JLL

People, Power, Place:

Making the Solano Foundry the new home of advanced manufacturing in California

Executive summary

The manufacturing industry in the United States is witnessing a revival due to economic, technological, policy, and geopolitical changes that are bringing domestic manufacturing back to the spotlight. However, this has not been the case in California.

Much like how the United States has lost its manufacturing leadership to China, California is losing its manufacturing base to other states. California's inability to attract significant new manufacturing investment is rooted in a combination of high costs, regulatory complexity, and infrastructure constraints that make it less competitive than peer states. California's extensive and often unpredictable regulatory environment, particularly regarding labor, environmental, and permitting requirements, adds further uncertainty and delays to expansion plans. As a result, even companies founded and headquartered in California increasingly choose to scale their manufacturing in states like Texas, Arizona, and Georgia, where costs are lower, permitting is faster, and incentives are more attractive.

While California boasts a world-class R&D ecosystem, this separation of research in California and manufacturing into other states slows innovation and diminishes the state's competitive edge. Without a concerted effort to address these structural challenges, California risks missing out on the next wave of advanced manufacturing growth and the high-quality jobs it brings. To date, not many credible solutions have been proposed to make manufacturing in California viable again. **We believe that California Forever's new city proposed in Solano County is the rare exception of a project that has the scale and the resources to create a new advanced manufacturing cluster and create a viable home for advanced manufacturing in California**—and do that in close proximity to both Silicon Valley and Travis Air Force Base.

More broadly, by leveraging the California Forever project as a catalyst, Solano County has the potential to become the new home for advanced manufacturing in California. California Forever is proposing to build a new advanced manufacturing zone, a new walkable city, and a series of energy projects in southeastern Solano County. The company was founded by Jan Sramek in 2017. Since then, they have purchased over 65,000 acres of land in Solano County. To fund these purchases, the company has already raised over $1 billion from Andreessen Horowitz, Reid Hoffman, Laurene Powell Jobs, Michael Moritz, John Doerr, and other leading technology founders and investors.

As part of this plan, to address the challenges with manufacturing in California outlined above, California Forever is proposing to build the Solano Foundry, a 2,100+ acre advanced manufacturing park that seeks to address most of California's current shortcomings while benefiting from its proximity to Silicon Valley's innovation engine and to Travis Air Force Base. The company's goal is to create a new and highly attractive location and ecosystem for advanced manufacturing and technology companies expanding in California, or the U.S. more broadly.

California Forever retained JLL to provide market and economic research on tenant demand for the Solano Foundry, including analysis and recommendations for how the advanced manufacturing park could integrate with other efforts to bring new employers to all parts of Solano County. As part of the analysis, JLL has performed an assessment of the Solano Foundry using a site selection framework and identified its value proposition, evaluated its competitiveness relative to other regional and national master-planned industrial parks, and recommended target verticals for an advanced manufacturing tenant base within the park based on regional demand drivers.

Advanced manufacturing site selection framework

In surveying potential tenants, evaluating key determinants of location decisions, and in consideration of JLL's advanced manufacturing client base, JLL has identified three key themes that inform site selections.

People

The labor market is increasingly competitive and costly for businesses with persistent skill shortages. Companies should consider the following when recruiting and retaining talent: labor availability, tertiary school completions, training availability, and the attractiveness of the residential offering to the workforce.

Power

Finding a location with enough electricity to meet demand quickly and reliably has become a paramount concern. Advanced manufacturers are sensitive to cost, source, timing, redundancies, and other utility-related considerations.

Place

Advanced manufacturers are seeking pad-ready or existing real estate options in markets with fast permitting to prioritize speed to market.

The Solano Foundry value proposition and five competitive advantages

JLL believes that California Forever's planned industrial park offers five strategic advantages across these three key themes:

People

1 Access to Bay Area talent pool

Solano County benefits from nearby innovation hubs in the Bay Area as well as having a local manufacturing workforce within 45-minutes across low, medium, and high-skilled roles.

2 Affordable, walkable city

The Solano Foundry will offer a variety of attractive, affordable housing options in safe, walkable neighborhoods, providing an appealing living environment for workers choosing to live near the Solano Foundry.

Power

3 Ample and affordable power

California Forever's landholdings host a wide range of energy assets and planned generation sites that enable ample and affordable power, including gigawatts of combined capacity between existing natural gas, solar, and wind generation. In addition, over 2 GW of renewable power and over 5,000 GWh of battery storage will be developed as part of the project, providing affordable generation.

Place

4 Full entitlement

The new city will be a fully entitled, master-planned development, enabling over-the-counter permitting for individual facilities.

5 Flexible and sustainable building options

The Solano Foundry will enable advanced manufacturers to expand. Its 2,100+ acres of advanced manufacturing zoning will make it the largest master-planned advanced manufacturing development in the United States.

The Solano Foundry's relative competitive position

Based on the site selection framework of people, power, and place, JLL evaluated the Solano Foundry's competitiveness to six industrial parks within California and Northern Nevada, and seven mega-industrial parks across the United States, using key location decision determinants. Within the framework of labor, utility infrastructure, supply chain, regulatory environment, and site features, JLL assessed each location from poor to excellent.

The Solano Foundry stands out as a regional leader across most evaluation metrics, with its only current limitation being supply chain connectivity due as it is not directly located on a major interstate highway. This minor drawback will soon be resolved through infrastructure improvements to the surrounding highway. While there are similar master-planned industrial parks across Northern California, all are generally focused on logistics and lack the manufacturing focus and infrastructure that the Solano Foundry has to offer. When evaluating national options, the Solano Foundry benefits from its urban connectivity and proximity to the Silicon Valley, a challenge for a handful of other locations in semi-rural areas far from major cities.

Speed to market and the regulatory environment is a challenge in California from a national perspective; however, California Forever is mitigating this by working on approving the full project upfront.

This "pre-approval" approach allows new industrial tenants to obtain permits to build within a few months and removes one of the largest bottlenecks for employers growing in California. Sandow Lakes and Alliance, both in Texas, are the Solano Foundry's closest competitors.

Companies to target

Focusing on specific industry verticals, JLL's recommendation is that California Forever targets companies in:

- Advanced aerospace and defense
- Energy
- Advanced transportation
- Robotics and industrial automation
- Built tech

These industries offer significant growth opportunities and have been identified through a data-driven analysis considering factors such as job counts, employment concentration, historical job growth, average earnings, and market potential. Each of these verticals represents dynamic areas for future expansion at the Solano Foundry, placing it at the forefront of the next leap in manufacturing and innovation.

The Solano Foundry as a job catalyst for Solano County

Solano County has historically struggled to attract major employers, as most large employers prefer to collocate near existing nodes for social, cultural, and economic reasons. This difficulty has led to high out-of-market commuting rates within the county. Despite efforts like the Index of Economic and Community Progress project in 2007, Solano County remains primarily a bedroom community for Silicon Valley, San Francisco, and Sacramento.

The California Forever project and its plans for the Solano Foundry present a unique opportunity to break this impasse. With its scale, unique offering, investors, and national visibility, the project has the potential to exponentially grow, diversify, and strengthen Solano County's manufacturing sector. This could lead to Solano County becoming known as a pro-growth area in California, establishing a stronger brand for the county, attracting additional employers, and strengthening the sense of community.

The Solano Shipyard as a complementary growth driver

The development of a shipbuilding ecosystem in Solano County is being advanced as a parallel, adjacent industrial cluster, located approximately 7 miles south of the Solano Foundry and the new city. This shipbuilding cluster leverages the Solano Foundry's robust supply chain infrastructure to enable the production of advanced maritime vessels, while simultaneously creating a dynamic feedback loop that drives demand for Foundry-manufactured components, materials, and services. The close integration of these two clusters is designed to attract specialized suppliers and investors, further diversifying and expanding the region's industrial base.

By co-locating shipbuilding with advanced manufacturing, Solano County is positioned as a competitive hub for innovation across multiple industries. Taken together, these initiatives are closely aligned with the national priority to revitalize shipbuilding and are poised to spur economic growth while strengthening California's position as a leader in advanced industrial manufacturing.

Moving the Solano Foundry from vision into reality

Initially, JLL approached the California Forever project with reservations about the idea of bringing large-scale manufacturing back to California. Through evaluating the imaginative approach with unprecedented scale that California Forever has put forth and discussing the Solano Foundry's potential with various advanced manufacturing clients, JLL observed genuine market interest. **The evidence suggests that the California Forever project is the state's strongest opportunity to revitalize its manufacturing sector and bring manufacturing jobs back to California.** Provided that the project receives entitlements in time to take advantage of the current wave of site selection decisions, we are confident that Solano County can become one of the most important regions for California's manufacturing economy.

Content

America's manufacturing renaissance

The United States is in the midst of a manufacturing rebound.

After decades of losing manufacturing operations to more affordable labor markets in Asia and elsewhere, policy changes over the past eight years have brought domestic manufacturing back into the spotlight. Whether framed as an issue of creating well-paid generational jobs or national security, manufacturers are choosing again to build in the United States.

Since manufacturing jobs peaked in 1979, the United States lost over 6.6 million manufacturing jobs, a trend that was exacerbated when China entered the World Trade Organization in 2011[1]. However, with the onset of the COVID-19 pandemic in 2020, supply chain disruptions highlighted major vulnerabilities and led policymakers to attempt to re-localize production in the United States. Legislation such as the Bipartisan Infrastructure Act, Inflation Reduction Act, and CHIPS Act during the Biden Administration intended to inject over $258 billion in federal investment into strengthening domestic manufacturing, among investments in other fields. As a result, companies began to reinvest in manufacturing in the United States (Figure 1). While construction spending as a leading indicator of manufacturing capacity growth has tapered, the current administration expects to spur further investment through the One Big Beautiful Bill Act with tax incentives including bonus depreciation on equipment purchases and the qualified production property provision.

12% **Average year-over-year increase in construction spending from 2010 to 2021**

37% **Average year-over-year increase in construction spending from 2022 to 2024**

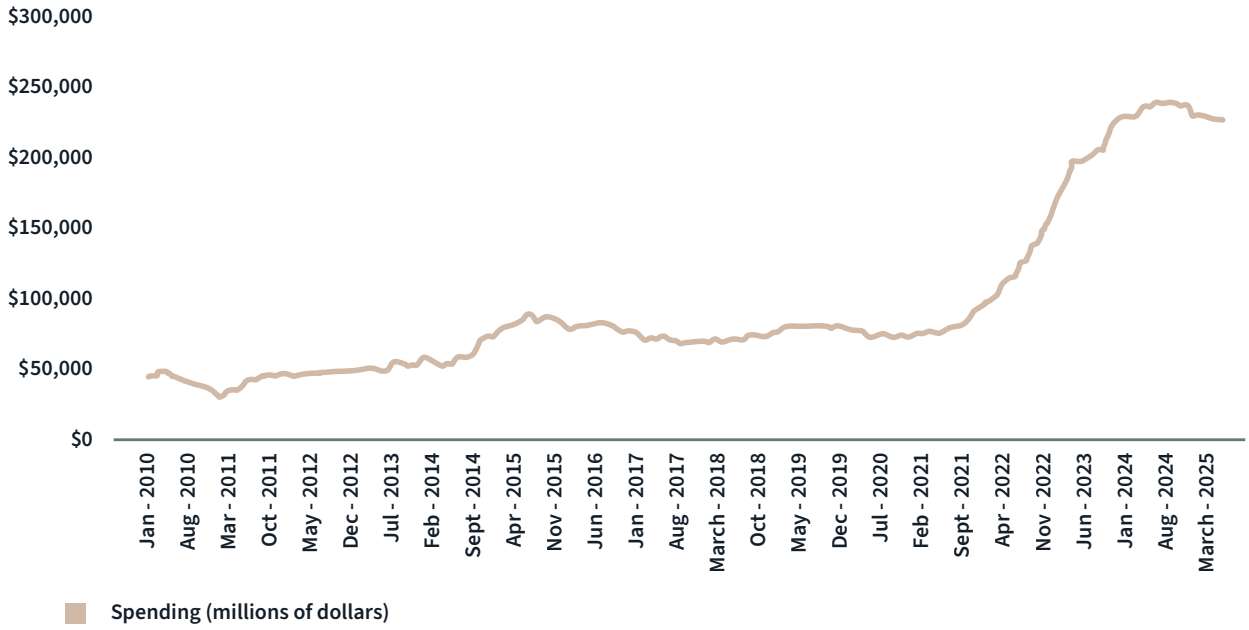


Figure 1: Total construction spending on manufacturing in the US. US Census Bureau, 2025

[1] Bureau of Labor Statistics, 2025

In addition to a focus on advanced manufacturing, there has been a renewed push to strengthen the defense industry within the United States. Amid rising global tensions and a narrowing competitive edge over China, there are increasing calls for the United States to enhance its national security. A recent report published by Bloomberg highlights key reforms needed to reestablish the country's defense position[2]. Such strategies include increased investment into emerging and critical technologies, restoring the country's domestic manufacturing prowess, focusing on workforce training with transferable skills across the public and private sectors, and reforming Department of Defense budgets and processes while unlocking private capital to fuel innovation.

The recent activity, however, is only the first inning of the manufacturing renaissance.

By 2030, about 60% of U.S. manufacturers are expected to nearshore or re-shore their operations to boost resiliency and better meet customers' needs[3].

Supply chain resiliency in terms of inventory, buffer capacity, diversification, redundancy, and transparency will be at the forefront of mind as just-in-time manufacturing is no longer an automatic justification for localized production. Improvements in automation and machine learning processes have enabled this transformation and will improve efficiencies throughout the value chain while increasing resiliency, as there are fewer external risks that could interrupt production.

In addition, as manufacturers prioritize speed-to-market, the gold rush for functional brownfield buildings or shovel-ready greenfield sites has left limited options for real estate in many in-demand markets. This is on the heels of increasing demand for electricity from local, state, and federal policymaking across an already-strained power grid that faces inconsistent generation, unreliable transmission, and constrained distribution in many core markets like California and Texas.

[2] Bloomberg, A Blueprint for Breakthroughs in Defense Innovation, 2025
[3] RSM. Manufacturing and supply chains in 2030. 2023

Growth stages of advanced manufacturers

Most manufacturers go through a series of evolutions as they take their product from an idea to full commercialization (see Figure 2). As the technology develops and manufacturers go through different stages of funding (both public and private), their real estate needs change, as do their business objectives. Early-stage companies focusing on research and development and fine-tuning their production line are focused on delivering their product to their customers as quickly as possible. The footprint of these pilot-line production facilities is often less than 100,000 s.f., and the facility is filled with highly skilled engineers and technicians. As companies begin to make their first customer deliveries, many manufacturers will expand their pilot-line facilities.

Once the product is ready for commercial scale-up, the real estate requirements shift toward a large-scale, purpose-built production facility that can exceed two million square feet, filled with a mix of jobs from assemblers to machine operators, technicians, and engineers. It is at this phase that many of the R&D operations rooted in California choose to locate their large-scale production facilities out of state.

Stages of growth of advanced manufactures

Stage	Relative level of technology development	Objective	Funding purpose	Real estate needs	Idea
Reasearch	Basic technology research	Prove technology	Funds to launch idea	University or personal space	
	Research to prove feasibility				
Development	Technology development			Incubator/R&D Facility/ Lab	
			Secure funding to prove capacity to grow and scale		
		Gain market share	Demonstrate how you will monetize your product in the long run		
Demonstration	Technology demonstration			Pilot line	
	System commisioning	Path to profitability	Gain market share and scale capacity	Pilot line expansion	
			Further expansion but have strong customer base and stable revenue stream	Full-scale production	
Deployment	System operations	Profit	Profitability		**Market acceptance**

Figure 2: Stages of growth for advanced manufacturers, JLL, 2025.

Location decision considerations and the challenges of scaling in California

Although California remains the nation's largest manufacturing state by both GDP and employment, that position is based on facilities built during California's growth days of the 1960s, 1970s, and 1980s[4][5]. In recent years, the state has seen relatively few major manufacturing project wins.

Despite a surge of manufacturing announcements nationwide, most large-scale investments have bypassed California in favor of other states. This trend reflects the growing perception that, while California continues to lead in innovation and research, it is no longer viewed as a competitive or desirable place to scale manufacturing operations-resulting in missed opportunities for middle-wage job creation and economic growth within the state.

