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# SENATE CONCURRENT RESOLUTION

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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  
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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  
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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  
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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  
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1 WHEREAS, the Moon contains abundant geological resources,  
2 proximal to Earth, that can be utilized to advance  
3 interplanetary travel and improve quality of life on Earth; and  
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5 WHEREAS, an expanded and diversified space economy, based  
6 upon innovative commercial utilization of lunar resources  
7 including but not limited to lunar mining, harvesting of space-  
8 based solar power, and the development of cis-lunar propellant  
9 depots, could enrich terrestrial civilizations, help preserve  
10 the Earth's fragile environment, and ultimately enable  
11 sustainable human exploration throughout the solar system; and  
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13 WHEREAS, global technologies and economic capacities have  
14 advanced to the point where self-sustaining space economies  
15 could be created through international collaboration and public-  
16 private partnerships, and rapidly expanding governmental and  
17 corporate interests in lunar enterprise worldwide can facilitate  
18 the development of these economies; and  
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20 WHEREAS, sustainable space settlement will require advances  
21 in key technologies beyond rocket propulsion including life  
22 support systems, telecommunications, power generation, and food  
23 production and terrestrial-based testing and evaluation of these  
24 technologies will play an indispensable role in their long-term  
25 development and implementation; and  
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27 WHEREAS, the Island of Hawaii's Moon-like terrain offers an  
28 ideal environment for multinational teams to develop, test, and  
29 validate such technologies, which in turn would enable multiple  
30 opportunities for local scientists, engineers, entrepreneurs,  
31 and students to participate in this enterprise; and  
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33 WHEREAS, rapidly expanding international interest and  
34 investment in future lunar missions, as well as multinational  
35 collaboration in lunar research and development enabled through  
36 public-private partnerships, could help reduce the costs,  
37 enhance the benefits, and accelerate timetables for future space  
38 missions; and  
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40 WHEREAS, Hawaii's resident expertise in space science and  
41 education, as well as ongoing research and commercial  
42 partnerships with space-faring nations worldwide, well position



1 the State to play a leadership role in space exploration,  
2 utilization, and commerce, beginning with the development,  
3 testing, and evaluation of prototype habitats and related in  
4 situ resource utilization technologies to enable and support  
5 future missions to the Moon; and  
6

7 WHEREAS, there exist significant and diverse scientific,  
8 educational, and economic benefits of space exploration, and a  
9 preliminary emphasis on lunar-related enterprise could enable  
10 more affordable and sustainable space enterprise in the long  
11 term, expanding humanity's reach through the solar system as  
12 well as improving quality of life on Earth, and leading toward  
13 development of a sustainable space economy; now, therefore,  
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15 BE IT RESOLVED by the Senate of the Twenty-ninth  
16 Legislature of the State of Hawaii, Regular Session of 2017, the  
17 House of Representatives concurring, that the Office of  
18 Aerospace Development is requested to facilitate the formation  
19 of a Multinational Lunar Architecture Alliance (Alliance) with  
20 representatives from government, industry, and academia to  
21 provide recommendations and guidance for the development of a  
22 prototype lunar base on the Island of Hawaii, to include but not  
23 be limited to modular habitats, telerobotic systems,  
24 communications networks, cis-lunar positioning and navigation  
25 systems, and in situ resource utilization technologies; and  
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27 BE IT FURTHER RESOLVED that the Alliance be launched  
28 through an International Lunar Summit in Hawaii, coordinated  
29 through the Office of Aerospace Development during the fall of  
30 2017, with the goal of engaging representatives from:  
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32 (1) Hawaii-based organizations, including but not limited  
33 to the Office of Aerospace Development, the Pacific  
34 International Space Center for Exploration Systems,  
35 Hawaii Space Exploration Analog and Simulation  
36 program, Hawaii Space Flight Laboratory, and  
37 University of Hawaii College of Engineering;  
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39 (2) Appropriate federal agencies and institutions,  
40 including but not limited to the National Aeronautics  
41 and Space Administration, Federal Aviation  
42 Administration, United States Pacific Command, United



1 States Army Pacific, Lunar Exploration and Analysis  
2 Group, University Space Research Association, and  
3 Lunar and Planetary Institute;  
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5 (3) International space agencies and organizations,  
6 including but not limited to the European Space  
7 Agency, Canadian Space Agency, Japan Aerospace  
8 Exploration Agency, International Lunar Exploration  
9 Working Group, International Space Exploration  
10 Coordination Group, Committee on Space Research, and  
11 United Nations Office for Outer Space Affairs;  
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13 (4) Major corporations representing aerospace, information  
14 technology, renewable energy, robotics, and other  
15 appropriate industrial sectors; and  
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17 (5) Space advocacy agencies and organizations, including  
18 but not limited to the National Space Society, Lunar  
19 Explorers Society, Space Frontiers Foundation, and  
20 American Astronautical Society; and  
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22 BE IT FURTHER RESOLVED that the International Lunar Summit  
23 primarily focus on identifying the major goals and challenges  
24 associated with the design and validation of a prototype lunar  
25 base in Hawaii, as well as the formulation of strategies for  
26 enabling public-private partnerships to support the organization  
27 and implementation of multinational research activities and  
28 commercial ventures, on the lunar surface and in cis-lunar  
29 space, toward the development of a sustainable space economy;  
30 and  
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32 BE IT FURTHER RESOLVED that the International Lunar Summit  
33 submit a report of its recommendations, including any proposed  
34 legislation, to the Legislature and the Office of the Governor  
35 no later than twenty days prior to the convening of the Regular  
36 Session of 2018; and  
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38 BE IT FURTHER RESOLVED that certified copies of this  
39 Concurrent Resolution be transmitted to the Commander of the  
40 United States Pacific Command; Commander of the United States  
41 Pacific Fleet; Commander of the United States Pacific Air  
42 Forces; Commanding General of the United States Army Pacific;



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

