

119TH CONGRESS
1ST SESSION

S. 1898

To establish a demonstration program for the active remediation of orbital debris and to require the development of uniform orbital debris standard practices in order to support a safe and sustainable orbital environment, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 22, 2025

Mr. HICKENLOOPER (for himself, Ms. CANTWELL, Mr. WICKER, and Ms. LUMMIS) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To establish a demonstration program for the active remediation of orbital debris and to require the development of uniform orbital debris standard practices in order to support a safe and sustainable orbital environment, 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 “Orbital Sustainability
5 Act of 2025” or the “ORBITS Act of 2025”.

1 **SEC. 2. FINDINGS; SENSE OF CONGRESS.**

2 (a) FINDINGS.—Congress makes the following find-
3 ings:

4 (1) The safety and sustainability of operations
5 in low-Earth orbit and nearby orbits in outer space
6 have become increasingly endangered by a growing
7 amount of orbital debris.

8 (2) Exploration and scientific research missions
9 and commercial space services of critical importance
10 to the United States rely on continued and secure
11 access to outer space.

12 (3) Efforts by nongovernmental space entities
13 to apply lessons learned through standards and best
14 practices will benefit from government support for
15 implementation both domestically and internation-
16 ally.

17 (b) SENSE OF CONGRESS.—It is the sense of Con-
18 gress that to preserve the sustainability of operations in
19 space, the United States Government should—

20 (1) to the extent practicable, develop and carry
21 out programs, establish or update regulations, and
22 commence initiatives to minimize orbital debris, in-
23 cluding initiatives to demonstrate active debris reme-
24 diation of orbital debris generated by the United
25 States Government or other entities under the juris-
26 diction of the United States;

1 (2) lead international efforts to encourage other
2 spacefaring countries to mitigate and remediate or-
3 bital debris under their jurisdiction and control; and

4 (3) encourage space system operators to con-
5 tinue implementing best practices for space safety
6 when deploying satellites and constellations of sat-
7 ellites, such as transparent data sharing and design-
8 ing for system reliability, so as to limit the genera-
9 tion of future orbital debris.

10 **SEC. 3. DEFINITIONS.**

11 In this Act:

12 (1) **ACTIVE DEBRIS REMEDIATION.**—The term
13 “active debris remediation”—

14 (A) means the deliberate process of facili-
15 tating the de-orbit, repurposing, or other dis-
16 posal of orbital debris, which may include mov-
17 ing orbital debris to a safe position, using an
18 object or technique that is external or internal
19 to the orbital debris; and

20 (B) does not include de-orbit, repurposing,
21 or other disposal of orbital debris by passive
22 means.

23 (2) **ADMINISTRATOR.**—The term “Adminis-
24 trator” means the Administrator of the National
25 Aeronautics and Space Administration.

1 (3) APPROPRIATE COMMITTEES OF CON-
2 GRESS.—The term “appropriate committees of Con-
3 gress” means—

4 (A) the Committee on Appropriations, the
5 Committee on Commerce, Science, and Trans-
6 portation, the Committee on Foreign Relations,
7 and the Committee on Armed Services of the
8 Senate; and

9 (B) the Committee on Appropriations, the
10 Committee on Science, Space, and Technology,
11 the Committee on Foreign Affairs, and the
12 Committee on Armed Services of the House of
13 Representatives.

14 (4) DEMONSTRATION PROJECT.—The term
15 “demonstration project” means the active orbital de-
16 bris remediation demonstration project carried out
17 under section 4(b).

18 (5) ELIGIBLE ENTITY.—The term “eligible enti-
19 ty” means—

20 (A) a United States-based—

21 (i) non-Federal, commercial entity;

22 (ii) institution of higher education (as
23 defined in section 101(a) of the Higher
24 Education Act of 1965 (20 U.S.C.
25 1001(a))); or

1 (iii) nonprofit organization;

2 (B) any other United States-based entity
3 the Administrator considers appropriate; and

4 (C) a partnership of entities described in
5 subparagraphs (A) and (B).

