

Testimony of Congressman Steve Knight
California's 25th Congressional District
Before the
Subcommittee on Commerce, Justice, Science, and Related Agencies
House Committee on Appropriations
February 27, 2017

Chairman Culberson, Ranking Member Serrano, and Members of the Committee, thank you for the opportunity to address you today.

Since the turn of the 20th century, the United States has drawn tremendous benefits from aviation. Fifteen years after the Wright brothers' historic flight in 1903 we established the U.S. Air Mail service that led the world in its organization and efficiency in moving goods around the country. The emergence of air combat as a serious function of modern war spurred an expansive set of government-backed projects that included Chuck Yeager's historic sound barrier-breaking flight, the hypersonic X-15, and the test vehicles that paved the way for the Apollo Program and the Space Shuttle.

Government focus in high-risk, high-reward aeronautics research from the inception of NASA's predecessor, the National Advisory Committee for Aeronautics, to the robust funding NASA's aeronautics research programs received throughout the 1950s and 60s, allowed the U.S. to tackle challenging problems in flight before our near-peer military and commercial competitors. An important byproduct of these efforts was the cultivation of a vibrant general aviation market that supplied civil fleets around the world. That industry today supports 500,000 direct jobs and 700,000 indirect jobs, and contributes \$144.1 billion in export sales to the U.S. economy.

Unfortunately, the features that marked the Golden Age of U.S. aviation, including a diverse group of healthy, productive manufacturers, dominance of air commerce, and an array of bold government experimental aircraft, known as "X-planes," no longer define the state of our industry. American leadership has once again become complacent.

Over the next 17 years the number of air passengers will double, from 3.2 billion passengers to 7 billion worldwide. The market for new aircraft sales, parts, and services is projected to grow to \$8 to 10 trillion. Eying this bonanza, a host of countries – China, Russia, France, and Japan – are pouring billions of dollars into their own aeronautics research and development (R&D) to give their domestic airlines and manufacturers technology to compete with U.S. companies.

The stakes have never been higher, yet we are not poised to defend our position as the world's leading air power. Our own aeronautics R&D has dropped considerably over the last several decades and come under constant threat from competing public priorities. Our aeronautics centers are starving for funds and cannot make full use of our scientific talent, our test infrastructure is old and can hardly be maintained, and we lack the breadth of innovative programs worthy of the American imagination.

NASA's Aeronautics Research Mission Directorate has been working on a new series of X-planes through computational, ground test, and wind tunnel work. This is the next generation of supersonic, quieter and more efficient, and hybrid-electric aircraft that near-future regulatory and competitive environments will demand. It is time to put these technologies together on test aircraft and fly them.

The same directorate is also performing critical functions in collecting data necessary to integrate unmanned aircraft systems (UAS) into the national airspace. NASA's aeronautical engineers and scientists have unique expertise that will allow the Federal Aviation Administration to make rules for safer, higher capacity, faster air operations that will boost national productivity and efficiency.

The technologies pursued under NASA's new X-planes regime and the integration of UAS into our airspace are critical to the future of our economic competitiveness and modernizing the U.S. air transportation infrastructure. That is why it is absolutely necessary we follow the carefully formed steps of the NASA Aeronautics Strategic Implementation Plan and the \$790 million funding level for NASA Aeronautics Research Mission Directorate in Fiscal Year 2018 recommended by last year's Presidential Budget Request. This funding level is an important step to enhancing the directorate's capacity to where it can pursue its strategy in a timely fashion.

Conclusion

Our technological lead in aeronautics science and technology has never been more intensely challenged, and our share of the most successful civil and military aircraft markets is by no means guaranteed. If we are to secure our commercial and strategic edge in the next two decades, we must commit to continuity and budget stability for aeronautics R&D. Pursuit of new technologies today determine the winners of war and industry in the not-too-distant future. Funding NASA ARMD at \$790 million in Fiscal Year 2018 will allow progress in key investments to reinforce our leadership in a militarily and economically critical industry. Thank you for your time and consideration.