grants Officer. These types of facility costs may need to be prorated if they will not be used exclusively for the research activities proposed.

- (3) Contractor office supplies and contractor expenses for conferences/workshops.
- (4) Contracts to another part of the same company or to another company with identical or nearly identical ownership. Work proposed by another part of the same company or by another company with identical or nearly identical ownership should be shown as funded through inter-organizational transfers that do not contain profit. Inter-organizational transfers should be broken down in the appropriate budget categories.
- (5) For research involving human and/or animal subjects, any costs used to secure Institutional Review Board or Institutional Animal Care and Use Committee approvals before or during the award.
- (6) General purpose office equipment and supplies that are not used exclusively for the research, e.g., office computers, printers, copiers, paper, pens, and toner cartridges.
- (7) Indirect costs, which must be absorbed by the recipient. However, indirect costs are allowable for contractors under a single company or joint venture. (Note that indirect costs absorbed by the recipient may be used to meet the cost-sharing requirement.)
- (8) Marketing, sales, or commercialization costs, including marketing surveys, commercialization studies, and general business planning, unless they are included in a federally approved indirect cost rate.
- (9) Office furniture costs, unless they are included in a federally approved indirect cost rate.
- (10) Patent costs and legal fees, unless they are included in a federally approved indirect cost rate.
- (11) Preaward costs.
- (12) Profit, management fees, interest on borrowed funds, or facilities capital cost of money. However, profit is allowable for contractors under a single company or joint venture.
- (13) Relocation costs, unless they are included in a federally approved indirect cost rate.
- (14) Tuition costs. However, an institution of higher education participating in a TIP project as a contractor or as a joint venture member or lead may charge TIP for tuition remission or other forms of compensation in lieu of wages paid to students working on TIP projects, but only as provided in OMB Circular A-21, Section J.41. In such cases, tuition remission would be considered a cash contribution rather than an in-kind contribution.

6. **Other Submission Requirements.** TIP proposals may be submitted in hard copy or in electronic format as follows:

- Paper submission: National Institute of Standards and Technology
Technology Innovation Program
100 Bureau Drive, Stop 4701
Gaithersburg, MD 20899-4701
- Electronic submission: www.grants.gov

V. Application/Proposal Review Information

1. **Criteria.** Proposals are selected for funding based on the evaluation criteria listed in 15 C.F.R. §296.21 and the award criteria listed in 15 C.F.R. §296.22 as identified below. Additionally, no proposal will be funded unless TIP determines that it has scientific and technical merit and that the proposed research has strong potential for addressing a societal challenge within the TIP-identified area of critical national need as described in this notice. Detailed guidance on how to address the evaluation and award criteria is provided in Chapter 2 of the TIP Proposal Preparation Kit, which is available at <http://www.nist.gov/tip/helpful.html>.

Evaluation Criteria. The two components of the evaluation criteria and respective weights as listed in 15 C.F.R. §296.21 are as follows:

- (a)(1) The proposer(s) adequately addresses the scientific and technical merit and how the research may result in intellectual property vesting in a United States entity including evidence that:
 - (i) The proposed research is novel;
 - (ii) The proposed research is high-risk, high-reward;
 - (iii) The proposer(s) demonstrates a high level of relevant scientific/technical expertise for key personnel, including contractors and/or informal collaborators, and has access to the necessary resources, for example research facilities, equipment, materials, and data, to conduct the research as proposed;
 - (iv) The research result(s) has the potential to address the technical needs associated with a major societal challenge not currently being addressed; and
 - (v) The proposed research plan is scientifically sound with tasks, milestones, timeline, decision points and alternate strategies.
- (2) Total weight of (a)(1)(i) through (v) is 50%.
- (b)(1) The proposer(s) adequately establishes that the proposed research has strong potential for advancing the state-of-the-art and contributing significantly to the United States science and technology knowledge base and to address areas of critical national need through transforming the Nation's capacity to deal with a major societal challenge(s) that is not currently being addressed, and generate substantial benefits to the Nation that extend significantly beyond the direct return to the proposer including an explanation in the proposal:
 - (i) Of the potential magnitude of transformational results upon the Nation's capabilities in an area;
 - (ii) Of how and when the ensuing transformational results will be useful to the Nation; and
 - (iii) Of the capacity and commitment of each award participant to enable or advance the transformation to the proposed research results (technology).
- (2) Total weight of (b)(1)(i) through (iii) is 50%.

