

103<sup>D</sup> CONGRESS  
2<sup>D</sup> SESSION

# S. 1881

To establish and implement a technology investment policy for aeronautical and space activities of the National Aeronautics and Space Administration, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

MARCH 1 (legislative day, FEBRUARY 22), 1994

Mr. ROCKEFELLER (for himself and Mr. BURNS) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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## A BILL

To establish and implement a technology investment policy for aeronautical and space activities of the National Aeronautics and Space Administration, and for other purposes.

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 “National Aeronautics  
5        and Space Administration Technology Investment Act of  
6        1994”.

7        **SEC. 2. FINDINGS.**

8        The Congress finds and declares the following:

1           (1) Federal investment in research and tech-  
2           nology development can enhance the competitiveness  
3           of United States industry in global markets.

4           (2) Industry and government partnerships in  
5           the development of technologies increase the effec-  
6           tiveness of Federal investment in the United States  
7           economy.

8           (3) Ongoing defense reductions impact the  
9           aerospace industrial base and require greater effort  
10          by the National Aeronautics and Space Administra-  
11          tion to ensure technological advancements in support  
12          of its missions as well as in support of competitive-  
13          ness.

14          (4) Increased contribution to the health of the  
15          United States economy by the National Aeronautics  
16          and Space Administration is important to the long-  
17          term support of civilian aeronautics and space activi-  
18          ties.

19          (5) Investments in research and development at  
20          the National Aeronautics and Space Administration  
21          can be made to enhance the competitiveness of Unit-  
22          ed States industry, as well as to promote develop-  
23          ment of technologies for government and commercial  
24          aeronautics and space missions.

1           (6) The National Aeronautics and Space Ad-  
2           ministration directs a large portion of its budget to-  
3           ward the procurement of goods and services for its  
4           aeronautical and space missions and can use such  
5           procurement to advance technology development in  
6           industry and academia.

7 **SEC. 3. TECHNOLOGY INVESTMENT POLICY.**

8           It is the policy of the United States that—

9           (1) improving the competitive capabilities of  
10          United States industry in conjunction with imple-  
11          menting aeronautics and space missions shall be a  
12          fundamental goal of the National Aeronautics and  
13          Space Administration;

14          (2) the Administrator of the National Aero-  
15          nautics and Space Administration (hereinafter re-  
16          ferred to as the “Administrator”), in planning for  
17          and implementing national programs in aeronautics  
18          and space, shall advocate technology development  
19          designed to foster competitiveness of United States  
20          industry in global markets;

21          (3) the investment in technology by the Na-  
22          tional Aeronautics and Space Administration shall  
23          be coordinated closely with investment of other Fed-  
24          eral agencies, the States, and local governments;

1           (4) technology investments shall be identified in  
2           concert with United States industry; and

3           (5) the establishment of industry-led consortia  
4           shall be encouraged to enhance opportunities for  
5           United States industry to develop and advance tech-  
6           nologies.

7   **TITLE I—ROLE OF NATIONAL AERO-**  
8   **NAUTICS AND SPACE ADMINISTRA-**  
9   **TION IN TECHNOLOGY INVESTMENT**

10 **SEC. 101. AMENDMENTS TO NATIONAL AERONAUTICS AND**  
11                                   **SPACE ACT OF 1958.**

12           Section 102 of the National Aeronautics and Space  
13   Act of 1958 (42 U.S.C. 2451) is amended—

14           (1) by striking subsection (e) and inserting in  
15           lieu thereof the following:

16           “(e) The aeronautical and space activities of the  
17   United States shall be conducted so as to contribute mate-  
18   rially to the economic growth, competitiveness, and pro-  
19   ductivity of the Nation.”;

20           (2) by striking subsection (f) and by redesignat-  
21           ing subsections (g) and (h) as subsections (f) and  
22           (g), respectively; and

23           (3) in subsection (g), as so redesignated, by  
24           striking “(f), and (g)” and inserting in lieu thereof  
25           “and (f)”.

1 **SEC. 102. TECHNOLOGY DEVELOPMENT AND COMMER-**  
2 **IALIZATION GOALS.**

3 The Administrator shall ensure that, to the maximum  
4 extent practicable, funded and planned aeronautical and  
5 space projects of the National Aeronautics and Space Ad-  
6 ministration—

7 (1) incorporate a technology plan that fosters  
8 technological advances of value to both the mission  
9 and the economy and reduces the life cycle costs of  
10 such projects;

11 (2) promote commercial technology applications;  
12 and

13 (3) measure and evaluate technology develop-  
14 ment and the potential for commercialization.

