

104<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION

# H. R. 1844

To contribute to the competitiveness of the United States by enhancing the manufacturing technology programs of the Department of Commerce.

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## IN THE HOUSE OF REPRESENTATIVES

JUNE 14, 1995

Mr. OLVER introduced the following bill; which was referred to the Committee on Science

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## A BILL

To contribute to the competitiveness of the United States by enhancing the manufacturing technology programs of the Department of Commerce.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Manufacturing Tech-  
5 nology and Extension Act of 1995”.

6 **SEC. 2. FINDINGS, PURPOSE, AND STATEMENT OF POLICY.**

7 The Stevenson-Wydler Technology Innovation Act of  
8 1980 (15 U.S.C. 3701 et seq.) is amended by adding at  
9 the end the following new title:

1       **“TITLE III—MANUFACTURING**  
2                               **TECHNOLOGY**

3       **“SEC. 301. FINDINGS, PURPOSE, AND STATEMENT OF POL-**  
4                               **ICY.**

5               “(a) FINDINGS.—Congress finds and declares the fol-  
6       lowing:

7               “(1) United States manufacturers, especially  
8       small businesses, require the adoption and imple-  
9       mentation of both modern and advanced manufac-  
10      turing and process technologies to meet the chal-  
11      lenge of foreign competition.

12              “(2) The development and application of mod-  
13      ern and advanced manufacturing technologies are  
14      vital to the sustainable economic growth, standard of  
15      living, competitiveness in world markets, and na-  
16      tional security and welfare of the United States.

17              “(3) New developments in flexible, computer-in-  
18      tegrated manufacturing, electronic manufacturing  
19      communications networks, and other new tech-  
20      nologies make possible dramatic improvements  
21      across all industrial sectors in productivity, quality,  
22      and the speed with which United States manufactur-  
23      ers can respond to changing market opportunities.

24              “(4) The application of advances in computer  
25      science and technology to manufacturing is also vital

1 to the Nation's prosperity, national and economic se-  
2 curity, industrial production, engineering, and sci-  
3 entific advancement.

4 “(5) The Department of Commerce's Tech-  
5 nology Administration, along with other Federal  
6 agencies, can continue to play an important role in  
7 assisting United States companies to develop, test,  
8 and adopt modern and advanced manufacturing  
9 technologies and in establishing high-performance  
10 computing technology testbeds to develop, refine,  
11 test, and transfer advanced manufacturing and  
12 networking technologies and associated applications.

13 “(b) PURPOSE.—It is the purpose of this title to con-  
14 tribute to the competitiveness of the United States by en-  
15 hancing the Department of Commerce's technology pro-  
16 grams to—

17 “(1) provide United States manufacturers, es-  
18 pecially small businesses, with ready access to high  
19 quality advice and assistance in the development,  
20 adoption, and improvement of modern manufactur-  
21 ing processes and technology, and in solving their  
22 specific technology-based problems; and

23 “(2) encourage, facilitate, and support the de-  
24 velopment and adoption of advanced manufacturing

1 principles and technologies by United States manu-  
2 facturers.

3 “(c) STATEMENT OF POLICY.—Congress declares  
4 that it is the policy of the United States that—

5 “(1) Federal agencies, particularly the Depart-  
6 ment of Commerce, shall work with United States  
7 manufacturers, labor, and the States to ensure that  
8 the United States is second to no other nation in the  
9 development, adoption, and use of modern and ad-  
10 vanced manufacturing technology;

11 “(2) the Department of Commerce shall work  
12 with all the major Federal research and development  
13 agencies to encourage the development and adoption,  
14 by United States manufacturers, of advanced manu-  
15 facturing technologies, and shall work closely with  
16 United States manufacturers and labor, and with  
17 the Nation’s universities, to develop and test those  
18 technologies; and

19 “(3) the Department of Commerce shall place a  
20 high priority on the establishment and growth of a  
21 National Technology Outreach Program to promote  
22 and facilitate the development and use by United  
23 States manufacturers of modern and advanced man-  
24 ufacturing systems and applications for manufactur-  
25 ing.

1       “(d) CONSTRUCTION.—Nothing in this title shall be  
2 construed as modifying the duties and responsibilities of  
3 the Department of Energy with regard to its technology  
4 resources and expertise in matters under its jurisdiction.”.

5 **SEC. 3. ROLE OF THE DEPARTMENT OF COMMERCE.**

6       Title III of the Stevenson-Wydler Technology Innova-  
7 tion Act of 1980, as added by section 2 of this Act, is  
8 further amended by adding at the end the following new  
9 section:

10 **“SEC. 302. ROLE OF THE DEPARTMENT OF COMMERCE.**

11       “(a) DEPARTMENT OF COMMERCE.—Consistent with  
12 the purposes and policies of section 301, the Department  
13 of Commerce shall have primary responsibility in the Fed-  
14 eral Government in working with United States manufac-  
15 turers and labor and the States to develop advanced man-  
16 ufacturing technologies and to promote and assist the  
17 adoption and use of modern and advanced manufacturing  
18 technologies, practices, and management techniques  
19 throughout the United States. In carrying out this title,  
20 the Secretary, acting, as appropriate, through the Under  
21 Secretary and the Director, shall—

22       “(1) consult and cooperate with other Federal  
23 agencies, including the Department of Defense, the  
24 Department of Energy, and the National Aero-  
25 nautics and Space Administration to ensure consist-

1 ent and, where possible, coordinated efforts to pro-  
2 mote the development and adoption of modern and  
3 advanced manufacturing technologies;

4 “(2) assist the Office of Science and Tech-  
5 nology Policy in its efforts to coordinate the manu-  
6 facturing technology activities of the various Federal  
7 agencies; and

8 “(3) work with representatives of Federal,  
9 State, and local agencies, manufacturing extension  
10 programs, private industry, industry groups, worker  
11 organizations, and academia to encourage and facili-  
12 tate the use of both advanced manufacturing tech-  
13 nologies, including those developed by the Advanced  
14 Manufacturing Technology Development Program  
15 established under section 304 of this Act, and mod-  
16 ern manufacturing technologies and practices to  
17 United States manufacturers.

