



OCT. 04

NIJ

Solicitation for Concept Papers

**Sensor, Surveillance, and Biometrics
Technologies for Criminal Justice**

Notice:

You *must* submit your application using the Office of Justice Programs' automated Grants Management System. Paper applications will not be accepted. We suggest you begin the process as soon as possible. To start the process, go to <http://www.ojp.usdoj.gov/fundopps.htm>.

**Deadline for Concept
Papers:**

December 13, 2004

8 p.m. eastern time

SL 000678

U.S. Department of Justice
Office of Justice Programs
810 Seventh Street N.W.
Washington, DC 20531

John Ashcroft
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Office of Justice Programs
Partnerships for Safer Communities
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Sensor, Surveillance, and Biometrics Technologies for Criminal Justice

I. Introduction

The National Institute of Justice (NIJ) is the research, development, and evaluation agency of the U.S. Department of Justice and a component of the Office of Justice Programs. NIJ provides objective, independent, evidence-based knowledge and tools to enhance the administration of justice and public safety. NIJ supports research that can provide knowledge and tools to guide policy and practice.

NIJ is seeking concept papers for technology or novel application of technology that improves criminal justice by using sensors, surveillance, or biometrics. NIJ is particularly interested in four areas:

1. Detecting concealed weapons at a safe distance.
2. Locating and tracking individuals within buildings.
3. Using biometric devices to identify cooperative individuals rapidly and reliably, especially under adverse conditions.
4. Using biometric technologies to recognize individuals without their cooperation.

Due date: The due dates are listed on the cover of this announcement and on the NIJ Web site at <http://www.ojp.usdoj.gov/nij/funding.htm>. Extensions to the deadlines are generally not granted.

Page limit: The program narrative section of your concept paper must not exceed 7 double-spaced pages in 12-point font with 1-inch margins. Abstract, table of contents, charts, figures, appendixes, and government forms do not count toward the 7-page limit for the narrative section, but should not increase the total past 10 pages. (Full proposals, for applicants who will be invited to submit them, are usually limited to 25 to 30 pages.)

Reasons for rejection: NIJ may reject applications that are incomplete, do not respond to the scope of the solicitation, do not comply with format requirements, or are submitted after the deadline. No additions to the original submission are allowed.

How to submit applications to NIJ: Funding applications instructions are in “Guidelines: How to Submit Applications,” available on the NIJ Web site at <http://www.ojp.usdoj.gov/nij/funding.htm>.

II. Proposal Topics

In this solicitation, NIJ is particularly interested in four areas:

1. Detecting concealed weapons at a safe distance. Public safety and corrections officers need surveillance devices that can detect a variety of metallic and nonmetallic weapons that can be concealed on a person's body. Officers must be able to detect the weapons from a safe distance and through a variety of clothing. The types of weapons range from small handguns to bomb belts worn by suicide attackers. The minimum distance at which these weapons must be detected varies based on the size, shape, composition, and effective range of the weapon, but in every case, the distance must provide officers with sufficient time to react. Handguns should be detected at a distance of at least 10 meters.

NIJ is most interested in concepts where officers can detect both metallic and nonmetallic weapons, that require minimal or no cooperation from the subjects, and that are portable or handheld. Covertly is also a desirable attribute.

2. Locating and tracking individuals within buildings. Law enforcement and corrections officers must locate and track individuals through a variety of interior and exterior building walls to (1) support hostage rescue, building surveillance, and clearance operations and (2) support building search operations.

To rescue hostages or clear buildings, officers need a device that can remotely map the interior of the building, identify interior walls, and locate and track people who are in the building. Some of the people the device would locate and track may be cooperative—SWAT officers, undercover officers, VIPs—and might be issued a tag. But others—hostage takers and untagged hostages—would not. (Applications that propose concepts that rely solely on ID tags will not be considered.) The capability to identify inanimate objects (such as furniture) is also desirable. Such a device should display the building interior and people inside the building on a laptop computer screen for use by the commander of the operation. The display should show the walls and, via moving icons, show the location and movement of both cooperating and noncooperating individuals. Ideally, it would also identify which individuals had weapons. Relevant information should be accessible by other officers via their personal digital assistants (PDAs) in real-time from the commander's laptop computer.