6 (6) ORBITAL DEBRIS.—The term “orbital de-
7bris” means any human-made space object orbiting
8Earth that—

9 (A) no longer serves an intended purpose;

10 and

11 (B)(i) has reached the end of its mission;

12 or

13 (ii) is incapable of safe maneuver or oper-
14ation.

15 (7) PROJECT.—The term “project” means a
16 specific investment with defined requirements, a life-
17 cycle cost, a period of duration with a beginning and
18 an end, and a management structure that may inter-
19 face with other projects, agencies, and international
20 partners to yield new or revised technologies ad-
21 dressing strategic goals.

22 (8) SECRETARY.—The term “Secretary” means
23 the Secretary of Commerce.

24 (9) SPACE TRAFFIC COORDINATION.—The term
25 “space traffic coordination” means the planning, co-

1 ordination, and on-orbit synchronization of activities
2 to enhance the safety and sustainability of oper-
3 ations in the space environment.

4 **SEC. 4. ACTIVE DEBRIS REMEDIATION.**

5 (a) **PRIORITIZATION OF ORBITAL DEBRIS.**—

6 (1) **LIST.**—Not later than 90 days after the
7 date of the enactment of this Act, the Secretary, in
8 consultation with the Administrator, the Secretary
9 of Defense, the Secretary of State, the National
10 Space Council, and representatives of the commer-
11 cial space industry, academia, and nonprofit organi-
12 zations, shall publish a list of select identified orbital
13 debris that may be remediated to improve the safety
14 and sustainability of orbiting satellites and on-orbit
15 activities.

16 (2) **CONTENTS.**—The list required under para-
17 graph (1)—

18 (A) shall be developed using appropriate
19 sources of data and information derived from
20 governmental and nongovernmental sources, in-
21 cluding space situational awareness data ob-
22 tained by the Office of Space Commerce, to the
23 extent practicable;

24 (B) shall include, to the extent prac-
25 ticable—

1 (i) a description of the approximate
2 age, location in orbit, size, mass, tumbling
3 state, post-mission passivation actions
4 taken, and national jurisdiction of each or-
5 bital debris identified; and

6 (ii) data required to inform decisions
7 regarding potential risk and feasibility of
8 safe remediation;

9 (C) may include orbital debris that poses a
10 significant risk to terrestrial people and assets,
11 including risk resulting from potential environ-
12 mental impacts from the uncontrolled reentry of
13 the orbital debris identified; and

14 (D) may include collections of small debris
15 that, as of the date of the enactment of this
16 Act, are untracked.

17 (3) PUBLIC AVAILABILITY; PERIODIC UP-
18 DATES.—

19 (A) IN GENERAL.—Subject to subpara-
20 graph (B), the list required under paragraph
21 (1) shall be published in unclassified form on a
22 publicly accessible internet website of the De-
23 partment of Commerce.

24 (B) EXCLUSION.—The Secretary may not
25 include on the list published under subpara-

1 graph (A) data acquired from nonpublic
2 sources.

3 (C) PERIODIC UPDATES.—Such list shall
4 be updated periodically.

5 (4) ACQUISITION, ACCESS, USE, AND HANDLING
6 OF DATA OR INFORMATION.—In carrying out the ac-
7 tivities under this subsection, the Secretary—

8 (A) shall acquire, access, use, and handle
9 data or information in a manner consistent with
10 applicable provisions of law and policy, includ-
11 ing laws and policies providing for the protec-
12 tion of privacy and civil liberties, and subject to
13 any restrictions required by the source of the
14 information;

15 (B) shall have access, upon written re-
16 quest, to all information, data, or reports of any
17 executive agency that the Secretary determines
18 necessary to carry out the activities under this
19 subsection, provided that such access is—

20 (i) conducted in a manner consistent
21 with applicable provisions of law and policy
22 of the originating agency, including laws
23 and policies providing for the protection of
24 privacy and civil liberties; and

1 (ii) consistent with due regard for the
2 protection from unauthorized disclosure of
3 classified information relating to sensitive
4 intelligence sources and methods or other
5 exceptionally sensitive matters; and

6 (C) may obtain commercially available in-
7 formation that may not be publicly available.

