

**§ 5512. Grand Challenges in areas of national importance**

**(a) In general**

The Program shall encourage the participating agencies to support foundational, large-scale, long-term, interdisciplinary, and inter-agency information technology research and development activities in networking and information technology directed toward agency mission areas that have the potential for significant contributions to national economic competitiveness and for other significant societal benefits. Such activities, ranging from basic research to the demonstration of technical solutions, shall be designed to advance the development of fundamental discoveries. The advisory committee established under section 5511(b) of this title shall make recommendations to the Program for candidate research and development areas for support under this section.

**(b) Characteristics**

**(1) In general**

Research and development activities under this section shall—

(A) include projects selected on the basis of applications for support through a competitive, merit-based process;

(B) to the extent practicable, involve collaborations among researchers in institutions of higher education and industry, and may involve nonprofit research institutions and Federal laboratories, as appropriate;

(C) to the extent practicable, leverage Federal investments through collaboration with related State and private sector initiatives; and

(D) include a plan for fostering the transfer of research discoveries and the results of technology demonstration activities, including from institutions of higher education and Federal laboratories, to industry for commercial development.

**(2) Cost-sharing**

In selecting applications for support, the agencies may give special consideration to projects that include cost sharing from non-Federal sources.

(Pub. L. 102-194, title I, §102, as added Pub. L. 114-329, title I, §105(i), Jan. 6, 2017, 130 Stat. 2982.)

PRIOR PROVISIONS

A prior section 5512, Pub. L. 102-194, title I, §102, Dec. 9, 1991, 105 Stat. 1598, related to the National Research and Education Network, prior to repeal by Pub. L. 114-329, title I, §105(g), Jan. 6, 2017, 130 Stat. 2982.

**§ 5513. Repealed. Pub. L. 114-329, title I, § 105(h), Jan. 6, 2017, 130 Stat. 2982**

Section, Pub. L. 102-194, title I, §103, as added Pub. L. 105-305, §5, Oct. 28, 1998, 112 Stat. 2921; amended Pub. L. 106-65, div. A, title X, §1067(20), Oct. 5, 1999, 113 Stat. 775, related to the Next Generation Internet program.

SUBCHAPTER II—AGENCY ACTIVITIES

**§ 5521. National Science Foundation activities**

As part of the Program described in subchapter I—

(1) the National Science Foundation shall provide high-end computing and networking infrastructure support for all science and engineering disciplines, and support basic research and human resource development in all aspects of networking and information technology; and

(2) the National Science Foundation shall use its existing programs, in collaboration with other agencies, as appropriate, to improve the teaching and learning of networking and information technology at all levels of education and to increase participation in networking and information technology fields, including by individuals identified in sections 1885a and 1885b of title 42.

(Pub. L. 102-194, title II, §201, Dec. 9, 1991, 105 Stat. 1599; Pub. L. 114-329, title I, §105(j), Jan. 6, 2017, 130 Stat. 2983.)

AMENDMENTS

2017—Pub. L. 114-329, §105(j)(1)(A), (2), struck out subsec. (a) designation and heading “General responsibilities” and struck out subsec. (b) which authorized appropriations for fiscal years 1992 to 1996.

Par. (1). Pub. L. 114-329, §105(j)(1)(B), inserted “high-end” after “National Science Foundation shall provide” and substituted “networking and information technology; and” for “high-performance computing and advanced high-speed computer networking;”.

Par. (2). Pub. L. 114-329, §105(j)(1)(C), (D), added par. (2) and struck out former par. (2) which read as follows: “to the extent that colleges, universities, and libraries cannot connect to the Network with the assistance of the private sector, the National Science Foundation shall have primary responsibility for assisting colleges, universities, and libraries to connect to the Network;”.

Pars. (3), (4). Pub. L. 114-329, §105(j)(1)(C), struck out pars. (3) and (4) which read as follows:

“(3) the National Science Foundation shall serve as the primary source of information on access to and use of the Network; and

“(4) the National Science Foundation shall upgrade the National Science Foundation funded network, assist regional networks to upgrade their capabilities, and provide other Federal departments and agencies the opportunity to connect to the National Science Foundation funded network.”

**§ 5522. National Aeronautics and Space Administration activities**

As part of the Program described in subchapter I, the National Aeronautics and Space Administration shall conduct basic and applied research in networking and information technology, particularly in the field of computational science, with emphasis on aerospace sciences, earth and space sciences, and remote exploration and experimentation.

(Pub. L. 102-194, title II, §202, Dec. 9, 1991, 105 Stat. 1600; Pub. L. 114-329, title I, §105(k), Jan. 6, 2017, 130 Stat. 2983.)

AMENDMENTS

2017—Pub. L. 114-329 struck out subsec. (a) designation and heading “General responsibilities”, substituted “networking and information technology” for “high-performance computing”, and struck out subsec. (b) which authorized appropriations for fiscal years 1992 to 1996.

**§ 5523. Department of Energy activities**

As part of the Program described in subchapter I, the Secretary of Energy shall—