The proposed device should be portable, rapidly deployable, and able to survey the scene from a distance. It might employ multiple sensors. Covertly is a desirable feature. At a minimum, the device should give the practitioner information about the distance and direction of the person being tracked. More desirable is a device that gives three-dimensional information (range, direction, and height) about the individual.

For building search operations, officers need a small, handheld device capable of rapidly detecting an individual through exterior and interior building walls and doors. At a minimum, the device should indicate life in a building. Greater functionality, for example, providing range and azimuth, is desirable, but must be balanced against cost and size. NIJ is most interested in concepts that can locate and track individuals through metal walls.

3. Using biometric technologies to locate cooperative individuals. NIJ is seeking concept papers to develop biometric technology applications for use by Federal, State, and local agencies to do the following:

- Identify-fix or baseline individuals (for example, a common ID card to identify DOJ Federal employees and contractors).
- Identify people from video surveillance.
- Track evidence through a chain of custody.
- Control logical or physical access.
- Use audio surveillance in real-time and/or post-event to identify people.

NIJ is particularly interested in the evaluation of iris recognition; fusion of combined facial and iris, facial and fingerprint, and fingerprint and iris recognition; temporal processing of facial images; processing of high resolution 2D facial images; evaluation of facial recognition performance; and evaluation of voice/speaker recognition.

Proposals should clearly identify the need the project will address, explain how the technology will meet that need, and address the use of biometrics standards (such as Common Biometrics Exchange File Format, Biometrics Application Programming Interface (BioAPI), NIST, INCITS/M1standards) in the technology approach. Proposals should also describe how the project will collect data, measure the results against defined metrics, and distribute results.

4. Using biometric technologies for noncooperative individuals. NIJ is seeking to develop new technology that makes it easier or more reliable to identify noncooperative individuals through sensor data. For example, a project could propose to identify individuals from CCTV (of advanced design as necessary) or from a combination of multiple sensors.

In addition to the four areas described above, NIJ is interested in other novel applications for sensors, surveillance, and biometric technologies (including CCTV), and thermal imaging to address specific law enforcement, corrections, and school safety issues. (Examples include the application of HDTV or super-resolution video cameras to law enforcement needs, forensic application of biometrics, and improved sensors for use in criminal proceedings.)

Successful applicants should propose projects that are affordable by State and local criminal justice agencies—a target cost of less than \$30,000 in production is highly desired. Costs much

less than \$30,000 are preferred. Cost should be proportionate to performance. Technologies should be designed for use by the average criminal justice practitioner and require minimum training. Technologies should be easy to maintain and impose a minimal logistics burden. The ability to export data to a remote location is highly desired.

III. General Requirements and Guidance

NIJ seeks concept papers that capture the essence of a full proposal. The main difference between a concept paper and a proposal is that concept papers are much shorter and do not contain detailed budgets.

Your concept paper should state the problem under investigation (including goals and objectives of the proposed project) and the relevance of the project to public policy, practice, or theory. The narrative program section should state the research question and objectives and explain how the work will contribute to knowledge and practice. It should describe in sufficient detail the research methods and analytic strategy.

While the concept paper should not include a detailed budget or management plan, it should include a staffing plan and an estimate of the funding required, summarized by task, and a general timeframe for completion of those tasks and the project as a whole

Format your concept paper as follows:

1. Abstract of no more than 400 words
2. Program narrative
 - a. Research question or problem
 - b. Research goals and objectives
 - c. Research design and methods
 - d. Implications for knowledge and practice
 - e. Dissemination plan for project deliverables
 - f. Description of estimated costs
 - g. Staffing plan
 - h. Timeline
3. Tables, figures, charts, and appendixes (if applicable)

Peer reviewers will evaluate each concept paper and based on their recommendations, NIJ staff will invite authors of selected concept papers to submit full applications.

Instructions for submitting proposals can be found in "Guidelines: How to Submit Applications," (available at <http://www.ojp.usdoj.gov/nij/funding.htm>) and the Office of Justice Programs Grants Management System Handbook (available at <http://www.ojp.usdoj.gov/fundopps.htm>).