8 (b) ACTIVE ORBITAL DEBRIS REMEDIATION DEM-
9 ONSTRATION PROJECT.—

10 (1) ESTABLISHMENT.—Not later than 180 days
11 after the date of the enactment of this Act, subject
12 to the availability of appropriations, the Adminis-
13 trator, in consultation with the head of each relevant
14 Federal department or agency, shall establish a dem-
15 onstration project to make competitive awards for
16 the research, development, and demonstration of
17 technologies leading to the remediation of selected
18 orbital debris identified under subsection (a)(1).

19 (2) PURPOSE.—The purpose of the demonstra-
20 tion project shall be to enable eligible entities to pur-
21 sue the phased development and demonstration of
22 technologies and processes required for active debris
23 remediation.

1 (3) PROCEDURES AND CRITERIA.—In estab-
2 lishing the demonstration project, the Administrator
3 shall—

4 (A) establish—

5 (i) eligibility criteria for participation;

6 (ii) a process for soliciting proposals
7 from eligible entities;

8 (iii) criteria for the contents of such
9 proposals;

10 (iv) project compliance and evaluation
11 metrics; and

12 (v) project phases and milestones;

13 (B) identify government-furnished data or
14 equipment;

15 (C) develop a plan for National Aero-
16 nautics and Space Administration participation,
17 as appropriate, in technology development and
18 intellectual property rights that—

19 (i) leverages National Aeronautics and
20 Space Administration Centers that have
21 demonstrated expertise and historical
22 knowledge in measuring, modeling, charac-
23 terizing, and describing the current and fu-
24 ture orbital debris environment; and

1 (ii) develops the technical consensus
2 for adopting mitigation measures for such
3 participation; and

4 (D)(i) assign a project manager to oversee
5 the demonstration project and carry out project
6 activities under this subsection; and

7 (ii) in assigning such project manager, le-
8 verage National Aeronautics and Space Admin-
9 istration Centers and the personnel of National
10 Aeronautics and Space Administration Centers,
11 as practicable.

12 (4) RESEARCH AND DEVELOPMENT PHASE.—

13 With respect to orbital debris identified under para-
14 graph (1) of subsection (a), the Administrator shall,
15 to the extent practicable and subject to the avail-
16 ability of appropriations, carry out the additional re-
17 search and development activities necessary to ma-
18 ture technologies, in partnership with eligible enti-
19 ties, with the intent to close commercial capability
20 gaps and enable potential future remediation mis-
21 sions for such orbital debris, with a preference for
22 technologies that are capable of remediating orbital
23 debris that have a broad range of characteristics de-
24 scribed in paragraph (2)(B)(i) of that subsection.

25 (5) DEMONSTRATION MISSION PHASE.—

1 (A) IN GENERAL.—The Administrator
2 shall evaluate proposals for a demonstration
3 mission, and select and enter into a partnership
4 with an eligible entity, subject to the availability
5 of appropriations, with the intent to dem-
6 onstrate technologies determined by the Admin-
7 istrator to meet a level of technology readiness
8 sufficient to carry out on-orbit remediation of
9 select orbital debris.

10 (B) EVALUATION.—In evaluating pro-
11 posals for the demonstration project, the Ad-
12 ministrator shall—

13 (i) consider the safety, feasibility,
14 cost, benefit, and maturity of the proposed
15 technology;

16 (ii) consider the potential for the pro-
17 posed demonstration to successfully reme-
18 diate orbital debris and to advance the
19 commercial state of the art with respect to
20 active debris remediation;

21 (iii) carry out a risk analysis of the
22 proposed technology that takes into consid-
23 eration the potential casualty risk to hu-
24 mans in space or on the Earth's surface;

1 (iv) in an appropriate setting, conduct
2 thorough testing and evaluation of the pro-
3 posed technology and each component of
4 such technology or system of technologies;
5 and

6 (v) consider the technical and finan-
7 cial feasibility of using the proposed tech-
8 nology to conduct multiple remediation
9 missions.

