

The Economic Impact of Astra in Alameda

INTRODUCTION

The Bay Area tech economy is much more than companies building new software off lines of code. Advanced manufacturing is also producing rapid employment growth—particularly in the East Bay, which has seen manufacturing jobs increase by 25% from 2011 to 2019. Several high-tech companies are located in the East Bay that are producing innovative new products on a number of different fronts. Fremont sits at the center of the electric vehicle economy, Emeryville is well-known for biotech manufacturing, and Oakland is home to leading 3D manufacturing companies. Alameda is also home to innovation in advanced manufacturing as it is the headquarters city for a company producing rockets to deliver satellites into space.

Astra, the Alameda Point-based manufacturer of rockets, is a five-year-old company that recently completed its first commercial orbital launch from Kodiak, Alaska. In Alameda, Astra is rapidly expanding its capabilities. Since 2017, Astra has worked with regulators to rehabilitate and reuse the Navy’s defunct jet engine test cells and engine refurbishment spaces, which gives Astra the ability to design, build, and test its rockets in Alameda. The company now employs approximately 300 individuals, up from approximately 100 in 2020, making the city home to one of the fastest-growing companies involved in the space economy.

Given Astra’s rapid expansion and its potential to grow employment further on Alameda Point, it is important to understand the company’s economic impact on the surrounding geography. In addition to the economic activity taking place within Astra’s walls—i.e., wages paid to employees, materials and services purchased, and sales made to customers—the company also produces positive economic effects for the city broadly.

SUMMARY FINDINGS

Using the IMPLAN model (the methodology is explained further at the end of this memo), it is possible to understand the economic impacts of a company’s operations on a specific geographic area. For the purposes of this analysis, we calculate Astra’s impacts within the City of Alameda and Alameda County. The findings from the models, which utilize Astra-provided data from 2021, are highlighted below and stated in annual terms:

- **Factoring in only its own operations, Astra produces total economic output of \$129.7 million and a \$58.0 million positive contribution to gross domestic product for the City of Alameda.** For comparison, the City of Alameda’s total gross domestic product contribution in 2019 was \$5.8 billion; therefore, Astra accounts for approximately 1% of the city’s economy.

- Astra employs a total of 300 people with annual wages paid of \$29.5 million.
- Of Astra’s total employment, 50 employees are residents of Alameda earning total wages \$5.4 million.
- Astra’s employees and its suppliers produce an additional \$1.6 million of economic output in Alameda and an additional gross domestic product contribution of \$1.0 million for Alameda.
- For every 50 workers employed at Astra that are Alameda residents, an additional 8.1 jobs are supported in the city annually.
- Within Alameda County, Astra’s operations support an additional 172.7 jobs (inclusive of the 8.1 supported in the City of Alameda) when the multiplying effects of employee spending and supplier/vendor spending are counted. Therefore, Astra’s operations produce an additional 0.5 full-time-equivalent jobs in Alameda County for every one Astra job in the City of Alameda.

CITY OF ALAMEDA ECONOMIC IMPACT - ASTRA

Impact Type	Employment	Labor Income	GDP Impact	Total Output
From Astra Business Operations in Alameda:				
Total	300.0 \$	29,291,877 \$	57,968,747 \$	129,743,262
From Alameda Businesses and Residents:				
Direct	50.0 \$	5,414,009 \$	- \$	-
Indirect	3.6 \$	376,474 \$	532,391 \$	809,825
Induced	4.4 \$	266,242 \$	514,319 \$	742,257
Total	58.1 \$	6,056,725 \$	1,046,710 \$	1,552,082

ALAMEDA COUNTY ECONOMIC IMPACT - ASTRA

Impact Type	Employment	Labor Income	GDP Impact	Total Output
Direct	300.0 \$	29,291,877 \$	57,968,747 \$	129,743,262
Indirect	92.7 \$	9,046,621 \$	12,857,571 \$	20,611,578
Induced	80.1 \$	5,217,027 \$	9,730,805 \$	14,924,652
Total	472.7 \$	43,555,524 \$	80,557,123 \$	165,279,492

METHODOLOGY

Economic impact is typically measured through an input-output model that uses national transaction and labor force data and measures relationships among industries, suppliers, and customers. To arrive at an economic impact, this report uses an industry-standard economic modeling tool called IMPLAN. Specifically, IMPLAN utilizes data from the U.S. Bureau of Economic Analysis' Input-Output Benchmarks, which allows for analysis of how industries and investments affect the economy.

IMPLAN does this by tracking each dollar spent in an industry and its ripple of economic effects until it leaves a given geography. Economic indicators in IMPLAN are defined below:

- **Employment:** This measure is presented in full-time equivalent jobs supported. As an example, two 20-hour per week jobs for an entire year equal one job supported.
- **Labor Income:** This measure is the total sum of wages paid during the defined period.
- **GDP Impact:** This measure captures the value added of final goods and services delivered as a result of the initial activity. Value added refers to the difference in value between the products and services at each stage of production, subtracting the initial labor and capital costs.
- **Total Output:** The measure of total economic activity produced related to the initial investment, reflecting the total spending by firms, organizations, and households that is made possible by the initial input. Different from GDP impact, total output captures all transactions no matter how the dollar is being spent.

IMPLAN categorizes economic impacts in three ways:

- **Direct:** Captures the original expenditure—examples include Astra's wages paid to employees.
- **Indirect:** Encompasses spending that is related to the provision of the original expenditure, such as expenditures on suppliers or vendors.
- **Induced:** Originates from the wages supported by the direct expenditure, such as spending that occurs through Astra employees on local products and services.



ABOUT THE ECONOMIC INSTITUTE

Since 1990, the Bay Area Council Economic Institute has been a leading think tank focused on the economic and policy issues facing the San Francisco/Silicon Valley Bay Area, one of the most dynamic regions in the United States and the world's leading center for technology and innovation. A valued forum for stakeholder engagement and a source of information and fact-based analysis, the Institute is a trusted partner and adviser to both business leaders and government officials. Through its economic and policy research and its many partnerships, the Institute addresses major factors impacting the competitiveness, economic development, and quality of life of the region and the state, including infrastructure, globalization, science and technology, and health policy. It is guided by a Board of Trustees drawn from influential leaders in the corporate, academic, non-profit, and government sectors.

The Institute is housed at and supported by the Bay Area Council, a public policy organization that includes hundreds of the region's largest employers and is committed to keeping the Bay Area the world's most competitive economy and best place to live. The Institute also supports and manages the Bay Area Science and Innovation Consortium (BASIC), a partnership of Northern California's leading scientific research laboratories and thinkers.

Bay Area Council Economic Institute

San Francisco, CA 94111

www.bayareaeconomy.org • bacei@bayareacouncil.org • [@bayareaeconomy](https://twitter.com/bayareaeconomy)