Reflecting this trend, several California-based companies that initially established their research and development operations in the state have recently chosen to scale up manufacturing elsewhere.

High-profile examples include Tesla, which built its Gigafactory in Nevada and later Texas, as well as Archer Aviation, Anduril, and Evenvenue, which have all announced major production facilities in states such as Georgia, Ohio, and Kentucky. This pattern underscores the growing reluctance among innovative firms to expand large-scale manufacturing within California, despite their continued presence in the state for R&D activities.

There are measurable benefits to maintaining a manufacturing cluster within the state, from R&D to full-scale production. The cluster effect is a well-studied theory in economics and is believed to be a key to increased productivity through increased competition, knowledge spillovers and cooperation, and interwoven supply chains. In practice, it means proximity enables seamless collaboration between research teams and production units, fostering rapid iteration and knowledge transfer. When R&D is thousands of miles away from manufacturing, companies may lose the ability to quickly prototype, test, and refine new ideas in real-world production environments. The close integration of these functions allows for more efficient problem-solving, faster product development cycles, and the ability to swiftly incorporate manufacturing insights into research processes. This synergy is particularly crucial for industries where innovation velocity is high, as it can significantly reduce time-to-market for new products and technologies, ultimately providing a competitive edge in fast-evolving markets. An early example of this was the "Fairchildren" who spun out of Shockley Semiconductor beginning in 1956. More recently, many engineers who have left Tesla since the 2010s have created their own companies in the EV, battery, and energy fields within Silicon Valley.

[4] Bureau of Labor Statistics, 2025
[5] Bureau of Economic Analysis, 2025

The geographical separation of research and development (R&D) facilities in California from manufacturing operations in other states significantly hampers companies' innovation pace and growth potential. This disparity ultimately undermines American competitiveness in the global market. Considering the well-documented advantages of economic clustering, it's crucial to investigate how manufacturers arrive at location decisions.

To understand how companies choose where to locate manufacturing, it's useful to focus on three core themes: people, power, and place. To determine the best location for their operations, companies weigh both financial and non-financial factors-including workforce availability, energy reliability and cost, and the ease and speed of securing suitable sites.-.

			Non-financial		Financial	
People	Labor	Labor	• Ability to scale • Ability to sustain • Skill and language capability	• Regulation • Unionization • Education • Livability and cost of living	• Labor costs • Benefits costs • Months compensation • Expatriate costs	• Labor arbitrage • Inflation • Lanaguage/shift premiums
Power	Utility infrastructure	Utilities	• Electricity • Natural gas • Water • Wastewater	• Telecom • Reliability • Excess service capacity	• Utility tarrifs and costs • Infrastructure extension/updgrade costs	• Utility inflation costs • Application of sales tax
Place	Supply chain and logistics	Supply chain	• Proximity to suppliers • Proximity to market • Roads and interchanges	• Access to highways • Access to airports • Rail • Port	• Inbound transportation costs • Outbound transportation costs	• Transportation inflation costs • Duties and fees
	Regulatory environment	Incorporation and taxation	• Traties • Incorporation options • Permitted business structures	• Advance rulings • Ease of doing business	• Direct tax (income) • Indirect tax (VAT, property, others)	• Treatment of losses • Taxes on gross revenue • Deed tax
		Support and incentives	• Government and judicial corruption • Contract enforcement	• Bureaucracy • Investment support	• Inflation • Currency exchange	• One time and recurring financial incentives
	Site features	Real estate	• Site size • Configuration • Topography • Permitted use and restrictions	• Environmental • Constructability • Title/ownership • Site readiness • Ability to scale	• Site purchase costs • Site preparation costs	• Leasing costs • Responsabilities
Secondary considerations	Risk	Risk	• Political • Economic	• Natural disaster • Intellectual property	• Utility tarrifs and costs • Infrastructure extension/upgrade costs	• Utility inflation costs • Application of sales tax
	Operational excellence	Revenue	• Forecast by product • Competitive strategy	• Forecast by country	• Selling price • Inflation	• Margin requirements
		Capital investment	• Encouraged status • Ability to import used equipment	• Local sourcing requirements	• Insurance costs • Natural disaster mitigation • Sourcing restrictions • Depreciation	• Taxation consideration • Duties and fees • Impact on margin

Figure 3: Site selection framework and location decision determinants for advanced manufacturing tenants, JLL, 2025.

People

There is an increasing concern that some markets are saturated for labor. When comparing the major US manufacturing metros, many southeast and southwest metros that were attractive options for abundant and affordable labor a few years ago are now becoming tapped out when considering the unemployment to job posting ratio (see Figure 4). This means there are new frontier markets for advanced manufacturers to consider for their expansion. Additionally, there are growing concerns about whether many secondary markets can support the labor force needed to operate these facilities. In some cases, legacy manufacturers have had to offer attractive relocation packages to attract talent to fill their vacancies. In contrast, for the East Bay and North Bay of California's Bay Area, there are 6.1 unemployed people within the manufacturing industry for every one manufacturing posting, indicating an available labor pool.

Unemployed manufacturing persons per 1 job posting

(Lower values indicate tighter labor force)

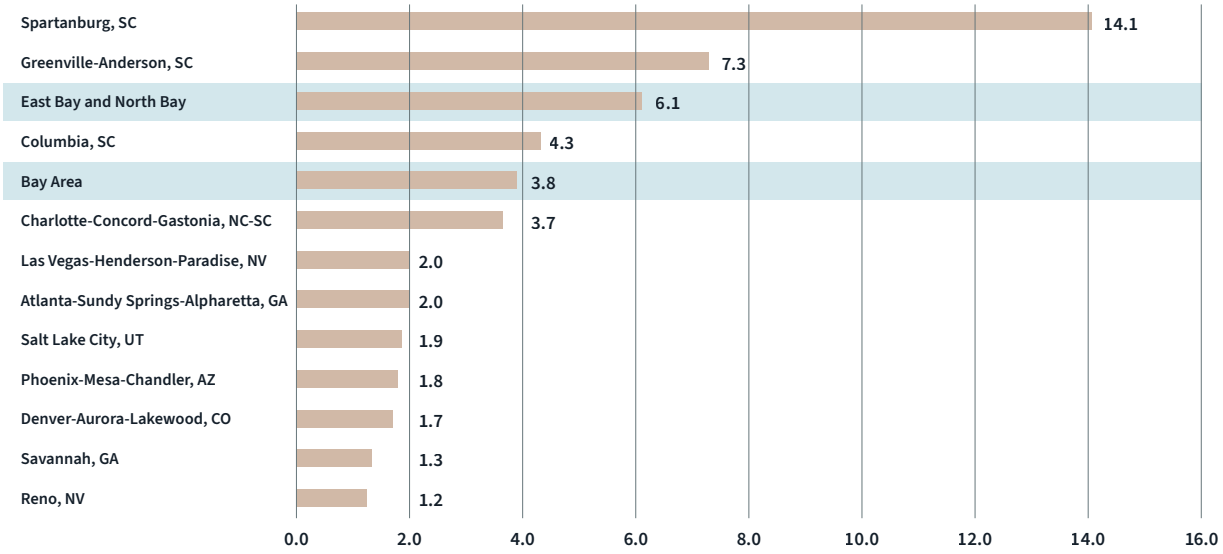


Figure 4: Employment availability by major advanced manufacturing metro. Lightcast, 2025.

The competition for labor and the cost of relocation, recruiting, and retaining talent will erode some of the operational savings of these lower-cost markets. Inflationary conditions have been much stronger in expansion metros due to in-migration and tightening labor dynamics (see Appendix E). With outbound migration from the broader Bay Area to lower-cost markets in addition to the manufacturing announcements in similar metros, the injection of demand has also caused inflation to increase at a higher rate than the Bay Area or other tech-dominated/high-cost-of-living areas. While these coastal metros are still more expensive, the higher rate of inflation in the secondary markets is eroding the affordability and initial cost savings that would have been included in the calculus when estimating operating costs for establishing a manufacturing facility.

Put simply, the Bay Area has often been overlooked for new manufacturing investments in recent years, as it has no longer been seen as a traditional manufacturing hub. Yet, the region now offers a sizable, underutilized manufacturing workforce with a broad range of skillsets and qualification types.

Power

Power requirements vary dramatically between companies even within the same vertical. Depending on their manufacturing process, some manufacturers could require as much as 60-100MW of electricity to power their facility (such as battery cell and module manufacturers and aluminum smelters).

Considerations for power include:

- Energy and utility availability and timing
- Grid reliability and redundancy factors
- The cost of electricity
- The source

Many manufacturers, especially in the CleanTech space, have expressed a desire for clean energy. California has the third highest rate in the United States for industrial-scale electricity at 18.91 cents per kWh[6] . Georgia has been an early winner of attracting new manufacturers due to its lower power cost and excess capacity at the time. Furthermore, providing 100% clean power has proven challenging, with most utilities offering carbon credits or quoting a rate for 100% clean power that will jeopardize the financial viability of an operation.

Additionally, California is facing increasing strains on its electricity infrastructure with inconsistent generation, unreliable transmission, and constrained distribution that affect supply at a time of increasing demand for electricity from consumers and businesses alike. While many of these issues are not unique to the state (e.g., Texas's power grid amidst extreme weather events), California has an added burden of a costly, lengthy, and nebulous power procurement process that can take over 24 months at a minimum.

[6] EIA. Price per kWh (for industrial uses) is calculated using a 12-month average from March 2023-February 2024

Place

Lastly, place is a critical consideration, including site availability, cost, encumbrances, due diligence, logistics, and regulatory environment. Place as a consideration has been overlooked in the recent wave of expanded manufacturing investment as manufacturers pursue brownfield manufacturing sites that need rehabilitation options to afford speed-to-market, minimize capital expenditure (although brownfields can prove costly), and to benefit from federal programs incentivizing the redevelopment of former industrial sites. As quality brownfield options become increasingly limited (especially those with power), advanced manufacturers will need to begin planning earlier to account for construction timelines on greenfield developments that will be better suited for the long-term success of their projects.

In the regulatory environment, California is often perceived as anti-business for several reasons. California has stringent regulations in areas such as labor, environmental, and consumer protections. While these regulations aim to ensure safety and fairness, they can also create administrative burdens and compliance costs for businesses, particularly for smaller companies with limited resources. Additionally, California's high taxes, including corporate taxes and personal income taxes, are often perceived as burdensome for businesses. The tax rates and limited incentives to offset the burden reduce profitability and incentivize businesses to seek more tax-friendly locations.

In summary, although California has often been overlooked, there is a path to a manufacturing renaissance within the state. The Solano Foundry, proposed as part of California Forever's new city in Solano County, CA, is designed to address many of these longstanding challenges while leveraging the state's unique core strengths.

The following section examines how the Solano Foundry's approach seeks to overcome key obstacles-such as labor availability, power infrastructure, and permitting delays-and how it positions itself to capitalize on California's established talent base, innovation networks, and renewable energy resources.

The Solano Foundry and its value proposition

The Solano Foundry is a 2,100+ acre industrial park within California Forever's proposed new city, aiming to secure entitlements for up to 40 million square feet of advanced manufacturing space, with full entitlements expected in the next 2-3 years (including zoning, Environmental Impact Report under CEQA, and Development Agreement). The project is expected to break ground in 2028.

California Forever

Regional map

Figure 5: California Forever's land holdings within the Bay Area, CA Forever, 2025.

From JLL's perspective, the Solano Foundry presents a unique opportunity to drive the next wave of industrial innovation in Northern California, addressing most of California's current challenges while providing a global platform for the most innovative businesses. Through JLL's analysis, we see the rare chance to build an industrial ecosystem from the ground up, integrating cutting-edge insights into corporate needs and employee well-being. The Solano Foundry aims to revitalize and elevate California's industrial sector, offering a scalable, business-centric environment that fosters innovation and growth.

Although the Solano Foundry is a blank slate today, it is expected to be ready to meet demand when the project comes online around 2028. We believe the U.S. is still in the early stages of a manufacturing resurgence, with many location decisions to be made in the coming decade as companies mature and assess their expansion needs.

Based on an evaluation of a competitive set, JLL has identified five competitive advantages of the Solano Foundry that provides a unique set of benefits for manufacturing at the intersection of **people, power, and place.**

Figure 6: Aerial rendering of the Solano Foundry, CA Forever, 2025

People

1. Access to Bay Area talent pool

Manufacturers know that the Bay Area provides unique competitive advantages with access to some of the best research universities, the breadth and depth of the engineering talent pool across many highly specialized concentrations, and the network of innovation that has been traced back to when Fairchild Semiconductors established itself in the Silicon Valley in the 1950s. While the state is being overlooked for large-scale manufacturing facilities, manufacturing as an industry in the Bay Area as a share of the labor force has grown in the last 10 years to 9% of the labor force, outpacing many major metropolitan areas across the US (see Figure 7).

Manufacturing jobs as share of labor force

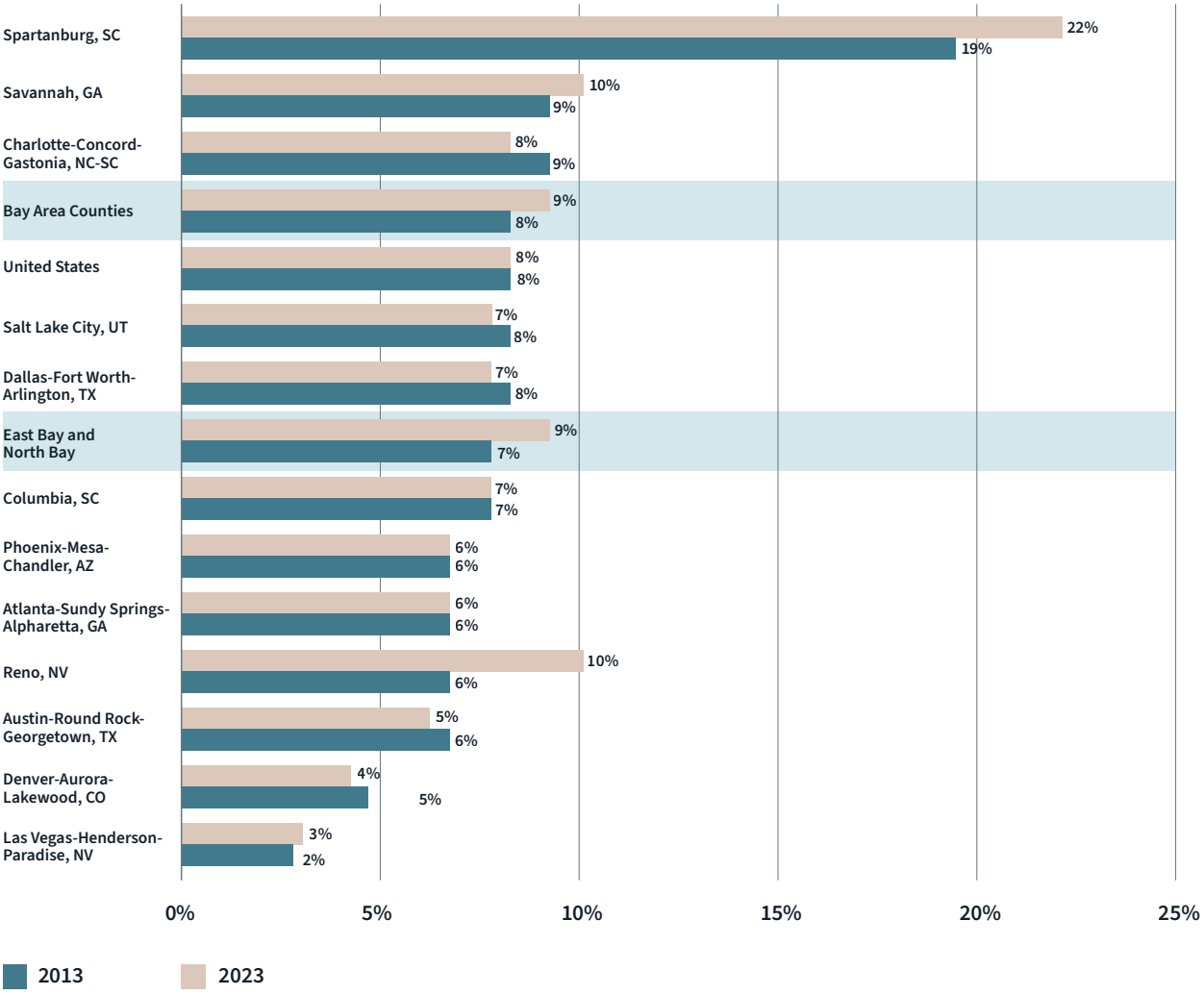


Figure 7: Manufacturing employment as a share of metropolitan employment, Lightcast, 2025.