10 (C) CONSULTATION.—The Administrator
11 shall consult with the head of each relevant
12 Federal department or agency before carrying
13 out any demonstration mission under this para-
14 graph.

15 (D) ACTIVE DEBRIS REMEDIATION DEM-
16 ONSTRATION MISSION.—It is the sense of Con-
17 gress that the Administrator should consider
18 maximizing competition for, and use best prac-
19 tices to engage commercial entities in, an active
20 debris remediation demonstration mission.

21 (6) BRIEFING AND REPORTS.—

22 (A) INITIAL BRIEFING.—Not later than 30
23 days after the establishment of the demonstra-
24 tion project under paragraph (1), the Adminis-
25 trator shall provide to the appropriate commit-

tees of Congress a briefing on the details of the demonstration project.

(B) ANNUAL REPORT.—Not later than 1 year after the initial briefing under subparagraph (A), and annually thereafter until the conclusion of the 1 or more demonstration missions, the Administrator shall submit to the appropriate committees of Congress a status report on—

(i) the technology developed under the demonstration project;

(ii) progress toward the accomplishment of the 1 or more demonstration missions; and

(iii) any duplicative efforts carried out or supported by the National Aeronautics and Space Administration or the Department of Defense.

(C) RECOMMENDATIONS.—Not later than 1 year after the date on which the first demonstration mission is carried out under this subsection, the Administrator, in consultation with the head of each relevant Federal department or agency, shall submit to Congress a report that provides legislative, regulatory, and

1 policy recommendations to improve active debris
2 remediation missions, as applicable.

3 (D) TECHNICAL ANALYSIS.—

4 (i) IN GENERAL.—To inform decisions
5 regarding the acquisition of active debris
6 remediation services by the Federal Gov-
7 ernment, not later than 1 year after the
8 date on which an award is made under
9 paragraph (1), the Administrator shall
10 submit to Congress a report that—

11 (I) summarizes the cost-effective-
12 ness, and provides a technical analysis
13 of, technologies developed under the
14 demonstration project;

15 (II) identifies any technology
16 gaps addressed by the demonstration
17 project and any remaining technology
18 gaps; and

19 (III) provides, as applicable, any
20 further legislative, regulatory, and
21 policy recommendations to enable ac-
22 tive debris remediation missions.

23 (ii) AVAILABILITY.—The Administra-
24 tion shall make the report submitted under
25 clause (i) available to the Secretary, the

1 Secretary of Defense, and other relevant
2 Federal departments and agencies, as de-
3 termined by the Administrator.

4 (7) SENSE OF CONGRESS ON INTERNATIONAL
5 COOPERATION.—It is the sense of Congress that, in
6 carrying out the demonstration project, it is critical
7 that the Administrator, in coordination with the Sec-
8 retary of State and in consultation with the National
9 Space Council, cooperate with one or more partner
10 countries to enable the remediation of orbital debris
11 that is under their respective jurisdictions.

12 (c) AUTHORIZATION OF APPROPRIATIONS.—There is
13 authorized to be appropriated to the Administrator to
14 carry out this section \$150,000,000 for the period of fiscal
15 years 2026 through 2030.

16 (d) RESCISSION OF UNOBLIGATED FUNDS.—Unobli-
17 gated balances of amounts appropriated or otherwise
18 made available by subsection (c) as of September 30,
19 2030, shall be rescinded not later than December 31,
20 2030.

21 (e) RULE OF CONSTRUCTION.—Nothing in this sec-
22 tion may be construed to grant the Administrator the au-
23 thority to issue any regulation relating to activities under
24 subsection (b) or related space activities under title 51,
25 United States Code.

1 **SEC. 5. ACTIVE DEBRIS REMEDIATION SERVICES.**

2 (a) IN GENERAL.—To foster the competitive develop-
3 ment, operation, improvement, and commercial availability
4 of active debris remediation services, and in consideration
5 of the economic analysis required by subsection (b) and
6 the briefing and reports under section 4(b)(6), the Admin-
7 istrator and the head of each relevant Federal department
8 or agency may acquire services for the remediation of or-
9 bital debris, whenever practicable, through fair and open
10 competition for contracts that are well-defined, milestone-
11 based, and in accordance with the Federal Acquisition
12 Regulation.

