

116TH CONGRESS  
1ST SESSION

# S. 584

To extend the commitment of the United States to the International Space Station, to develop advanced space suits, and to enable human space settlement, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

FEBRUARY 27, 2019

Mr. CORNYN (for himself and Mr. PETERS) 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 extend the commitment of the United States to the International Space Station, to develop advanced space suits, and to enable human space settlement, 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 “Advancing Human  
5 Spaceflight Act”.

6 **SEC. 2. FINDINGS.**

7 Congress makes the following findings:

1           (1) The Apollo 11 landing on July 20, 1969,  
2           marked the first steps of a human being on the sur-  
3           face of another world, representing a giant leap for  
4           all humanity and a significant demonstration of the  
5           spaceflight capabilities of the United States.

6           (2) Section 202(a) of the National Aeronautics  
7           and Space Administration Authorization Act of 2010  
8           (42 U.S.C. 18312(a)) establishes for the National  
9           Aeronautics and Space Administration the long-term  
10          goals of expanding human presence in space and es-  
11          tablishing a thriving space economy in low-Earth  
12          orbit and beyond.

13          (3) The 2017 National Security Strategy des-  
14          ignates the human exploration of the solar system as  
15          a strategic priority for the United States.

16          (4) Establishing and ensuring the sustainability  
17          of human space exploration of the solar system, as  
18          called for in the Space Policy Directive–1 entitled  
19          “Reinvigorating America’s Human Space Explo-  
20          ration Program” (82 Fed. Reg. 239 (December 11,  
21          2017)) and the National Space Exploration Cam-  
22          paign Report of the National Aeronautics and Space  
23          Administration issued in September 2018, will re-  
24          quire carrying out human exploration and related

1       extravehicular activities on the surface of other ce-  
2       lestial bodies in a safe and cost-effective manner.

3               (5) The Johnson Space Center has decades of  
4       experience working with international partners,  
5       other Federal agencies, and partners in industry and  
6       academia to study, develop, and carry out the  
7       human spaceflight priorities of the United States.

8       **SEC. 3. DEFINITIONS.**

9       In this Act:

10               (1) ADMINISTRATION.—The term “Administra-  
11       tion” means the National Aeronautics and Space  
12       Administration.

13               (2) ADMINISTRATOR.—The term “Adminis-  
14       trator” means the Administrator of the National  
15       Aeronautics and Space Administration.

16               (3) JOHNSON SPACE CENTER.—The term  
17       “Johnson Space Center” means the Lyndon B.  
18       Johnson Space Center in Houston, Texas.

19       **SEC. 4. STATEMENT OF POLICY ON PERMANENT ESTAB-**  
20               **LISHMENT OF HUMAN PRESENCE CAPA-**  
21               **BILITY IN LOW-EARTH ORBIT.**

22       It is the policy of the United States to permanently  
23       establish a human presence capability in low-Earth orbit  
24       and that such capability shall—

1           (1) maintain the global leadership of the United  
2 States and relationships with partners and allies;

3           (2) contribute to the general welfare of the  
4 United States; and

5           (3) be affordable so as not to preclude a robust  
6 portfolio of other human space exploration activities.

7 **SEC. 5. INTERNATIONAL SPACE STATION.**

8           (a) CONTINUATION OF INTERNATIONAL SPACE STA-  
9 TION.—Section 501(a) of the National Aeronautics and  
10 Space Administration Authorization Act of 2010 (42  
11 U.S.C. 18351(a)) is amended by striking “2024” and in-  
12 serting “2030”.

13           (b) CONTINUED OPERATIONS AND MAINTENANCE OF  
14 UNITED STATES SEGMENT OF INTERNATIONAL SPACE  
15 STATION.—Section 503(a) of the National Aeronautics  
16 and Space Administration Authorization Act of 2010 (42  
17 U.S.C. 18353(a)) is amended by striking “2024” and in-  
18 serting “2030”.

19           (c) RESEARCH CAPACITY ALLOCATION AND INTE-  
20 GRATION OF RESEARCH PAYLOADS.—Section 504(d) of  
21 the National Aeronautics and Space Administration Au-  
22 thorization Act of 2010 (42 U.S.C. 18354(d)) is amend-  
23 ed—

24           (1) in paragraph (1), in the first sentence, by  
25 striking “2024” and inserting “2030”; and

1           (2) in paragraph (2), in the third sentence, by  
2           striking “2024” and inserting “2030”.