15 **SEC. 103. TECHNOLOGY INVESTMENT PROGRAM WITH IN-**  
16 **DUSTRY.**

17 (a) **COMPETITION; ELIGIBILITY.**—The Administrator  
18 shall establish a competitive program under which the Ad-  
19 ministrator invests in any project proposed by an eligible  
20 firm where the Administrator determines that—

21 (1) the project will—

22 (A) advance the competitiveness of United  
23 States industry;

24 (B) advance the technologies required for  
25 aeronautical and space missions; and

1 (C) encourage industry-led consortia to de-  
2 velop those of the technologies described in sub-  
3 paragraph (B) that have been identified as a  
4 priority by industry in concert with the Admin-  
5 istrator; and

6 (2) the participation by the eligible firm would  
7 be in the economic interest of the United States as  
8 evidenced by the conduct of a significant level of its  
9 research, development, engineering, or manufactur-  
10 ing activities in the United States.

11 (b) CRITERIA.—In selecting projects for Federal in-  
12 vestment under this section, the Administrator shall weigh  
13 and consider—

14 (1) the extent of funding provided by industry  
15 for such project;

16 (2) each project's potential to advance tech-  
17 nologies that enhance the competitiveness of United  
18 States industry in global markets;

19 (3) such project's scientific and technical merit;

20 (4) the potential of the project to advance mis-  
21 sion needs of the National Aeronautics and Space  
22 Administration; and

23 (5) such other criteria as the Administrator  
24 considers appropriate to carry out the purposes of  
25 the this section.

1 (c) COST-SHARING.—The Administrator shall ensure  
2 that the amount of the funds provided by the Federal Gov-  
3 ernment under this section for a project does not exceed  
4 the total amount provided by non-Federal participants for  
5 that project. Of the amount provided by non-Federal par-  
6 ticipants, the Administrator shall ensure that not less than  
7 25 percent of total funding for any project for which Fed-  
8 eral investment is made available under this section is pro-  
9 vided by industry.

10 (d) FINANCING MECHANISMS.—In funding the  
11 projects selected under this section, the Administrator is  
12 encouraged to—

13 (1) use the authority of the National Aero-  
14 nautics and Space Administration under section  
15 203(c)(5) of the National Aeronautics and Space  
16 Act of 1958 (42 U.S.C. 2473(c)(5)) especially when  
17 applied to non-aerospace firms; and

18 (2) enter into innovative procurement, financ-  
19 ing, and management arrangements, consistent with  
20 existing statutes.

21 (e) REGULATIONS.—The Administrator shall issue  
22 regulations to implement the technology investment pro-  
23 gram established under this section. The regulations shall  
24 include—

1 (1) procedures for making application to the  
2 Administrator for investment under this section;

3 (2) guidelines for cost-sharing pursuant to sub-  
4 section (c); and

5 (3) procedures to be followed by the Adminis-  
6 trator in selecting projects for investment under this  
7 section.

8 (f) COORDINATION WITH FEDERAL AGENCIES.—In  
9 carrying out this section, the Administrator shall consult  
10 with the Secretaries of Commerce, Defense, Energy, and  
11 Transportation and with such other Federal agency heads  
12 as the Administrator considers appropriate.

13 (g) AUTHORIZATION.—There is authorized to be ap-  
14 propriated to the Administrator \$20,000,000 for each of  
15 the fiscal years 1994 and 1995, for the purpose of carry-  
16 ing out the program established under this section. Sums  
17 appropriated under this section shall remain available  
18 until expended.

19 **SEC. 104. ROLE OF PROCUREMENT IN TECHNOLOGY IN-**  
20 **VESTMENT.**

21 The Administrator, in meeting aeronautical and  
22 space mission needs, shall coordinate and direct resources  
23 of the National Aeronautics and Space administration in  
24 the area of procurement to—

25 (1) advance state-of-the-art technologies;



1           (2) assess and procure, where appropriate, com-  
2           mercially available technologies from the market-  
3           place;

4           (3) use performance specifications; and

5           (4) reduce the paperwork requirements associ-  
6           ated with procurement.

