Date of Hearing: June 20, 2017

ASSEMBLY COMMITTEE ON JOBS, ECONOMIC DEVELOPMENT, AND THE ECONOMY
Sharon Quirk-Silva, Chair
AJR 13 (Lackey) – As Amended June 12, 2017

SUBJECT: National Aeronautics and Space Administration

SUMMARY: Expresses the Legislature's advocacy for the President and the US Congress to continue to place an emphasis on increasing funding to National Aeronautics and Space Administration's (NASA) budget and encouraging the expansive use of public-private partnerships to propel the industry forward into the next generation of advancement. Specifically, **this bill**:

1) Makes legislative findings and declarations, including:

   a) NASA is essential to fostering and encouraging the advancement of many of the incredible technologies enjoyed today;

   b) The core of what NASA stands for is progress, innovation, creativity, and a desire to improve the world;

   c) Recently signed legislation, the National Aeronautics and Space Administration Transition Authorization Act of 2017 (Public Law 115-10), authorizes new funding enabling NASA to undertake advanced projects and continue to explore the possibilities of technology;

   d) Projects initiated by NASA pushed the bounds of human achievement, including the development of the Space Shuttle, Moon rover, Mars rover, and International Space Station, and it is advantageous to continue to encourage these types of creative initiatives;

   e) Technologies developed to make space exploration possible have additionally advanced innovations across multiple industry sectors resulting in new products that provide tangible benefits to modern life on earth; and

   f) A number of successful public-private partnerships have helped leverage capabilities to meet NASA’s strategic goals and should be expanded;

   g) A number of successful public-private partnerships have helped leverage capabilities to meet NASA’s strategic goals and should be expanded; and

   h) NASA has consistently contributed to the benefit of California with three locations in the state, including Ames Research Center at Moffett Airfield in Mountain View, the Armstrong Flight Research Center at Edwards Air Force Base in Antelope Valley, and the Jet Propulsion Laboratory in Pasadena;

   i) NASA also adds to the benefit of California through other facilities that are expanding access to space such as the launch site and payload integration facility at Vandenberg Air Force Base in the County of Santa Barbara, the Mojave Air and Space Port in the County of Kern, which is a testing ground for craft such as the X-37, and the SOFIA Program aircraft located at Air Force Plant 42 in Palmdale; and

   j) An increase in the NASA budget would help further these goals.

2) Resolves that the Assembly and the Senate of the State of California, jointly, urge the President and the US Congress to continue to place an emphasis on increasing funding to NASA’s budget and

encouraging the expansive use of public-private partnerships to propel the industry forward into the next generation of advancement.

3) Directs the Assembly Clerk to transmit copies of this resolution to the US President and US Vice President, the Speaker of the US House of Representatives, to the President Pro Tempore of the US Senate, to the Majority Leader of the US Senate, to the NASA, and to each Senator and Representative from California in the US Congress.

EXISTING FEDERAL LAW

1) The National and Commercial Space Programs Act of 2010 expresses legislative intent that the general welfare of the US requires that:

   a) The Administration seeks and encourages, to the maximum extent possible, the fullest commercial use of space.

   b) The unique competence in scientific and engineering systems of the Administration also be directed :

      i) Toward ground propulsion systems research and development. Such development shall be conducted so as to contribute to the objectives of developing energy and petroleum conserving ground propulsion systems, and of minimizing the environmental degradation caused by such systems.

      ii) To assisting in bioengineering research, development, and demonstration programs designed to alleviate and minimize the effects of disability.

      iii) To detecting, tracking, cataloguing, and characterizing near-Earth asteroids and comets in order to provide warning and mitigation of the potential hazard of such near-Earth objects to the Earth.