3           (d) MAINTAINING USE THROUGH AT LEAST 2030.—  
4           Section 70907 of title 51, United States Code, is amend-  
5           ed—

6           (1) in the section heading, by striking “**2024**”  
7           and inserting “**2030**”;

8           (2) in subsection (a), by striking “2024” and  
9           inserting “2030”; and

10          (3) in subsection (b)(3), by striking “2024”  
11          and inserting “2030”.

12          (e) TRANSITION STRATEGY.—Not later than 180  
13          days after the date of the enactment of this Act, the Ad-  
14          ministrators shall submit to the Committee on Commerce,  
15          Science, and Transportation of the Senate and the Com-  
16          mittee on Science, Space, and Technology of the House  
17          of Representatives a strategy that—

18          (1) describes the manner in which the Adminis-  
19          tration will ensure a stepwise transition to an even-  
20          tual successor platform consistent with the ISS  
21          Transition Principles specified in the International  
22          Space Station Transition Report issued pursuant to  
23          section 50111(c)(2) of title 51, United States Code,  
24          on March 30, 2018;

1           (2) includes capability-driven milestones and  
2 timelines leading to such a transition;

3           (3) takes into account the importance of main-  
4 taining workforce expertise, core capabilities, and  
5 continuity at the centers of the Administration, in-  
6 cluding such centers that are primarily focused on  
7 human spaceflight;

8           (4) considers how any transition described in  
9 paragraph (1) affects international and commercial  
10 partnerships;

11           (5) presents opportunities for future engage-  
12 ment with—

13                   (A) international partners;

14                   (B) countries with growing spaceflight ca-  
15 pabilities, if such engagement is not precluded  
16 by other provisions of law;

17                   (C) the scientific community, including the  
18 microgravity research community;

19                   (D) the private sector; and

20                   (E) other United States Government users;

21           and

22           (6) promotes the continued economic develop-  
23 ment of low-Earth orbit.

1 **SEC. 6. ADVANCED SPACE SUITS.**

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

4 (1) Space suits and associated extravehicular  
5 activity technologies (in this section referred to as  
6 “EVA technologies”) are critical space exploration  
7 technologies.

8 (2) The civil service workforce of the Adminis-  
9 tration at the Johnson Space Center has unique ca-  
10 pabilities to integrate, design, and validate space  
11 suits and associated EVA technologies.

12 (3) Maintaining a strong core competency in  
13 the design, development, manufacture, and operation  
14 of space suits and related technologies allows the  
15 Administration to be an informed purchaser of com-  
16 petitively awarded commercial space suits and asso-  
17 ciated EVA technologies.

18 (4) The Administration should fully use the  
19 International Space Station by 2025 to test future  
20 space suits and associated EVA technologies to re-  
21 duce risk and improve safety.

22 (b) SPACE SUITS.—

23 (1) IN GENERAL.—The Administrator shall es-  
24 tablish a program to develop space suits and associ-  
25 ated EVA technologies.

1           (2) SUPPORT FOR PROGRAM.—The Director of  
2           the Johnson Space Center shall support the program  
3           established under paragraph (1).

4           (3) AGREEMENTS WITH PRIVATE ENTITIES.—In  
5           carrying out this subsection, the Administrator may  
6           enter into one or more agreements with one or more  
7           private entities, as the Administrator considers ap-  
8           propriate.

9   **SEC. 7. HUMAN SPACE FACILITIES IN AND BEYOND LOW-**  
10           **EARTH ORBIT.**

11          (a) HUMAN SPACE FACILITY DEFINED.—In this sec-  
12          tion, the term “human space facility” means a structure  
13          for use in or beyond low-Earth orbit that supports, or has  
14          the potential to support, human life.

15          (b) SENSE OF CONGRESS.—It is the sense of Con-  
16          gress that human space facilities play a significant role  
17          in the long-term pursuit by the Administration of the ex-  
18          ploration goals under section 202(a) of the National Aero-  
19          nautics and Space Administration Authorization Act of  
20          2010 (42 U.S.C. 18312(a)).

21          (c) REPORT ON CREWED AND UNCREWED HUMAN  
22          SPACE FACILITIES.—

23                 (1) IN GENERAL.—Not later than 90 days after  
24                 the date of the enactment of this Act, the Adminis-  
25                 trator shall submit to the Committee on Commerce,



1 Science, and Transportation of the Senate and the  
2 Committee on Science, Space, and Technology of the  
3 House of Representatives a report on the potential  
4 development of one or more human space facilities.