Award Criteria. The six components of the award criteria as listed in 15 C.F.R. §296.22 are as follows:

- (a) The proposal explains why TIP support is necessary, including evidence that the research will not be conducted within a reasonable time period in the absence of financial assistance from TIP;

- (b) The proposal demonstrates that reasonable and thorough efforts have been made to secure funding from alternative funding sources and no other alternative funding sources are reasonably available to support the proposal;
- (c) The proposal explains the novelty of the research (technology) and demonstrates that other entities have not already developed, commercialized, marketed, distributed, or sold similar research results (technologies);
- (d) The proposal has scientific and technical merit and may result in intellectual property vesting in a United States entity that can commercialize the technology in a timely manner; and
- (e) The proposal establishes that the research has strong potential for advancing the state-of-the-art and contributing significantly to the United States science and technology knowledge base; and
- (f) The proposal establishes that the proposed transformational research (technology) has strong potential to address areas of critical national need through transforming the Nation's capacity to deal with major societal challenges that are not currently being addressed, and generate substantial benefits to the Nation that extend significantly beyond the direct return to the proposer.

NIST must determine that a proposal successfully meets all six award criteria for the proposal to receive funding under the Program.

2. **Selection Factors.** In making final selections, the Selecting Official will select funding recipients based upon the Evaluation Panel's rank order of the proposals and the following selection factors:
 - a. Assuring an appropriate distribution of funds among technologies and their applications,
 - b. Availability of funds, and/or
 - c. Program priorities.
3. **Program Priorities.** TIP is soliciting proposals under this fiscal year 2008 competition in one area of critical nation need entitled "Civil Infrastructure" as described in the Funding Opportunity Description section above.
4. **Review and Selection Process.** Proposals are selected based on a multi-disciplinary peer-review process, as described in 15 C.F.R. §296.20. A preliminary review is conducted to determine if the proposal is in accordance with 15 C.F.R. §296.3, complies with the eligibility requirements described in 15 C.F.R. §296.5, addresses award criteria (a) through (c) of 15 C.F.R. §296.22, and is complete. Proposals that are incomplete or do not meet any one of the preliminary review requirements will normally be eliminated. All remaining proposals are then carefully reviewed based on the TIP evaluation criteria listed in 15 C.F.R. §296.21 and award criteria listed in 15 C.F.R. §296.22. An Evaluation Panel will present funding recommendations to a Selecting Official in rank order for further consideration. The Selecting Official makes the final selections for funding. The selection of proposals by the Selecting Official is final and cannot be appealed. The final approval of selected proposals and award of assistance will be made by the NIST Grants Officer. The award decision of the NIST Grants Officer is final and cannot be appealed.

NIST reserves the right to negotiate the cost and scope of the proposed work with the proposers that have been selected to receive awards. This may include requesting that the proposer delete from the scope of work a particular task that is deemed by NIST to be inappropriate for support. NIST also

reserves the right to reject a proposal where information exists that raises a reasonable doubt as to the responsibility of the proposer.

5. **Additional Information**

- a. TIP proposals will be ranked in numerical order.
- b. Proposers may not submit replacement and/or revised pages and/or documents for any portion of a proposal once that portion has been submitted unless specifically requested by NIST.
- c. One copy of each non-responsive or non-selected proposal will be retained in accordance with the records retention schedule for record keeping purposes. The remaining copies will be destroyed. After the records retention schedule is fulfilled the remaining copy will be destroyed.

