

103D CONGRESS
2D SESSION **S. 1881**

AN ACT

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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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”.

1 **SEC. 2. FINDINGS.**

2 The Congress finds and declares the following:

3 (1) Federal investment in research and technology development can enhance the competitiveness 4 of United States industry in global markets.

5 (2) Industry and government partnerships in 6 the development of technologies increase the effectiveness 7 of Federal investment in the United States 8 economy.

9 (3) Ongoing defense reductions impact the 10 aerospace industrial base and require greater effort 11 by the National Aeronautics and Space Administra- 12 tion to ensure technological advancements in support 13 of its missions as well as in support of competitive- 14 ness.

15 (4) Increased contribution to the health of the 16 United States economy by the National Aeronautics 17 and Space Administration is important to the long- 18 term support of civilian aeronautics and space activi- 19 ties.

20 (5) Investments in research and development at 21 the National Aeronautics and Space Administration 22 can be made to enhance the competitiveness of 23 United States industry, as well as to promote devel- 24 opment of technologies for government and commer- 25 cial aeronautics and space missions.

7 SEC. 3. TECHNOLOGY INVESTMENT POLICY.

8 It is the policy of the United States that—

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 the
15 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 "and (f)".

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

3 The Administrator shall require that, to the maxi-
4 mum extent practicable, aeronautical and space projects
5 of the National Aeronautics and Space Administration—

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

10 (2) promote commercial technology applications;

11 (3) measure and evaluate technology develop-
12 ment and the potential for commercialization; and

13 (4) seek the involvement of United States in-
14 dustry.

15 **SEC. 103. INDUSTRY TECHNOLOGY PROGRAM.**

16 (a) PURPOSE; CRITERIA.—The Administrator shall
17 establish a competitive program under which the Adminis-
18 trator may fund research and development projects pro-
19 posed by industry-led consortia, alliances, or other entities,
20 for the purpose of developing new technologies. In select-
21 ing projects to be funded under this section, the Adminis-
22 trator shall weigh and consider—

23 (1) each project's scientific and technical merit;

24 (2) the potential of the project to advance mis-
25 sion needs of the National Aeronautics and Space
26 Administration;

7 (b) COST-SHARING.—The Administrator shall ensure
8 that the amount of the funds provided by the Federal Gov-
9 ernment under this section for a project does not exceed
10 the total amount provided by non-Federal participants for
11 that project.

12 (c) FINANCING MECHANISMS.—In funding the tech-
13 nology projects selected under this section, the Adminis-
14 trator is encouraged—

20 (2) to enter into innovative procurement, fi-
21 nancing, and management arrangements, consistent
22 with existing statutes.

23 (d) COORDINATION WITH FEDERAL AGENCIES.—In
24 carrying out this section, the Administrator shall consult
25 with the Secretaries of Commerce, Defense, Energy, and

1 Transportation and with such other Federal agency heads
2 as the Administrator considers appropriate.

3 (e) AUTHORIZATION.—There are authorized to be ap-
4 propriated to the Administrator such sums as may be nec-
5 essary to carry out the provisions of this section. Sums
6 appropriated under this section shall remain available
7 until expended.

8 **SEC. 104. CONDITIONS ON TECHNOLOGY INVESTMENT;**
9 **ECONOMIC BENEFIT.**

10 In funding technology programs and activities under
11 this title, the Administrator shall ensure that the principal
12 economic benefits accrue to the economy of the United
13 States. The Administrator may consider such specific cri-
14 teria as appropriate, and in developing such criteria, shall
15 consult with appropriate Federal agency heads.

16 **SEC. 105. ROLE OF PROCUREMENT IN TECHNOLOGY IN-**
17 **VESTMENT.**

18 The Administrator, in meeting aeronautical and
19 space mission needs, shall coordinate and direct resources
20 of the National Aeronautics and Space Administration in
21 the area of procurement to—

22 (1) advance state-of-the-art technologies;
23 (2) assess and procure, where appropriate, com-
24 mercially available technologies from the market-
25 place;

4 SEC. 106. COORDINATION WITH OTHER FEDERAL PRO-
5 GRAMS.

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

21 (b) IDENTIFICATION OF FUNDING RECEIVED FROM
22 OTHER AGENCIES.—The Administrator shall identify, as
23 part of the annual budget submission to Congress, all
24 funding received by the National Aeronautics and Space
25 Administration from other Federal agencies for technology

1 investment and development, including funds from pro-
2 grams listed in (a)(1) above.

3 **SEC. 107. INTERAGENCY TECHNOLOGY INITIATIVES.**

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

10 **SEC. 108. COORDINATION WITH OTHER NASA PROGRAMS.**

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

18 (b) **INDEPENDENT RESEARCH AND DEVELOPMENT**
19 **FUNDS.**—The Administrator shall identify all funds pro-
20 vided to contractors of the National Aeronautics and
21 Space Administration for activities commonly referred to
22 as “Independent Research and Development” and coordi-
23 nate such funds with the technology investment activities
24 under this title.