2) National Aeronautics and Space Administration Transition Authorization Act of 2017, expresses the sense of the US Congress, including, but not limited to the following:

   a) Honoring current national space commitments and building upon investments in space across successive Administrations demonstrates clear continuity of purpose by the US, in collaboration with its international, academic, and industry partners, to extend humanity's reach into deep space, including cis-lunar space, the Moon, the surface and moons of Mars, and beyond;

   b) NASA leaders can best leverage investments in the US space program by continuing to develop a balanced portfolio for space exploration and space science, including continued development of the Space Launch System, Orion, Commercial Crew Program, space and planetary science missions such as the James Webb Space Telescope, Wide-Field Infrared Survey Telescope, and Europa mission, and ongoing operations of the ISS and Commercial Resupply Services Program;

   c) NASA could improve its efficiency and effectiveness by working with industry to streamline existing programs and requirements, procurement practices, institutional footprint, and bureaucracy while preserving effective program oversight, accountability, and safety;

3) National Aeronautics and Space Administration Transition Authorization Act of 2017, expresses legislative findings by the US Congress, including, but not limited to the following:

a) Returns on the Nation's investments in science, technology, and exploration accrue over decades-long timeframes, and a disruption of such investments could prevent returns from being fully realized;

b) The National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109-155; 119 Stat. 2895), National Aeronautics and Space Administration Authorization Act of 2008 (Public Law 110-422; 122 Stat. 4779), and National Aeronautics and Space Administration Authorization Act of 2010 (42 U.S.C. 18301 et seq.) reflect a broad, bipartisan agreement on the path forward for NASA's core missions in science, space technology, aeronautics, human space flight and exploration, and education, that serves as the foundation for the policy updates by this Act;

c) NASA has made measurable progress in the development and testing of the Space Launch System and Orion exploration systems with the near-term objectives of the initial integrated test flight and launch in 2018, a human mission in 2021, and continued missions with an annual cadence in cis-lunar space and eventually to the surface of Mars;

d) The Commercial Crew Program has made measurable progress toward reestablishing the capability to launch US government astronauts from US soil into low-Earth orbit by the end of 2018.

e) The Aerospace Safety Advisory Panel, in its 2015 Annual Report, urged continuity of purpose noting concerns over the potential for cost overruns and schedule slips that could accompany significant changes to core NASA programs.

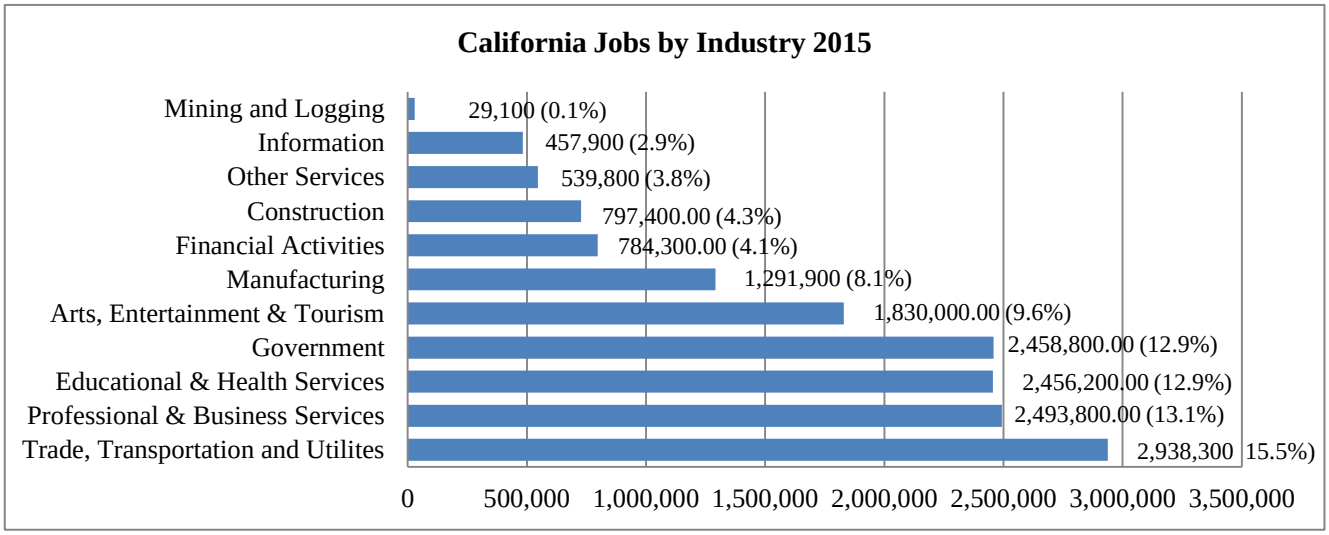
FISCAL EFFECT: None

COMMENTS:

1) **California Economy**: California is home to over 39 million people, providing the state with one of the most diverse populations in the world, often comprising the single largest concentration of nationals outside their native country. In 2015, this diverse group of business owners and workers produced $2.45 trillion in goods and services, ranking the size of the state economy as sixth largest in the world.