The Bay Area is the only region in the country that has both the depth and concentration of engineers across various specializations. The Bay Area also has a larger share of scientists and engineers than any of the other markets considered. This means there is a particular focus in the Bay Area for highly-skilled R&D and technical labor. As a result, most advanced manufacturers focus their R&D and pilot-line facilities within the region, so their engineers are in proximity to quickly troubleshoot and retool when needed.

Additionally, the Bay Area benefits from the size of the labor pool. While the region is typically regarded for its engineering talent, it has a large base on production talent to support manufacturing growth. **In fact, the Bay Area has over 104,000 production workers, second to only Dallas-Fort Worth, and over 20,000 more than Atlanta.** When considering just the East Bay and North Bay, the market has as many production workers as Charlotte (Figure 8). These three geographies have been popular destinations due to their robust labor market for low and high-skilled production-related talent.

All of this is to say that the Solano Foundry is in proximity to an already-trained labor force within the region that is not facing existing constraints from already-announced manufacturing projects.

Advanced manufacturing occupation breakdown

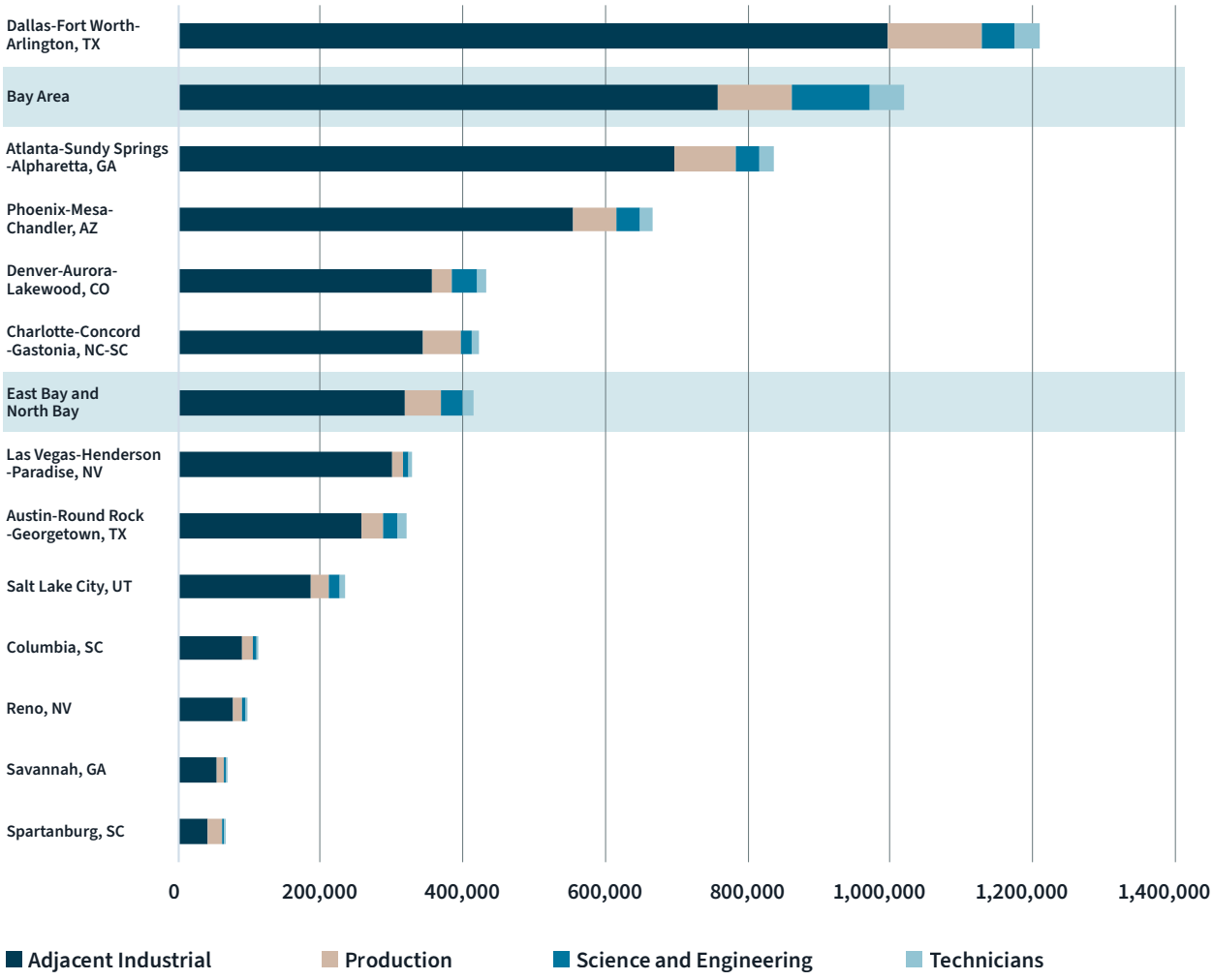


Figure 8: Manufacturing occupations by metropolitan area, Lightcast, 2025.

The Solano Foundry has the potential to help transform Solano County from a bedroom community to a vibrant live-work-play destination. With current infrastructure, a 45-minute labor catchment area reaches Davis and Woodland to the North; to Hercules along I-80, Concord along I-680, and past Brentwood along Highway 4 in the South; Stockton and Lodi to the East; and American Canyon and Vallejo to the West (see Figure 9). It is expected that this laborshed will increase with upgrades to Highway 113 and Highway 12.

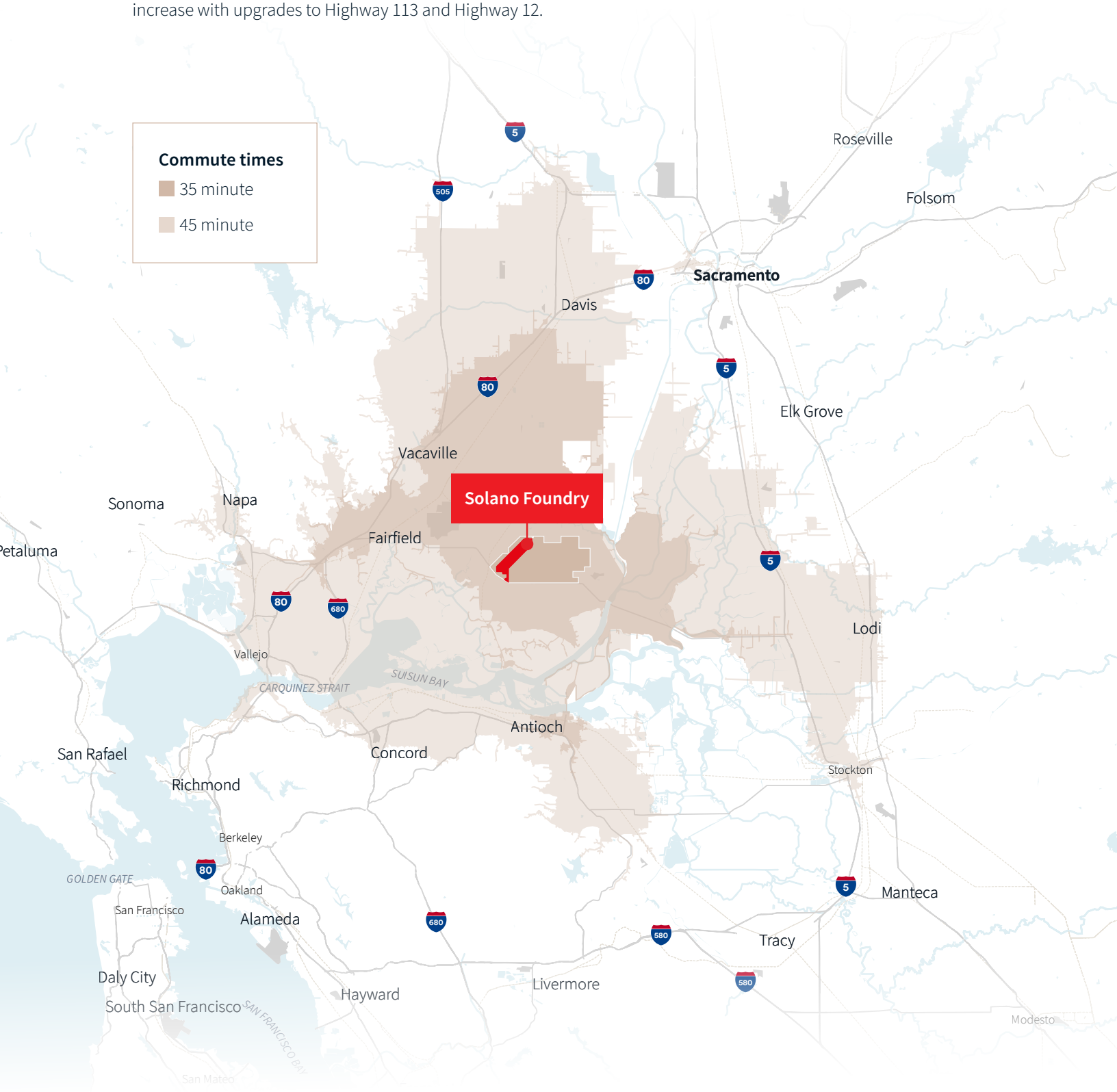


Figure 9: Estimated 30-minute and 45-minute commute times from the Solano Foundry, ESRI, 2025.

The Solano Foundry has the potential to help transform Solano County from what is currently mostly a bedroom community to a vibrant live-work-play destination. At a county level, 80,000 people (37.2% of Solano's total workforce) leave Solano County for work, including destinations like San Francisco and Sacramento. This trend has been increasing over the last decade (see Figure 10). With current infrastructure, the Solano Foundry's 45-minute labor catchment area covers over 15,000 production workers, 9,000 scientists/engineers, and almost 6,000 engineering technicians. Despite the 30,000 resident workers, there are only 22,000 jobs within these occupations with a 45-minute drive time which suggests 8,000 people commute outside of that catchment area for work. This implies there is an immediate labor force that can be tapped into without the labor constraints that are starting to plague other manufacturing markets like Atlanta, Austin, Reno, or Phoenix.

Number of Solano residents commuting to the Bay Area

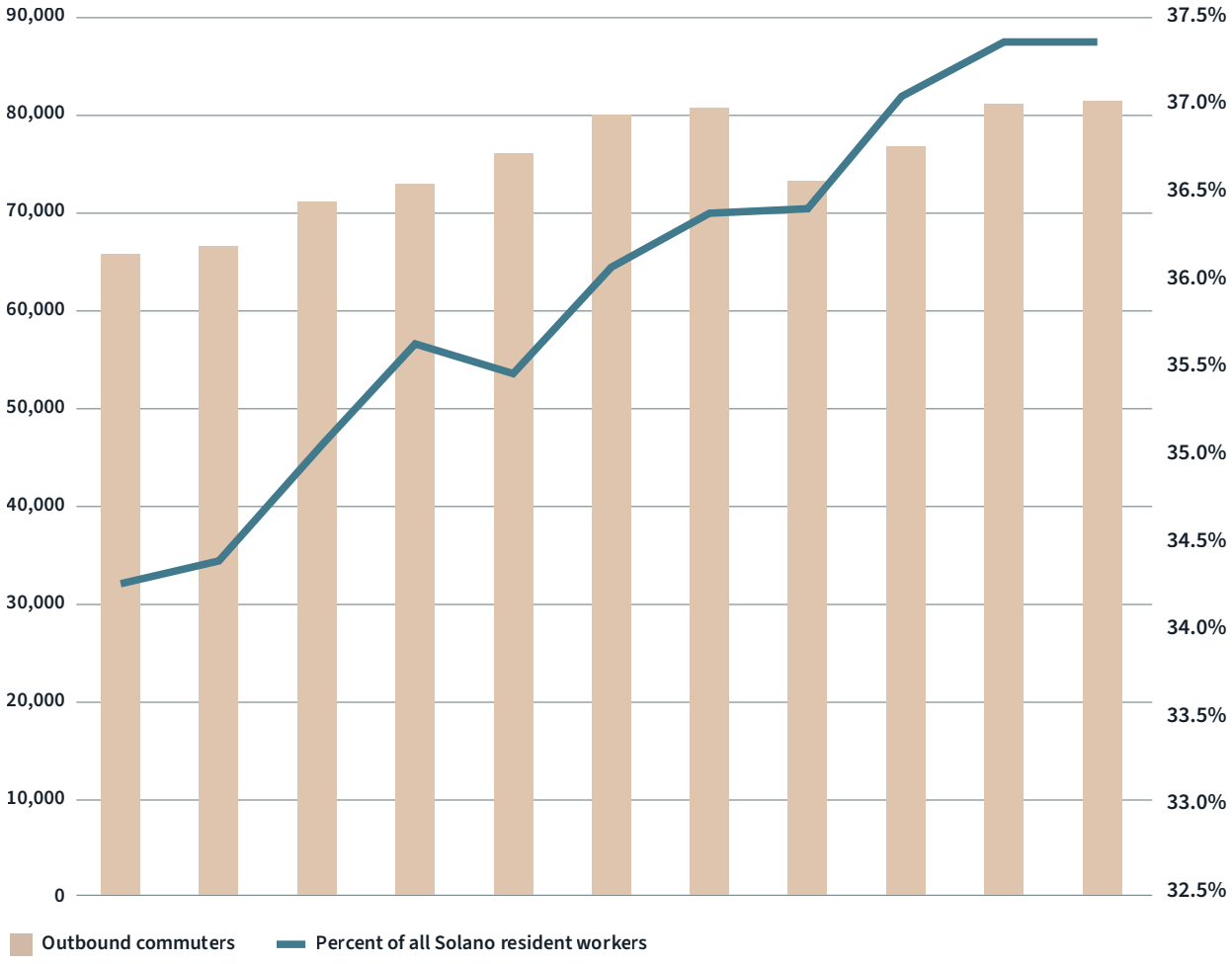


Figure 10: Solano County outbound commuters, LEHD, 2025.

2. Affordable, walkable city

While roadway investments will extend the labor pool further into the core of the Bay Area, the Solano Foundry is also committed to making the new city a destination by offering housing options for all income levels, including workforce housing, allowing residents to live and work within the community.

The proposed project offers workforce housing in a safe, walkable community, and provides an appealing living environment for those workers who choose to live near the Solano Foundry. The project is expected to include a mix of middle-income rental and ownership homes to provide housing options at different income levels. In addition, the city plans to cultivate a live-work-play environment with proposed amenities including a regional sports center and beach lagoon.

Figure 11: Rendering of the new city, CA Forever, 2025.

Power

3. Ample and affordable power

Power availability, pricing, and connection time are the largest constraints for manufacturers looking to expand in California. California Forever's landholdings host a wide range of energy assets and planned generation sites that enable ample reliable, clean and affordable power. There are four existing high voltage transmission lines crossing the project site, with several existing substations, multiple gas transmission lines, a gas storage facility, and three operational gas peakers in the direct vicinity. A recent report by Lawrence Livermore National Laboratory designated California Forever's holdings as one of the best sites for carbon sequestration in all of California, creating a unique opportunity for zero carbon generation with fossil fuels. Finally, the site is suitable to host solar development with potential capacity of several gigawatts, and the site already includes existing wind farms with over one gigawatt of installed capacity and potential for expansion of capacity through repowering of more than double that amount.

A key opportunity for the Solano Foundry's business attraction strategy is to use as much of the on-site power generation potential as possible to supply much of the electric power demand of the Solano Foundry's occupants and limit the reliance on existing capacity of the grid. Realizing this opportunity could result in reduced time to enable development at all scales.Significant on-site generation can also insulate the Solano Foundry from power outages, providing an electric power system with superior resiliency. In addition, the very high clean energy content of power supply to the Solano Foundry - which could be as high as 100% - will be an added plus for many businesses. JLL proposes to establish on-site power generation and battery storage as a core power supply platform to achieve all these benefits.