18 The Secretary shall annually report to Congress on actions  
19 taken under this subsection.

20 “(b) OTHER FEDERAL AGENCIES.—To the extent  
21 permitted by other law, other Federal agencies shall co-  
22 operate with the Secretary in carrying out this title.”.

23 **SEC. 4. NATIONAL TECHNOLOGY OUTREACH PROGRAM.**

24 Title III of the Stevenson-Wydler Technology Innova-  
25 tion Act of 1980, as added by sections 2 and 3 of this

1 Act, is further amended by adding at the end the following  
2 new section:

3 **“SEC. 303. NATIONAL TECHNOLOGY OUTREACH PROGRAM.**

4 “(a) ESTABLISHMENT AND PURPOSE.—There is  
5 hereby established a National Technology Outreach Pro-  
6 gram (in this section referred to as the ‘Outreach Pro-  
7 gram’), the purpose of which shall be to—

8 “(1) interconnect, programmatically and elec-  
9 tronically, the Nation’s technology and manufactur-  
10 ing extension centers, programs, and activities;

11 “(2) improve the competitiveness of United  
12 States manufacturers and create jobs located in the  
13 United States; and

14 “(3) assist United States manufacturers, espe-  
15 cially small businesses, to expand and accelerate the  
16 use of cost-effective modern manufacturing tech-  
17 nologies and practices and to develop and adopt ad-  
18 vanced manufacturing technologies. The Secretary,  
19 acting through the Under Secretary and the Direc-  
20 tor, shall implement and coordinate the Outreach  
21 Program in accordance with an initial plan and a 5-  
22 year plan for the Outreach Program, to be submit-  
23 ted to the Congress under subsection (g).

24 “(b) PROGRAM COMPONENTS.—The Outreach Pro-  
25 gram shall constitute a partnership between the Depart-

1 ment of Commerce, the States, the private sector, and,  
2 as appropriate, shall include other Federal agencies to  
3 provide a national system of manufacturing and tech-  
4 nology extension centers and technical services to United  
5 States manufacturers, particularly small businesses. The  
6 Outreach Program shall include—

7           “(1) Manufacturing Outreach Centers estab-  
8       lished under subsection (c);

9           “(2) Regional Centers for the Transfer of Man-  
10       ufacturing Technology established under section 25  
11       of the National Institute of Standards and Tech-  
12       nology Act (15 U.S.C. 278k);

13          “(3) the State Technology Extension Program  
14       established under section 26 of the National Insti-  
15       tute of Standards and Technology Act (15 U.S.C.  
16       278l);

17          “(4) the Outreach Program Information Net-  
18       work and the Clearinghouse established under sub-  
19       sections (d) and (e) of this section, respectively; and

20          “(5) other technology and manufacturing exten-  
21       sion centers and activities supported by Federal,  
22       State, or local agencies which could contribute to the  
23       goals of this title and that the Secretary considers  
24       appropriate for inclusion in the Outreach Program.



1       “(c) MANUFACTURING OUTREACH CENTERS.—(1)  
2 Eligible government and private sector organizations that  
3 are engaged in technology or manufacturing extension ac-  
4 tivities may apply to the Secretary for designation as Man-  
5 ufacturing Outreach Centers, in such form and manner  
6 as the Secretary may prescribe. Eligible organizations in-  
7 clude Federal, State, and local government agencies, ex-  
8 tension programs, universities, and laboratories; small  
9 business development centers; and professional societies,  
10 worker organizations, industrial organizations, nonprofit  
11 organizations, community development organizations,  
12 community colleges, and technical schools and colleges.

13       “(2) The Secretary shall establish standards, consist-  
14 ent with the requirements of subsection (f), for designa-  
15 tion of existing technology or manufacturing extension  
16 programs and for qualification of start-up programs as  
17 Manufacturing Outreach Centers.

18       “(3) The Secretary may, through a competitive proc-  
19 ess, make grants, subject to the availability of appropria-  
20 tions, to Manufacturing Outreach Centers designated in  
21 accordance with the standards established under para-  
22 graph (2), to enable them to fulfill the purposes and per-  
23 form the activities of the Outreach Program. If a State  
24 plan for technology extension exists in a State where an  
25 applicant for a grant under this paragraph is operating

1 or plans to operate, the proposer shall demonstrate in its  
2 application that its proposal is compatible with such State  
3 plan. The purpose of such grants is to upgrade the overall  
4 quality of the Outreach Program and to contribute to the  
5 goal of ready availability of the services and information  
6 provided through the Outreach Program, including infor-  
7 mation on modern and advanced manufacturing tech-  
8 nology, to all interested United States manufacturers.  
9 Such grants shall be awarded to increase the capabilities  
10 and capacity of Manufacturing Outreach Centers. Manu-  
11 facturing Outreach Centers may not concurrently receive  
12 financial assistance under section 25 of the National Insti-  
13 tute of Standards and Technology Act and grants under  
14 this paragraph. Grants may be awarded under this para-  
15 graph for an initial period not to exceed 3 years and may  
16 be renewed for one additional period, not to exceed 2  
17 years. Such grants may not at any time exceed 50 percent  
18 of the operating costs and in-kind contributions of the  
19 grant recipient.

