

Executive Order 14104—Federal Research and Development in Support of Domestic Manufacturing and United States Jobs
July 28, 2023

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Policy. The United States maintains an unparalleled innovation ecosystem with world-class universities, Federal laboratories, research centers, and technology incubators, supported in part by Federal investment. Our world is healthier, smarter, more connected, and more sustainable because of Federal taxpayers' investment in discovery and innovation that has supported the commercialization of new products and services.

My Administration has prioritized support for our unique innovation ecosystem by reinvesting across sectors in research and development (R&D), demonstrations, education, and the necessary infrastructure to accelerate the transition of discoveries quickly from the lab to the marketplace.

This investment is designed to produce cutting-edge technologies that support the competitiveness, domestic manufacturing capacity, and well-being of the United States economy; United States workers; our communities; and our national security. Ensuring the commercialization of federally funded inventions by United States manufacturers—while maintaining intellectual property rights—will build on the successful legacy of the United States in spurring economic growth and enhancing United States competitiveness through R&D. It will also further our joint R&D work with partners and allies to strengthen the resilience of global critical supply chains and secure America's leadership in delivering a net-zero emissions economy by no later than 2050.

Therefore, it is the policy of my Administration that when new technologies and products are developed with support from the United States Government, they will be manufactured in the United States whenever feasible and consistent with applicable law.

Sec. 2. Coordination and Consultation. (a) The Assistant to the President for National Security Affairs, the Assistant to the President for Economic Policy, and the Director of the Office of Science and Technology Policy (OSTP) shall coordinate the executive branch actions necessary to implement this order through the interagency process identified in National Security Memorandum 2 of February 4, 2021 (Renewing the National Security Council System).

(b) In implementing this order, the heads of executive departments and agencies (agencies) shall, as appropriate and consistent with applicable law, consult outside stakeholders—such as those in industry; academia, including Historically Black Colleges and Universities, Tribal Colleges and Universities, and other Minority Serving Institutions; non-governmental organizations; communities; labor unions; and State, local, Tribal, and territorial governments—in order to implement the policy identified in section 1 of this order.

Sec. 3. Strengthening Domestic Manufacturing. (a) The Secretary of Defense, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Health and Human Services, the Secretary of Transportation, the Secretary of Energy, the Secretary of Homeland Security, the Director of the National Science Foundation, and the Administrator of the National Aeronautics and Space Administration should consider domestic manufacturing in Federal R&D funding agreement solicitations, as appropriate and consistent with applicable law. These agency heads shall also consider how their respective agencies' R&D funding agreements support broader

domestic manufacturing objectives, including the development of production facilities and capabilities broadly supportive of United States manufacturing, as appropriate and consistent with applicable law.

(b) The Director of OSTP, working through the National Science and Technology Council (NSTC) and in coordination with the Director of the Office of Management and Budget's Made in America Office (Made in America Director) and the heads of agencies identified in subsection (a) of this section, shall seek to add "domestic manufacturing" to future interagency technology R&D roadmaps, as appropriate. The Director of OSTP shall endeavor to standardize the format of domestic manufacturing considerations in technology R&D roadmaps to ensure that industry, the research community, and agencies create the conditions for new technologies to be produced in the United States once they are commercialized.

(c) In collaboration with the Administrator of the Small Business Administration (SBA), the heads of agencies participating in the Small Business Innovation Research and Small Business Technology Transfer programs are encouraged to advance a coordinated interagency approach to innovation and research solicitations with the goals of reducing barriers to program participation, streamlining access to funding opportunities, and encouraging production of new technologies in the United States. The heads of these agencies are further encouraged to collaborate with the SBA to support small businesses transitioning technologies from intramural and extramural labs to commercial markets.

(d) The heads of agencies that have statutory Other Transaction Authority, or that can use other business arrangements authorized by the Congress, are encouraged, when appropriate, to consider using these authorities to purchase or invest in leading-edge technologies to support their production in the United States. If these agencies use these authorities to purchase or invest in the development of new technologies, the terms of these purchases and investments should ensure that the product is substantially manufactured in the United States, as appropriate and consistent with applicable law.

(e) To further support the commercialization and production in the United States of technologies developed, in part, through federally funded R&D, the heads of agencies identified in subsection (a) of this section are encouraged to establish or enhance the technology transfer and commercialization capabilities of their agencies.

Sec. 4. Modernizing Reporting of Invention Utilization. (a) In an effort to streamline reporting requirements for recipients of Federal R&D funding agreements, the heads of agencies identified in section 3(a) of this order should seek to make reporting on the utilization of "subject inventions" (as defined in 35 U.S.C. 201(e)) easier and consistent across the United States Government.

(b) To incentivize domestic manufacturing through the reporting of invention disclosures and the utilization of those inventions, the heads of agencies identified in section 3(a) of this order shall require recipients of Federal R&D funding agreements to track and update the awarding agency on the location in which subject inventions are manufactured.

(c) The heads of agencies identified in section 3(a) of this order should require recipients of Federal R&D funding agreements to report annually to the awarding agency the names of licensees and manufacturing locations of the applicable subject inventions.