On-site generation, including firm power plus grid interconnection for reliability, would allow California Forever to bypass two significant challenges that typically hinder manufacturing growth in California: the lengthy process of upgrading the power grid to expand capacity. In addition, a behind-the-meter renewable and battery storage program can further reduce typical energy costs.

The cost of electricity is among the largest expenses for some manufacturing operations, and projected electricity costs could be competitive with states like Nevada or Colorado. While the cost is likely to still be higher than Midwest and Southeast states, energy supply at the Solano Foundry could ultimately provide companies that prioritize speed to market with reliable clean electricity in California.

Though usually not as much of a constraint as energy, water can be another utility bottleneck to location of manufacturing facilities. The proposed new city benefits from both existing water rights and its location in the northern part of California, which makes it easier for California Forever to acquire additional water rights.

California Forever holds existing rights to approximately 16,600 acre-feet of transferable surface and groundwater attached to landholdings. These existing rights, in combination with the ample non-potable water supply produced at on-site wastewater treatment plants, provide significantly more than the demand related to the first 20 years of development, which is approximately 150,000 residents plus associated commercial and industrial users.

The project has also secured approximately 8,000 acre feet of supplemental water rights available for import from the northern part of the state. As the project gets built out, the locally-controlled mutual water company will augment supplies through water transfers programs and additional recycled water for non-potable uses. This multi-faceted strategy ensures a sustainable water supply that can scale with the growing demands of the industrial sector and the broader city development.

Place

The Solano Foundry is unique in its ability to provide flexibility in real estate options for any occupier in any vertical at any stage of growth (see Appendix F). The Solano Foundry has allocated 2,100 acres to industrial uses, making it the largest master-planned advanced manufacturing park in the United States.

4. Full entitlement

Buildings and facilities within the Solano Foundry will be pre-approved as part of the broader project entitlement for the entire city. After the entitlements for the overall project are approved, this would enable the relevant agencies to issue permits over the counter within a few months. These steps will provide speed-to-market options for manufacturers needing to expand their purpose-built operations, which is uncommon for a ground-up development. Furthermore, the Solano Foundry will offer attractive incentives for early adopters including discounted sites and leasing rates for Phase 1 tenants, exclusive site access, and white glove planning services.

5. Flexible and sustainable building options

The Solano Foundry plans to provide real estate optionality at various stages of a manufacturer's growth. In doing so, the community will foster an innovation ecosystem and provide **a path to growth from start-up to commercialization, and every step in between.**

The Solano Foundry illustrative site plan
Cluster sample (energy)

Figure 12: Solano Foundry illustrative site plan showing the cluster environment, CA Forever, 2025.

One of the cornerstones of the Solano Foundry will be a makerspace and incubation lab, intended to create an environment for start-ups and early-stage companies to tinker, test new technologies and interface with like-minded companies. For this, it plans to provide spaces ranging from 500 – 50,000 s.f. with ample power, clean rooms, and shared amenities for the employees.

As companies mature, they will need to scale into R&D and pilot-line manufacturing spaces. The Solano Foundry is planning to accommodate rapid growth for companies that may require space quickly, particularly after securing a round of funding or landing a major customer. Pilot-line manufacturing facilities range from 50,000 to 100,000 square feet typically, but in some cases can exceed 250,000 square feet. The Solano Foundry can prepare for incoming pilot-line demand by having speculative spaces ready for lease. With features that meet the key needs of growing manufacturers - such as clear heights, sufficient office space, and robust utility infrastructure - it can offer an attractive value for tenants prioritizing speed to market. For manufacturers who prefer to own their pilot-line facility due to a specialized build out or heavy capital investment, JLL recommends carving out vacant land sites ranging from 2 to 15 acres.

At full operational scale for most mature companies, project specifications can greatly impact the final design. Considerations for cranes, presses, extruders, pullers, cutting machines and vats will impact the clear height, column spacing, and floor load. Some heavy power users may need substations, water treatment, and other utility infrastructure on site. Highly specialized designs limit the ability for an existing or speculative building to be developed at scale; thus, graded and pad-ready sites ranging from 15 to 100 acres are recommended to accommodate advanced manufacturers at their next stage of growth. These types of requirements, however, represent a smaller share of total demand.

Variability for scalability over time

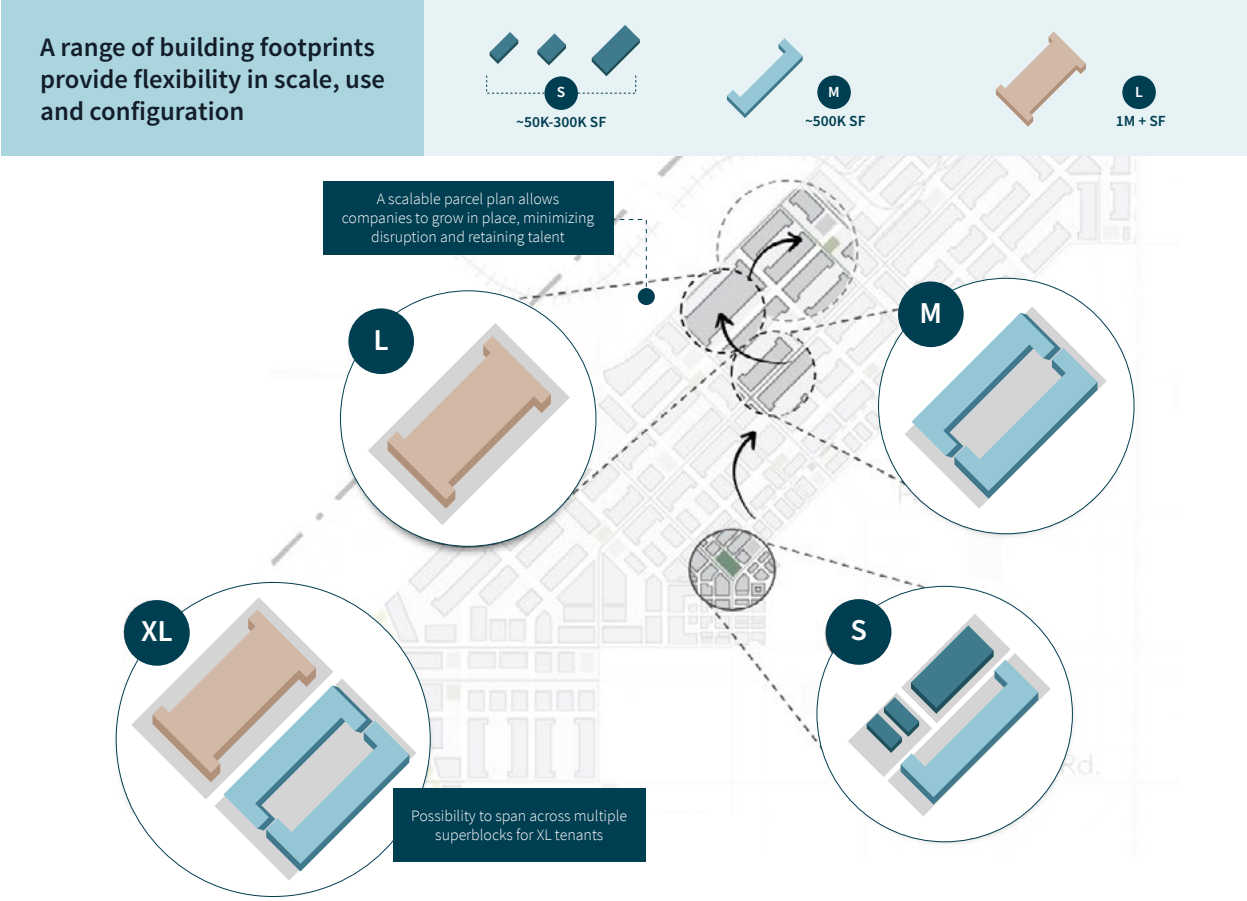


Figure 13: Variability in building footprints to provide for scalability and flexibility among users over time, CA Forever, 2025.

The Solano Foundry's design incorporates flexibility to adapt to the evolving needs of advanced manufacturers across industries, ensuring its long-term competitiveness. This adaptability is particularly valuable given potential future developments, such as increased involvement with the defense industry. The proximity to Travis Air Force Base presents a unique opportunity. By strategically positioning land near the base, the Solano Foundry could tap into the existing military ecosystem and help diversify the base's focus from current emphasis on logistics towards also including research and development.

The Solano Foundry's ability to expand and utilize additional land for strategic purposes will be crucial. This flexibility will be particularly advantageous as both government and private sector increasingly prioritize investments in these areas, allowing the Solano Foundry to respond effectively to emerging opportunities in defense and other advanced manufacturing sectors.

Competitive assessment

While the Solano Foundry offers distinct competitive advantages, it is competing with both up and coming and established industrial parks across California and the United States.

Regional

Within California, there are several large-scale competitors. These competitors include Metro Air Park in Sacramento and the International Park of Commerce in Tracy. With its 2,100 acres, the Solano Foundry is one of the largest master-planned industrial parks in the state (see Figure 14 and Appendix B and C). However, most large industrial parks are focused on logistics and warehousing. The Solano Foundry, however, is the only major industrial park with a credible plan to create an advanced manufacturing hub. This makes it not only the largest master-planned advanced manufacturing park in the California, but also the United States.. **The Solano Foundry, however, is the only major industrial park with a credible plan to create an advanced manufacturing hub.**

Figure 14: Regional industrial park competition, JLL, 2025.

When considering supply chain, labor, utility Infrastructure, regulatory environment, and site features, no market within the regional competitive set has a mix of all major considerations (see Figure 15). The Solano Foundry scores well across most considerations, just falling short in terms of supply chain based on current infrastructure access. While most supply chain considerations are highly specific between companies based on their inbound and outbound material flows, supply chain in this context refers to the road transportation network.

Once the highways connecting the site to the region are expanded and the planned rail access is operational, the Solano Foundry will be competitive for supply chain as well. Metro Air Park and International Park of Commerce are the closest competitors, although both lack in terms of utilities. Metro Air Park is within SMUDs jurisdiction which offers competitive electricity rates relative to PG&E, but heavy power infrastructure is not in place, although there could be a path to expanding capacity if demand is present.

	Labor	Quality housing	Utility infrastructure	Regulatory environment	Site features	Logistics
The Solano Foundry	●●●	●●●	●●●	●●●	●●●	●●○
International Park of Commerce	●●○	●○○	●●○	●○○	●●●	●●○
Metro Air Park	●●●	●●●	●●○	●○○	●●○	●●○
Wonderful Industrial Park	●○○	●○○	●○○	●○○	●○○	●○○
Tejon Ranch Commerce Center	●○○	●○○	●○○	●○○	●○○	●○○
Southern California Logistics Center	●○○	●○○	●○○	●○○	●●○	●○○

Figure 15: The Solano Foundry's regional competitive position, JLL, 2025.

National

There are seven mega industrial parks that would compete with the Solano Foundry across the nation. While not an exhaustive competitive set, and not representative of all manufacturing location operations in the US, these seven are the most likely competitors (see Figure 16 and Appendix C).

Figure 16: National industrial park competition, JLL, 2025.

Only Sandow Lakes and Alliance have a mix of all major considerations – Supply Chain, Labor, Utility Infrastructure, Regulatory Environment, and Site Features (see Figure 17 and Appendix B). Relative to some options like Tahoe Reno Industrial Center and the Southern Nevada Renewable Technology Complex, the Solano Foundry has better connectivity given its proximity to well-developed urban centers. Given California's regulatory environment relative to other states, speed to market from a national perspective has been a hurdle that manufacturers face when considering the state. California Forever addresses this challenge directly with its "upfront pre-approval" permitting process plan, significantly reducing timeframes and removing key barriers for manufacturers considering California locations.

	Labor	Workforce housing	Utility infrastructure	Regulatory environment	Site features	Logistics
The Solano Foundry	●●●	●●●	●●●	●●○	●●●	●●○
Tahoe Reno Industrial Center, NV	●○○	●●○	●●○	●●●	●●●	●●○
Southern Nevada Renewable Technology Complex, NV	●○○	●●○	●●○	●●●	●●●	●○○
Teravalis, AZ	●●○	●●○	●○○	●●●	●●○	●○○
Alliance, TX	●●●	●●●	●●○	●●●	●●●	●●●
Sandow Lakes, TX	●●○	●●●	●●●	●●●	●●●	●●○
Research Triangle, NC	●●●	●●●	●●○	●●●	●○○	●●●
Bellwether District, PA	●●●	●●○	●●○	●○○	●○○	●●●

Figure 17: The Solano Foundry's competitive position in comparison to national industrial parks, JLL, 2025.

Target verticals

The Solano Foundry is not intended to be just a physical space; California Forever's plan is to create an ecosystem designed for innovation, collaboration and growth. As a result, JLL was asked to identify key sectors that are best positioned to take advantage of the location and thrive.

Key target industries were selected based on sizable job counts, above-average employment concentration, and strong 10-year job growth in Alameda, Contra Costa, and Solano Counties (see Appendix A). Alameda and Contra Costa were prioritized for their capacity to capture spill-over demand, while Solano was considered to avoid direct competition with its existing major industries. To target high-value industries, secondary criteria such as average earnings, job openings, prime-age workforce availability, gross regional product, and productivity per job (see Appendix A) were also considered. Job growth and concentration were also compared to national trends to ensure targeted sectors reflect unique local strengths rather than general industry expansion. In other words, JLL identified nascent and growing industries within the region recognizing clustering already prevalent in Northern California.

In evaluating the industries, each county has high-value industries that are in prime positions for future expansion and growth at the Solano Foundry (see Appendix D). For example, Motor Vehicle manufacturing is the largest manufacturing sector in Alameda County with Tesla and Gillig both having factories in the area. Adjacent industries have grown from the development in the electric vehicles space with Fremont as the Bay Area's engine of hardware manufacturing. As Tesla engineers left to create their own companies, an ecosystem of advanced mobility and energy companies emerged throughout the region. Contra Costa's carbon industry provides an opportunity for alternative energy development based on new chemistries. Other notable industries in the East Bay include Scientific Research and Development Services, Industrial Machinery Manufacturing, and Computer and Peripheral Equipment Manufacturing.

Diversifying Solano County's economy

California Forever recognizes the need to create its own industry specialization that is distinct from the neighboring cities in Solano County (see Figure 18). For example, although traditional Food and Beverage Manufacturing and Pharmaceutical Manufacturing are major industries, we believe Fairfield and Vacaville, respectively, are better suited to continue to foster those industries. By avoiding competing economic development priorities, Solano County will benefit from a diversified manufacturing economy.

The Solano Foundry is expected to complement the existing employment nodes in the county by intentionally targeting new growth sectors within the broader region to benefit from the spill-over from R&D demand and subsequent advanced manufacturing growth within the Bay Area (particularly Alameda and Contra Costa counties).