7 **SEC. 105. COORDINATION WITH OTHER FEDERAL PRO-**  
8 **GRAMS.**

9           (a) **TECHNOLOGY PROGRAMS AND TECHNOLOGY**  
10 **TRANSFER PROGRAMS.**—To ensure a consistent Federal  
11 investment policy and to preclude multiple awards for a  
12 single proposal, the Administrator shall ensure that the  
13 technology investment activities established under this  
14 title are coordinated closely with existing and future—

15           (1) Federal technology programs such as the  
16 Technology Reinvestment Program of the Advanced  
17 Research Projects Agency and the Advanced Tech-  
18 nology Program of the National Institute of Stand-  
19 ards and Technology; and

20           (2) Federal technology transfer programs and  
21 activities established to promote and advocate the  
22 use of technologies developed in the Federal labora-  
23 tories.

24           (b) **IDENTIFICATION OF FUNDING RECEIVED FROM**  
25 **OTHER AGENCIES.**—The Administrator shall identify, as

1 part of the annual budget submission to Congress, all  
2 funding received by the National Aeronautics and Space  
3 Administration from other Federal agencies to manage  
4 and carry out technology investment and development.

5 **SEC. 106. INTERAGENCY TECHNOLOGY INITIATIVES.**

6 As part of the National Aeronautics and Space Ad-  
7 ministration's annual budget submission to Congress, the  
8 Administrator shall identify funding requirements, project  
9 milestones, and 5-year budget projections, for the portion  
10 undertaken by the National Aeronautics and Space Ad-  
11 ministration of each interagency technology projects.

12 **SEC. 107. COORDINATION WITH OTHER NASA PROGRAMS.**

13 (A) SMALL BUSINESS INNOVATION RESEARCH.—The  
14 Administrator shall coordinate the technology investment  
15 activities under this title with the Small Business Innova-  
16 tion Research activities of the National Aeronautics and  
17 Space Administration to increase the effectiveness of fund-  
18 ing to small businesses, to the maximum extent permitted  
19 by law.

20 (b) INDEPENDENT RESEARCH AND DEVELOPMENT  
21 FUNDS.—The Administrator shall identify all funds reim-  
22 bursed to contractors of the National Aeronautics and  
23 Space Administration for activities commonly referred to  
24 as "Independent Research and Development" and coordi-

1 nate such funds with the technology investment activities  
2 under this title.

3 (c) TECHNOLOGY TRANSFER AND COMMERCIAL PRO-  
4 GRAMS.—The Administrator shall coordinate the activities  
5 of ongoing and future technology transfer, innovation, and  
6 commercial programs of the National Aeronautics and  
7 Space Administration with the technology investment ac-  
8 tivities under this title.

9 **SEC. 108. PERSONNEL INCENTIVES.**

10 To encourage the personnel of the National Aero-  
11 nautics and Space Administration to pursue technology in-  
12 novation and development, the Administrator shall provide  
13 personnel incentives, including—

14 (1) promotions and within-grade increases;

15 (2) bonuses and cash awards under the inven-  
16 tions and contributions system and senior executive  
17 service; and

18 (3) paid leave, sabbaticals, or intergovernmental  
19 personnel transfers to other Federal agencies or the  
20 private sector to pursue technology innovations and  
21 development, as the Administrator deems appro-  
22 priate.

23 **SEC. 109. ANNUAL REPORT TO CONGRESS.**

24 The Administrator shall assess the technology invest-  
25 ment activities established under this title and shall sub-

1 mit a report to Congress on the results of such assessment  
2 of activities. The report shall accompany the annual budg-  
3 et submission to Congress.

4 **SEC. 110. APPLICATION OF ANTITRUST LAWS.**

5 Nothing in this title shall be construed to create an  
6 immunity from any civil or criminal action under any Fed-  
7 eral or State antitrust law, or to alter or restrict in any  
8 manner the applicability of any Federal or State antitrust  
9 law.