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- A. Submit applications online:** Paper applications are not accepted. Applications must be submitted through the Office of Justice Programs' online Grants Management System. NIJ suggests you begin the process early, especially if this is the first time you have used the system. To begin, go to <http://www.ojp.usdoj.gov/fundopps.htm>. There are three types of documents that can be uploaded to an application package: PDFs, Word documents, and text documents. The Grants Management System does not consider an application complete until three files are uploaded: (1) "Program Narrative." (2) "Budget Detail Worksheet and Narrative," and (3) "Other Program Attachments." Upload your concept paper into the "Program Narrative" box. Concept papers do not have "Budget Detail Worksheets and Narratives" and do not have "Other Program Attachments." Hence, you should upload blank files into those boxes in GMS.
- B. Relevance of the project for policy and practice:** Higher quality concept papers clearly explain the practical implications of the project. They connect technical expertise with policy and practice. To ensure that the project has strong relevance for policy and practice, some researchers and technologists collaborate with practitioners and policymakers. You may include letters showing support from practitioners, but they carry less weight than clear evidence that you understand why policymakers and practitioners would benefit from your work and how they would use it. While a partnership may affect State or local activities, it should also have broader implications for others across the country.
- C. Equal opportunity for all applicants:** It is OJP's policy that faith-based and community organizations that statutorily qualify as eligible applicants under OJP programs are invited and encouraged to apply for awards. Faith-based and community organizations will be considered for an award on the same basis as any other eligible applicants and, if they receive an award, will be treated on an equal basis with non-faith-based and community organization grantees in the administration of such awards. No eligible applicant or grantee will be discriminated against on the basis of its religious character or affiliation, religious name, or the religious composition of its board of directors or persons working in the organization.
- D. Cofunding:** A grant made by NIJ under this solicitation may account for up to 100 percent of the total cost of the project. You must indicate whether you believe it is feasible for you to contribute cash, facilities, or services as non-Federal support for the project. Your concept paper should identify generally any such contributions that you propose to make. If you are asked to submit a full proposal, your proposed budget should indicate in detail which items, if any, will be supported with non-Federal contributions.
- E. Number of grants to be awarded:** NIJ's grant award process is highly competitive. The number of awards to be made is subject to the availability of funds and the number and quality of applications received.

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- F. When awards will be made:** All applicants, whether they are accepted or rejected, will be notified. The review and approval process for concept papers takes about 8 weeks. The review and approval process for full proposals takes about 6 months. You should not propose to begin work until at least 8 months after the concept paper deadline on the cover of this solicitation. Also, you should not expect to receive notification of a decision for at least 8 months after that date. Lists of awards are updated regularly on NIJ's Web site at <http://www.ojp.usdoj.gov/nij/funding.htm>.
- G. Financial audits are required:** If your organization spends \$500,000 or more of Federal funds during the fiscal year, you may be asked to submit an organization-wide financial and compliance audit report before any award is made. The audit must be performed in accordance with the U.S. Government Accountability Office Government Accounting Standards and must conform to Chapter 19 ("Audit Requirements") of the Office of Justice Programs' Financial Guide (available at <http://www.ojp.usdoj.gov/FinGuide>). You may include the costs of complying with these audits in the proposed budget submitted as part of your application. Detailed information regarding the independent audit is available in Office of Management and Budget Circular A-133 (available at <http://www.whitehouse.gov/omb/circulars>).
- H. An environmental assessment may be required:** All award recipients must comply with the National Environmental Policy Act (NEPA). To ensure NEPA compliance, NIJ may require some award recipients to submit additional information.
- I. Protection of confidentiality:** Federal regulations require applicants for NIJ funding to outline specific procedures for protecting private information about individuals as part of the Privacy Certificate submitted with the application package. For additional information, see "Guidelines: How to Submit Applications," <http://www.ojp.usdoj.gov/nij/funding.htm>.
- J. A DUNS number is required:** The Office of Management and Budget requires that all businesses and nonprofit applicants for Federal funds include a DUNS (Data Universal Numeric System) number in their application for a new award or renewal of an award. Applications without a DUNS number are incomplete. A DUNS number is a unique nine-digit sequence recognized as the universal standard for identifying and keeping track of entities receiving Federal funds. The identifier is used for tracking purposes and to validate address and point of contact information. NIJ will use the DUNS number throughout the grant life cycle. Obtaining a DUNS number is a free, one-time activity. Obtain one by calling 1-866-705-5711 or by applying online at <http://www.dunandbradstreet.com>. Individuals are exempt from this requirement.