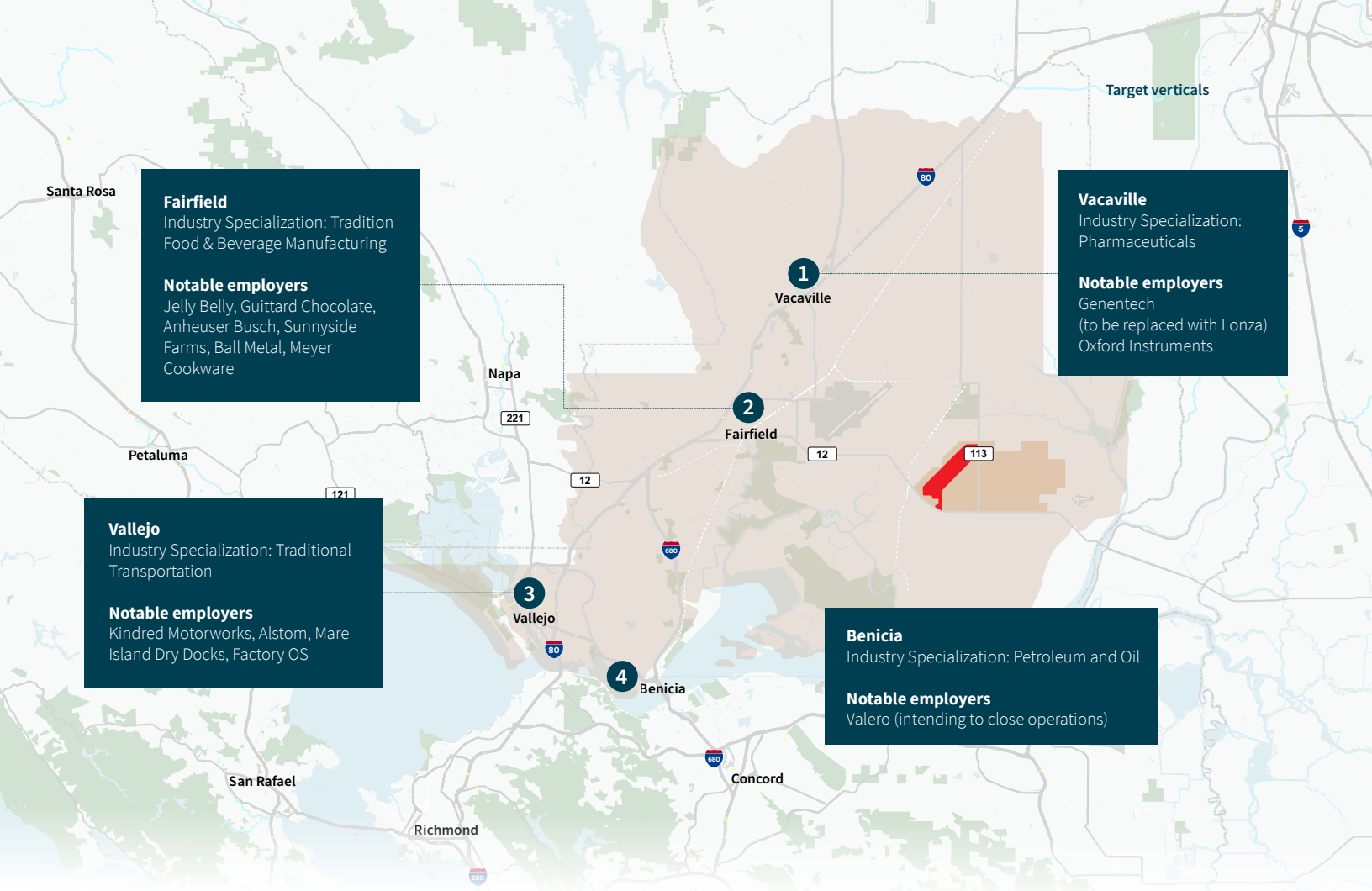


Figure 18: Existing Solano County manufacturing and employment nodes

Identified industry verticals

JLL placed special emphasis on industry verticals based on venture capital funding, government funding, and leasing activity to capture nascent industries. (see Appendix D). An industry vertical is a specific element of a company that isn't accurately captured by industry focus. In essence, a vertical is a narrowly defined industry that focuses on a specific product and segment of the economy. As a example, there is overlap between verticals and the industries such as the relationship between Robotics and Industrial Automation, Advanced Transportation, and Advanced Aerospace and Defense as it relates to autonomous vehicles.

In considering venture capital investment in the Bay Area, approximately $26.8 billion has been invested in Bay Area CleanTech companies which account for 76% of total West Coast investment. The high concentration of innovation and investment implies a strong industry cluster that benefits from collocating near research and development functions. R&D is the bedrock of technology advancements which further spin out new breakthroughs within aerospace, chemical, and component manufacturing.

Venture capital investment by advanced manufacturing vertical							
Top investment verticals	Clean tech	Mobility tech	Autonomus cars	Food tech	Wellness-Lifestyle of health and sustainability	Agtech	Defense
Top investment since Q1 2022 ($millions)	$26,813	$22,591	$12,589	$6,043	$5,832	$4,074	$367
Top growth verticals (Compound annual growth rate 2016-2023)	Pet technology (small) **87%**	Real Estate technology **77%**	Construction technology **56%**	Health technology **48%**	Infrastructure **45%**	Robotics and drones **41%**	Space technology **28.3%**

Figure 19: Bay Area venture capital investment by industry vertical, pitchbook, 2025.

CleanTech is an umbrella term for any process, product, or service that mitigates environmental impacts. CleanTech in this context is less about nascent technologies that rely on government subsidies for the narrow benefit of mitigating climate impacts. Instead, **the emphasis is on innovative companies with a path to profitability that are developing and deploying technologies with wide-ranging applications.** These applications go beyond just addressing climate issues, offering broader benefits and solutions across various sectors, such as new battery chemistries, new building materials and techniques, and nuclear microgrids.

Additionally, Defense is a major focus for the Solano Foundry. While manufacturing as an auxiliary function to operations at Travis Air Force Base has historically been overlooked, **there is a real opportunity to leverage the connectivity and develop a defense-focused innovation ecosystem adjacent to the base.** It is not uncommon for air force bases to have adjacent defense clusters. For example, Dobbins Air Reserve Base in Marietta, Georgia is home not only to some R&D functions, aircraft assembly, and component production for Lockheed Martin, but also home to the Georgia Tech Research Institute. Recently, Anduril announced plans to build their 5-million square-foot manufacturing facility for autonomous weapons, sensors, and systems at Rickenbacker Airport in Columbus, Ohio where the US Air National Guard maintains a presence.

Defense has always been deeply rooted in innovation and has been at the forefront of technological developments. The internet and GPS are two of the most transformational technologies whose origins can be traced back to the military. With synergies between defense and the existing advanced automotive and transportation, energy, and artificial intelligence hardware verticals in the Bay Area, defense is a strategic target that diversifies the economic prospects while staying true to the Solano Foundry's focus of developing an advanced manufacturing hub.

Furthermore, locating defense industries near Travis Air Force Base creates opportunities for service members and spouses to apply transferable skills in both the public and private sectors. With spousal unemployment at 20%[7] and limited post-military job options in the area, expanding defense-related manufacturing will help address these workforce challenges. This approach supports long-term and well-paying careers for military families while reinforcing Solano County's proud legacy as a military community.

[7] Blue Star Families, Active-Duty Spouse Survey, 2021

Five focus verticals for the Solano Foundry

Advanced aerospace and defense

The defense industry develops advanced technologies and systems to enhance national security and military capabilities. Characterized by cutting-edge research and high-tech manufacturing, this industry focuses on innovation to address evolving global threats and defense requirements.

Sectors: UAV, space systems, land and naval equipment, precision-guided systems, radar and communication system

$722 billion
Defense market by revenue
2024

$762.6 billion
Defense market by revenue
2028

6%[8]
4-year growth

Energy

The application of advanced technologies, processes, and materials in the production and utilization of energy-related equipment, systems, and components. This includes industries involved in the manufacturing of energy generation, distribution, and storage technologies, materials used for those technologies, and energy-efficient products.

Sectors: Battery, advanced materials, renewable technologies, alternative energy, and carbon storage

$11.9 billion
battery market by revenue and $24.7 billion solar market by revenue
2024

$12.8 billion
battery market by revenue and $48.8 billion solar market by revenue
2028

68%[9]
4-year growth

Advanced transportation

Advanced transportation refers to the use of innovative technologies, solutions, and systems to enhance the efficiency, safety, sustainability, and overall performance of vehicles and transportation networks.

Sectors: Autonomous vehicles, electric vehicles, EVTOL, drones, micromobility

$26.8 billion
EV market by revenue
2024

$29.8 billion
EV market by revenue
2028

9%[10]
4-year growth

$11.9 billion
battery market by revenue and $24.7 billion solar market by revenue
2024

$12.8 billion
battery market by revenue and $48.8 billion solar market by revenue
2028

68%[11]
4-year growth

[8] IBIS World, Industry Reports and Forecasts, 2024
[9] IBIS World, Industry Reports and Forecasts, 2024
[10] Forecasts exclude market volatility following the 2024 Elections.. IBIS World. Industry Reports and Forecasts. 2024.
[11] IBIS World. Industry Reports and Forecasts. 2024.

Five Focus Verticals for the Solano Foundry

Robotics and Industrial Automation

Intelligence systems that can perceive their environment and make decisions to optimize for outcomes by automating processes through the utilization of machine learning and algorithms.

Sectors: Robotics, drones, autonomous vehicles

$291.5 billion
R&D market, including robotics by revenue
2024

$316.2 billion
R&D market, including robotics by revenue
2028

8%[12]
4-year growth*

Built Tech

The application of advanced technologies, processes, and materials in the design, construction, and operation of buildings, infrastructure, and urban spaces.

Sectors: Advanced materials, carbon neutral building materials, modular construction, industrials, smart building systems

$232.1 billion
construction market by revenue
2024

$251.7 billion
construction market by revenue
2028

8%[13]
4-year growth*

These five verticals have the potential to play a key role in establishing the Solano Foundry as the premier West Coast advanced manufacturing location and capturing demand from inner-Bay Area manufacturing clusters.

Each of these industries is experiencing significant national momentum, but the Bay Area stands out due to its well-established ecosystem across all five verticals. With a combination of historical manufacturing expertise and ongoing technological advancements, these verticals are ideal candidates for the Solano Foundry.

[12]* Forecasts exclude market volatility following the 2024 Elections. IBIS World, Industry Reports and Forecasts, 2024.
[13] IBIS World, Industry Reports and Forecasts, 2024.

Interest in the Solano Foundry

As part of the scope of work, JLL and California Forever reached out to their network of advanced manufacturing companies to gauge interest in the Solano Foundry. Companies across the board are intrigued by the Solano Foundry's value proposition and its position to address, mitigate, and overcome some of the largest challenges facing manufacturers looking to stay or expand within California, while being located close to Silicon Valley to capitalize on California's strengths.

> "California has often been overlooked for manufacturing expansion due to its complex regulations and expensive, unreliable power. The Solano Foundry aims to change this by establishing a world-class advanced manufacturing hub that capitalizes on California's strengths: accessibility, talent, and innovation. By aligning with clients' primary objectives - people, power, and place - and offering flexible options to scale nimbly, the Solano Foundry is a solution to reestablishing California's manufacturing base. This approach will strengthen California's industrial position and drive national competitiveness for decades to come."
>
> *JLL's Advanced Manufacturing Group*
> **Greg Matter, Co-Lead**

Prominent names across the target verticals have expressed interest in the project. These span from well-known manufacturers to start-ups who all share a vision to bring manufacturing back to California.
Such endorsements include:

> "California Forever's approach for their Solano Foundry is not the California I know, but it's the California I want to know. If this project is built as proposed, Solano County could instantly become one of the most desirable locations for advanced manufacturing in California, and possibly nationally."
>
> *Intel*
> **Bob Swan, Former CEO**

> "At Hadrian, we see California Forever's combination of the Solano Foundry and the Solano Shipyard as a unique opportunity to bring new manufacturing investments back to the state that once led America's high-tech manufacturing. If these transformational developments can be permitted and shovel-ready soon, California has a real chance to capitalize on the massive investments being made in advanced manufacturing and onshoring more broadly all over America right now."
>
> *Hadrian*
> **Chris Power, CEO & CPO**

"Integrating AI-guided generative design, advanced materials, the world's fastest 3d printers, and robotic automation, Divergent leads the way in advancing digital industrial capability in America. The Solano Foundry at California Forever combines the elements critical to driving this new age of American innovation, including efficient siting and abundant American energy. California Forever is forming the ideal ecosystem for next generation manufacturing."

Divergent 3D
Lukas Czinger, CEO

"… As companies consider alternative site options, California Forever's Solano Foundry offers them a unique opportunity to place their advanced manufacturing facilities in a location that will be second to none. The Solano Foundry offers the combination of unmatched talent access, coupled with a location where employees will be able to live in a brand new, high quality, affordable community in Solano County - directly at the epicenter of the incredible Greater Bay Area region. Siting proximate to Travis Air Force Base and the country's largest future shipyard operation, being developed concurrently with the new community enhance the potential for companies seeking the very best location to succeed and grow."

Bay Area Council
Jim Wunderman, President and CEO

"As a global industry leader deeply committed to innovation and sustainability, NETGEAR understands the unique challenges and rewards of doing business in California" said CJ Prober, CEO of NETGEAR. "The integrated approach of California Forever's Solano Foundry is a natural extension of our values. We are excited by the prospect of a project that not only advances technology but also conserves resources and fosters growth in the state where NETGEAR was founded."

Netgear
CJ Prober, CEO

"California is already home to almost all of our 2,000 engineers, manufacturing technicians, and broader team members, but high-tech manufacturing in the Golden State comes with a range of challenges. By providing affordable space for manufacturing expansion with secure, clean energy supplies and low regulatory and permitting requirements, we believe California Forever's vision for the Solano Foundry has the potential to be a strong positive for the future of manufacturing in California."

Joby Aviation
Eric Allison, Chief Product Officer

"California needs bold action to compete globally in next generation manufacturing. Projects such as California Forever are critical action steps to ensure that California is a leader for this generation".

UC Berkeley Haas Fisher Center for Real Estate and Urban Economics
Ken Rosen, Chairman

"California has long been the home of American industrial innovation, from the aerospace boom to the birth of Silicon Valley. With the Solano Foundry, California Forever has a chance to reignite that spirit, creating a world-class hub for advanced manufacturing and industrials, powered by talent, clean energy, and forward-thinking policy. This is exactly the kind of bold vision needed to bring industrial leadership back to the Golden State, and one which would establish the state as one of the vanguards of the Reindustrialize movement. We offer our support and endorsement here at the New American Industrial Alliance."

New American Industrial Alliance NAIA
Austin Bishop, CEO

"California Forever and Newlab share a common vision around developing novel new models to drive economic development. Newlab builds ecosystems in locations that are uniquely positioned to commercialize and scale critical technologies. The development that California Forever is building in Solano County can help the state drive manufacturing-led growth by retaining leading startups through access to scale-up infrastructure, low-cost energy and co-located housing. Newlab is excited to explore how we might integrate our venture platform model to help advance this ambitious project and accelerate the velocity of leading startups that can benefit from it."

Newlab
Liz Keen, COO

"Serve has been actively expanding our operations nationwide, evaluating metropolitan areas across the U.S. based on key factors such as business climate, pedestrian-friendly infrastructure, access to talent, and a strong openness to innovation. The California Forever's Solano Foundry excels in all these areas, making it an ideal location for our business expansion. We are excited about the opportunity to partner with California Forever and advance the future of autonomous delivery in this new community."

Serve Robotics
Ali Kashani, CEO

"When exploring options for expansion in California, we've been presented with enormous challenges finding high quality, affordable facilities in a commute-friendly environment. Further, nearly all existing facilities come with challenges for reliable energy availability, particularly if you are seeking sustainable sources of energy. The Solano Foundry's 360 approach to addressing these challenges with the added incentive of purpose built facilities and co-located affordable homes offers impact startups like ours the ability to remain competitive and operational in our home state."

Cruzfoam
John Felts, CEO

"The Solano Foundry represents an unparalleled opportunity for Aptera to scale both R&D and manufacturing operations in California. Its promise of ample renewable energy, the streamlined permitting, and its proximity to Silicon Valley's innovation ecosystem aligns perfectly with our need for the sustainable manufacturing of our highly efficient vehicles. Quick access to the Bay Area's world-class talent pool would also allow us to grow rapidly. The affordable, walkable community being developed alongside the Solano Foundry also offers an attractive proposition for our workforce, making it an ideal location to establish our advanced manufacturing facilities and drive the future of solar electric mobility."

Aptera
Steve Fambro, CEO

"Monumental Labs is building AI-enabled robotic stone carving factories to make beautiful stone art and architecture possible at scale. Our space needs are massive and unique, geared around the fact that we take large quarried blocks and turn them into buildings, fine art, and ornament with help from both robots and craftsmen. What California Forever's Solano Foundry offers is impossible-to-find fabrication space near one of the greatest talent pools in the world. We look forward to establishing an advanced manufacturing hub in the new city that brings together artists, carvers, fabricators, masons and engineers in one place."

