A BILL

To establish the Biotechnology Grand Challenges Program to stimulate biotechnology research, development, and commercialization, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Biotechnology Grand Challenges Act".

SEC. 2. PRIZE COMPETITIONS FOR BIOTECHNOLOGY RESEARCH AND DEVELOPMENT.

(a) Federal Agency Defined.—In this section, the term "Federal agency" means—

(1) an executive agency defined in section 105 of title 5, United States Code; or

(2) a military department defined in section 102 of such title.

(b) Establishment.—

(1) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the President, acting through the Director of the Office of Science and Technology Policy, shall, in consultation with the head of any other office or Federal agency the President considers necessary, establish a program to award prizes to stimulate biotechnology research, development, and commercialization that solves or advances specific, well-defined, and measurable grand challenges.

(2) DESIGNATION.—The grand challenges and prize competition program established under paragraph (1) shall be known as the "Biotechnology Grand Challenges Program" (in this section referred to as the "Program").

(3) PROCESSES.—In establishing the Program, the President shall use the authority and processes established under section 24 of the Stevenson-Wydler Technology Innovations Act of 1980 (15 U.S.C. 3719).

(c) Grand Challenges Selection.—

(1) IN GENERAL.—Not later than 1 year after the date of the enactment of this Act, the President, acting through the Executive Office of the President, shall identify and select grand challenges in the area of biotechnology research and development to be solved or advanced through the Program.

(2) REQUIRED GRAND CHALLENGES.—In carrying out paragraph (1), the President shall select—

(A) not less than 1 grand challenge aimed at aimed at making biotechnology predictably engineerable by improving the making, modeling, and measuring of biological systems by considering challenges such as solving the genotype-to-phenotype relationship, developing more precise engineering tools, creating a digital twin of the cell, and identifying indicators of successful bioengineering scale-up, including not less than 1 grand challenge aimed at unlocking important leap-ahead capabilities; and

(B) not less than 1 grand challenge aimed at advancing novel biomanufacturing technologies that makes scale-up predictable, rapid, and cost-competitive by considering challenges such as developing emerging chassis and cell-free systems, optimizing biomass conversion and develop alternatives, creating hardware, software, and digital processing tools, and biomanufacturing basic biological components and chemicals including critical inputs, such as amino acids.

(3) OPTIONAL GRAND CHALLENGES.—In carrying out paragraph (1), the President may select grand challenges in the following areas that could advance the grand challenges required under paragraph (2):

(A) National security and defense.

(B) Health.

(C) Energy.

(D) Environment.

(E) Transportation.

(F) Agriculture and Rural Development.

(G) Manufacturing.

(H) Materials science.

(I) Supply chain resilience.

(J) Natural resources management.

(K) Biotechnology convergence with other technologies and subject areas, including artificial intelligence, advanced manufacturing, quantum, and safety.

(4) CONSULTATION AND PUBLIC INPUT.—In making the selections under paragraph (1), the President—

(A) may consult with officers involved in Federal biotechnology coordination efforts, the heads of relevant Federal agencies, and representatives from academia, philanthropy, and industry; and

(B) shall solicit and consider public input.

(5) CONSIDERATIONS.—In making the selections under paragraph (1), the President shall consider—

(A) whether the proposed grand challenge will capture public imagination;

(B) whether the private sector would likely pursue the goal solved or advanced by the proposed grand challenge on its own;

(C) whether the proposed grand challenge requires an interdisciplinary approach;

(D) whether it fosters innovation beyond the primary goal of the proposed grand challenge;

(E) whether it is broad and ambitious enough to be pursued across the research community; and

(F) whether the proposed grand challenges reward the spectrum of innovation, from small accomplishments to large breakthroughs.

(6) REFERRAL TO FEDERAL AGENCY.—After the President has made the selections required by paragraph (1), the President shall direct the heads of the appropriate Federal agencies to administer the grand challenges based on the respective expertise of the agency.

(d) Administration of Prize Competitions.—

(1) IN GENERAL.—Not later than 15 months after the date of the enactment of this Act, the head of the Federal agencies described in subsection (c)(6) shall establish prize competitions under the Program that solve or advance the grand challenges selected by the President under subsection (c)(1).

(2) AMBITIOUS AND ACHIEVABLE GOALS.—Any prize competition established under paragraphs (1) shall—

(A) have ambitious but achievable goals; and

(B) utilize science, technology, and innovation to solve or advance solutions that benefit the United States.

(3) PROBLEM STATEMENTS AND SUCCESS METRICS.—For each grand challenge selected under subsection (c)(1), the head of the appropriate Federal agency shall—

(A) develop and publish a specific and well-defined grand challenge problem statement on the website of the agency, linking to the relevant prize competition listing on challenge.gov; and

(B) establish, and publish on challenge.gov, clear targets, success metrics, and validation protocols that will be used to evaluate submissions to the prize competition.