VI. **Award Administration Information**

1. **Anticipated Announcement and Award Date.** Awards will be made by the end of November 2008.
2. **Award Notices.** Successful proposers/applicants will receive an award document (CD-450 Financial Assistance Award) signed by the NIST Grants Officer. The award will include the award period, the budget, special award conditions, TIP General Terms and Conditions, DoC Financial Assistance Standard Terms and Conditions, and will incorporate the applicable federal cost principles, and applicable policy and regulatory references that will govern the award. The award will be mailed to the successful proposer/applicant via surface mail in triplicate and requires a counter-signature on all three copies by an authorized official at the organization. The recipient should retain one original and return the other two copies to the address listed in the award document. The award document, i.e., CD-450 and award terms and conditions are available at <http://www.nist.gov/tip/helpful.html>.
3. **Certification Regarding Federal Tax Status.** Applicants are advised of the following requirement contained in Division B, "Commerce, Justice, Science, and Related Agencies Appropriations Act, 2008," Title V, "General Provisions," Section 535 of P.L. 110-161, "Consolidated Appropriations Act, 2008."

Sec. 535. None of the funds appropriated or otherwise made available by this Act may be used to enter into a contract in an amount greater than \$5,000,000 or to award a grant in excess of such amount unless the prospective contractor or grantee certifies in writing to the agency awarding the contract or grant that, to the best of its knowledge and belief, the contractor or grantee has filed all Federal tax returns required during the three years preceding the certification, has not been convicted of a criminal offense under the Internal Revenue Code of 1986, and has not, more than 90 days prior to certification, been notified of any unpaid Federal tax assessment for which the liability remains unsatisfied, unless the assessment is the subject of an installment agreement or offer in compromise that has been approved by the Internal Revenue Service and is not in default, or the assessment is the subject of a non-frivolous administrative or judicial proceeding.

Accordingly, applicants who will be receiving awards that obligate amounts greater than \$5,000,000 in Federal funds will be required to submit a certification complying with the requirements of Sec. 535, prior to receiving an award.

4. **Administrative and National Policy Requirements. DoC Pre-Award Notification Requirements.** The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative

Agreements, 73 Fed. Reg. 7696-05 (Feb. 11, 2008), apply to this solicitation. On the form SF-424, the applicant's 9-digit Dun and Bradstreet Data Universal Numbering System (DUNS) number must be entered in item 8.c. Organizational DUNS.

5. **Reporting.** Award recipients shall provide access to information that is required to assess the project's progress throughout the project life cycle. The following reports are required:
 - a. **Technical Performance Reports.** Award recipients shall submit technical performance reports in triplicate (one original and two copies). Two copies shall be submitted to the Project Manager and the original report to the NIST Grants Officer in the same frequency as the Financial Status Report (SF-269). Technical performance reports shall contain information as prescribed in 15 C.F.R. 14.51.
 - b. **Impact Assessment Reports.** Award recipients shall submit impact assessment reports as stipulated in the award terms and conditions.
 - c. **Financial Reports.** For recipients under this program, Article A.01 of the DoC Financial Assistance Standard Terms and Conditions dated March 2008 is revised as follows:

Award Recipients shall submit a "Financial Status Report" (SF-269) on a calendar quarter basis for the periods ending March 31, June 30, September 30, and December 31, or any portion thereof. Reports are due no later than 30 days following the end of each reporting period. A final SF-269 shall be submitted within 90 days after the expiration date of the award.

All financial reports shall be submitted in triplicate (one original and two copies) to the NIST Grants Officer.

6. **Intellectual Property Requirements.** For single company award recipients, pursuant to the Bayh-Dole Act (35 U.S.C. 202 (a) and (b)) and "Memorandum to the Heads of Executive Departments and Agencies: Government Patent Policy" (February 18, 1983), the entity that invents owns the invention. However, pursuant to 35 U.S.C. 202(a)(i), when a single company or its contractor under a TIP award is not located in the United States or does not have a place of business located in the United States or is subject to the control of a foreign government, NIST will require that title to inventions made by such parties be transferred to a United States entity that will ensure the commercialization of the technology in a timely fashion.