Monumental Labs
Micah Springut, CEO

"As a company advancing maritime innovation, Ulysses is very excited about California Forever's Solano Foundry. The proximity to the ocean is crucial for our testing and development, and the expedited permitting process significantly accelerates our operational timelines for getting to work. Access to abundant renewable energy not only supports our power-intensive projects but also aligns with our commitment to sustainability. Moreover, the beauty and thoughtful design of the proposed city make it an attractive place for our team to live and work, helping us draw from the rich talent pool of the Bay Area."

Ulysses
Will O'Brian, CEO & Co-founder

"As an early stage startup, California is the ideal location because of the immense density of talent, ambition, and networks. However, high real estate costs, regulatory hurdles, and energy constraints poise challenges for hard tech startups as they grow. Solano Foundry's infrastructure and manufacturing real estate would help accelerate development greatly. Moreso, Solano County is situated close to the Bay Area and has a compelling skilled talent pool from the Travis Air Force Base. California Forever would be an ideal place for startups like Poseidon to start and scale."

Poseidon Aero
David Zagaynov, CEO

The Solano Foundry as a job catalyst for Solano County

Solano County has historically struggled to attract major employers. Given the historic manufacturing prowess of the East Bay throughout most of the 20th century, a clustering effect developed over decades. This effect helped to cement the East Bay – instead of Solano County – as the prevailing manufacturing region of Northern California.

With nearly half of people living in Solano County leaving the county for work every day, the outbound commuting patterns mean that the county is incurring additional costs and losing major sources of tax revenue.

At full build-out, the Solano Foundry is estimated to create at least 35,000 manufacturing jobs and 5,000 warehousing jobs without even considering indirect or induced job creation.

Estimated jobs created by the Solano Foundry	
35,000 Manufacturing jobs	**5,000** Warehousing jobs
Direct jobs at full build out. Excludes indirect and induced employment.	

By creating employment nodes in Solano County that align with the skillset of Solano County residents, many benefits will be realized, including:

- Increased tax revenue from spending within the county which can be invested into public services and programs.
- More local amenities such as shops, restaurants, and personal services based on the multiplier effect of job creation.
- Improved health outcomes and decreased anti-social behavior as families can spend more time together instead of commuting.
- Increased community engagement including civic duties, hobbies, and volunteering.
- Reduced strain on local roads and infrastructure.

The difficulty in attracting major employers has resulted in Solano County having some of the highest rates of out-of-county commuting in California. The challenge stems from a "chicken-and-egg" problem where large employers prefer to collocate near others for social, cultural, and economic reasons. Several of the hurdles include: difficulty in attracting employees and executives due to limited job opportunities for spouses, reluctance of workers to relocate where employment options are scarce, and underdeveloped supply chains and shared training programs which only flourish with multiple employers present. These factors are what give rise to the clustering of employers in certain locations, such as enterprise software in Silicon Valley, consumer software in San Francisco, biotechnology in South San Francisco, and advanced manufacturing in the East Bay.

The chicken-and-egg problem is hard to overcome; however, given its scale, unique value proposition, high-profile and credible investors and national visibility, the California Forever project has the potential to break through this impasse. **The Solano Foundry presents an opportunity to diversify, strengthen, and grow the manufacturing sector in the county and be the catalyst for future economic prospects without competing for the existing industries.**

As the project unfolds and employers begin establishing themselves in Solano County, several positive outcomes are anticipated:

Solano County will be recognized as California's high-growth, pro-business region enabling economic expansion and production.

Most California-based companies want to stay in California; however, manufacturers are faced with two challenges that California has historically been unable to solve – timing and cost. By focusing on mitigating these two hurdles to expansion, the Solano Foundry will not only put California back on the map as a viable option for growing manufacturers, but Solano County will be recognized as the place to be for its ability to offer scalable options and speed to market at a reduced cost.

National visibility as employers make major announcements will establish Solano County's brand.

Given the competitive advantages of the Solano Foundry and the tendency of advanced manufacturers to cluster with similar industries, all it takes is a handful of notable announcements to kickstart interest. Once there is momentum and manufacturers recognize the value of the Solano Foundry, Solano County has an opportunity to be the advanced manufacturing hub of California and the West.

Solano County stands to benefit from the marketing efforts of California Forever to bring new companies to the area.

For many companies, integrating into the region is key to a successful operation. During a major site selection, it is common to meet with county officials to not only vet out the economic prospects and quality of life but also to establish a relationship to ensure long-term success. Solano County will have to sell itself, and fortunately for the county, there are many positive attributes. During a site selection, some companies may be drawn to the flexibility of the Solano Foundry, but other companies may prefer the connectivity, accessibility, and established roots of the other cities within Solano County. Regardless, Solano County as a whole will benefit from the increased exposure and business development activities generated by California Forever's initiatives.

Reducing the outflow of commuters will strengthen a sense of community for Solano County.

California Forever recognizes Solano County's manufacturing and skilled trades roots. It is part of the reason why the Solano Foundry is the centerpiece of the new city's plan. By establishing more employment nodes, families will be able to find career-worthy jobs with competitive pay without having to leave the county for work. The strategic plan to develop the Solano Foundry as a manufacturing community with a mix of production and engineering talent is a realistic approach to raising the average wage, bolstering the quality of life, and supporting the middle class within Solano County.

Strategic synergies: The Solano Shipyard as a complementary growth driver

The Solano Foundry in Solano County represents an ambitious initiative to revitalize manufacturing in California while creating a dynamic hub for industrial innovation. As part of this vision, the planned development of a shipbuilding ecosystem seven miles from the new city, at the southern end of California Forever's landholdings, introduces a transformative opportunity to further strengthen its impact.

Shipbuilding is a highly complex industry that demands advanced materials, precision manufacturing, and logistical expertise. These are areas where the Solano Foundry will excel. By leveraging its advanced manufacturing supply chain infrastructure, it could directly support maritime production, enabling the construction of advanced vessels while fostering demand for locally manufactured components, materials, and services. This integration would not only stimulate economic activity but also attract specialized suppliers and investors eager to capitalize on the synergy between shipbuilding and advanced manufacturing.

To maximize logistical efficiency and operational throughput, JLL would propose that a dedicated transportation corridor is established between Travis AFB, the Solano Foundry, and the Solano Shipyard Complex. This purpose-built route would facilitate the seamless movement of large-scale prefabricated components—including modular ship sections, propulsion systems, and specialized industrial assemblies. Leveraging a blend of upgraded arterial roads, rail spurs, and barge access along the Sacramento River Deep Water Ship Channel, the corridor would be engineered for high-capacity, multi-modal transport.

By prioritizing heavy-load compatibility and incorporating redundant, resilient infrastructure, the corridor reduces bottlenecks, supports just-in-time delivery for complex assemblies, and enhances coordination across Solano's advanced manufacturing ecosystem. The design will accommodate extreme-dimension cargo, integrate smart logistics tracking, and align with the Solano Foundry's focus on sustainable freight mobility—featuring electrified transport lanes, intermodal efficiency, and climate-aligned engineering standards.

As an added benefit, such high-wide-heavy corridor would have the potential to connect Travis AFB with other key regional defense facilities, such as Marine Ocean Terminal Concord.

The co-location of shipbuilding with the Solano Foundry's existing industries offers significant strategic advantages. It creates a mutually reinforcing ecosystem where shipbuilders benefit from proximity to cutting-edge manufacturing capabilities, while tenants gain access to new markets and opportunities for collaboration. **This relationship is expected to drive additional investment into the region, diversify its industrial base, and generate high-quality jobs across multiple sectors. Furthermore, it re-establishes Solano County as a competitive hub for maritime innovation.**

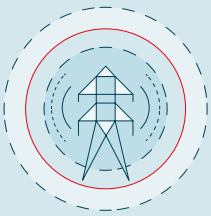
The potential benefits extend beyond economic growth. Establishing a shipbuilding presence alongside the Solano Foundry enhances regional competitiveness by creating a comprehensive industrial ecosystem that appeals to both domestic and international stakeholders. With its proximity to Silicon Valley's innovation engine and Travis Air Force Base, Solano County is uniquely suited to support this expansion while addressing challenges such as regulatory complexity and infrastructure needs.

Ultimately, integrating shipbuilding into the Solano Foundry's advanced manufacturing framework promises to accelerate Solano County's transformation into a vibrant industrial powerhouse. This strategic synergy not only reinforces the Solano Foundry's foundational goals but also ensures long-term resilience and adaptability in an evolving global economy. By capitalizing on this incremental opportunity, Solano County can solidify its standing as a premier destination for next-generation manufacturing and innovation.

Conclusion

The Solano Foundry offers a comprehensive solution set to revitalize manufacturing in California. **Situated at the intersection of:**

People



Power

Place

It presents strategic advantages in all three areas. It is designed to bolster Solano County, leveraging the existing untapped workforce and providing proximity to the broader Bay Area talent pool. With ambitious plans for full entitlement for swift market penetration, an affordable and walkable city, ample space for growth, and strong energy opportunities, the California Forever project presents an attractive package for modern advanced manufacturing.

The Solano Foundry represents a strategic investment in California's future as a leader in industrial innovation.

By providing the necessary infrastructure and regulatory environment, the Solano Foundry can foster a thriving ecosystem that not only attracts pioneering companies offering a range of labor opportunities, but also significantly contributes to the strengthening of our national interests and economy.

Appendix

Appendix

Appendix A
Methodology

Methodology for identifying target verticals

The following illustrates the selection criteria for selecting targets for the Foundry. There is a mix between the intersection of high job counts, employment concentrations, and growth along. Secondary industry considerations are also a factor along with momentum within specific trials.

<table>
<tr><th colspan="2">Industry</th><th>Vertical</th></tr>
<tr><td colspan="3">Relationship between industry and verticals is described in further detail.</td></tr>
<tr><td>Primary considerations</td><td>Secondary considerations</td><td rowspan="2">Venture capital funding
High VC volume and activity indicates strong momentum and innovation in a specific growth area.</td></tr>
<tr><td rowspan="2">Job
Higher jobs counts are preferable for expansion and relocation opportunities.</td><td>Average earnings
Higher earning industried are preferable.</td></tr>
<tr><td>Hires
A higher level of hires indicates high demand for jobs.</td><td rowspan="2">Government fundiing
High government funding in a specific area drives a national agenda to bolster and protect domentic industries deemed important for national security, addressing inequility or mitigating climate rsks.</td></tr>
<tr><td rowspan="2">Employment concentration
A concentration greater than 1 indicates is preferred as an industry is more concentrated the national average, indicating industry specialization.</td><td>Prime age industry labor force
A younger labor force wil mitigate concerns about recruiting as older cohortss retire.</td></tr>
<tr><td rowspan="2">Gross regional product
Measure output of production. High output means highmarket potential, higher demand for goods and higher land value.</td><td rowspan="2">Leasing activity
High leasing activity indicates demand for physical space within a certain sector.</td></tr>
<tr><td>10-year growth
Posotive growthned strong growth relative to the national average is necessary for targeting industries that have long-term potential.</td><td>GRP/Job
Measures productivity of labor. Higher output indicates a higher value of goods and a more productive labor force.</td></tr>
</table>

Relationship from industry to vertical

Verticals

Industries Scientific research and development services	**Advanced automotive and transportation**	**Energy**	**Built environment**	**Artificial intelligence (AI) hardware**	**AgTech/ Foodtech**	**Defence**
	Clean tech					Defence
Aerospace product and parts	TVTOL | Drones			EVTOL | Drones		UAV|Space systems| precision-guided systems
Basic chemical		Advanced battery materials	Advanced materials			
Cement and concrete product			Carbon capture and storage			
Communications equipment manufacturing						Radar and communication systems
Computer and peripheral equipment		Battery components		Robotic components		
Crop production				Autonomous tractors	Crop resilience and yield effecienceis	
Industrial machinery	Robotic machinery		Robotic construction equipment	Robotic machinery	Robotic machinery	
Motor vehicle	Electric vehicles			AV|Micromobility		
Navigational, measuring, electromedical instruments	EV and AV|Micromobility		Smart building systems	AV|Micromobility		Precision-guided systems
Other electrical equipment and component	EV and AV|Micromobility	Battery components energy storage		AV|Micromobility		
Other food					Alternative protien	
Other transportation equipment manufacturing						Land and navi systems
Petroleum and coal products			Carbon capture and storage			
Semiconductor and other electronic component		Solar	Solar			Precision guided systems|Radar and communication systems

Sector

Appendix B

Competitive positioning of the Solano Foundry

Solano Foundry competitive position by vertical

The following table accesses the current plan for East Solano (including some proposed permitting structures, utilities infrastructure and road infrastructure) against target verticals and key criteria for location decision making. East Solano falls short with connectivity, even after the planned expansion of Highway 12 and 113. The plan must consider natural gas to appeal to broader based of advanced automotive and transportation and energy occupiers (especially those at scale production). Lastly, the plan should consider excutive housiing and how to build a live-work-play environment that can convince leadership to locate to East Solano. Outside of proximity to talent, proximity to key stakeholders housing can drive the ultimately decision, especially for early-stage companies. (These are ranked 1-5 with being poor and 5 being excellent)

		Advanced automotive and transportation	Energy	Built environment	Ag tech	Artificial intelligence (AI)
Supply chain	Roads and interchanges	2	2	2	3	2
	Access to highway	2	2	2	3	2
	Access to airport	2	2	2	3	2
	Rail service	2	2	1	N/A	3
Labor	Labor availability	4	4	5	5	3
	Unionization and labor rights	3	3	3	3	3
	University presence/output	3	3	3	3	3
	VoTech presence	5	5	5	5	4
	Cost of living	3	3	3	3	3
	Quality of life (future state)	3	3	3	3	3
Utility Infrastructure	Electricity	4	4	4	5	4
	Water	4	4	4	4	4
	Waste water	4	4	4	4	4
	Natural gas	1	1	2	N/A	2
Regulatory environment	Ease of doing business	5	5	5	5	5
	Tax climate**	1	1	1	1	1
Site features	Site readiness	5	5	5	5	5
	Ability to scale	5	5	5	5	5
	Site availability (BTS, maker space etc.)	5	5	5	5	5
	Permitting timelines	5	5	5	5	5

*Assuming ease of doing business with East Solano
**Assuming County-level and state-level tax burdens

Solano Foundry regional competitive set analysis

The following table accesses the current plan for East Solano at its future state (including some purposed permitting structures, utilities infractures and road infrastructure) against target verticals and key criteria for location decision making. (These are ranked 1-5 with being poor and five being excellent)

		East Solano (Future State)	International Park of Cmmerce	Metro Air Park	Tahoe Reno	Wonderful Industrial Park	Tejon Ranch Commerce Center	Southern California Logistic Center
Supply chain	Roads and interchanges	3	5	4	4	2	4	3
	Access to highway	3	5	4	3	2	4	3
	Access to airport	3	3	5	3	1	1	5
	Rail service	4	1	1	5	5	1	1
Labor	Labor availability	3	3	5	2	2	2	2
	Unionization and labor rights	3	3	3	4	3	3	3
	University presence/output	3	2	5	2	1	1	1
	VoTech presence	4	2	5	2	1	1	1
	Cost of living	3	2	3	4	4	4	4
	Quality of life (future state)	3	3	4	3	1	1	1
Utility Infrastructure	Electricity	5	3	2	5	2	2	3
	Water	5	5	5	5	4	4	4
	Waste water	5	5	5	5	4	4	4
	Natural gas	3	3	3	3	3	3	3
Regulatory environment	Ease of doing business	5	2	3	5	3	3	3
	Tax climate**	4	2	3	5	3	3	3
Site features	Site readiness	5	5	4	5	3	3	3
	Ability to scale	5	5	4	5	4	4	4
	Site availability (BTS, maker space etc.)	5	4	4	5	3	3	3
	Permitting timelines	5	3	3	5	3	3	3
		79	**66**	**75**	**80**	**54**	**54**	**57**

Appendix C
Competitive set

Regional competitive set

The Solano Foundry competes with the following:

Metro Air Park

Located adjacent to the Sacramento International Airport, Metro Air Park is a 1,900-acre industrial park with proximity to a strong labor force and nearby residential. It is in a well-established and diversified market with great logistics connectivity. It lacks heavy power, but can procure if tenants are interested, and is within SMUD territory which offers competitive electricity rates.

Wonderful Industrial Park

Located just north of Bakersfield in Shafter, the Wonderful Industrial Park is 1,625 acre development with a big-box distribution focus. A limited talent pool and lack of industry concentration have deterred manufacturing uses.