(d) Within 60 days of the date of this order, the Secretary of Commerce, through the Director of the National Institute of Standards and Technology (NIST) and in consultation with the Office of Management and Budget (OMB), should develop award terms and conditions regarding the reporting requirements in subsections (a) through (c) of this section to be implemented by each awarding agency identified in section 3(a) of this order. Award terms and conditions shall ensure

that the reporting of the information specified in subsections (b) and (c) of this section protects business confidential information, consistent with 35 U.S.C. 202(c)(5), while providing increased visibility to taxpayers on the use of Federal R&D funding in support of domestic manufacturing and job creation.

(e) The Secretary of Commerce, through the Director of NIST and in consultation with the Interagency Working Group for Bayh-Dole, shall consider developing an action plan, including resource requirements, to transition all agencies identified in section 3(a) of this order to the iEdison reporting system to track unclassified subject inventions, patents, and related utilization reports by calendar year 2025. The Secretary of Commerce shall submit the action plan to the Director of OMB within 1 year of the date of this order.

(f) Not later than 120 days after issuance of any final regulations implementing the action plan described in subsection (e) of this section, the heads of agencies identified in section 3(a) of this order shall report to the Director of OMB and the Director of OSTP on steps their respective agencies have taken to transition all unclassified reporting to iEdison by the end of calendar year 2025. These reports may include resource needs and timelines for implementation.

(g) Within 180 days of the date of this order, the Secretary of Commerce, through the Director of NIST and in consultation with the Interagency Working Group for Bayh-Dole, should develop common invention utilization questions (utilization questions), allowing agencies to add agency-specific questions.

(i) The utilization questions should be used by all agencies by May 1, 2024, for subject inventions that a Federal R&D funding agreement recipient has elected to retain title on or after the date of this order.

(ii) The utilization questions should require information on the locations where subject inventions are produced or are used to produce a product.

(iii) The Secretary of Commerce, through the Director of NIST, and the heads of other agencies should aim to minimize the reporting burden on recipients of Federal R&D funding agreements associated with the utilization questions, in accordance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*) and applicable OMB guidance.

(h) Within 2 years after the date of this order and annually thereafter, the heads of agencies identified in section 3(a) of this order shall submit reports to the Made in America Director on the utilization of inventions that were developed through their previous R&D funding agreements and reported after the date of this order, including where products embodying a subject invention or produced through the use of a subject invention were manufactured.

Sec. 5. Securing Critical and Emerging Technologies Through Domestic Manufacturing. (a) Within 90 days of the date of this order, the heads of agencies identified in section 3(a) of this order shall consider whether "exceptional circumstances" exist warranting a determination that a restriction of the right to retain title to any subject invention funded by their respective agencies' R&D funding agreements will better promote the policy and objectives of the Bayh-Dole Act, as appropriate and consistent with applicable law, including 35 U.S.C. 202(a). Such consideration shall include evaluation of whether "exceptional circumstances" exist to warrant the extension of the requirement to manufacture "substantially in the United States" to recipients of Federal R&D funding agreements, to non-exclusive licensees of subject inventions, and for use or sale of subject inventions outside the United States, as appropriate and consistent with applicable law, including 35 U.S.C. 202(a). In considering the issuance of such determinations for these purposes, the heads of agencies identified in section 3(a) of this order shall:

(i) consider measures for technologies important to the United States economy and national security, including critical and emerging technologies such as energy storage, quantum information science, artificial intelligence and machine learning, semiconductors and microelectronics, and advanced manufacturing; and

(ii) consider narrowly tailoring terms related to enhanced United States manufacturing while encouraging technology transfer and commercialization, and allowing small businesses and nonprofit organizations to retain ownership of and commercialize their federally funded subject inventions.

(b) The heads of agencies identified in section 3(a) of this order shall consider whether other measures are needed to promote domestic manufacturing of subject inventions funded by their respective agencies.

Sec. 6. Implementation of this Order. (a) Within 2 years of the date of this order and annually thereafter for 5 years, the heads of agencies identified in section 3(a) of this order shall submit a report on their respective agencies' implementation of this order to the Director of OMB and the Director of OSTP.

(b) Each report shall include, to the extent possible, a review of this order's effectiveness in using the R&D funding agreements of the agencies identified in section 3(a) of this order to support domestic manufacturing, United States industrial competitiveness, and job creation.

(c) Each report shall include, to the extent possible, identification of any challenges to implementation of this order or to the effectiveness of this order in accomplishing the policy goals described in section 1 of this order, as well as recommendations to address such challenges.

Sec. 7. Improving the Waiver Process. (a) Under the Bayh-Dole Act, agencies may waive the requirement that certain products embodying the subject invention or produced through the use of the subject invention be "manufactured substantially in the United States" if, as specified in 35 U.S.C. 204, "reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States" or "under the circumstances domestic manufacture is not commercially feasible."

(b) Every agency should consider developing a process by which the agency may waive the domestic manufacturing requirements for agency-funded technology or technology developed under an agency funding opportunity without a request from a recipient of a Federal R&D funding agreement. As part of its process, an agency should seek concurrence from the Made in America Director to waive the domestic manufacturing requirements, and should set forth specific factors that may support a waiver, including whether the manufacture of the technology outside the United States is in the economic or national security interest of the United States.

(c) The heads of agencies identified in section 3(a) of this order shall ensure that the waiver process for their agency is rigorous, timely, transparent, and consistent, with due regard for all applicable authorities, including Executive Order 14005 of January 25, 2021 (Ensuring the Future Is Made in All of America by All of America's Workers), and the Bayh-Dole Act's requirement that a waiver be available when reasonable but unsuccessful efforts have been made to license to a company that could substantially manufacture in the United States, or when domestic manufacture is not commercially feasible.

(d) The Secretary of Commerce, through the Director of NIST and in consultation with the Interagency Working Group for Bayh-Dole, the NSTC Lab-to-Market Subcommittee, and the Made in America Director, shall provide guidance to agencies on the factors and considerations that should be weighed in determining whether domestic manufacturing is not commercially feasible. Guidance shall be designed to help applicants understand the factors an agency will

consider when evaluating a waiver application, and should ensure that a determination of the commercial feasibility of manufacturing abroad is not based on substandard or unacceptable working conditions. Within 90 days of the date of this order, the Secretary of Commerce, through the Director of NIST, shall make the guidance available for public comment.

(e) Within 90 days of the date of this order, the Secretary of Commerce, through the Director of NIST and in consultation with the Interagency Working Group for Bayh-Dole, shall develop common waiver application questions for use by all agencies.

(i) The common waiver application questions should include as relevant criteria, as appropriate and consistent with applicable law:

(A) how the waiver will be used;

(B) why it is important that the subject invention be brought to market;

(C) any potential economic and national security impacts of manufacturing the subject invention abroad;

(D) the benefits that will accrue to domestic manufacturing and United States jobs as a result of the subject invention being brought to market;

(E) whether the applicant is proposing an exclusive or non-exclusive license; and

(F) the conditions under which the subject invention would be manufactured abroad, including unionization of workplaces, health and safety standards, labor and wage laws, and environmental impacts.

(ii) Given the need to maintain agency flexibility, the heads of agencies identified in section 3(a) of this order may add questions to the common waiver application questions, but they should do so sparingly and only as needed to accomplish the policy set forth in this order within their respective agencies' existing authorities.

(f) The heads of agencies identified in section 3(a) of this order shall adopt the common waiver application questions, to the extent consistent with applicable law.

(g) The heads of agencies identified in section 3(a) of this order should acknowledge receipt of waiver applications within 10 business days, to the extent practicable. Once an applicant submits a waiver request application, the reviewing agency should seek to finalize its decision, including negotiations with the applicant as needed, as soon as possible.

(h) Within 270 days of the date of this order, the heads of agencies identified in section 3(a) of this order shall establish agency guidelines for negotiating with waiver applicants to retain as much value or benefit to the United States as possible, as appropriate and consistent with applicable law, while considering technical, business, social, environmental, and economic realities. In assessing a waiver's value to the United States economy, the heads of agencies identified in section 3(a) of this order should consider, as appropriate and in addition to any other relevant factors, potential benefits to domestic manufacturing competitiveness, to United States job creation, and to United States economic and national security.

(i) The heads of agencies identified in section 3(a) of this order should consider limiting waivers to applicants that commit to manufacture in locations that maintain a market economy and for specific agreed-upon purposes.

(ii) The heads of agencies identified in section 3(a) of this order should expect waiver applicants to deliver alternative benefits to the United States as part of an agreement to grant the waiver. Consideration of alternative benefits may include direct or indirect

investment in domestic plants and equipment, the creation of high-quality domestic jobs, or further domestic development of the subject invention.

(i) Beginning in fiscal year 2024 and on an annual basis thereafter, the heads of agencies identified in section 3(a) of this order shall provide to the Secretary of Commerce, through the Interagency Working Group for Bayh-Dole, a summary of each waiver application received, approved, and rejected. The summary shall include the terms of any approved waiver and the processing time needed to reach a decision.

(i) The Secretary of Commerce, through the Interagency Working Group for Bayh-Dole, shall publish a periodic summary of the waiver applications in aggregate that describes common reasons for waiver requests, processing times by agency, and recommended policy responses to common challenges.

(ii) Agencies shall ensure that the information submitted for publication to the Secretary of Commerce, through the Interagency Working Group for Bayh-Dole, appropriately protects business confidential and sensitive information provided by waiver applicants as part of their justification for the waiver, consistent with 35 U.S.C. 202(c)(5). However, the names of applicants seeking a waiver and a summary of the benefits the waiver recipients will provide to the United States should be made available to the public, to the extent permitted by law.

Sec. 8. General Provisions. (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of OMB relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

JOSEPH R. BIDEN, JR.

The White House,
July 28, 2023.

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NOTE: This Executive order was published in the *Federal Register* on August 2.

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