   The state's significance in the global marketplace results from a variety of factors: including its strategic west coast location; its economically diverse regional economies; its skilled workforce; and its culture of innovation and entrepreneurship, particularly in the area of technology. California has the largest workforce in the nation, comprised of 19.3 million people who are comparatively younger and more educated than the national average. As an example, over 30% of the working age population in California holds at least a bachelor's degree.

   Many policy makers and economists describe California as having not a single economy, but having a highly integrated network of regional industry clusters that provide access points to other areas of the U.S. and across the world. While biotech has a comparative advantage in some regions, information technology drives growth in others. Driving this economic vitality are both global fortune 250 companies with California headquarters and other facilities, as well as the state's robust small business sector, which employees half of all workers and is comprised of more than 98% of all businesses in the state. California's well diversified small business base also provides an economic advantage by meeting the niche needs of the state's dominant and emerging innovation-based industry sectors.



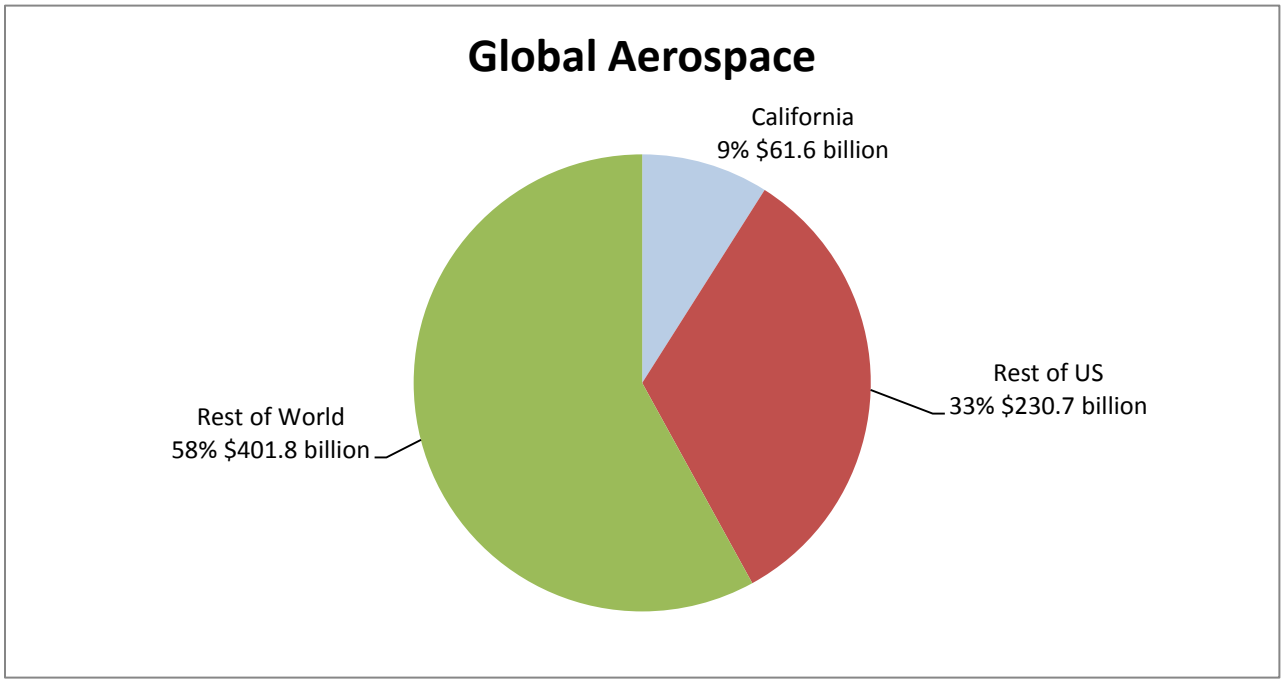
California's largest industry sector, based on employment, is the Trade, Transportation, and Utilities sector, employing 2.9 million people and representing 15.5% of all California jobs. Jobs in this sector also support employment in other industry sectors including Manufacturing (8.1% of state employment), Professional Services (13.1% of state employment), and Financial Activities (4.1%).