For joint ventures, ownership of inventions arising from a TIP-funded project may vest in any participant in a joint venture, as agreed by the members of the joint venture (notwithstanding 35 U.S.C. 202 (a) and (b)). (*Participant includes any entity that is identified as a recipient, subrecipient, or contractor on an award to a joint venture.*)

Title to any such invention shall not be transferred or passed, except to a participant in the joint venture, until the expiration of the first patent obtained in connection with such invention.

Should the last existing participant in a joint venture cease to exist prior to the expiration of the first patent obtained in connection with any invention developed from assistance provided under TIP, title to such patent must be transferred or passed to a U.S. entity that can commercialize the technology in a timely fashion.

The United States reserves a nonexclusive, nontransferable, irrevocable paid-up license, to practice or have practiced for or on behalf of the United States any inventions developed from a TIP award. The

federal government shall not in the exercise of such license publicly disclose proprietary information related to the license. This does not prohibit the licensing to any company of intellectual property rights arising from a TIP-funded project. (15 C.F.R. §296.11(b)(3)). The federal government also has march-in rights in accordance with 37 C.F.R. §401.6.

7. **Projects Involving Human Subjects.** Research involving human subjects must be in compliance with applicable Federal regulations and NIST policies for the protection of human subjects. Human subjects research activities involve interactions with live human subjects or the use of data, images, tissue, and/or cells/cell lines (including those used for control purposes) from human subjects. Research involving human subjects may include activities such as the use of image and/or audio recording of people, taking surveys or using survey data, using databases containing personal information, testing software with volunteers, and many tasks beyond those within traditional biomedical research. A Human Subjects Determination Checklist is included in the June 2008 TIP Proposal Preparation Kit in Chapter 4 (<http://www.nist.gov/tip/helpful.html>) to assist you in determining whether your proposed research plan has human subjects involvement, which would require additional information in your proposal submission, and possibly more documentation during the Evaluation Panel’s consideration of your proposal. See the *TIP Guidelines and Documentation Requirements for Research Involving Human & Animal Subjects* for more specific information on documentation requirements and due dates for documentation located at <http://www.nist.gov/tip/helpful.html> or by calling 1-888-847-6478.

8. **Projects Involving Live Vertebrate Animals.** Research involving live vertebrate animals must be in compliance with applicable federal regulations and NIST policies for the protection of live vertebrate animals. Vertebrate animal research involves live animals that are being cared for, euthanized, or used by the project participants to accomplish research goals or for teaching or testing. The regulations do not apply to animal tissues purchased from commercial processors or tissue banks or to uses of preexisting images of animals (e.g., a wildlife documentary or pictures of animals in newscasts). The regulations do apply to any animals that are transported, cared for, euthanized or used by a project participant for testing, research, or training such as testing of new procedures or projects, collection of biological samples or observation data on health and behavior. Detailed information regarding the use of live vertebrate animals in research plans and required documentation is available in the *TIP Guidelines and Documentation Requirements for Research Involving Human & Animal Subjects* located at <http://www.nist.gov/tip/helpful.html> or by calling 1-888-847-6478.

VII. Agency Contact(s)

Subject Area	Point of Contact
Administrative, budget, cost-sharing, and eligibility questions	Barbara Lambis Phone: 301-975-4447 Fax: 301-869-1150 E-mail: barbara.lambis@nist.gov
Human and/or animal subjects used in research	Lawrence Uhteg Human & Animal Subjects Advisor Phone: 301-975-8779 Fax: 301-548-1087 E-mail: lawrence.uhteg@nist.gov
Project selection, evaluation and award criteria, and other programmatic questions	Thomas Wiggins, Director Selection Management Office Phone: 301-975-5416 Fax: 301-975-2147