International Park of Commerce

Located in Tracy, this is an 1,800-acre master planned industrial park with proximity to Bay Area talent. It serves as the premier logistics park for regional distribution in Northern California. Limited power availability has deterred advanced manufacturers from locating there.

Tejon Ranch Commerce Center

A 1,425-acre development in Arvin, at the base of the Grapevine heading into Southern California. It is part of a larger mixed-use development that includes residential; however, it lacks a sufficient labor force for manufacturing uses.

Southern California Logistics Center

A 2,500-acre development in Victorville, CA within the High Desert region of the state. The operational airport anchoring the development has a foreign-trade zone designation and there are plans for a 3,500-acre rail complex. The park is focused on logistics users as the labor pool is shallow for advanced manufacturing.

Competitive set

National competitive set

Tahoe Reno Industrial Center

The 'largest planned industrial park in the world' launched with Tesla's Gigafactory 1 located just outside of Reno, NV. With 30,000 acres of developable land, the tenant mix includes logistics users, manufacturers, and data centers. Streamlined permitting is a plus with the ability to issue grading permits in seven days and building permits within 30 days; however, labor constraints are a pressing issue.

Southern Nevada Renewable Technology Complex

Planned development near Moapa, NV with a focus on creating a vertically integrated battery and EV manufacturing ecosystem. 9,000 acres that can deliver 200 MW of power today, with plans to deliver 400 MW of power over the next 24 months. The site has rail connectivity and is located within a foreign-trade zone. Labor availability is a concern, but plans include residential and a mixed-use town center.

Teravalis

Master planned community outside of Phoenix, AZ. The current focus is on building residential, but plans include over 55 million square feet of commercial real estate. Limited water availability is a concern, and few specifics have been disclosed as it relates to additional utility infrastructure.

Alliance

A well-established planned development located on 27,000 acres within the Dallas-Fort Worth Metroplex. The current focus has been logistics with proximity to Perot Field Fort Worth Alliance Airport, the BNSF Alliance Intermodal Facility, and location within a foreign-trade zone and Triple Freeport Tax Exemption. The build-to-suit program provides flexibility for scalability and speed to market for tenants.

Sandow Lakes

Located within the Texas Triangle, 60 miles east of Austin, TX, Sandow Lakes has plans for up to 35 million square feet of industrial space. The planned intermodal facility will increase supply chain connectivity and ample land provides the flexibility for tenants to scale according to their needs. In-place utilities with excess capacity afford speed to market, including natural gas supply. Competitive tax incentives are available and sustainability is a key tenet of the development.

Research Triangle

Founded in 1959 near Raleigh and Durham, NC, the Research Triangle is a leading 7,000-acre research park home to hundreds of science and technology firms, especially bioscience. As a special tax district, tenants locating within the Research Triangle can save up to 30% on total property taxes within an already-business friendly state. Limited real estate options constrain total build-outs and flexibility, and the bioscience ecosystem risks crowding out labor in other advanced industries.

Bellwether District

Located in the heart of Philadelphia, the Bellwether District is a 1,300-acre in-fill redevelopment project intended to be a model for sustainable industrial development and design. Early stages of construction provide existing spec-to-suit buildings and the ability to scale operations with build-to-suit optionality. Significant utility and rail infrastructure is already in place, and real estate tax incentives are available. Plans include a focus on walkability and connectivity in addition to business park amenities like cafes, fitness centers, and green space.

Appendix D

Supplementary industry considerations

Advanced manufacturing in the East Bay and North Bay

NAICS	Description	2013 Jobs	2023 Jobs	2013 - 2023 % Change	2023 Employment concentration	Avg. Earnings Per Job	2023 Hires	2023 Turnover Rate	Current Year Age 25-34 % of Industry	Current Year Age 35-44 % of Industry	Current Year Age 45-54 % of Industry	Prime Age Labor Force	2023 GRP	GRP/ Job
3321	Forging and Stamping	325	314	-3%	0.37	$94,953	86	38%	16%	24%	26%	66%	$55,684,856	$177,478
3322	Cutlery and Handtool Manufacturing	57	43	-25%	0.13	$55,261	17	46%	Insf. Data	24%	32%	Insf. Data	$3,905,471	$90,590
3323	Architectural and Structural Metals Manufacturing	2,361	2,769	17%	0.74	$90,656	1,097	43%	16%	20%	23%	59%	$338,561,230	$122,266
3324	Boiler, Tank, and Shipping Container Manufacturing	515	510	-1%	0.58	$135,464	138	27%	16%	28%	25%	69%	$117,545,541	$230,488
3325	Hardware Manufacturing	14	33	132%	0.15	$446,011	11	35%	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$22,000,170	$657,076
3326	Spring and Wire Product Manufacturing	125	108	-13%	0.29	$93,063	26	15%	18%	20%	20%	58%	$13,288,452	$122,656
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	2,776	2,908	5%	0.91	$93,861	1,124	45%	15%	18%	24%	56%	$327,316,522	$112,571
3328	Coating, Engraving, Heat Treating, and Allied Activities	938	1,371	46%	1.13	$82,390	520	45%	19%	21%	21%	61%	$169,197,718	$123,386
3329	Other Fabricated Metal Product Manufacturing	646	558	-14%	0.21	$98,745	186	33%	14%	22%	19%	56%	$81,163,956	$145,530
3331	Agriculture, Construction, and Mining Machinery Manufacturing	92	94	2%	0.05	$66,447	65	43%	40%	22%	14%	75%	$12,054,156	$128,575
3332	Industrial Machinery Manufacturing	2,998	6,105	104%	4.87	$221,499	1,383	23%	20%	21%	24%	66%	$1,783,639,238	$292,146
3333	Commercial and Service Industry Machinery Manufacturing	663	1,152	74%	1.38	$132,503	439	28%	19%	25%	24%	68%	$215,178,871	$186,862
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	701	161	-77%	0.12	$130,137	61	32%	12%	24%	28%	65%	$45,753,197	$283,468
3335	Metalworking Machinery Manufacturing	589	624	6%	0.41	$100,400	149	28%	15%	17%	26%	58%	$72,693,128	$116,548
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	121	69	-42%	0.08	$127,733	19	31%	Insf. Data	18%	26%	Insf. Data	$18,725,832	$269,837
3339	Other General Purpose Machinery Manufacturing	1,487	1,995	34%	0.75	$141,494	645	30%	19%	22%	24%	65%	$586,404,399	$293,919

NAICS	Description	2013 Jobs	2023 Jobs	2013 - 2023 % Change	2023 Employment concentration	Avg. Earnings Per Job	2023 Hires	2023 Turnover Rate	Current Year Age 25-34 % of Industry	Current Year Age 35-44 % of Industry	Current Year Age 45-54 % of Industry	Prime Age Labor Force	2023 GRP	GRP/ Job
3159	Apparel Accessories and Other Apparel Manufacturing	107	92	-14%	0.67	$83,579	33	31%	11%	12%	36%	59%	$8,754,268	$95,260
3161	Leather and Hide Tanning and Finishing	0	23	Insf. Data	0.6	$70,790	<10	Insf. Data	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$2,139,851	$93,427
3162	Footwear Manufacturing	29	305	957%	2.56	$220,272	69	10%	10%	16%	34%	60%	$89,588,212	$294,028
3169	Other Leather and Allied Product Manufacturing	69	56	-19%	0.43	$54,765	10	Insf. Data	Insf. Data	22%	29%	Insf. Data	$4,025,449	$72,279
3211	Sawmills and Wood Preservation	<10	<10	Insf. Data	0	Insf. Data	<10	Insf. Data	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$1,087,099	Insf. Data
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	26	36	35%	0.05	$114,409	18	48%	Insf. Data	28%	30%	Insf. Data	$11,837,121	$330,512
3219	Other Wood Product Manufacturing	1,272	2,159	70%	0.88	$83,313	1,374	63%	22%	23%	21%	66%	$295,837,141	$137,006
3221	Pulp, Paper, and Paperboard Mills	13	<10	Insf. Data	0	Insf. Data	0	Insf. Data	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$207,147	Insf. Data
3222	Converted Paper Product Manufacturing	1,420	964	-32%	0.38	$87,946	326	37%	15%	24%	22%	61%	$143,008,951	$148,341
3231	Printing and Related Support Activities	3,245	2,473	-24%	0.69	$78,334	744	36%	14%	19%	24%	57%	$331,673,190	$134,110
3241	Petroleum and Coal Products Manufacturing	5,902	3,538	-40%	3.58	$271,217	734	24%	15%	29%	26%	71%	$13,049,022,753	$3,688,255
3251	Basic Chemical Manufacturing	429	864	101%	0.61	$152,829	324	35%	20%	26%	23%	69%	$578,744,195	$670,210
3252	Resin, Synthetic Rubber, and Artificial and Synthetic Fibers and Filaments Manufacturing	189	383	103%	0.43	$101,244	167	38%	18%	33%	15%	67%	$173,000,747	$452,149
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	21	32	56%	0.09	$109,208	10	32%	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$16,213,381	$503,622
3254	Pharmaceutical and Medicine Manufacturing	6,036	4,363	-28%	1.36	$175,401	1,001	34%	16%	27%	29%	72%	$3,029,399,141	$694,379
3255	Paint, Coating, and Adhesive Manufacturing	219	236	8%	0.38	$116,245	67	30%	16%	24%	22%	62%	$97,419,433	$413,367

NAICS	Description	2013 Jobs	2023 Jobs	2013 - 2023 % Change	2023 Employment concentration	Avg. Earnings Per Job	2023 Hires	2023 Turnover Rate	Current Year Age 25-34 % of Industry	Current Year Age 35-44 % of Industry	Current Year Age 45-54 % of Industry	Prime Age Labor Force	2023 GRP	GRP/ Job
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	1,203	706	-41%	0.65	$100,092	230	36%	17%	25%	24%	66%	$382,717,657	$542,078
3259	Other Chemical Product and Preparation Manufacturing	552	400	-28%	0.53	$140,100	160	38%	20%	21%	23%	64%	$157,944,747	$395,351
3261	Plastics Product Manufacturing	2,250	2,713	21%	0.49	$81,974	1,112	41%	16%	19%	25%	60%	$362,970,906	$133,806
3262	Rubber Product Manufacturing	92	90	-3%	0.07	$91,171	17	35%	Insf. Data	15%	28%	Insf. Data	$13,267,702	$148,023
3271	Clay Product and Refractory Manufacturing	109	354	225%	0.98	$99,124	98	27%	13%	15%	26%	54%	$51,606,649	$145,828
3272	Glass and Glass Product Manufacturing	1,220	485	-60%	0.62	$99,064	200	39%	20%	21%	22%	64%	$103,699,539	$213,805
3273	Cement and Concrete Product Manufacturing	1,357	1,450	7%	0.77	$102,246	499	35%	15%	22%	26%	63%	$279,339,015	$192,690
3274	Lime and Gypsum Product Manufacturing	413	296	-28%	2.02	$124,780	115	38%	20%	29%	26%	75%	$131,898,473	$445,392
3279	Other Nonmetallic Mineral Product Manufacturing	400	331	-17%	0.43	$78,439	110	34%	14%	23%	23%	60%	$62,508,879	$188,899
3311	Iron and Steel Mills and Ferroalloy Manufacturing	787	527	-33%	0.68	$136,093	144	32%	16%	24%	26%	65%	$271,544,266	$515,703
3312	Steel Product Manufacturing from Purchased Steel	200	37	-82%	0.07	$93,900	15	42%	Insf. Data	45%	Insf. Data	Insf. Data	$5,843,352	$160,033
3313	Alumina and Aluminum Production and Processing	15	<10	Insf. Data	0	Insf. Data	0	Insf. Data	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$29,025	Insf. Data
3314	Nonferrous Metal (except Aluminum) Production and Processing	164	180	10%	0.32	$110,552	50	27%	24%	25%	20%	69%	$59,681,302	$331,725
3315	Foundries	1,237	684	-45%	0.69	$117,787	215	49%	14%	19%	21%	55%	$153,415,478	$224,295

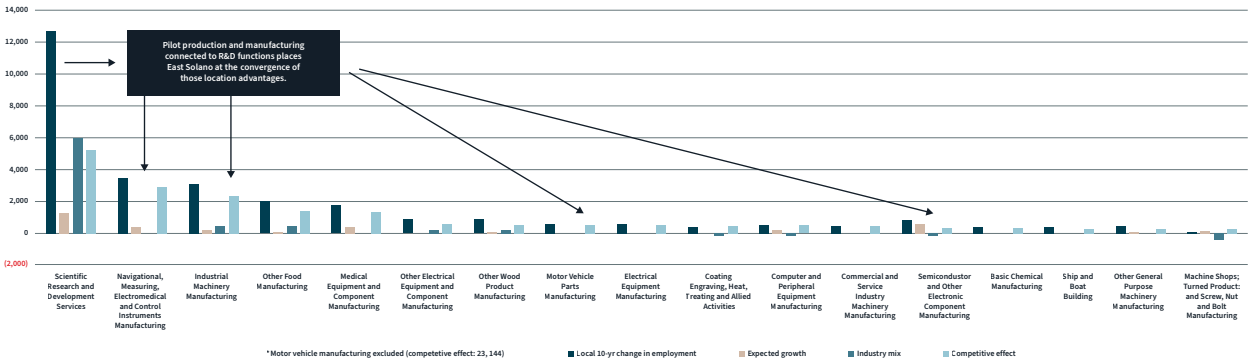
Advanced manufacturing in the East Bay and North Bay

The list of manufacturing and adjacent industries is based on 4 digit NAICS. The highlights in the table represent the top 10 industries with in each category. industries with strong prospects with have a sizable job count, positibe 10-year growth, an employement concentration greater than the national average (which is 1) to represent the concentration of a certain industry, high earnings, strong hiring potential, a young labor force and higher output of productivity and products as measured by the gross regional products. Industries that do not meet any of those criteria should not be considered further.