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

7 **SEC. 109. PERSONNEL INCENTIVES.**

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

12 (1) promotions and within-grade increases;
13 (2) bonuses and cash awards under the inven-
14 tions and contributions system and senior executive
15 service; and
16 (3) paid leave, sabbaticals, or intergovernmental
17 personnel transfers to other Federal agencies or the
18 private sector to pursue technology innovation and
19 development, as the Administrator deems appro-
20 priate.

21 **SEC. 110. ANNUAL REPORT TO CONGRESS.**

22 The Administrator shall assess the technology invest-
23 ment activities established under this title and shall sub-
24 mit a report to Congress on the results of such assessment

1 of activities. The report shall accompany the annual budg-
2 et submission to Congress.

3 **SEC. 111. APPLICATION OF ANTITRUST LAWS.**

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

9 **SEC. 112. DEFINITIONS.**

10 For the purposes of this title, the term—

11 (1) “Federal laboratory” has the meaning given
12 such term in section 4(6) of the Stevenson-Wydler
13 Technology Innovation Act of 1980 (15 U.S.C.
14 3703(6)).

15 (2) “United States” means the several States,
16 the District of Columbia, Puerto Rico, the Virgin Is-
17 lands, Guam, American Samoa, the Northern Mari-
18 ana Islands, and any other territory or possession of
19 the United States.

20 **TITLE II—NATIONAL AERONAUTICS
21 FACILITIES**

22 **SEC. 201. FINDINGS.**

23 The Congress finds and declares the following:

4 (2) The international market share of the Unit-
5 ed States aerospace industry has eroded steadily due
6 to competition from foreign consortia that receive
7 substantial direct subsidies from their governments.

21 SEC. 202. POLICY.

22 It is the policy of the United States that—

23 (1) Federal investment in domestic aerospace
24 technologies shall be a priority of the United States

1 to safeguard the international market share of the
2 United States aerospace industry;

3 (2) maintaining world class aeronautics facilities
4 in the United States shall be a major element
5 of Federal investment in aerospace research and de-
6 velopment;

7 (3) the National Aeronautics and Space Admin-
8 istration shall work closely with industry to identify
9 and address aeronautics technology and facility is-
10 sues; and

11 (4) industry and government cost-sharing for
12 facilities construction and use shall be investigated
13 to achieve aeronautics research and technology goals
14 within a constrained Federal budget.

15 **SEC. 203. WORLDWIDE FACILITIES ASSESSMENT.**

16 The President shall conduct an assessment of all aer-
17 onautics facilities in the United States and in other coun-
18 tries and report to Congress the results of this assessment
19 at the time the fiscal year 1996 budget is submitted. The
20 assessment shall include—

21 (1) identification of all existing and planned
22 aeronautics research and development facilities in
23 the United States and in other countries;

24 (2) analysis of the capabilities of each aero-
25 nautics facility that impact aeronautical research

1 and technology objectives of the United States Gov-
2 ernment and domestic industries; and

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

7 **SEC. 204. AERONAUTICS FACILITIES STRATEGY.**

8 (a) STRATEGY.—The President or his designees shall
9 work closely with domestic industries to coordinate, de-
10 velop, and implement a strategy for Federal investment
11 in aeronautics research and technology and aeronautics fa-
12 cilities. This strategy shall establish—

13 (1) priorities for Federal investment in aero-
14 nautics facilities;

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

18 (3) the projected cost of constructing and oper-
19 ating new facilities; and

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

1 facilities and for the operation of new aeronautics
2 facilities.

3 (b) DEADLINE.—The strategy required by subsection
4 (a), and budget requirements associated with implement-
5 ing such strategy, shall accompany the fiscal year 1996
6 budget submission to Congress.

7 **TITLE III—COMMERCIAL SPACE LAUNCH
8 AMENDMENTS**

9 **SEC. 301. COMMERCIAL REENTRY VEHICLES.**

10 Chapter 701 of title 49, United States Code, is
11 amended—

12 (1) in the table of sections—

13 (A) by amending the item relating to sec-
14 tion 70104 to read as follows:

“70104. Restrictions on launches, operations, and reentries.”;

15 (B) by amending the item relating to sec-
16 tion 70108 to read as follows:

“70108. Prohibition, suspension, and end of launches, operation of launch sites,
and reentries.”;

17 (C) by amending the item relating to sec-
18 tion 70109 to read as follows:

“70109. Preemption of scheduled launches or reentries.”;

19 and

20 (D) by adding at the end the following new
21 item:

“70120. Report to Congress.”;

22 (2) in section 70102—

(A) by inserting “from Earth” after “and any payload” in paragraph (3);

3 (B) by redesignating paragraphs (10)
4 through (12) as paragraphs (12) through (14),
5 respectively; and

6 (C) by inserting after paragraph (9) the
7 following new paragraphs:

8 “(10) ‘reenter’ and ‘reentry’ mean to return
9 purposefully, or attempt to return, a reentry vehicle
10 and payload, if any, from Earth orbit or outer space
11 to Earth.

