

THE IMPACT OF THE AEROSPACE INDUSTRY ON BOULDER COUNTY

Executive Summary

*(Because of the proprietary nature of this study,
this report in its entirety is not available to the public.)*

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EXECUTIVE SUMMARY

This study reviews the role of the aerospace industry in Boulder County. Defining the aerospace industry was a difficult process. In this report, a number of different definitions are discussed, but for the purpose of comparing national-, state-, and county-level data, the study uses the North American Industry Classification System (NAICS) based definition that includes government, defense, and commercial aerospace industries working in the areas of satellite manufacturing, launch services, telecommunications, GPS, remote-sensing, and aircraft and aircraft parts manufacturing (NAICS Codes 334511, 336, 517410, and 927110).

Based on this definition, approximately 2,100 aerospace employees worked in Boulder and Broomfield counties during 2002. This made up roughly 21% of the state's total aerospace employment. These workers were employed at four companies and had total wages greater than \$189 million. This number does not include the research facilities and programs at CU or the federal labs, and, in all likelihood, it fails to capture numerous private companies doing work in the aerospace field. In an effort to better understand how far reaching the industry is, the Business Research Department staff contacted a number of companies in other NAICS categories to determine whether they were providing services, components, or other products to the space industry. This effort identified 39 engineering, design, or research and development firms; 18 computer, electrical equipment and component manufacturers; 18 machine shops; and 11 software firms that were doing work for the aerospace industry. Overall, a total of 110 firms were identified as being directly or indirectly involved in the aerospace industry. In 2002, this more broadly defined aerospace cluster employed roughly 5,100 workers who earned about \$375 million in wages. The average annual wage at these 110 companies was approximately \$74,000.

At the University of Colorado College of Engineering and Applied Science 6 departments, 45 faculty members, and more than 110 students were involved in 42 NASA-sponsored projects. In 2003 CU's Aerospace Engineering Sciences Program was ranked 9th in the nation among public universities and 12th in the nation overall by *U.S. News and World Report*. In total, more than 15 university departments applied for federal grants in excess of \$204 million in 2003.

Boulder County also has the unique advantage of being the home of three federal laboratories – NIST, NOAA, and NCAR. A portion of the work conducted at all three facilities is related to aerospace.

The aerospace industry supports and is supported by other technology-based industries in the county and state. Based on data from the 110 companies identified as working directly or indirectly in the industry, more than 2,000 engineers, about 900 assembly manufacturers, approximately 500 technical workers, almost 600 scientists, and 1,100 management and support staff are employed in Boulder County. Not only are these workers critical to the future of aerospace, their skills and knowledge can be applied to

other technologies. For example, individuals with certain clean-room skills are capable of working in such technologies as photonics, biotech, or nanotechnology.

The aerospace organizations located in Boulder County have played an integral part in the recognition of Colorado as a major player in the aerospace industry for a number of years. Despite the state's prominence in the industry, aerospace company leaders indicated that it has been difficult to organize and understand the space industry at the state level for a variety of reasons. Although Colorado has a strong presence in the industry, it is difficult to determine whether there is a critical mass of companies in the state as is demonstrated in Boulder County, where more than 100 companies support the 4 companies that meet the NAICS-based industry definition.

In the case of Boulder, it is quite possible that the city may have better name recognition at the national level as a focal point for aerospace than it does at the state level. This may be due in part to the belief that aerospace in Boulder is limited to Ball Aerospace. While Ball is definitely the dominant player, this study indicates that there is also a strong local support system.

Unlike some high-technology industries or clusters, many of the aerospace industry's top companies have a presence in Boulder County. Because these companies are so dominant and because some companies have high levels of security, it can often be difficult to comprehend their impact on the local economy.

Although somewhat difficult to characterize, the aerospace industry in Boulder County is well positioned to capitalize on the renewed national interest in space exploration and discovery. The unique combination of prime aerospace contractors, a world-class aerospace research institution, varied national laboratories, and a vibrant technology-oriented commercial sector should lead to continued growth in the local aerospace industry.