	E-mail: thomas.wiggins@nist.gov
Electronic proposal submission	Christopher Hunton Phone: 301-975-5718 Fax: 301-840-5976 E-mail: christopher.hunton@nist.gov
Technical questions related to NIST-1022 and associated forms	Deborah Dubeau Phone: 301-975-3462 Fax: 301-975-2147 E-mail: deborah.dubeau@nist.gov
Foreign-owned company participation	Kathleen McTigue Phone: 301-975-8530 Fax: 301-975-2147 E-mail: kathleen.mctigue@nist.gov
Grant and cooperative agreement rules and regulations	Grants & Agreements Mgmt. Division Phone: 301-975-6328 Fax: 301-840-5976 E-mail: grants@nist.gov

VIII. Other Information

1. **Confidential Information:** All individuals who will have access to submitted proposals must sign nondisclosure agreements. The government will protect confidential/proprietary information about business operations and trade secrets possessed by any company or participant to the full extent of the law. To the extent permitted by law, TIP will withhold such information from disclosure pursuant to the following statutes, which can be found at <http://www.nist.gov/tip/helpful.html>.
 - a. Freedom of Information Act (FOIA)—5 U.S.C. §552(b).
 - b. Economic Espionage Act—18 U.S.C. § 1832.
 - c. Trade Secrets Act—18 U.S.C. § 1905.

In view of the above, proposers are cautioned that proposals are likely to be less competitive if significant details are omitted due to the proposer's reluctance to reveal confidential/proprietary information.

2. **Public Meetings (Proposers' Conferences):** TIP is holding public meetings (Proposers' Conferences) at several locations around the country. Proposers' conferences will provide general information regarding TIP, guidance on preparing proposals, and the opportunity for questions and answers. Proprietary technical discussions about specific project ideas with NIST staff are not permitted at these conferences or at any time before submitting the proposal to TIP. Therefore, you should not expect to have proprietary issues addressed at proposers' conferences. Also, NIST/TIP staff will not critique or provide feedback on project ideas while they are being developed by a proposer. However, NIST/TIP staff will answer questions about the TIP eligibility and cost-sharing requirements, evaluation and award criteria, selection process, and the general characteristics of a competitive TIP proposal at the Proposers' Conferences and by phone and email. Attendance at TIP proposers' conferences is not required.

TIP Proposers' Conferences are being held at the following dates, times, and locations:

July 16, 2008, 9 a.m. - 1 p.m. Central Time: St. Louis Airport Marriott, 10700 Pear Tree Lane, St. Louis, MO (314-253-5121)

July 16, 2008, 9 a.m. - 1 p.m. Central Time: Renaissance Houston, 6 Greenway Plaza, East Houston, TX (713-850-2310)

July 17, 2008, 9 a.m. - 1 p.m. Eastern Time: Holiday Inn Atlanta Airport North, 1380 Virginia Avenue, Atlanta, GA (404-838-0029)

July 17, 2008, 9 a.m. - 1 p.m. Pacific Time: Holiday Inn Portland Airport, 8439 North East Columbia Boulevard, Portland, OR (503-914-5253)

July 18, 2008, 9 a.m. - 1 p.m. Pacific Time: Doubletree San Jose, 2050 Gateway Place, San Jose, CA (408-437-2124)

July 21, 2008, 1 p.m. - 5 p.m. Eastern Time: Boston Courtyard Downtown, 275 Tremont Street, Boston, MA (781-537-5594)

July 22, 2008, 9 a.m. - 1 p.m. Eastern Time: NIST Red Auditorium, 100 Bureau Drive, Gaithersburg, MD (301-975-8910). **Pre-registration is required by 5 p.m. Eastern Time on July 16, 2008 for the Proposers' Conference being held at NIST Gaithersburg, MD only.** Due to increased security at NIST, **NO on-site registrations** will be accepted and all attendees **MUST** be pre-registered. Photo identification must be presented at the NIST main gate to be admitted to the July 17, 2008 conference. Attendees must wear their conference badge at all times while on the NIST campus. Same day registration will be allowed at the other locations. **Electronic Registration:** At http://www.nist.gov/public_affairs/confpage/080722.htm.

No registration fee will be charged for any of the Proposers' Conferences. Presentation materials from Proposers' Conferences will be made available on the TIP Web site.