12 “(11) ‘reentry vehicle’ means any vehicle de-
13 signed to return from Earth orbit or outer space to
14 Earth substantially intact.”;

15 (3) in section 70104—

16 (A) by amending the section designation
17 and heading to read as follows:

20 (B) by inserting “, or reenter a reentry ve-
21 hicle,” after “operate a launch site” each place
22 it appears in subsection (a);

23 (C) by inserting “or reentry” after “launch
24 or operation” in subsection (a)(3) and (4);

25 (D) in subsection (b)—

1 (i) by striking “launch license” and
2 inserting “license”;

3 (ii) by inserting “or reenter” after
4 “may launch”; and

5 (iii) by inserting “or reentering” after
6 “related to launching”; and

7 (E) in subsection (c)—

11 (ii) by inserting “or reentry” after
12 “prevent the launch”; and

13 (iii) by inserting “or reentry” after
14 “decides the launch”;

15 (4) in section 70105—

16 (A) by inserting “, or reentry of a reentry
17 vehicle,” after “operation of a launch site” in
18 subsection (b)(1); and

19 (B) by striking “or operation” and insert-
20 ing “, operation, or reentry” in subsection
21 (b)(2)(A);

22 (5) in section 70106(a)—

23 (A) by inserting “or reentry site” after
24 “observer at a launch site”; and

1 (B) by inserting “or reentry vehicle” after
2 “assemble a launch vehicle”;

3 (6) in section 70108—

4 (A) by amending the section designation
5 and heading to read as follows:

6 **“§ 70108. Prohibition, suspension, and end of**
7 **launches, operation of launch site, and**
8 **reentries”;**

9 and

10 (B) in subsection (a)—

11 (i) by inserting “, or reentry of a re-
12 entry vehicle,” after “operation of a launch
13 site”; and

14 (ii) by inserting “or reentry” after
15 “launch or operation”;

16 (7) in section 70109—

19 “§ 70109. Preemption of scheduled launches or reen-
20 tries”;

21 (B) in subsection (a)—

22 (i) by inserting “or reentry” after
23 “ensure that a launch”;

24 (ii) by inserting “, reentry site,” after
25 “United States Government launch site”;

1 (iii) by inserting “or reentry date
2 commitment” after “launch date commit-
3 ment”;

4 (iv) by inserting “or reentry” after
5 “obtained for a launch”;

6 (v) by inserting “, reentry site,” after
7 “access to a launch site”;

8 (vi) by inserting “, or services related
9 to a reentry,” after “amount for launch
10 services”; and

11 (vii) by inserting “or reentry” after
12 “the scheduled launch”: and

13 (C) in subsection (c), by inserting “or re-
14 entry” after “prompt launching”;

15 (8) in section 70110—

16 (A) by inserting “or reentry” after “pre-
17 vent the launch” in subsection (a)(2); and

18 (B) by inserting “, or reentry of a reentry
19 vehicle,” after “operation of a launch site” in
20 subsection (a)(3)(B):

21 (9) in section 70112—

22 (A) by inserting “or reentry” after “one
23 launch” in subsection (a)(3):

24 (B) by inserting “or reentry” after “launch
25 services” in subsection (a)(4):

1 (C) by inserting “or reentry” after “launch
2 services” each place it appears in subsection
3 (b);

4 (D) by inserting “OR REENTRIES” after
5 “LAUNCHES” in the heading for subsection (e);
6 and

7 (E) by inserting “or reentry” after “launch
8 site” in subsection (e);

12 (11) in section 70115(b)(1)(D)(i)—

13 (A) by inserting "reentry site," after
14 "launch site,"; and

15 (B) by inserting “or reentry vehicle” after
16 “site of a launch vehicle”:

17 (12) in section 70117—

18 (A) by inserting “or reentry a reentry vehi-
19 cle” after “operate a launch site” in subsection
20 (a):

21 (B) by inserting “or reentry” after “ap-
22 proval of a space launch” in subsection (d):

23 (C) in subsection (f)—

24 (i) by inserting “OR REENTRY” after
25 “LAUNCH” in the subsection heading;

1 (ii) by inserting “, reentry vehicle,”
2 after “A launch vehicle”;