5 (2) CONTENTS.—With respect to the potential  
6 development of each human space facility referred to  
7 in paragraph (1), the report required under such  
8 paragraph shall include a description of the fol-  
9 lowing:

10 (A) The capacity of the human space facil-  
11 ity to advance, enable, or complement human  
12 exploration of the solar system, including  
13 human exploration of the atmosphere and the  
14 surface of celestial bodies.

15 (B) The role of the human space facility as  
16 a staging, logistics, and operations hub in ex-  
17 ploration architecture.

18 (C) The capacity of the human space facil-  
19 ity to support the research, development, test-  
20 ing, validation, operation, and launch of space  
21 exploration systems and technologies.

22 (D) Opportunities and strategies for com-  
23 mercial operation or public-private partnerships  
24 with respect to the human space facility that

1 protect taxpayer interests and foster competi-  
2 tion.

3 (E) The role of the human space facility in  
4 encouraging further crewed and uncrewed ex-  
5 ploration investments.

6 (F) The manner in which the development  
7 and maintenance of the International Space  
8 Station would reduce the cost of, and time nec-  
9 essary for, the development of the human space  
10 facility.

11 **SEC. 8. ENABLING SPACE SETTLEMENT AS A NATIONAL**  
12 **GOAL.**

13 (a) DECLARATION OF POLICY AND PURPOSE.—Sec-  
14 tion 20102 of title 51, United States Code, is amended—

15 (1) by redesignating subsections (d) through (h)  
16 as subsections (e) through (i), respectively;

17 (2) by inserting after subsection (c) the fol-  
18 lowing:

19 “(d) EXPLORATION, DEVELOPMENT, AND SETTLE-  
20 MENT OF SPACE.—Congress declares that the expansion  
21 of permanent human presence beyond Earth in a manner  
22 that enables human space settlement and a thriving space  
23 economy will enhance the general welfare of the United  
24 States.”;

1           (3) in subsection (e), as redesignated by para-  
2           graph (1), by inserting after paragraph (10) the fol-  
3           lowing:

4           “(11) The expansion of permanent human pres-  
5           ence beyond Earth in a way that enables human  
6           space settlement and a thriving space economy.”;  
7           and

8           (4) in subsection (i), as redesignated by para-  
9           graph (1), by striking “to (g)” and inserting  
10          “through (h)”.

11          (b) DEFINITION OF HUMAN SPACE SETTLEMENT.—  
12          Section 20103 of title 51, United States Code, is amend-  
13          ed—

14               (1) in paragraph (1)(D), by inserting “and de-  
15               velopment” after “exploration”; and

16               (2) by adding at the end the following:

17               “(3) HUMAN SPACE SETTLEMENT.—The term  
18               ‘human space settlement’ means a community in  
19               space or on a celestial body in which humans live on  
20               a permanent basis and engage in personal and com-  
21               mercial activity that enables growth over time, with  
22               the goal of becoming economically and biologically  
23               self-sustaining as a part of a larger network of  
24               human space settlements.”.

25          (c) CONFORMING AMENDMENTS.—

1           (1) Section 808(a) of the National Aeronautics  
2           and Space Administration Authorization Act of 2010  
3           (42 U.S.C. 18387(a)) is amended by striking “sec-  
4           tion 102(g) of the National Aeronautics and Space  
5           Act of 1958 (42 U.S.C. 2451(g))” and inserting  
6           “section 20102(h) of title 51, United States Code”.

7           (2) Title 51, United States Code, is amended—

8                   (A) in section 20116, by striking “section  
9                   20102(d)” each place it appears and inserting  
10                  “section 20102(e)”; and

11                   (B) in section 71101, by striking “section  
12                  20102(g)” and inserting “section 20102(h)”.

13 **SEC. 9. REPORT ON RESEARCH AND DEVELOPMENT RELAT-**  
14 **ING TO LIFE-SUSTAINING TECHNICAL SYS-**  
15 **TEMS.**

16           Not later than one year after the date of the enact-  
17           ment of this Act, the Administrator shall submit to the  
18           Committee on Commerce, Science, and Transportation of  
19           the Senate and the Committee on Science, Space, and  
20           Technology of the House of Representatives a report on  
21           the research and development of the Administration relat-  
22           ing to technical systems for the self-sufficient sustainment  
23           of life in and beyond low-Earth orbit.

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