(4) CONSULTATION.—In developing and implementing the prize competitions under the Program, the head of a Federal agency described in paragraph (1) may consult with, and incorporate effective practices from, the head of any other entity that has developed successful large-scale technology demonstration prize competitions, including—

(A) the Defense Advanced Research Projects Agency;

(B) the National Aeronautics and Space Administration;

(C) any other Federal agency;

(D) any private sector enterprise; and

(E) any nonprofit organization.

(5) REQUIREMENTS.—

(A) IN GENERAL.—The head of a Federal agency administering a prize competition under the Program shall—

(i) develop requirements for—

(I) the prize competition process, including eligibility criteria for participants that is consistent with the requirement of subparagraph (B); and

(II) testing, judging, and verification procedures for submission to receive a prize award under the Program; and

(ii) post to challenge.gov information relating to active prize competitions administered by the agency and available prize awards to ensure the prize competitions are widely accessible to eligible participants.

(B) ELIGIBILITY.—To be eligible to win a prize award under the Program, an individual or entity shall meet the requirement described in section 24(g)(3) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719(g)(3)).

(C) JUDGES.—In accordance with section 24(k) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719(k)), an individual from the private sector is eligible to be appointed as a judge for a prize competition under the Program.

(6) PRIZE AMOUNT.—

(A) IN GENERAL.—In carrying out a prize competition under the Program, the head of a Federal agency—

(i) shall award not less than $100,000 in cash prize awards to each winner of the prize competitions; and

(ii) may award non-cash awards in addition to any award under clause (i).

(B) LARGER AWARDS.—The head of a Federal agency may award a cash prize under the Program that is greater than $50,000,000, if the requirements of section 24(m)(4)(A) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719(m)(4)(A)) have been met.

(e) Funding.—

(1) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out the program established under subsection (b)(1) such amounts as may be necessary for each of the fiscal years 2026 through 2030 to award the following:

(A) $1,000,000,000 in cash prize awards to winners of prize competitions that address a grand challenge described in subparagraph (A) of subsection (c)(2); and

(B) $98,000,000 in cash prize award to winners of prize competitions that address a grand challenge described in subparagraph (B) of that subsection.

(2) FUNDS FROM OTHER FEDERAL SOURCES.—In addition to the amounts authorized to be appropriated under paragraph (1) and in accordance with section 24(m)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719(m)(1)), the head of a Federal agency may request and accept funds from other Federal agencies, State, United States territory, local, or Tribal government agencies, for-profit entities, and nonprofit entities to support the Program.

(3) PROHIBITION ON CONSIDERATION FOR SUPPORT.—The head of a Federal agency may not consider any support provided by an agency or entity under paragraph (2) in determining the winners of prize awards under the Program.

(4) TRANSFER OF FUNDS.—

(A) IN GENERAL.—If the President determines it necessary, the President may transfer funds, not to exceed 20 percent of the amounts made available for the purposes of the Program in any fiscal year, between Federal agencies for any purpose under the Program.

(B) NOTICE TO CONGRESS.—

(i) IN GENERAL.—Any transfer of funds under this paragraph shall be carried out in accordance with existing procedures applicable to transfer notifications for Congress.

(ii) REPORT.—As part of the notice required under clause (1), the President shall submit to Congress a report explaining the nature of the proposed transfer and how it satisfies the requirements of this subparagraph.

(f) Reports.—

(1) NOTIFICATION OF WINNING SUBMISSION.—Not later than 60 days after the date on which a prize is awarded under the Program, the head of the Federal agency administering the prize competition shall submit to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Science, Space, and Technology of the House of Representatives, and the committee of jurisdiction of the administering Federal agency a report that describes the winning submission and its benefits to the United States.

(2) BIENNIAL REPORT.—

(A) IN GENERAL.—Not later than 2 years after the date of the enactment of this Act, and every 2 years thereafter, the heads of Federal agencies administering prize competitions under the Program shall jointly submit to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Science, Space, and Technology of the House of Representatives, and each committee of jurisdiction for the administering Federal agencies a report that includes a description of—

(i) the activities carried out under this Act;

(ii) the active competitions and the results of completed competitions under the Program; and

(iii) efforts to provide information to the public about the Program to encourage participation.

(B) PUBLIC ACCESSIBILITY.—The head of each Federal agencies administering a prize competition under the Program shall make the biennial report required under subparagraph (A) publicly accessible, including by posting the biennial report on the website of each Federal agency in an easily accessible location.