



NATIONAL SCIENCE FOUNDATION

Notice of Intent to Seek Approval to Establish an Information Collection

AGENCY: Directorate for Technology, Innovation, and Partnerships, National Science Foundation.

ACTION: Notice and request for comments.

SUMMARY: Under the Paperwork Reduction Act of 1995, and as part of its continuing effort to reduce paperwork and respondent burden, the Directorate for Technology, Innovation, and Partnerships (TIP), National Science Foundation (NSF) is inviting the general public or other Federal agencies to comment on this proposed information collection.

DATES: Written comments on this notice must be received by [INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER], to be assured consideration. Comments received after that date will be considered to the extent practicable. Send comments to the address below.

FOR FURTHER INFORMATION CONTACT: Suzanne H. Plimpton, Reports Clearance Officer, National Science Foundation, 2415 Eisenhower Avenue, Suite E7400, Alexandria, Virginia 22314; telephone (703) 292-7556; or send e-mail to splimpto@nsf.gov. Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339, which is accessible 24 hours a day, 7 days a week, 365 days a year (including federal holidays).

COMMENTS: Comments are invited on: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Foundation, including whether the information will have practical utility; (b) the

accuracy of the Foundation's estimate of the burden of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology.

SUPPLEMENTARY INFORMATION:

Title of Collection: Generic Clearance for the Regional Innovation Engines Evaluation and Monitoring Plan.

OMB Number: 3145-NEW.

Expiration Date of Approval: Not applicable.

Type of Request: New information collection.

Description:

The instruments will collect data on (1) individuals in leadership or governance roles in funded NSF Regional Innovation Engine (NSF Engine), and individuals engaged or participating in the NSF Engine's activities; (2) organizations that are partnering with the NSF Engine or participating in NSF Engine activities; and (3) information on the programmatic activities, outputs, impact, and/or outcomes of the Engine (i.e., use-inspired research, development and translation, impact on the economy, new jobs created, new industries launched, and others).

Background:

The CHIPS and Science Act of 2022 codified the National Science Foundation's cross-cutting Directorate for Technology, Innovation and Partnerships (TIP), NSF's first new directorate in more than 30 years, and charged it with the critical mission of advancing U.S. competitiveness through investments that accelerate the development of key technologies and address

pressing national, societal and geostrategic challenges. NSF's TIP directorate deepens the Agency's commitment to support use-inspired research and the translation of research results to the market and society. In doing so, TIP strengthens the intense interplay between foundational and use-inspired work, enhancing the full cycle of discovery and innovation.

TIP integrates with NSF's existing directorates and fosters partnerships — with government, industry, nonprofits, civil society, and communities of practice — to leverage, energize and rapidly bring to society use-inspired research and innovation. TIP spurs use-inspired research and innovation to meet the nation's priorities by accelerating the development of breakthrough technologies and advancing solutions.

The NSF Regional Innovation Engines (NSF Engines) program serves as a flagship funding program of the TIP directorate, with the goal of expanding and accelerating scientific and technological innovation within the U.S. by catalyzing regional innovation ecosystems throughout every region of our nation. The NSF Engines program was authorized in the CHIPS and Science Act of 2022 (Section 10388) to

- (1) advance multidisciplinary, collaborative, use-inspired and translational research, technology development, in key technology focus areas;
- (2) address regional, national, societal, or geostrategic challenges;
- (3) leverage the expertise of multi-disciplinary and multi-sector partners, including partners from private industry, nonprofit organizations, and civil society organizations; and
- (4) support the development of scientific, innovation, entrepreneurial, and STEM educational capacity within the region of the Regional Innovation Engine to grow and sustain regional innovation.