20 “(4) In selecting applicants to participate in the Out-  
21 reach Program and in making grants under paragraph  
22 (3), the Secretary shall solicit and consider evaluations of  
23 the applicant’s performance record and current capabili-  
24 ties, and the potential usefulness of the applicant’s pro-

1 posal, from United States manufacturers that the Sec-  
2 retary considers qualified to make such evaluations.

3 “(d) OUTREACH PROGRAM INFORMATION NET-  
4 WORK.—(1) The Department of Commerce shall provide  
5 for an instantaneous, interactive electronic communica-  
6 tions network (in this section referred to as the ‘outreach  
7 network’) to serve the Outreach Program, to facilitate ef-  
8 fective and efficient interaction within it, and to permit  
9 the collection and dissemination in electronic form, in a  
10 timely and accurate manner, of information described in  
11 subsection (e). The outreach network shall, wherever prac-  
12 ticable, make use of existing public and private computer  
13 networks, data bases, and electronic bulletin boards. The  
14 design, configuration, acquisition plan, and operating poli-  
15 cies, including user fees and appropriate electronic access  
16 for public and private information suppliers and users, of  
17 the outreach network shall be included in the 5-year plan  
18 prepared under subsection (g)(2) and shall address—

19 “(A) effective mechanisms for providing operat-  
20 ing funds for the maintenance and use of the out-  
21 reach network established under this paragraph, in-  
22 cluding user fees, industry support, and continued  
23 Federal investment;

1           “(B) the future operation and evolution of the  
2           outreach network, including its relationship with  
3           other public or private information services;

4           “(C) how to protect the copyrights of material  
5           distributed over the outreach network; and

6           “(D) appropriate policies—

7                   “(i) to ensure the security of proprietary  
8                   information that might be available on the out-  
9                   reach network and to protect the privacy of  
10                  users of the outreach network; and

11                   “(ii) to facilitate and limit access to the  
12                   outreach network and its information to mem-  
13                   ber organizations of the Outreach Program and  
14                   to United States companies, State and local  
15                   governments, United States universities and  
16                   colleges, and United States nonprofit organiza-  
17                   tions that the Secretary deems appropriate.

18           “(2) Except as provided in this section, the outreach  
19           network established under paragraph (1) shall be designed  
20           and configured in a manner that will enable interoper-  
21           ability with networks and technologies developed under the  
22           National High-Performance Computing Program de-  
23           scribed in section 101 of the High-Performance Comput-  
24           ing Act of 1991 (15 U.S.C. 5511). The Secretary shall  
25           also, as appropriate, coordinate activities under this sub-

1 section with the relevant activities of other Federal agen-  
2 cies, particularly the agile manufacturing/enterprise inte-  
3 gration activities of the Department of Defense.

4 “(e) CLEARINGHOUSE.—(1) The Secretary shall de-  
5 velop a clearinghouse system, using existing public and  
6 private sector information providers and carriers where  
7 appropriate, to—

8 “(A) identify expertise and acquire information,  
9 appropriate to the purpose of the Outreach Program  
10 stated in subsection (a), from all appropriate Fed-  
11 eral sources, and where appropriate from other  
12 sources, providing assistance where necessary in  
13 making such information electronically available  
14 through and compatible with the outreach network;

15 “(B) ensure ready access, through the outreach  
16 network, by United States companies, Federal agen-  
17 cies, State and local governments, United States  
18 universities and colleges, United States nonprofit or-  
19 ganizations that the Secretary deems appropriate,  
20 and member organizations of the Outreach Program,  
21 to the most recent relevant available information and  
22 expertise;

23 “(C) ensure that common standards of inter-  
24 connection are utilized by the outreach network and

1 the clearinghouse to allow maximum interoperability  
2 and usership; and

3 “(D) to the extent practicable, inform United  
4 States manufacturers of the availability of such in-  
5 formation.

6 “(2) The clearinghouse shall include information  
7 available electronically on—

8 “(A) activities of Manufacturing Outreach Cen-  
9 ters, Regional Centers for the Transfer of Manufac-  
10 turing Technology, the State Technology Extension  
11 Program, and the users of the outreach network;

12 “(B) domestic and international standards and  
13 other export promotion information, including con-  
14 formity assessment requirements and procedures;

15 “(C) the Malcolm Baldrige Quality program,  
16 and quality principles and standards;

17 “(D) manufacturing processes minimizing waste  
18 and negative environmental impact;

19 “(E) federally funded technology development  
20 and transfer programs;

21 “(F) how to access data bases and services; and

22 “(G) skills training, particularly the implemen-  
23 tation and use of modern and advanced manufactur-  
24 ing techniques.

1       “(3) The Secretary, acting through the Under Sec-  
2 retary, may convene a national conference to develop rec-  
3 ommendations for common standards for interconnection  
4 and for improved dissemination to users of the clearing-  
5 house of information on domestic and international tech-  
6 nical regulations and standards, and on conformity assess-  
7 ment procedures, including draft standards and regula-  
8 tions. Invited participants are to include a broad cross sec-  
9 tion of the standards, accreditation, and user commu-  
10 nities.