10 **SEC. 111. DEFINITIONS.**

11 For the purposes of this title, the term—

12 (1) “eligible firm” means a business entity that  
13 is either—

14 (A) a company that has majority owner-  
15 ship or control by individuals who are citizens  
16 of the United States; or

17 (B) a company that is incorporated in the  
18 United States and has a parent company which  
19 is incorporated in a country whose govern-  
20 ment—

21 (i) permits companies described under  
22 subparagraph (A) to participate in re-  
23 search and development consortia to which  
24 such government provides funding directly,

1 or indirectly through one or more inter-  
2 national organizations; and

3 (ii) affords adequate and effective pro-  
4 tection for the intellectual property rights  
5 of companies described under subpara-  
6 graph (A);

7 (2) “Federal laboratory” has the meaning given  
8 such term in section 4(6) or the Stevenson-Wydler  
9 Technology Innovation Act of 1980 (15 U.S.C.  
10 3703(6)); and

11 (3) “United States” means the several States,  
12 the District of Columbia, Puerto Rico, the Virgin Is-  
13 lands, Guam, American Samoa, the Northern Mari-  
14 ana Islands, and any other territory or possession of  
15 the United States.

16 **TITLE II—NATIONAL AERONAUTICS**  
17 **FACILITIES**

18 **SEC. 201. FINDINGS.**

19 The Congress finds and declares the following:

20 (1) Aerospace technologies contribute substan-  
21 tially to the balance of trade and the competitiveness  
22 of United States industry.

23 (2) The international market share of the  
24 United States aerospace industry has eroded steadily  
25 due to competition from foreign consortia that re-

1       ceive substantial direct subsidies from their govern-  
2       ments.

3               (3) The United States aerospace industry con-  
4       tinues to be impacted negatively by the reduced in-  
5       vestment in national defense.

6               (4) The national civil and military aeronautics  
7       facilities of the United States are aging and, with  
8       few exceptions, cannot be modified to test new tech-  
9       nologies in aircraft and engine design.

10              (5) Inadequate domestic facilities force the  
11       United States aerospace industry to use the aero-  
12       nautics facilities of foreign countries, increasing the  
13       likelihood that technologies will be transferred to  
14       competing foreign industries.

15 **SEC. 202. POLICY.**

16       It is the policy of the United States that—

17              (1) Federal investment in domestic aerospace  
18       technologies shall be a priority of the United States  
19       to safeguard the international market share of the  
20       United States aerospace industry;

21              (2) maintaining world class aeronautics facili-  
22       ties in the United States shall be a major element  
23       of Federal investment in aeronautics research and  
24       development;

1           (3) the National Aeronautics and Space Admin-  
2           istration shall work closely with industry to identify  
3           and address aeronautics technology and facility is-  
4           sues; and

5           (4) industry and government cost-sharing for  
6           facilities construction and use shall be investigated  
7           to achieve aeronautics research and technology goals  
8           within a constrained Federal budget.

9   **SEC. 203. WORLDWIDE FACILITIES ASSESSMENT.**

10          The President shall conduct an assessment of all aer-  
11          onautics facilities in the United States and in other coun-  
12          tries and report to Congress the results of this assessment  
13          not later than January 1, 1995. The assessment shall in-  
14          clude—

15               (1) identification of all existing and planned  
16               aeronautics research and development facilities in  
17               the United States and in other countries;

18               (2) analysis of the strengths and weaknesses of  
19               each aeronautics facility that impact aeronautical re-  
20               search and technology objectives of the United  
21               States Government and domestic industries;

22               (3) determination of the cost-savings achievable  
23               by closing non-essential aeronautics facilities of the  
24               National Aeronautics and Space Administration and  
25               other Federal agencies; and

1           (4) determination of the current use and plans  
2           for use of foreign aeronautics facilities for research  
3           and technology activities of the United States Gov-  
4           ernment and domestic industries.

5 **SEC. 204. AERONAUTICS FACILITIES STRATEGY.**

6           (a) STRATEGY.—The President shall work closely  
7           with domestic industries to coordinate, develop, and imple-  
8           ment a strategy for Federal investment in aeronautics re-  
9           search and technology and aeronautics facilities. This  
10          strategy shall establish—

11           (1) priorities for Federal investment in aero-  
12          nautics facilities;

13           (2) a facilities implementation schedule to meet  
14          research and technology project milestones and aero-  
15          space industry market requirements;

16           (3) the projected cost of constructing and oper-  
17          ating new facilities; and

18           (4) options and recommendations to provide  
19          funding (including cost-sharing and risk-sharing  
20          with industries and among Federal agencies and in-  
21          novative procurement, financing, or management ar-  
22          rangements) for the construction of new aeronautics  
23          facilities and for the operation of new aeronautics  
24          facilities.



1       (b) DEADLINE.—The strategy required by subsection  
2 (a), and budget requirements associated with implement-  
3 ing such strategy, shall be submitted to Congress not later  
4 than January 1, 1995.

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