3 (iii) by inserting “or reentered” after
4 “that is launched”: and

5 (iv) by inserting “or reentry” after
6 “the launch”: and

7 (D) in subsection (g)—

11 (ii) by inserting "reentry," after
12 "launch," in paragraph (2);

13 (13) in section 70119, by inserting the follow-
14 ing after paragraph (2):

15 "There are authorized to be appropriated to the Secretary
16 of Transportation such amounts as may be necessary to
17 carry out this chapter for fiscal year 1995."; and

18 (14) by adding at the end the following new
19 section:

20 “§ 70120. Report to Congress

21 "The Secretary of Transportation shall submit to
22 Congress an annual report to accompany the President's
23 budget request that—

24 " (1) describes all activities undertaken under
25 this chapter, including a description of the process

1 for the application for and approval of licenses under
2 this chapter and recommendations for legislation
3 that may further commercial launches and reentries;
4 and

5 “(2) reviews the performance of the regulatory
6 activities and the effectiveness of the Office of Com-
7 mercial Space Transportation.”.

8 **SEC. 302. LICENSE APPLICATIONS.**

9 (a) IN GENERAL.—Section 70105 of title 49, United
10 States Code, is amended—

11 (1) in subsection (a), by striking “receiving an
12 application” both places it appears and inserting
13 “accepting an application in accordance with sub-
14 section (b)(2)(D)”;

15 (2) by striking “and” at the end of subsection
16 (b)(2)(B);

17 (3) by striking the period at the end of sub-
18 section (b)(2)(C) and inserting “; and”; and

19 (4) by adding at the end of subsection (b)(2)(C)
20 the following new subparagraph:

21 “(D) regulations establishing criteria for ac-
22 cepting an application for a license under this chap-
23 ter.”.

24 (b) EFFECTIVE DATE.—The amendment made by
25 subsection (a)(1) shall take effect upon the effective date

1 of final regulations issued pursuant to section
2 70105(b)(2)(D) of title 49, United States Code, as added
3 by subsection (a)(4).

4 **SEC. 303. PROHIBITION ON SPACE ADVERTISING.**

5 (a) DEFINITION.—Section 70102 of title 49, United
6 States Code, is amended by inserting after paragraph
7 (14), as redesignated by section 301(2)(B) of this title,
8 the following new paragraph:

9 “(15) ‘space advertising’ means advertising in
10 outer space that is capable of being seen by a
11 human being on the surface of the Earth without
12 the aid of a telescope or other technological device.”.

13 (b) PROHIBITION.—Chapter 701 of title 49, United
14 States Code, is amended by inserting after section 70109
15 the following new section:

16 **“§ 70109a. Prohibition on space advertising**

17 “(a) PROHIBITION.—Notwithstanding the provisions
18 of this chapter or any other provision of law—

19 “(1) the Secretary shall not—

20 “(A) issue or transfer a license under this
21 chapter; or

22 “(B) waive the license requirements of this
23 chapter;

24 for the launch of a payload containing any material
25 to be used for the purposes of space advertising; and

1 “(2) no holder of a license under this chapter,
2 on or after the date of enactment of the National
3 Aeronautics and Space Administration Technology
4 Investment Act of 1994, shall launch a payload con-
5 taining any material to be used for purposes of
6 space advertising.

7 “(b) CIVIL PENALTIES.—Any person who violates the
8 provisions of subsection (a)(2) shall—

9 “(1) be subject to a civil penalty, not to exceed
10 \$30,000,000 which shall be assessed by the Sec-
11 retary; and

12 “(2) not be issued a license under this chapter
13 for a period of 2 years from the date of such viola-
14 tion, or, in the case of multiple violations, from the
15 date of the most recent violation.”.

16 (c) NEGOTIATION WITH FOREIGN SPACE LAUNCH-
17 ING NATIONS.—

18 (1) The President is requested to negotiate with
19 foreign launching nations for the purpose of reach-
20 ing an agreement or agreements that prohibit the
21 use of outer space for advertising purposes.

22 (2) It is the sense of Congress that the Presi-
23 dent should take such action as is appropriate and
24 feasible to enforce the terms of any agreement to

1 prohibit the use of outer space for advertising pur-
2 poses.

3 (3) As used in this subsection, the term “for-
4 eign launching nation” means a nation—

5 (A) which launches, or procures the
6 launching of, a payload into outer space; or

7 (B) from whose territory or facility a pay-
8 load is launched into outer space.

9 (d) CLERICAL AMENDMENT.—The table of sections
10 for chapter 701 of title 49, United States Code, is amend-
11 ed by inserting the following after the item relating to sec-
12 tion 70109:

“70109a. Prohibition on space advertising”.

Passed the Senate October 6 (legislative day, Sep-
tember 12), 1994.

Attest:

Secretary.

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