
SENATE RESOLUTION

REQUESTING THE OFFICE OF AEROSPACE DEVELOPMENT TO FACILITATE THE
FORMATION OF A MULTINATIONAL LUNAR ARCHITECTURE ALLIANCE TO
GUIDE THE DEVELOPMENT AND IMPLEMENTATION OF A PROTOTYPE
LUNAR BASE ON THE ISLAND OF HAWAII.

1 WHEREAS, Hawaii's strategic mid-Pacific near-equatorial
2 location, Moon/Mars-like terrain, resident expertise in multiple
3 aerospace-related technologies, and long-standing ties with
4 space-faring nations worldwide confer clear strategic assets and
5 capabilities that can be leveraged to realize humankind's full
6 potential in space, and in doing so enable the State to engage
7 as a major contributor to and beneficiary of global space
8 enterprise; and

9
10 WHEREAS, for the past half century, Hawaii has played a
11 seminal role in developing the national space program, beginning
12 with astronaut training for the Apollo lunar missions and the
13 development of world-class observatories on the Island of
14 Hawaii; and

15
16 WHEREAS, over the past four decades, the University of
17 Hawaii, the United States military, and numerous companies
18 statewide have pioneered nationally-funded programs in planetary
19 geosciences, satellite communications, space-based remote
20 sensing and environmental monitoring, deep-space surveillance,
21 and other areas employing aerospace-related technologies; and

22
23 WHEREAS, new opportunities are forthcoming in the aerospace
24 industry related to robotics, renewable energy, additive
25 manufacturing, and other areas that are ideally suited for
26 Hawaii and could generate substantial scientific, educational,
27 and commercial benefits for the State's residents; and

28
29 WHEREAS, the Moon contains abundant geological resources,
30 proximal to Earth, that can be utilized to advance
31 interplanetary travel and improve quality of life on Earth; and
32



1 WHEREAS, an expanded and diversified space economy, based
2 upon innovative commercial utilization of lunar resources
3 including but not limited to lunar mining, harvesting of space-
4 based solar power, and the development of cis-lunar propellant
5 depots, could enrich terrestrial civilizations, help preserve
6 the Earth's fragile environment, and ultimately enable
7 sustainable human exploration throughout the solar system; and
8

9 WHEREAS, global technologies and economic capacities have
10 advanced to the point where self-sustaining space economies
11 could be created through international collaboration and public-
12 private partnerships, and rapidly expanding governmental and
13 corporate interests in lunar enterprise worldwide can facilitate
14 the development of these economies; and
15

16 WHEREAS, sustainable space settlement will require advances
17 in key technologies beyond rocket propulsion including life
18 support systems, telecommunications, power generation, and food
19 production and terrestrial-based testing and evaluation of these
20 technologies will play an indispensable role in their long-term
21 development and implementation; and
22

23 WHEREAS, the Island of Hawaii's Moon-like terrain offers an
24 ideal environment for multinational teams to develop, test, and
25 validate such technologies, which in turn would enable multiple
26 opportunities for local scientists, engineers, entrepreneurs,
27 and students to participate in this enterprise; and
28

29 WHEREAS, rapidly expanding international interest and
30 investment in future lunar missions, as well as multinational
31 collaboration in lunar research and development enabled through
32 public-private partnerships, could help reduce the costs,
33 enhance the benefits, and accelerate timetables for future space
34 missions; and
35

36 WHEREAS, Hawaii's resident expertise in space science and
37 education, as well as ongoing research and commercial
38 partnerships with space-faring nations worldwide, well position
39 the State to play a leadership role in space exploration,
40 utilization, and commerce, beginning with the development,
41 testing, and evaluation of prototype habitats and related in



1 situ resource utilization technologies to enable and support
2 future missions to the Moon; and
3

4 WHEREAS, there exist significant and diverse scientific,
5 educational, and economic benefits of space exploration, and a
6 preliminary emphasis on lunar-related enterprise could enable
7 more affordable and sustainable space enterprise in the long
8 term, expanding humanity's reach through the solar system as
9 well as improving quality of life on Earth, and leading toward
10 development of a sustainable space economy; now, therefore,
11