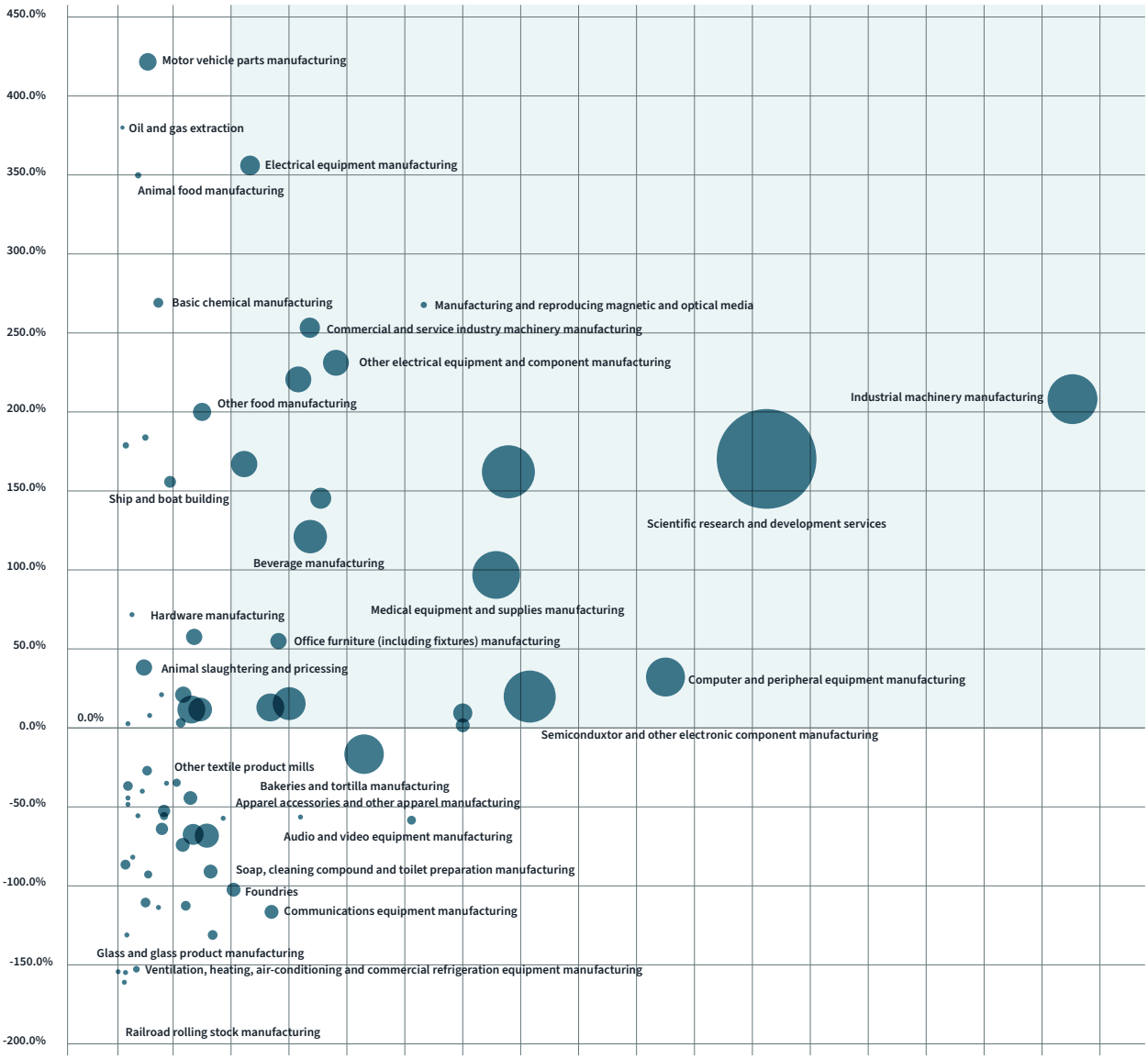
NAICS	Description	2013 Jobs	2023 Jobs	2013 - 2023 % Change	2023 Employment concentration	Avg. Earnings Per Job	2023 Hires	2023 Turnover Rate	Current Year Age 25-34 % of Industry	Current Year Age 35-44 % of Industry	Current Year Age 45-54 % of Industry	Prime Age Labor Force	2023 GRP	GRP/ Job
3321	Forging and Stamping	325	314	-3%	0.37	$94,953	86	38%	16%	24%	26%	66%	$55,684,856	$177,478
3322	Cutlery and Handtool Manufacturing	57	43	-25%	0.13	$55,261	17	46%	Insf. Data	24%	32%	Insf. Data	$3,905,471	$90,590
3323	Architectural and Structural Metals Manufacturing	2,361	2,769	17%	0.74	$90,656	1,097	43%	16%	20%	23%	59%	$338,561,230	$122,266
3324	Boiler, Tank, and Shipping Container Manufacturing	515	510	-1%	0.58	$135,464	138	27%	16%	28%	25%	69%	$117,545,541	$230,488
3325	Hardware Manufacturing	14	33	132%	0.15	$446,011	11	35%	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$22,000,170	$657,076
3326	Spring and Wire Product Manufacturing	125	108	-13%	0.29	$93,063	26	15%	18%	20%	20%	58%	$13,288,452	$122,656
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	2,776	2,908	5%	0.91	$93,861	1,124	45%	15%	18%	24%	56%	$327,316,522	$112,571
3328	Coating, Engraving, Heat Treating, and Allied Activities	938	1,371	46%	1.13	$82,390	520	45%	19%	21%	21%	61%	$169,197,718	$123,386
3329	Other Fabricated Metal Product Manufacturing	646	558	-14%	0.21	$98,745	186	33%	14%	22%	19%	56%	$81,163,956	$145,530
3331	Agriculture, Construction, and Mining Machinery Manufacturing	92	94	2%	0.05	$66,447	65	43%	40%	22%	14%	75%	$12,054,156	$128,575
3332	Industrial Machinery Manufacturing	2,998	6,105	104%	4.87	$221,499	1,383	23%	20%	21%	24%	66%	$1,783,639,238	$292,146
3333	Commercial and Service Industry Machinery Manufacturing	663	1,152	74%	1.38	$132,503	439	28%	19%	25%	24%	68%	$215,178,871	$186,862
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	701	161	-77%	0.12	$130,137	61	32%	12%	24%	28%	65%	$45,753,197	$283,468
3335	Metalworking Machinery Manufacturing	589	624	6%	0.41	$100,400	149	28%	15%	17%	26%	58%	$72,693,128	$116,548
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	121	69	-42%	0.08	$127,733	19	31%	Insf. Data	18%	26%	Insf. Data	$18,725,832	$269,837
3339	Other General Purpose Machinery Manufacturing	1,487	1,995	34%	0.75	$141,494	645	30%	19%	22%	24%	65%	$586,404,399	$293,919

NAICS	Description	2013 Jobs	2023 Jobs	2013 - 2023 % Change	2023 Employment concentration	Avg. Earnings Per Job	2023 Hires	2023 Turnover Rate	Current Year Age 25-34 % of Industry	Current Year Age 35-44 % of Industry	Current Year Age 45-54 % of Industry	Prime Age Labor Force	2023 GRP	GRP/ Job
3341	Computer and Peripheral Equipment Manufacturing	3,467	4,043	17%	2.72	$172,332	888	24%	14%	18%	27%	59%	$952,429,370	$235,579
3342	Communications Equipment Manufacturing	1,849	895	-52%	1.14	$151,903	215	23%	12%	19%	26%	58%	$286,241,376	$319,749
3343	Audio and Video Equipment Manufacturing	472	320	-32%	1.81	$112,895	72	20%	14%	20%	27%	61%	$50,245,698	$156,808
3344	Semiconductor and Other Electronic Component Manufacturing	6,886	7,747	13%	2.11	$145,445	1,967	27%	13%	17%	27%	57%	$1,971,872,943	$254,522
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	5,545	9,000	62%	2.29	$141,337	2,481	27%	18%	21%	26%	65%	$2,490,327,865	$276,695
3346	Manufacturing and Reproducing Magnetic and Optical Media	103	218	111%	1.84	$162,087	73	41%	23%	21%	22%	66%	$43,785,744	$200,906
3351	Electric Lighting Equipment Manufacturing	680	676	-1%	1.86	$144,161	186	29%	14%	24%	30%	67%	$153,397,852	$226,994
3352	Household Appliance Manufacturing	<10	70	Insf. Data	0.12	$154,076	16	20%	Insf. Data	26%	28%	Insf. Data	$21,238,759	$304,473
3353	Electrical Equipment Manufacturing	449	1,010	125%	0.74	$174,752	364	23%	18%	19%	24%	62%	$236,846,505	$234,447
3359	Other Electrical Equipment and Component Manufacturing	901	1,784	98%	1.18	$150,740	1,113	35%	20%	20%	23%	64%	$415,749,641	$233,102
3361	Motor Vehicle Manufacturing	2,005	26,325	1213%	9.84	$123,698	14,222	49%	36%	23%	14%	73%	$8,913,164,688	$338,576
3362	Motor Vehicle Body and Trailer Manufacturing	108	160	48%	0.1	$65,489	62	35%	22%	28%	20%	69%	$13,943,590	$87,018
3363	Motor Vehicle Parts Manufacturing	325	916	182%	0.17	$99,195	538	48%	28%	25%	19%	72%	$124,752,943	$136,119
3364	Aerospace Product and Parts Manufacturing	640	673	5%	0.14	$129,845	243	26%	20%	24%	23%	67%	$196,431,903	$292,024
3365	Railroad Rolling Stock Manufacturing	14	<10	Insf. Data	0	Insf. Data	<10	Insf. Data	Insf. Data	Insf. Data	Insf. Data	Insf. Data	$113,401	Insf. Data
3366	Ship and Boat Building	294	677	130%	0.47	$103,440	377	39%	17%	23%	23%	63%	$89,991,184	$133,017
3369	Other Transportation Equipment Manufacturing	32	101	212%	0.27	$91,699	57	42%	39%	16%	15%	71%	$25,679,493	$254,303
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	1,247	1,088	-13%	0.48	$72,100	521	56%	17%	22%	25%	63%	$86,168,827	$79,169
3372	Office Furniture (including Fixtures) Manufacturing	711	902	27%	0.94	$94,009	370	44%	15%	25%	25%	65%	$110,858,562	$122,896
3379	Other Furniture Related Product Manufacturing	268	329	23%	1.1	$73,766	59	22%	16%	20%	25%	61%	$37,868,769	$115,226
3391	Medical Equipment and Supplies Manufacturing	5,080	6,860	35%	2.18	$178,962	1,792	28%	21%	22%	24%	67%	$2,392,572,889	$348,749
3399	Other Miscellaneous Manufacturing	2,757	1,812	-34%	0.6	$100,996	468	32%	19%	19%	24%	62%	$262,130,108	$144,683

*Shift share analysis**

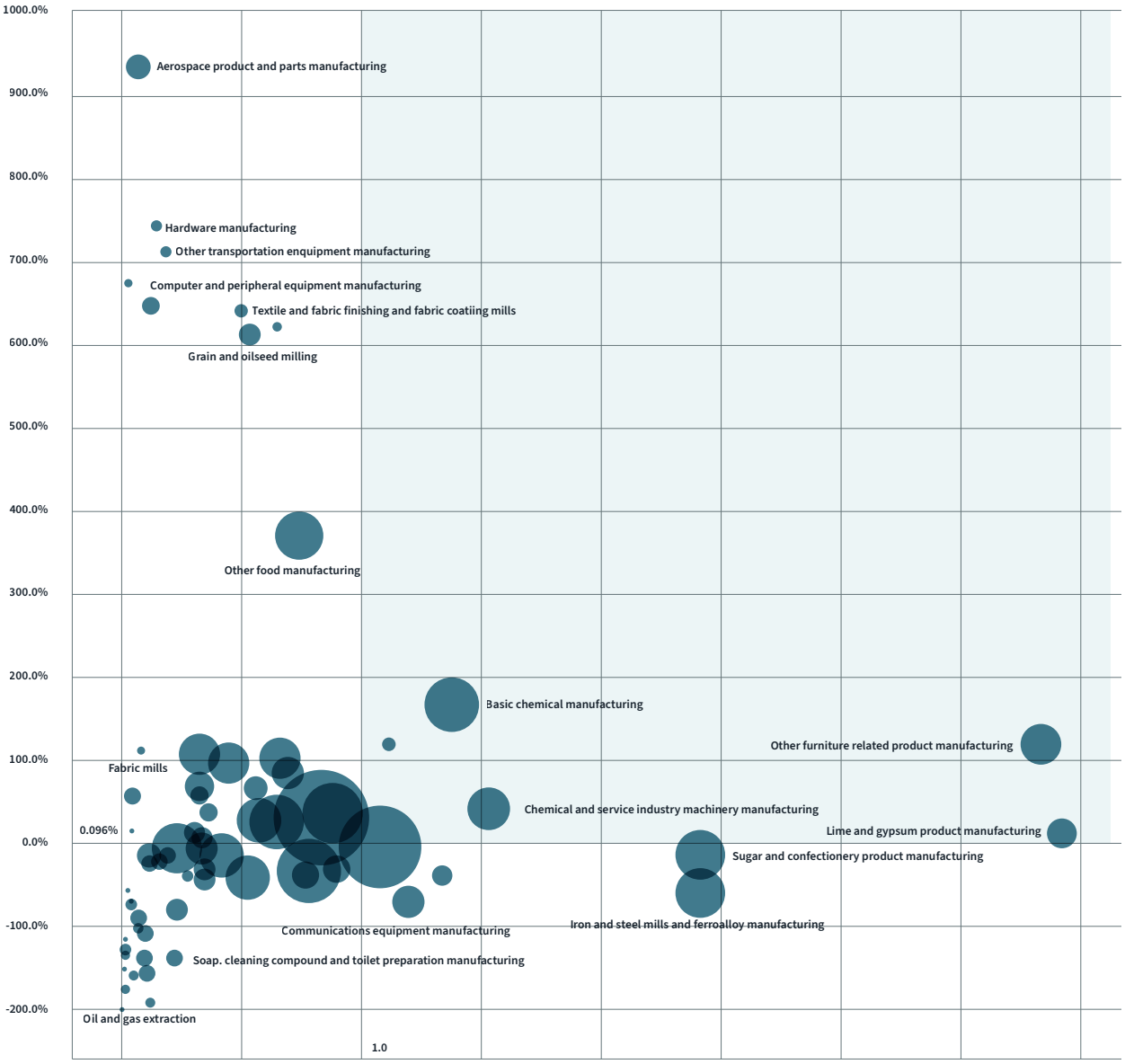


Alameda County, CA
10 year growth



Avg. employement concentration

Contra Costa County, CA
10 year growth

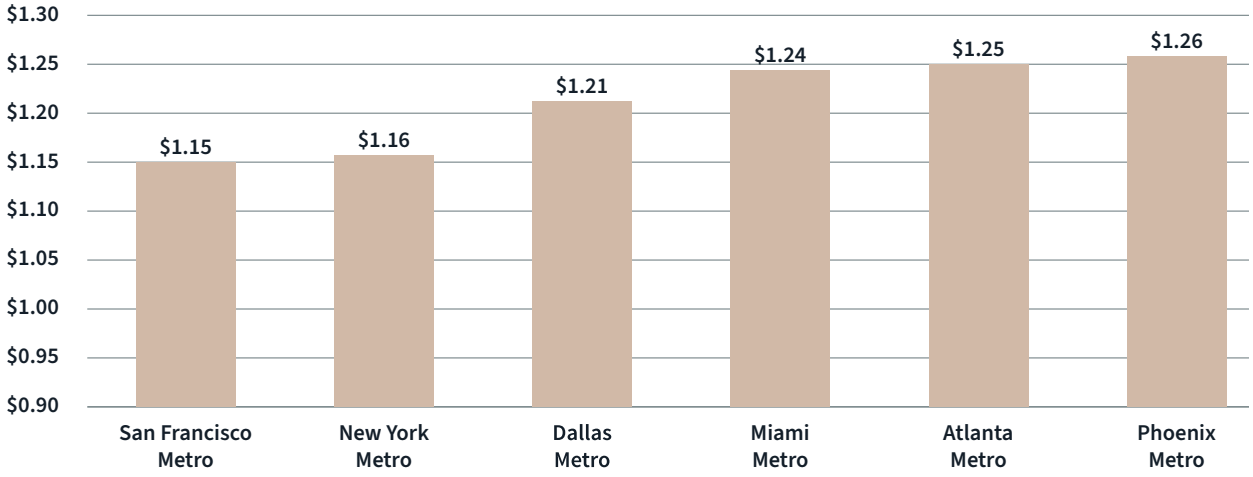


Avg. employement concentration

Appendix E

Inflation by Manufacturing Metro (2019 - 2023)

Inflation is not equal across all metros
(2019 $1.00 equivalent in 2013)



Appendix F

Site parameters for advanced manufacturers by facility type

Research and development

The initial phase of the prototyping process, where investigation and the tinkering of new products begins. Versatile space, consisting of minimal office and the ability to receive/ send varying sizes of materials.

Footprint:	Jobs:	CapEx:	Dock:	36’ + clear
5,000 SF to 50,000 SF	1/250 SF	$50-$100 per SF	Yes	18-24’

Pilot line manufacturing facility

A small-scale manufacturing facility for the purpose of prototyping new products or processes before implementing a full-scale production line. The purpose is to replicate the production process in a controlled enironment where engineers can identify possible issues and inefficiencies and make adjustments quickly to minimize risks once scaled for mass production.

Footprint:	Jobs:	CapEx:	Dock:	36’ + clear
50,000 SF to 100,000 SF	1/400 SF to 1/1,500 SF	$75-$150 per SF	Yes	Yes

Full-scale advanced manufacturing facility

A full-scale facility where goods are produced. These buildings contain a high degree of specialized and cutting-edge equipment and machinery to improve the efficiency and productivity of the production process. In many, cases, tall clear heights and spans are necessary to accomodate bulking equipment such as cranes, presses, extruders, pullers, cutting machine and vats. Equipment coul require complex foundations, pits, cranes, special fire protection requirements and extensive utility demands.

Footprint:	Jobs:	CapEx:	Dock:	36’ + clear
100,000 SF to 1,000,000+ SF	1/500 SF to 1/1,600 SF	$125-$250 per SF	Yes	Yes

Appendix G

Supply and demand in selected manufacturing markets

Estimated available labor pool vs announced manufacturing jobs (since 2019)

Labor constrained highlighted