11       “(f) ADDITIONAL REQUIREMENTS.—In carrying out  
12 this section, the Secretary shall satisfy the following re-  
13 quirements:

14               “(1) The Outreach Program and the outreach  
15 network shall be established and operated through  
16 cooperation and cofunding among Federal, State,  
17 and local governments, other public and private con-  
18 tributors, and end users that the Secretary deter-  
19 mines are appropriate for providing maximum bene-  
20 fit to United States manufacturers.

21               “(2) The Outreach Program and the outreach  
22 network shall utilize and leverage, to the extent  
23 practicable, existing organizations, data bases, elec-  
24 tronic networks, facilities, capabilities, and existing  
25 standards for interconnection, and shall be designed

1 to complement rather than supplant State and local  
2 programs.

3 “(3) The Outreach Program and the outreach  
4 network shall be subject to all applicable provisions  
5 of law for the protection of trade secrets and busi-  
6 ness confidential information.

7 “(4) Access to the services available through  
8 the Outreach Program and information available  
9 through the outreach network servicing the Outreach  
10 Program shall be limited, as appropriate, to United  
11 States companies, State and local governments,  
12 United States universities and colleges, and United  
13 States nonprofit organizations that the Secretary  
14 deems appropriate.

15 “(5) Local or regional needs should determine  
16 the management structure and staffing of the Manu-  
17 facturing Outreach Centers. The Outreach Program  
18 shall strive for geographical balance with the ulti-  
19 mate goal of access for all United States manufac-  
20 turers.

21 “(6) Manufacturing Outreach Centers should  
22 have the capability to deliver outreach services di-  
23 rectly to United States manufacturers, actively work  
24 with, rather than supplant, the private sector, and to  
25 the extent practicable, maximize the exposure of



1 United States manufacturers to demonstrations of  
2 modern technologies in use, including flexible manu-  
3 facturing practices.

4 “(7) The Department of Commerce shall de-  
5 velop mechanisms for—

6 “(A) soliciting the perspectives of United  
7 States manufacturers using the services of the  
8 Manufacturing Outreach Centers and Regional  
9 Centers for the Transfer of Manufacturing  
10 Technology; and

11 “(B) evaluating the effectiveness of the  
12 Manufacturing Outreach Centers and Regional  
13 Centers for the Transfer of Manufacturing  
14 Technology.

15 “(g) PLAN AND REPORTS.—(1) Within 6 months  
16 after the date of enactment of this title, the Secretary,  
17 after consultation with the Under Secretary, the Director,  
18 the Department of Commerce Technology Advisory Board,  
19 other appropriate Federal agencies, and a cross-section of  
20 potential participants in the Outreach Program, shall sub-  
21 mit an initial plan for the implementation of this title to  
22 Congress—

23 “(A) describing how the Secretary will carry out  
24 the responsibility to create, operate, and support the  
25 Outreach Program and the outreach network, in-

1 including the interactive electronic linkage of Manu-  
2 facturing Outreach Centers to the programs of the  
3 Technology Administration and other appropriate  
4 Federal, State, and local agencies;

5 “(B) establishing criteria and procedures, con-  
6 sistent with the requirements of this title, for—

7 “(i) the selection of organizations to re-  
8 ceive Department of Commerce services or fi-  
9 nancial assistance as part of the Outreach Pro-  
10 gram, including qualifications and training of  
11 technology extension agents;

12 “(ii) access to services provided by partici-  
13 pants in the Outreach Program and to informa-  
14 tion available through the outreach network  
15 servicing the Outreach Program; and

16 “(iii) the annual evaluation of the Out-  
17 reach Program in achieving the purposes of this  
18 title; and

19 “(C) evaluating the need for and the benefits of  
20 a National Conference of States on Technology Ex-  
21 tension, similar in structure to the National Con-  
22 ference on Weights and Measures, and, if the Sec-  
23 retary determines that such a Conference is advis-  
24 able, developing, in consultation with the States and  
25 other interested parties, a plan for the establish-

1       ment, operation, funding, and evaluation of such a  
2       Conference.

3       “(2) Within 1 year after the date of enactment of  
4 this title, the Secretary, in consultation with the Under  
5 Secretary, the Director, and the Department of Commerce  
6 Technology Advisory Board, shall prepare and submit to  
7 the Congress a 5-year plan for implementing the Outreach  
8 Program and the outreach network and clearinghouse es-  
9 tablished under subsections (d) and (e), respectively. Such  
10 5-year plan shall identify appropriate methods for expand-  
11 ing the Outreach Program in a geographically balanced  
12 manner. Such 5-year plan shall include a detailed imple-  
13 mentation plan and cost estimates and shall take into con-  
14 sideration and build on the report submitted under para-  
15 graph (1). In the preparation of such 5-year plan, the Sec-  
16 retary shall provide an opportunity for public comment,  
17 and the plan submitted to Congress shall include a sum-  
18 mary of comments received. Such plan may not be imple-  
19 mented until 90 days after its submission to the Congress.

20       “(3) Beginning with first year after submission of the  
21 5-year plan under paragraph (2), the Secretary shall an-  
22 nually report to the Congress, at the time of the Presi-  
23 dent’s annual budget request to Congress, on—

24               “(A) progress made in achieving the purposes  
25       of the Outreach Program described in subsection (a)

1 using criteria and procedures established under  
2 paragraph (1)(B)(iii);

3 “(B) changes proposed to the 5-year plan;

4 “(C) performance in adhering to schedules; and

5 “(D) any recommendations for legislative  
6 changes necessary to enhance the Outreach Pro-  
7 gram.

8 The report under this paragraph submitted at the end of  
9 the fourth year of operation of the Outreach Program  
10 shall include recommendations on whether to terminate  
11 the Outreach Program or extend it for an additional pe-  
12 riod not to exceed 5 years.”.