K. Funds cannot be used to lobby: Under the Anti-Lobbying Act (18 U.S.C. § 1913), grantees generally may not use funds to support the enactment, repeal, or modification of any law, regulation, or policy at any level of government. For additional information on rules and regulations, see “Guidelines: How to Submit Applications” at <http://www.ojp.usdoj.gov/nij/funding.htm> and OJP’s Financial Guide at <http://www.ojp.usdoj.gov/FinGuide>.

L. What will *not* be funded: Typically, NIJ *does not* fund the following:

1. Provision of training or direct service.
2. Proposals primarily to purchase equipment, materials, or supplies. (Your budget may include these items if they are necessary to conduct applied research, development, demonstration, evaluation, or analysis, but NIJ does not fund proposals that are primarily to purchase equipment.)
3. Work that will be funded under another specific solicitation.
4. Basic or pure research.
5. Proposals that do not involve a suitable treatment of a technology, such as the conduct of applied research, development, analysis, evaluation, or the demonstration of one or more technologies.

M. Cost of proposed work: If you propose a project that exceeds \$500,000, we recommend that you divide the project into phases, stages, or tasks so that NIJ can consider making an award for a specific portion of the work. NIJ cannot guarantee that subsequent phases, stages, or tasks will be funded. Such additional funding depends on NIJ’s resources and your satisfactory completions of each phase, stage, or task. Note: Deliverables (e.g., a final report) will be required at the end of each phase, stage, or task.

N. Call for assistance:

1. For technical guidance about using the Grants Management System, call the hotline at 1-888-549-9901.
2. For questions about this solicitation, the research being solicited, or other NIJ funding opportunities, contact the U.S. Department of Justice Response Center at 1-800-421-6770.

IV. Selection Criteria

NIJ is firmly committed to the competitive process in awarding grants. All concept papers and proposals are subjected to an independent peer-review panel evaluation. External peer-review panelists consider both technical and programmatic merits. Panelists are selected based on their expertise in subject areas pertinent to the proposals.

Peer-review panelists will evaluate concept papers and full proposals using the criteria listed below. Following this assessment, NIJ will then invite selected applicants to submit full proposals. Full proposals will also be peer reviewed. NIJ staff then make recommendations to the NIJ Director. The Director makes final award decisions.

Successful applicants must demonstrate the following:

A. Understanding of the problem and its importance.

B. Quality and technical merit.

1. Awareness of the state of current research or technology.
2. Soundness of methodology and analytic and technical approach.
3. Feasibility of proposed project and awareness of pitfalls.
4. Innovation and creativity (when appropriate).

C. Impact of the proposed project.

1. Potential for significant advances in scientific or technical understanding of the problem.
2. Potential for significant advances in the field.
3. Relevance for improving the policy and practice of criminal justice and related agencies and improving public safety, security, and quality of life.
4. Affordability and cost-effectiveness of proposed end products, when applicable (e.g., purchase price and maintenance costs for a new technology or cost of training to use the technology).
5. Perceived potential for commercialization and/or implementation of a new technology (when applicable).

D. Capabilities, demonstrated productivity, and experience of applicants.

1. Qualifications and experience of proposed staff.
2. Demonstrated ability of proposed staff and organization to manage the effort.
3. Adequacy of the plan to manage the project, including how various tasks are subdivided and resources are used.
4. Successful past performance on NIJ grants and contracts (when applicable).

E. Budget.

1. Total cost of the project relative to the perceived benefit.
2. Appropriateness of the budget relative to the level of effort.
3. Use of existing resources to conserve costs.

F. Dissemination strategy.

1. Well-defined plan for the grant recipient to disseminate results to appropriate audiences, including researchers, practitioners, and policymakers.

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2. Suggestions for print and electronic products NIJ might develop for practitioners and policymakers.

V. Requirements for Successful Applicants

If you are invited to submit a proposal and your proposal is funded, you will be required to submit several reports and other materials as follows:

- A. Final report:** The final report should be a comprehensive overview of the project and should include a detailed description of the project design, data, and methods; a full presentation of scientific findings; and a thorough discussion of the implications of the project findings for criminal justice practice and policy. It must contain an abstract of no more than 400 words and an executive summary of no more than 2,500 words.