The NSF Engines program aims to fund regional coalitions of partnering organizations to establish NSF Engines that will catalyze technology and science-based regional innovation ecosystems. Each NSF Engine is focused on addressing specific aspects of a major national, societal and/or geostrategic challenge that are of significant interest in the NSF Engine's defined "region of service." The NSF Engines program envisions a future in which all sectors of the American population can participate in and benefit from advancements in scientific research and development equitably to advance U.S. global competitiveness and leadership. The program's mission is to establish sustainable regional innovation ecosystems that address pressing regional, national, societal, or geostrategic challenges by advancing use-inspired and translational research and development in key technology focus areas. The programmatic level goals of NSF Engines are to:

- **Goal 1:** Stimulate innovation in regions with low levels of innovation;
- **Goal 2:** Build and train an inclusive workforce;
- **Goal 3:** Advance key technologies;
- **Goal 4:** Create a culture that promotes inclusive and equitable prosperity;
- **Goal 5:** Cultivate new, sustainable, trusting cross-sector partnerships;
- **Goal 6:** Create a sustainable innovation ecosystem;
- **Goal 7:** Increase economic growth;
- **Goal 8:** Increase job creation.

To achieve these goals, each NSF Engine will carry out an integrated and comprehensive set of activities spanning use-inspired research, translation-to-practice, entrepreneurship, and workforce development to nurture and accelerate regional industries. In addition, each NSF Engine is expected to embody a

culture of innovation and have a demonstrated, intense, and meaningful focus on improving diversity throughout its regional science and technology ecosystem. NSF Engines are awarded as cooperative agreements and are expected to undergo an annual comprehensive evaluation assessment of the NSF Engine's performance, which will inform subsequent year funding. The total funding for each NSF Engine is up to \$160 million over 10 years with the first-ever group of NSF Engines expected to be announced in late 2023.

Effective monitoring, assessment, and evaluation of NSF Engines will be critical for making programmatic funding decisions and increasing the understanding of how regional innovation ecosystems are created. Systematic data and information collection will be qualitative, quantitative, and descriptive in nature and will provide a means for managing Program Directors to monitor progress throughout a given NSF Engine the award and ensure that the award is in good standing. These data will also allow NSF to assess the NSF Engines Program in terms of intellectual, technological, societal, commercial, and economic impacts that are core to the NSF merit review criteria. Finally, in compliance with the Evidence Act of 2019, information collected will be used for both internal and external program evaluation and assessment, satisfying Congressional requests, and supporting the Agency's policymaking and reporting needs.

Methodology:

This information collection, which entails collecting information from NSF Engines grantees and participants through a series of surveys, interviews, focus groups, and case studies, is in accordance with the Agency's commitment to

improving service delivery as well as the Agency's strategic goal to "advance the capability of the Nation to meet current and future challenges."

For this effort, four categories of survey instruments have been developed, each of which will include closed-ended and open-ended questions to generate quantitative and qualitative data. For ease of use for our respondent pool, survey questionnaires will be programmed into interactive web surveys and distributed to eligible respondents by email.

The surveys, which will serve as a census for all applicable NSF Engines grantees, partner organizations, and participants, will be used to collect baseline measures at the start of the program and vital information on how grantees, partner organizations, and participants progress through the program. All data collected through web surveys will be made available to the external evaluator(s) for each NSF Engine to be used for their own analyses, assessments, and evaluation. The four categories of data that will be collected for each NSF Engine through web-based surveys are outlined below:

- **Input data for a given NSF Engine**
 - The Chief Executive Officer, or designated personnel, will be asked to provide basic information on each NSF Engine participant (e.g., name of individual, email address of individual, which NSF Engine activity the individual is involved in), each partner organization (e.g., name and address of partner organization, point of contact for organization's involvement with NSF Engines, email address for organization's point of contact), and each programmatic activity (e.g., title of activity, activity lead name and email address, short description of the activity). Automated web-based surveys will be sent to the email addresses collected from this input. Data will be

collected on a rolling basis as NSF Engine activities may start at any time during the award.

- **Individual level data**

- Demographic and personal data (e.g., age, gender, race, educational attainment, socioeconomic status, job status) will be collected for all participants in a given NSF Engine, including the Chief Executive Officer; members of the leadership team, governance board, and advisory committees, as applicable; researchers; and workforce development participants. Data collected from individuals will be used to monitor and assess whether the NSF Engine's participants reflect the demographic diversity of the region of service defined by the NSF Engine. In addition, these data can be used by individual NSF Engines to assess whether they are meeting their diversity, equity, inclusion, and accessibility (DEIA) objectives and targets. Surveys for individuals will be conducted once a year.

- **Partner organization level data**

- Partner organizations that are involved in any NSF Engines activities or provide any monetary, in-kind, or other contributions will be surveyed twice a year and asked to provide basic information about its organization (e.g., employer identification number, legal name of organization, type of organization); in which NSF Engine activities the organization participated; the monetary or estimated value of in-kind and other resources they contributed to the NSF Engine; with which other partner organizations within the NSF Engine they collaborated; why they are a partner of the NSF

Engine; and other information related to the roles and responsibilities an organization has within NSF Engine. Individual Engines may use the data for internal assessments and to help inform decision making. Data collected from this effort will be used to monitor and assess the level of cross-sector partnerships created within and across NSF Engines.

- **Programmatic-level data**

- NSF Engines activities fall into one of four programmatic categories: (1) use-inspired and translational research, (2) workforce development, (3) diversity, equity, inclusion, and accessibility (DEIA), and (4) ecosystem building (e.g., stakeholder engagement, strategic planning, building of infrastructure, partner outreach). The lead of each activity will be asked to provide information about the activity twice a year. Different survey questionnaires will be used for each of the four programmatic categories. Basic information to be collected for all activities include activity status (i.e., active, completed, on hold, or cancelled); identification of milestones; and milestone status (i.e., on track, at risk, or off track). Information specific to each programmatic category will also be collected. For instance, the survey questionnaire on use-inspired and translational research activities will also collect information on intellectual property (e.g., invention disclosures, patents granted, licensing agreements, royalties earned) as well as where along is the research spectrum of an activity (e.g., technology and adoption readiness levels). For the workforce development survey questionnaire, information will also

be collected on the targeted population(s) of the workforce development activity. Individual NSF Engines may use the data for internal assessments and to help inform decision making. Data collected from this effort will also be used to monitor and assess the progress made in use-inspired and translational research, workforce development, DEIA, and ecosystem building within and across NSF Engines.

In addition to the web-based surveys, follow-up interviews and focus groups will be conducted with project team leaders, such as Principal Investigators (PIs), Principal Directors (PDs), Chief Executive Officers (CEO), and members of the governance boards, as well as NSF Engines stakeholders, such as NSF Engines participants, and partner and community-based organizations. Case studies and focus group interviews will be used to collect qualitatively rich discursive and observational information that cannot be collected within web surveys. Both interviews (focus groups and/or follow-up) and case studies will be conducted virtually with the possibility of in-person interviews and non-participant observation to be held in the future.

NSF's TIP directorate will only submit a collection for approval under this clearance if it meets the following conditions:

- The collection has a reasonably low burden for respondents (based on considerations of total burden hours, total number of respondents, or burden-hours per respondent) and is low-cost for the Federal government;
- The collection is non-controversial and does not raise issues of concern for other Federal agencies; and

Web-based surveys	NSF Engine input	45	350	5	Rolling basis	4	29
	Individuals	20	200	10	Once a year	3	33
	Partner organizations	10	100	30	Twice a year	10	100
	Programmatic activities	15	50	45	Twice a year	23	75
Interviews and focus groups	NSF Engine wide	15 individuals	50 individuals	90	Up to twice a year	45	150

Respondents: Lower bound estimate of 60 individuals and upper bound estimate of 400 individuals per NSF Engine award per year.

Annual Responses: Lower and upper bound estimates of 100 and 600 responses per NSF Engine per year, respectively. The total number of annual responses will be based on the total number of NSF Engines awarded, which is determined by annual funding availability.

Frequency of Response: Please refer to the description of programmatic categories for frequency of data collection.

Average Minutes per Response: 30

Burden Hours: Lower and upper bound estimates of approximately 85 and 400 hours per NSF Engine award, respectively.

Dated: October 6, 2023.

Suzanne H. Plimpton,

Reports Clearance Officer,

National Science Foundation.

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