13 **SEC. 5. ADVANCED MANUFACTURING TECHNOLOGY DEVEL-**  
14 **OPMENT PROGRAM.**

15 Title III of the Stevenson-Wydler Technology Innova-  
16 tion Act of 1980, as added by sections 2, 3, and 4 of this  
17 Act, is further amended by adding at the end the following  
18 new section:

19 **“SEC. 304. ADVANCED MANUFACTURING TECHNOLOGY DE-**  
20 **VELOPMENT PROGRAM.**

21 “(a) ESTABLISHMENT.—The Secretary, through the  
22 Under Secretary and the Director, shall establish an Ad-  
23 vanced Manufacturing Technology Development Program  
24 which shall include projects to develop advanced manufac-  
25 turing systems, networks, electronic data exchange, and

1 which shall be complementary with advanced manufactur-  
2 ing technology development programs supported by other  
3 Federal agencies.

4 “(b) PURPOSE.—The purpose of the Advanced Manu-  
5 facturing Technology Development Program is to create  
6 collaborative multiyear technology development programs  
7 involving United States companies and, as appropriate, co-  
8 operating with other Federal agencies and laboratories,  
9 the States, worker organizations, universities and colleges,  
10 independent research organizations, and other interested  
11 persons, in order to develop, refine, test, and transfer de-  
12 sign and manufacturing technologies and associated appli-  
13 cations, including advanced computer integration and elec-  
14 tronic networks for manufacturing information exchange.

15 “(c) PROGRAM COMPONENTS.—The Advanced Manu-  
16 facturing Technology Development Program shall in-  
17 clude—

18 “(1) the advanced manufacturing research and  
19 development activities at the Institute; and

20 “(2) one or more technology development  
21 testbeds within the United States, selected in ac-  
22 cordance with procedures, including cost sharing, es-  
23 tablished for the Advanced Technology Program es-  
24 tablished under section 28 of the National Institute  
25 of Standards and Technology Act (15 U.S.C. 278n),

1       whose purpose shall be to develop, refine, and test  
2       advanced manufacturing, data exchange, and  
3       networking technologies and associated applications  
4       and to facilitate the transfer of such technologies  
5       and applications to United States manufacturers.

6       “(d) FUNCTIONS AND ACTIVITIES.—The Advanced  
7       Manufacturing Technology Development Program, under  
8       the coordination of the Secretary, through the Director,  
9       shall—

10               “(1) test and, as appropriate, facilitate and  
11               support the development of the equipment, computer  
12               software, and systems integration necessary for the  
13               successful operation within the United States of ad-  
14               vanced design and manufacturing systems and asso-  
15               ciated electronic networks;

16               “(2) establish at the Institute and the tech-  
17               nology development testbed or testbeds—

18                       “(A) prototype advanced computer-inte-  
19                       grated manufacturing systems;

20                       “(B) prototype electronic networks linking  
21                       manufacturing systems; and

22                       “(C) prototype clean manufacturing sys-  
23                       tems;

24               “(3) assist United States companies to develop  
25       voluntary consensus standards relevant to advanced

1 computer-integrated manufacturing operations, in-  
2 cluding standards for networks, electronic data  
3 interchange, and digital product data specifications;

4 “(4) help to make high-performance computing  
5 and networking technologies an integral part of de-  
6 sign and production processes where appropriate;

7 “(5) conduct research to identify and overcome  
8 technical barriers to the successful and cost-effective  
9 operation of advanced manufacturing systems and  
10 networks and to promote and facilitate electronic  
11 data exchange;

12 “(6) facilitate the efforts of United States com-  
13 panies to develop and test new applications for man-  
14 ufacturing systems, networks, and information ex-  
15 change;

16 “(7) involve in the Advanced Manufacturing  
17 Technology Development Program, to the maximum  
18 extent practicable, both those United States manu-  
19 facturers which make manufacturing technology and  
20 related computer equipment and software, and Unit-  
21 ed States companies which buy such technology,  
22 equipment and software;

23 “(8) identify training needs, as appropriate, for  
24 managers, engineers, and employees of United  
25 States manufacturers in the operation and applica-

1        tions of advanced manufacturing technologies and  
2        networks, with particular emphasis on training for  
3        production workers in the effective use of advanced  
4        manufacturing technology;

5            “(9) work with United States companies, uni-  
6        versities, independent research organizations, and  
7        other interested parties to develop standards, tools,  
8        and techniques for the use of advanced computer-  
9        based training systems, including multi-media and  
10       interactive learning technologies;

11           “(10) involve small businesses in its activities;

12           “(11) exchange information and personnel, as  
13       appropriate, between the technology development  
14       testbeds and the outreach network created under  
15       section 303(d); and

16           “(12) coordinate its activities with the National  
17       High-Performance Computing Program described in  
18       section 101 of the High-Performance Computing Act  
19       of 1991 (15 U.S.C. 5511) to ensure that both pro-  
20       grams are complementary and compatible.

21        “(e) TESTBED AWARDS.—(1) In selecting applicants  
22       to receive awards under subsection (c)(2) of this section,  
23       the Secretary shall give preferential consideration to appli-  
24       cants that have existing computer expertise in manufac-  
25       turing applications and the ability to diffuse such expertise



1 to United States companies, and that, in the case of joint  
2 research and development ventures, include both suppliers  
3 and users of advanced manufacturing technology. In the  
4 case of systems described in subsection (d)(2)(C), the Sec-  
5 retary shall also give preferential consideration to appli-  
6 cants that have existing program expertise in clean manu-  
7 facturing, including the areas of concurrent engineering,  
8 materials research, and environmental science, and which  
9 have a technology transfer mechanism in place to transfer  
10 testbed results of a clean manufacturing program to in-  
11 dustry participants.

12 “(2) An industry-led joint research and development  
13 venture applying for an award under subsection (c)(2) of  
14 this section may include one or more State research orga-  
15 nizations, universities, Federal laboratories, independent  
16 research organizations, or Regional Centers for the Trans-  
17 fer of Manufacturing Technology (as created under section  
18 25 of the National Institute of Standards and Technology  
19 Act) and other organizations as the Secretary considers  
20 appropriate.

21 “(f) ADVICE AND ASSISTANCE.—(1) Within 6 months  
22 after the date of enactment of this title, and before any  
23 request for proposals is issued, the Secretary shall hold  
24 one or more workshops to solicit advice from United  
25 States companies and from other Federal agencies, par-

1 ticularly the Department of Defense, the Department of  
2 Energy, and the National Aeronautics and Space Adminis-  
3 tration, regarding the specific missions and activities of  
4 the testbeds.

5 “(2) The Secretary shall, to the greatest extent pos-  
6 sible, coordinate activities under this section with activities  
7 of other Federal agencies and initiatives relating to com-  
8 puter-aided acquisition and logistics support, electronic  
9 data interchange, flexible computer-integrated manufac-  
10 turing, and enterprise integration.

11 “(3) The Secretary may request and accept funds,  
12 facilities, equipment, or personnel from other Federal  
13 agencies in order to carry out this section.

14 “(g) ANTITRUST SAVINGS CLAUSE.—This section  
15 shall not be construed to modify, impair, or supersede the  
16 operation of the antitrust laws. For purposes of this sub-  
17 section, the term ‘antitrust laws’ has the meaning given  
18 it in subsection (a) of the first section of the Clayton Act  
19 (15 U.S.C. 12(a)), except that such term includes the Act  
20 of June 19, 1936 (49 Stat. 1526; 15 U.S.C. 13 et seq.),  
21 commonly known as the Robinson Patman Act, and sec-  
22 tion 5 of the Federal Trade Commission Act (15 U.S.C.  
23 45) to the extent that such section 5 applies to unfair  
24 methods of competition.”.

1 **SEC. 6. MISCELLANEOUS AND CONFORMING AMENDMENTS.**

2 (a) DEFINITIONS.—Section 4 of the Stevenson-  
3 Wydler Technology Innovation Act of 1980 (15 U.S.C.  
4 3703) is amended by adding at the end the following new  
5 paragraphs:

6 “(14) ‘Director’ means the Director of the Na-  
7 tional Institute of Standards and Technology.

8 “(15) ‘Institute’ means the National Institute  
9 of Standards and Technology.

10 “(16) ‘Assistant Secretary’ means the Assistant  
11 Secretary of Commerce for Technology Policy.

12 “(17) ‘Advanced manufacturing technology’  
13 means—

14 “(A) numerically-controlled machine tools,  
15 robots, automated process control equipment,  
16 computerized flexible manufacturing systems,  
17 associated computer software, and other tech-  
18 nology for improving manufacturing and indus-  
19 trial production of goods, including bio-  
20 technology products, which advance the state-  
21 of-the-art; or

22 “(B) novel manufacturing techniques and  
23 processes not previously generally available that  
24 improve manufacturing quality, productivity,  
25 and practices, including engineering design,  
26 quality assurance, concurrent engineering, con-

1           tinuous process production technology, inven-  
2           tory management, upgraded worker skills, com-  
3           munications with customers and suppliers, and  
4           promotion of sustainable economic growth.

5           “(18) ‘Modern technology’ means the best avail-  
6           able proven technology, techniques, and processes  
7           appropriate to enhancing the productivity of manu-  
8           facturers or to promoting sustainable economic  
9           growth.

10          “(19) ‘Sustainable economic growth’ means eco-  
11          nomic growth that enhances the national quality of  
12          life and preserves environmental integrity.

13          “(20) The term ‘United States company’ means  
14          an entity which the Secretary finds, based on a dem-  
15          onstration by such entity—

16               “(A) maintains substantial employment in  
17               the United States;

18               “(B) agrees, with respect to a technology  
19               arising from assistance provided under this Act  
20               or the Manufacturing Technology and Exten-  
21               sion Act of 1995, to promote the manufacture  
22               within the United States of products resulting  
23               from that technology;

1           “(C) agrees to procure parts and materials  
2           for such products from competitive United  
3           States suppliers; and

4           “(D) either—

5                 “(i) is a United States-owned com-  
6                 pany; or

7                 “(ii) is a company incorporated in the  
8                 United States that has a parent company  
9                 incorporated in a country which the Sec-  
10                retary finds—

11               “(I) affords to United States-  
12               owned companies opportunities com-  
13               parable to those afforded to any other  
14               company to participate in programs  
15               and to have access to resources and  
16               information equivalent to the opportu-  
17               nities authorized under this Act or the  
18               Manufacturing Technology and Ex-  
19               tension Act of 1995 to foreign-owned  
20               entities engaged in commerce in the  
21               United States;

22               “(II) has a standards develop-  
23               ment and conformity assessment proc-  
24               ess that is open and transparent, and  
25               that results in standards that are fair

1 and reasonable and do not discrimi-  
2 nate against United States products  
3 and production processes;

4 “(III) affords to United States-  
5 owned companies local investment op-  
6 portunities comparable to those af-  
7 forded any other company; and

8 “(IV) affords adequate and effec-  
9 tive protection for the intellectual  
10 property rights of United States-  
11 owned companies.

12 “(21) The term ‘United States manufacturer’  
13 means a United States company which the Secretary  
14 finds, based on a demonstration by such company,  
15 makes substantial investments in the United States  
16 in research, development, and manufacturing (in-  
17 cluding the manufacture of major components or  
18 subassemblies in the United States).

19 “(22) The term ‘United States-owned company’  
20 has the meaning given such term in section 28(j)(2)  
21 of the National Institute of Standards and Tech-  
22 nology Act (15 U.S.C. 278n(j)(2).

23 “(23) ‘Independent research organizations’  
24 means nonprofit organizations organized primarily

1 for the purpose of conducting or managing research  
2 activities.”.

3 (b) REDESIGNATIONS.—The Stevenson-Wydler Tech-  
4 nology Innovation Act of 1980 (15 U.S.C. 3701 et seq.)  
5 is amended—

6 (1) by inserting immediately after section 4 the  
7 following new title heading:

8 **“TITLE I—DEPARTMENT OF**  
9 **COMMERCE AND RELATED**  
10 **PROGRAMS”;**

11 (2) by redesignating sections 5 through 10 as  
12 sections 101 through 106, respectively;

13 (3) by redesignating sections 16 through 22, as  
14 sections 107 through 113, respectively;

15 (4) by inserting immediately after section 113  
16 (as redesignated by paragraph (3) of this sub-  
17 section) the following new title heading:

18 **“TITLE II—FEDERAL**  
19 **TECHNOLOGY TRANSFER”;**

20 (5) by redesignating sections 11 through 15 as  
21 sections 201 through 205, respectively;

22 (6) by redesignating section 23 as section 206;

23 (7) in section 4—

1 (A) by striking “section 5” each place it  
2 appears and inserting in lieu thereof “section  
3 101”;

4 (B) in paragraphs (4) and (6), by striking  
5 “section 6” and “section 8” each place they ap-  
6 pear and inserting in lieu thereof “section 102”  
7 and “section 104”, respectively; and

8 (C) in paragraph (13), by striking “section  
9 6” and inserting in lieu thereof “section 102”;

10 (8) in section 105 (as redesignated by para-  
11 graph (2) of this subsection) by striking “section 6”  
12 each place it appears and inserting in lieu thereof  
13 “section 102”;

14 (9) in section 106(d) (as redesignated by para-  
15 graph (2) of this subsection) by striking “7, 9, 11,  
16 15, 17, or 20” and inserting in lieu thereof “103,  
17 105, 108, 111, 201, or 205”;

18 (10) in section 201(i) (as redesignated by para-  
19 graph (5) of this subsection) by inserting “loan,  
20 lease, or” after “may”; and by inserting “Actions  
21 taken under this subsection shall not be subject to  
22 Federal requirements on the disposal of property.”  
23 after “activities.”;



1 (11) in section 202(b) (as redesignated by para-  
2 graph (5) of this subsection) by striking “section  
3 14” and inserting in lieu thereof “section 204”;

4 (12) in section 204(a)(1) (as redesignated by  
5 paragraph (5) of this subsection) by striking “sec-  
6 tion 12” and inserting in lieu thereof “section 202”;

7 (13) in section 113 (as redesignated by para-  
8 graph (3) of this subsection) by striking “sections  
9 11, 12, and 13” and inserting in lieu thereof “sec-  
10 tions 201, 202, and 203”;

11 (14) in section 206 (as redesignated by para-  
12 graph (6) of this subsection)—

13 (A) by striking “section 11(b)” in sub-  
14 section (a)(2) and inserting in lieu thereof “sec-  
15 tion 201(b)”;

16 (B) by striking “section 6(d)” in sub-  
17 section (b) and inserting in lieu thereof “section  
18 102(d)”;

19 (15) by adding at the end of section 201 (as re-  
20 designated by paragraph (5) of this subsection) the  
21 following new subsection:

22 “(j) ADDITIONAL TECHNOLOGY TRANSFER MECHA-  
23 NISMS.—In addition to the technology transfer mecha-  
24 nisms set forth in this section and section 202 of this Act,  
25 the heads of Federal departments and agencies also may

1 transfer technologies through the technology transfer and  
2 extension programs of the Department of Commerce and  
3 the Department of Defense.”.

4 **SEC. 7. MANUFACTURING TECHNOLOGY CENTERS.**

5 Section 25 of the National Institute of Standards and  
6 Technology Act (15 U.S.C. 278k), is amended—

7 (1) by amending the section heading to read as  
8 follows: “MANUFACTURING TECHNOLOGY CENTERS”;

9 (2) in subsection (c)(5), by striking “which are  
10 designed” and all that follows through “operation of  
11 a Center” and inserting in lieu thereof “to a maxi-  
12 mum of one-third Federal funding. Each Center  
13 which receives financial assistance under this section  
14 shall be evaluated during its sixth year of operation,  
15 and at such subsequent times as the Secretary con-  
16 siders appropriate, by an evaluation panel appointed  
17 by the Secretary in the same manner as was the  
18 evaluation panel previously appointed. The Secretary  
19 shall not provide funding for additional years of the  
20 Center’s operation unless the evaluation is positive  
21 and the Secretary finds that continuation of funding  
22 furthers the goals of the Department. Such addi-  
23 tional Federal funding shall not exceed one-third of  
24 the cost of the Center’s operations”;

25 (3) by striking subsection (d); and

1           (4) by adding at the end the following new sub-  
2       sections:

3       “(d) If a Center receives a positive evaluation during  
4 its third year of operation, the Director may, any time  
5 after that evaluation, contract with the Center to provide  
6 additional technology extension or transfer services above  
7 and beyond the baseline activities of the Center. Such ad-  
8 ditional services may include, but are not limited to, the  
9 development and operation of the following:

10           “(1) Programs to assist United States compa-  
11 nies that are engaged in manufacturing and their  
12 employees, including front-line production workers,  
13 in the Center’s region to learn and apply the tech-  
14 nologies, techniques, and processes associated with  
15 systems management technology, electronic data ex-  
16 change, or improving manufacturing productivity.