A draft of the final report, abstract, and executive summary must be submitted 90 days before the end date of the grant. The draft final report will be peer reviewed upon submission. The reviews will be forwarded to the author with suggestions for revisions. The author must then submit the revised final report, abstract, and executive summary by the end date of the grant. The abstract, executive summary, and final report must be submitted in both paper and electronic formats.

For evaluation studies, the final report should include a section on measuring program performance. This section should outline the measures used to evaluate program effectiveness, modifications made to those measures as a result of the evaluation, and recommendations regarding these and other potential performance measures for similar programs. (This information will be particularly valuable to NIJ and other Federal program agencies in implementing performance measures for federally funded criminal justice programs.)

- B. Interim reports:** Grantees must submit quarterly financial reports, semi-annual progress reports, and a final progress report. Future awards and fund drawdowns may be withheld if reports are delinquent. Post-award reporting requirements are described in “Guidelines: How to Submit Applications,” available at <http://www.ojp.usdoj.gov/nij/funding.htm>.

- C. Materials concerning protection of confidential information and human subjects:** Recipients of NIJ research funds must comply with Federal regulations concerning the protection of private information about individuals. Recipients also must comply with Federal regulations concerning protection of human subjects. In general, all research involving human subjects that is conducted or supported by NIJ funds must be reviewed and approved by an Institutional Review Board before Federal funds are expended for that research. NIJ may also ask grant recipients for additional information related to privacy and human subjects testing.

Additional general information regarding NIJ's requirements for privacy and protection of human subjects appears in "Guidelines: How to Submit Applications," available at <http://www.ojp.usdoj.gov/nij/funding.htm>. Complete information about NIJ's requirements can be found at <http://www.ojp.usdoj.gov/nij/humansubjects>.

- D. Electronic data:** Some grant recipients will be required to submit electronic data and supporting documentation, such as a codebook or dictionary, capable of being re-analyzed and used by other researchers. The materials must be submitted by the end date of the grant. Grant applicants should ensure that the proposed timeline and budget accommodate these requirements.
- E. Performance guidelines:** As part of government-wide efforts to measure the performance of Federal funding, in May 2002, the White House issued guidance on how to evaluate the performance of Federal research programs. Research should be: (1) relevant—that is, important and appropriate for meeting the needs of the field, (2) of high quality, and (3) well-managed by grantees and well-monitored by the Federal agency. Therefore, in addition to the reporting requirements discussed above, a grantee's performance on an award made under this solicitation will be evaluated on whether the final research report was (1) relevant to the needs of the field as measured by whether the grantee's substantive scope did not deviate from the funded proposal or any subsequent agency modifications to the scope; (2) of high quality as assessed by peer reviewers; and (3) well-managed as measured by whether significant interim project milestones were achieved, final deadlines were met, and costs remained within approved limits. For more information see "Guidelines: How to Submit Applications," available at <http://www.ojp.usdoj.gov/nij/funding.htm>.

Tips for Submitting Your Application

1. Begin the application process early—especially if you have never used the online Grants Management System before. NIJ will not accept applications received after the closing date and time listed on the cover. To start the process, go to <http://www.ojp.usdoj.gov/fundopps.htm>.
2. Review “Guidelines: How to Submit Applications” for complete instructions, available at <http://www.ojp.usdoj.gov/nij/funding.htm>.
3. Although your proposal may budget for the purchase of equipment if the equipment is necessary to conduct the project, NIJ will not fund applications that are primarily to purchase equipment, materials, or supplies.
4. Call for help:
 - For technical guidance about the Grants Management System, call the hotline at 1-888-549-9901.
 - For questions about this solicitation, the research being solicited, or other NIJ funding opportunities, contact the U.S. Department of Justice Response Center at 1-800-421-6770.

View or print a copy of this document from the NIJ Web site (<http://www.ojp.usdoj.gov/nij/funding.htm>) or request one by calling NCJRS at 1-800-851-3420 or e-mailing askncjrs@ncjrs.org.

The National Institute of Justice is the research, development, and evaluation agency of the U.S. Department of Justice.

NIJ provides objective, independent, evidence-based knowledge and tools to enhance the administration of justice and public safety.

NIJ is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, the Bureau of Justice Statistics, the Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime.