

tion materials, and related manufacturing technologies.

(d) Relationship between United States societal, national, and geostrategic challenges and key technology focus areas

(1) In updating the list under subsection (a)(1), the Director shall evaluate national and global technology trends.

(2) In updating the list under subsection (a)(2), the Director shall consider the impact of the selected technologies on United States societal, national, and geostrategic challenges.

(3) The list under subsection (a)(2) may, but is not required to, align directly with the list under subsection (a)(1).

(4) Nothing under this section shall prevent the Director from making limited investments in technologies or areas not identified in subsection (a)(1) or subsection (a)(2).

(e) Review and updates

The Director, in coordination with the interagency working group established under part D of subchapter VI and in consultation with the Director of National Intelligence and the Director of the Federal Bureau of Investigation, shall annually review and update as appropriate, the list of key technology focus areas for purposes of this division. As part of the annual review, the Director—

(1) shall consider input from relevant industries and stakeholders;

(2) may consider the challenges and recommendations identified in the reports required by sections 6615 and 6615b of this title, as added by section 10611 and 10613 of this division and in other relevant reports, such as technology and global trend reports from the defense and intelligence communities;

(3) shall consider the potential impact of the key technology focus areas on addressing societal, national, and geostrategic challenges; and

(4) subject to the limitation under subsection (a), may add or delete key technology focus areas in light of shifting national needs or competitive threats to the United States (including for reasons of the United States or other countries having advanced or fallen behind in a technological area).

(f) Reporting

At the conclusion of the annual review and update process required by subsection (e), the Director, in consultation with other Federal research agencies, as appropriate, shall deliver a report to Congress detailing—

(1) the key technology focus areas and rationale for their selection;

(2) the societal, national, and geostrategic challenges and rationale for their selection;

(3) the role of the Foundation in advancing the key technology focus areas;

(4) the impact, including to the academic research community, of any changes to the key technology focus areas; and

(5) the activities and partnerships between the Directorate and the private sector.

(g) Detailed description

The National Science Foundation shall, in coordination with the Office of Management and

Budget, submit as part of their annual budget requests to Congress, a detailed description of the activities to be funded under this part, including an explanation of how the requested funding is complementary and not redundant of programs, efforts, and infrastructure undertaken or supported by other relevant Federal agencies.

(h) National Academies

Not later than 5 years after August 9, 2022, the Director shall contract with the National Academies to conduct a review of the key technology focus areas and the societal, national, and geostrategic challenges, including—

(1) an assessment of their selection process;

(2) an assessment of their relevance to the purposes of the Directorate, including to solving challenges with social, economic, health, scientific, and national security implications;

(3) a review of whether Federal investment in the key technology focus areas have resulted in new domestic manufacturing capacity and job creation;

(4) an assessment of any critical, new emerging areas;

(5) an assessment of Federal investments in education and workforce development to support the key technology focus areas; and

(6) an assessment of relative balance in leadership in addressing the key technology focus areas between the United States, allied and partner countries, and the People's Republic of China.

(Pub. L. 117–167, div. B, title III, §10387, Aug. 9, 2022, 136 Stat. 1579.)

Editorial Notes

REFERENCES IN TEXT

This division, referred to in subsec. (e), is div. B of Pub. L. 117–167, Aug. 9, 2022, 136 Stat. 1399, which enacted this chapter and enacted, amended, and repealed numerous other sections and notes in the Code. For complete classification of div. B to the Code, see Short Title note set out under section 18901 of this title and Tables.

Sections 10611 and 10613 of this division, referred to in subsec. (e)(2), are sections 10611 and 10613 of div. B of Pub. L. 117–167, which, respectively, generally amended section 6615 of this title and enacted section 6615b of this title.

§ 19108. Regional Innovation Engines

(a) In general

From amounts made available to the Directorate, the Director shall make awards to eligible entities for the planning, establishment, and support of Regional Innovation Engines.

(b) Purpose

The purpose of the Regional Innovation Engines shall be 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 or-

ganizations, 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.

(c) Uses of funds

Funds awarded under this section may be used by a Regional Innovation Engine to—

(1) conduct use-inspired and translational research and technology development to advance innovation in at least one of the key technology focus areas and to help solve a compelling regional, national, societal, or geostrategic challenge;

(2) further the development, adoption, and commercialization of innovations in key technology focus areas, including through support for proof-of-concept development, and through partnership with other Federal agencies and Federal laboratories, industry, including startup companies, labor organizations, civil society organizations, and State, territorial, local, and Tribal governments;

(3) develop and manage, or facilitate access to, test beds and instrumentation, which may include fabrication facilities and cyberinfrastructure, to advance the development, integration, and demonstration of new, innovative technologies, including hardware or software;

(4) establish traineeship programs for graduate students who pursue degrees and research related to the key technology focus areas leading to a masters or doctorate degree by providing funding and other assistance, and opportunities for research experiences in government or industry related to the students' studies;

(5) engage in outreach and engagement in the region to broaden participation in the activities of the Regional Innovation Engine; and

(6) reimburse, in part or in whole, the cost of instrumentation, technology transfer, and commercialization activities, including patenting and licensing, and for operations and staff, as the Director determines appropriate.

(d) Selection process

In making awards under this part, the Director shall consider, in addition to the scientific and technical merit of the proposal, the extent to which the activities and locations proposed—

(1) have the potential to create an innovation ecosystem, or enhance existing ecosystems and contribute to job creation in a region;

(2) demonstrate a capacity to engage and partner with multiple types of institutions of higher education, industry, labor, nonprofit organizations, civil society organizations, other Federal agencies, Federal laboratories, State, local, and Tribal governments, and other appropriate organizations, including to inform research directions and account for ethical, societal, safety, and security implications relevant to the potential applications of the research;

(3) demonstrate a capacity to broaden participation of populations historically under-

represented in STEM in the activities of the Regional Innovation Engine; and

(4) demonstrate a plan and capability to prevent the inappropriate use or dissemination of the research and technology, including research results, data, and intellectual property, as appropriate and consistent with the requirements of the relevant award.

(e) Requirements

(1) Eligibility

For the purposes of this section, an “eligible entity” means an institution of higher education, a nonprofit organization, a private sector entity, or a consortium thereof.

(2) Partnerships

To be eligible for an award under this section an eligible entity—

(A) shall include in its proposal partnership with 1 or more institution that is—

(i) a historically Black college or university;

(ii) a Tribal College or University;

(iii) a minority-serving institution;

(iv) an EPSCoR institution;

(v) an emerging research institution; or

(vi) a community college;

(B) may include partnership with 1 or more—

(i) additional entities described in paragraph (2)(A);

(ii) industry entities, including startups, small businesses, and public-private partnerships;

(iii) economic development organizations or venture development organizations, as such terms are defined in section 3722a(a) of title 15, as added by section 10621 of this division;

(iv) National Laboratories;

(v) Federal laboratories, as defined in section 3703 of title 15;

(vi) Federal research facilities;

(vii) labor organizations;

(viii) entities described in paragraph (1) or (2) from allied or partner countries;

(ix) other entities to be vital to the success of the program, as determined by the Director;

(x) binational research and development foundations and funds, excluding those affiliated with foreign entities of concern, as defined in section 19221 of this title; and

(xi) Engineer Research and Development Center laboratories of the Army Corps of Engineers; and

(C) shall include as part of its proposal a plan for—

(i) establishing a sustained partnership that is jointly developed and managed, draws from the capacities of each institution, and is mutually beneficial; and

(ii) documents governance and management plans, financial contributions from non-Federal sources, and plans for ownership and use of any intellectual property.

(3) Promoting partnerships

In making awards under this section, the Director shall encourage applicants for a Re-

gional Innovation Engine that include multiple regional partners as described in subsection (e)(2).

(4) Geographic distribution

In making awards under this section, the Director shall take into consideration the extent to which the proposals expand the geographic distribution of the Regional Innovation Engines, including by giving special consideration to rural-serving institutions of higher education.

(5) Resource availability

The Director shall ensure that any eligible entity receiving an award under this section shall—

(A) provide information on relevant currently existing resources available to the proposing team from all internal and external sources, including all partner organizations; and

(B) include letters of collaboration from partner organizations that include information on resource contributions committed by such partners.

(f) Collaboration with regional technology hubs

Each Regional Innovation Engine established under this section may collaborate and participate in, as appropriate, the activities of any regional technology hub designated under section 3722a of title 15, as added by section 10621.

(g) Duration

(1) Initial period

An award under this section shall be for an initial period of 5 years.

(2) Renewal

An established Regional Innovation Engine may apply for, and the Director may award, extended funding for periods of 5 years on a merit-reviewed basis.

(h) Competitive, merit-review

In making awards under this section, the Director shall—

(1) use a competitive, merit review process that includes peer review by a diverse group of individuals with relevant expertise from both the private and public sectors; and

(2) ensure the focus areas of the Regional Innovation Engines do not substantially and unnecessarily duplicate the efforts of any other Regional Innovation Engine or any other similar effort at another Federal agency.

(i) Collaboration

In making awards under this section, the Director may collaborate with Federal departments and agencies whose missions contribute to or are affected by the technology focus area of the institute.

(Pub. L. 117–167, div. B, title III, § 10388, Aug. 9, 2022, 136 Stat. 1581.)

Editorial Notes

REFERENCES IN TEXT

Section 10621 of this division and section 10621, referred to in subsecs. (e)(2)(B)(iii) and (f), mean section 10621 of div. B of Pub. L. 117–167.

§ 19109. Translation Accelerator

(a) In general

The Director shall establish Translation Accelerators to further the research, development, and commercialization of innovation in the key technology focus areas.

(b) Partnerships

(1) In general

Each Translation Accelerator shall be comprised of a partnership including 2 or more of the following entities:

(A) An institution of higher education.

(B) A for-profit company.

(C) A nonprofit organization.

(D) A Federal agency.

(E) Another entity, if that entity is determined by the Director to be vital to the success of the program.

(2) Institutional or organizational level

The Director shall work to ensure that such partnerships exist at the institutional or organization level, rather than solely at the principal investigator level.

(3) Cost share

Not less than 25 percent of the funding for an institute shall be provided by non-Federal entities.

(4) Number of centers and institutes established

The Director shall endeavor to establish a balance in the number of Regional Innovation Engines and Translation Accelerators.

(c) Authorization of appropriations

From within funds authorized for the Directorate for Technology, Innovation, and Partnerships, there are authorized to carry out the activities under this section and section 19108 of this title \$6,500,000,000 for fiscal years 2023 through 2027.

(Pub. L. 117–167, div. B, title III, § 10389, Aug. 9, 2022, 136 Stat. 1584.)

§ 19110. Test beds

(a) Program authorized

(1) In general

From amounts made available for the Directorate, the Director, in coordination with the Director of the National Institute of Standards and Technology, the Secretary of Energy, and other Federal agencies, as determined appropriate by the Director, shall establish a program in the Directorate to make awards, on a competitive basis, to institutions of higher education, nonprofit organizations, or consortia thereof to establish and operate test beds, which may include fabrication facilities and cyberinfrastructure, to advance the development, operation, integration, deployment, and, as appropriate, demonstration of new, innovative critical technologies, which may include hardware or software.

(2) Coordination

In establishing new test beds under this section, the Director shall ensure coordination