13 (b) ECONOMIC ANALYSIS.—Based on the results of
14 the demonstration project, the Secretary, acting through
15 the Office of Space Commerce, shall publish an assess-
16 ment of the estimated Federal Government and private
17 sector demand for orbital debris remediation services for
18 the 10-year period beginning in 2026.

19 **SEC. 6. UNIFORM ORBITAL DEBRIS STANDARD PRACTICES**
20 **FOR UNITED STATES SPACE ACTIVITIES.**

21 (a) IN GENERAL.—Not later than 90 days after the
22 date of the enactment of this Act, the National Space
23 Council, in coordination with the Secretary, the Adminis-
24 trator of the Federal Aviation Administration, the Sec-
25 retary of Defense, the Secretary of State, the Federal
26 Communications Commission, and the Administrator,

1 shall initiate an update to the Orbital Debris Mitigation
2 Standard Practices that—

3 (1) considers planned space systems, including
4 satellite constellations; and

5 (2) addresses—

6 (A) collision risk;

7 (B) explosion risk;

8 (C) casualty probability;

9 (D) post-mission disposal of space systems;

10 (E) time to disposal or de-orbit;

11 (F) spacecraft collision avoidance and
12 automated identification capability; and

13 (G) the ability to track orbital debris of de-
14 creasing size.

15 (b) CONSULTATION.—In developing the update under
16 subsection (a), the National Space Council, or a designee
17 of the National Space Council, shall seek advice and input
18 on commercial standards and best practices from rep-
19 resentatives of the commercial space industry, academia,
20 and nonprofit organizations, including through workshops
21 and, as appropriate, advance public notice and comment
22 processes under chapter 5 of title 5, United States Code.

23 (c) PUBLICATION.—Not later than 1 year after the
24 date of the enactment of this Act, such update shall be

1 published in the Federal Register and posted to the rel-
2 evant Federal Government internet websites.

3 (d) REGULATIONS.—To promote uniformity and
4 avoid duplication in the regulation of space activity, in-
5 cluding licensing by the Federal Aviation Administration,
6 the National Oceanic and Atmospheric Administration,
7 and the Federal Communications Commission, such up-
8 date, after publication, shall be used to inform the further
9 development and promulgation of Federal regulations re-
10 lating to orbital debris.

11 (e) INTERNATIONAL PROMOTION.—To encourage ef-
12 fective and nondiscriminatory standards, best practices,
13 rules, and regulations implemented by other countries,
14 such update shall inform bilateral and multilateral discus-
15 sions focused on the authorization and continuing super-
16 vision of nongovernmental space activities.

17 (f) PERIODIC REVIEW.—Not less frequently than
18 every 5 years, the Orbital Debris Mitigation Standard
19 Practices referred to in subsection (a) shall be assessed
20 and, if necessary, updated, used, and promulgated in a
21 manner consistent with this section.

22 **SEC. 7. STANDARD PRACTICES FOR SPACE TRAFFIC CO-**
23 **ORDINATION.**

24 (a) IN GENERAL.—The Secretary, in coordination
25 with the Secretary of Defense and members of the Na-

1 tional Space Council and the Federal Communications
2 Commission, shall facilitate the development of standard
3 practices for on-orbit space traffic coordination based on
4 existing guidelines and best practices used by Government
5 and commercial space industry operators.

6 (b) CONSULTATION.—In facilitating the development
7 of standard practices under subsection (a), the Secretary,
8 through the Office of Space Commerce, in consultation
9 with the National Institute of Standards and Technology,
10 shall engage in frequent and routine consultation with rep-
11 resentatives of the commercial space industry, academia,
12 and nonprofit organizations.

13 (c) PROMOTION OF STANDARD PRACTICES.—On
14 completion of such standard practices, the Secretary, the
15 Secretary of State, the Secretary of Transportation, the
16 Administrator, and the Secretary of Defense shall promote
17 the adoption and use of the standard practices for domes-
18 tic and international space missions.

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