17           “(2) Services focused on the testing, develop-  
18 ment, and application of manufacturing and process  
19 technologies within specific technical fields such as  
20 advanced materials or electronics fabrication for the  
21 purpose of assisting United States companies that  
22 are engaged in manufacturing, both within the Cen-  
23 ter’s original service region and in other regions, to  
24 improve manufacturing quality, product design,

1 workforce training, and production efficiency in  
2 those specific technical fields.

3 “(3) Industry-led demonstration programs that  
4 involve United States manufacturing technology con-  
5 sortia to provide ongoing research, technology trans-  
6 fer, and worker training assistance to their mem-  
7 bers. An award under this paragraph shall be for no  
8 more than \$500,000 per year, and shall be subject  
9 to renewal after a 1-year demonstration period.

10 “(e) In addition to any assistance provided or con-  
11 tracts entered into with a Center under this section, the  
12 Director is authorized to make separate and smaller  
13 awards, through a competitive process, to nonprofit orga-  
14 nizations which wish to work with a Center. Such awards  
15 shall be for the purpose of enabling those organizations  
16 to provide outreach services, in collaboration with the Cen-  
17 ter, to United States manufacturers located in parts of  
18 the region served by the Center which are not easily acces-  
19 sible to the Center and which are not served by any other  
20 manufacturing outreach center. Organizations which re-  
21 ceive such awards shall be known as Local Manufacturing  
22 Offices. In reviewing applications, the Director shall con-  
23 sider the needs of rural as well as urban manufacturers.  
24 No single award for a Local Manufacturing Office shall  
25 be for more than three years, awards shall be renewable

1 through the competitive awards process, and no award  
2 shall be made unless the applicant provides matching  
3 funds at least equal to the amount received under this sec-  
4 tion.

5 “(f) In carrying out this section, the Director shall  
6 coordinate his efforts with the plans for the National  
7 Technology Outreach Program established under section  
8 303 of the Stevenson-Wydler Technology Innovation Act  
9 of 1980.”.

10 **SEC. 8. STATE TECHNOLOGY EXTENSION PROGRAM.**

11 (a) ESTABLISHMENT.—Section 26(a) of the National  
12 Institute of Standards and Technology Act (15 U.S.C.  
13 278l(a)), is amended—

14 (1) by inserting immediately after “(a)” the fol-  
15 lowing new sentence: “There is established within  
16 the Institute a State Technology Extension Pro-  
17 gram.”; and

18 (2) by inserting “through that Program” imme-  
19 diately after “technical assistance”.

20 (b) ADDITIONAL AUTHORITIES.—Section 26 of the  
21 National Institute of Standards and Technology Act (15  
22 U.S.C. 278l) is amended by adding at the end the follow-  
23 ing new subsection:

24 “(c) In addition to the general authorities listed in  
25 subsection (b) of this section, the State Technology Exten-

1 sion Program also may, through merit-based competitive  
2 review processes—

3 “(1) make awards to States and conduct work-  
4 shops, pursuant to section 5121(b) of the Omnibus  
5 Trade and Competitiveness Act of 1988, in order to  
6 help States improve their planning and coordination  
7 of technology extension activities;

8 “(2) support technology demonstration projects  
9 to help States provide technical assistance and serv-  
10 ices to United States manufacturers that will im-  
11 prove their productivity and competitiveness;

12 “(3) support State efforts to develop and test  
13 innovative ways to help United States manufacturers  
14 improve their technical capabilities;

15 “(4) support State efforts designed to help  
16 United States manufacturers in rural as well as  
17 urban areas adopt modern manufacturing tech-  
18 nologies;

19 “(5) support State efforts to assist interested  
20 United States manufacturers in the defense industry  
21 to adapt to modern or advanced manufacturing tech-  
22 nologies as they convert to nondefense or dual-use  
23 purposes;

24 “(6) support worker technology education pro-  
25 grams in the States at institutions such as research

1 universities, community colleges, labor education  
2 centers, labor-management committees, and worker  
3 organizations in production technologies critical to  
4 the Nation's future, with an emphasis on high-per-  
5 formance work systems, the skills necessary to use  
6 modern or advanced manufacturing systems well;

7 “(7) help States develop programs to train per-  
8 sonnel who in turn can provide technical skills to  
9 managers and workers of United States manufactur-  
10 ers; and

11 “(8) support State efforts to assist United  
12 States manufacturers to develop on-the-job training  
13 in modern and advanced manufacturing tech-  
14 nologies, techniques, and processes and to promote  
15 the development and adoption of modern and ad-  
16 vanced manufacturing technologies.”.

17 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

18 There are authorized to be appropriated to the Sec-  
19 retary of Commerce for carrying out the amendments  
20 made by this Act—

21 (1) \$146,600,000 for fiscal year 1996; and

22 (2) such sums as may be necessary for each of  
23 the fiscal years 1997 through 2000.

○

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