12 BE IT RESOLVED by the Senate of the Twenty-ninth
13 Legislature of the State of Hawaii, Regular Session of 2017,
14 that the Office of Aerospace Development is requested to
15 facilitate the formation of a Multinational Lunar Architecture
16 Alliance (Alliance) with representatives from government,
17 industry, and academia to provide recommendations and guidance
18 for the development of a prototype lunar base on the Island of
19 Hawaii, to include but not be limited to modular habitats,
20 telerobotic systems, communications networks, cis-lunar
21 positioning and navigation systems, and in situ resource
22 utilization technologies; and
23

24 BE IT FURTHER RESOLVED that the Alliance be launched
25 through an International Lunar Summit in Hawaii, coordinated
26 through the Office of Aerospace Development during the fall of
27 2017, with the goal of engaging representatives from:
28

- 29 (1) Hawaii-based organizations, including but not limited
30 to the Office of Aerospace Development, the Pacific
31 International Space Center for Exploration Systems,
32 Hawaii Space Exploration Analog and Simulation
33 program, Hawaii Space Flight Laboratory, and
34 University of Hawaii College of Engineering;
35
- 36 (2) Appropriate federal agencies and institutions,
37 including but not limited to the National Aeronautics
38 and Space Administration, Federal Aviation
39 Administration, United States Pacific Command, United
40 States Army Pacific, Lunar Exploration and Analysis
41 Group, University Space Research Association, and
42 Lunar and Planetary Institute;



1
2 (3) International space agencies and organizations,
3 including but not limited to the European Space
4 Agency, Canadian Space Agency, Japan Aerospace
5 Exploration Agency, International Lunar Exploration
6 Working Group, International Space Exploration
7 Coordination Group, Committee on Space Research, and
8 United Nations Office for Outer Space Affairs;
9

10 (4) Major corporations representing aerospace, information
11 technology, renewable energy, robotics, and other
12 appropriate industrial sectors; and
13

14 (5) Space advocacy agencies and organizations, including
15 but not limited to the National Space Society, Lunar
16 Explorers Society, Space Frontiers Foundation, and
17 American Astronautical Society; and
18

19 BE IT FURTHER RESOLVED that the International Lunar Summit
20 primarily focus on identifying the major goals and challenges
21 associated with the design and validation of a prototype lunar
22 base in Hawaii, as well as the formulation of strategies for
23 enabling public-private partnerships to support the organization
24 and implementation of multinational research activities and
25 commercial ventures, on the lunar surface and in cis-lunar
26 space, toward the development of a sustainable space economy;
27 and
28

29 BE IT FURTHER RESOLVED that the International Lunar Summit
30 submit a report of its recommendations, including any proposed
31 legislation, to the Legislature and the Office of the Governor
32 no later than twenty days prior to the convening of the Regular
33 Session of 2018; and
34

35 BE IT FURTHER RESOLVED that certified copies of this
36 Resolution be transmitted to the Commander of the United States
37 Pacific Command; Commander of the United States Pacific Fleet;
38 Commander of the United States Pacific Air Forces; Commanding
39 General of the United States Army Pacific; Commander of the
40 United States Marine Corps Forces, Pacific; Administrator of the
41 National Aeronautics and Space Administration; Federal Aviation
42 Administration Local Coordinator for the Pacific; Office of the



1 Governor; Office of the Lieutenant Governor; Director of
2 Business, Economic Development, and Tourism; Chairperson of the
3 Board of Regents of the University of Hawaii; Adjutant General;
4 Director of the Office of Aerospace Development; Executive
5 Director of the Pacific International Space Center for
6 Exploration Systems; President of the University Space Research
7 Association; Director of the Lunar and Planetary Institute;
8 Director General of the European Space Agency; President of the
9 Canadian Space Agency; President of the Japan Aerospace
10 Exploration Agency; President of the Committee on Space
11 Research; Director of the United Nations Office for Outer Space
12 Affairs; Board of Directors of the National Space Society;
13 Advisory Committee for the Lunar Explorers Society; Board of
14 Directors of the Space Frontiers Foundation; and President of
15 the American Astronautical Society.