The foundation of the state's innovative and technical work are the institutions within the Education and Government Sectors. This interdependence within sectors that produce and support some of the state's highest skilled workers is a key economic and comparative advantage.

2) **Economic Impact of Aerospace Industry**: In 2016, the American Aerospace Association published a report on the economic impact aerospace and defense industry, which found that these industries:

- Supported 1.7 million jobs within businesses producing end-user goods and services and within the industry's supply chain, with about 531,000 jobs in the industry's commercial aerospace segment (e.g. civil and general aviation aircraft, helicopters and space systems) and 511,000 jobs in the defense and national security segment of the industry (e.g. military aircraft, ground and sea systems, armaments and space systems).
- Represented approximately two percent of the nation's employment base and 13% of the nation's manufacturing employment base.
- Generated $300 billion in economic value, representing 1.8% of total nominal GDP in the US, and 10% of manufacturing output.
- Produced labor income approximately 44% above the national average – $93,000 average labor income per job – reflecting the highly skilled nature of the workforce.
- Provided tax receipts to federal, state and local governments from companies and their employees of $63 billion, or about 1.7% of total tax revenues.

Recent California data was difficult to find, with most government, economic development, and business associations citing research by A. T. Kearney. This 2014 report notes that aerospace is one of California's largest industries, with a total economic impact of more than $100 billion annually including $38.8 billion in indirect revenues that support related industries.



In this report, the aerospace market sector includes:

- Space industry: Launch Services; Satellite Manufacturing; Ground Equipment; Engineering Services; and Satellite Services.
- Aircraft Industry: Aircraft; Engine and Parts; Search, Detection, Navigation, Guidance, and Nautical (SDNGN) Instruments; and Maintenance Repair, and Overhaul.

California is a global leader in in space instrumentation, satellite services and manufacturing, and engineering services. The state provides more than 50% of all aerospace engineering services and 59% of aircraft SDNGN instrumentation.

The California aerospace industry employs 230,000 workers directly and supports 511,000 jobs across related industry sectors. Other related industry sectors include Finance, Construction, and Transportation.

Key California strengths include having a capable and skilled workforce, with numerous technical universities to provide a pipeline for the industry. These advantages are identified as weakening, however, as well as siting several industry challenges. The report identifies several, including:

- Competition from abroad in aerospace manufacturing;
- A declining in-state customer base with government contracts; and
- State tax credits (reviewed in 2012) that need modification to match incentives in other states.

The report does note that wage differences between competitive states are equalizing and that there is an increasingly supportive political environment in the Assembly and among California's US Congressional delegation. In 2014, the Legislature approved an enhanced tax credit and tax exemption for Lockheed Martin and Northrop Grumman, who were competing for federal Department of Defense contracts. The incentives provided a tax credit of 17.5% of wages paid to its workers, potentially worth $420 million over the 15-year life of the deal, and exempts from property tax

tangible personal property having space flight capacity, AB 2389 (Fox), Chapter 116, Statutes of 2014 and AB 777 (Muratsuchi), Chapter 13, Statutes of 2014.

3) **Satellite Amendment**: Given NASA's role in satellite development and deployment and the significance satellite manufacturing and engineering services, it may be appropriate to include a new clause or expand an existing clause to highlight the importance of this technology. NASA launched its first satellite in 1958 with the first pictures of the earth being captured in 1959.

   Today, satellites are launched by both public and private entities, making this an especially important area of potential public-private partnership. According to the A. T. Kearney study, California is a global leader in satellite manufacturing (33% of global market share) and satellite services (26% of global market share).

REGISTERED SUPPORT / OPPOSITION:

Support

City of Palmdale

Opposition

None on file

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