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THE SILENT COLLAPSE

California's Precision Manufacturing Succession Crisis and the Strategic Opportunity

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EXECUTIVE SUMMARY

The small to medium manufacturing sector is vital to California's economy, contributing roughly 10% of GDP and driving technological progress in sectors such as aerospace, defense, automotive, medical devices, and semiconductors. Computer Numerical Control (CNC) precision machining, which uses computer-controlled machines to produce precise parts, plays a key role in this process. Although essential to the economy, fewer workers and entrepreneurs are entering manufacturing, creating a widening gap as current shop owners and machinists age.

Many retiring owners lack skilled, financially capable successors, forcing them to work longer or close their businesses. These closures threaten California's economy, workforce, and critical industries supported by manufacturing, potentially causing nationwide production delays and quality issues. This situation presents a clear opportunity for investors and entrepreneurs to support and acquire established shops while enabling owners to retire without disrupting the critical supply chain.

CRISIS: SUCCESSION AND STRUCTURAL CHALLENGES

California and the U.S. face a growing crisis in the manufacturing sector: Baby Boomers who founded and continue to own and operate small to medium-sized manufacturing companies are nearing retirement with limited succession planning options in place, and at the same time, the industry faces a severe shortage of younger, skilled workers to take the place of the aging workforce.

According to Forbes, 125,000 manufacturing companies are owned by Baby Boomers, employing around 2.6 million workers.[1] Many of these businesses are small, family-run operations with limited financial reporting, making them less attractive to private equity investors.

Currently, fewer young people are entering trade schools, as college or entrepreneurial paths have traditionally been promoted as routes to wealth. However, this perception is beginning to change since wages for entry-level trade workers now rival or exceed many jobs that require a four-year degree. Trade school provides a cost-effective path to high earnings and strong job security.

Acquisitions of manufacturing companies can further strengthen the workforce by investing in employee training programs and leveraging government funding. While there is currently a shortage of machinists, continuous investment in training and a cultural shift in the perception of trades work could ensure a robust pipeline of skilled workers for the future.

The absence of succession planning jeopardizes the resilience of U.S. manufacturing, particularly in critical industries such as aerospace and defense that depend on domestic production. A decline in CNC machine shops could create significant challenges for tier one and two original equipment manufacturers (OEMs), which rely on precision machined parts for their end products, causing ripple effects across the supply chain, including production delays and quality issues. In 2022, CNC machining accounted for roughly 14 percent of California's manufacturing revenue, underscoring the economic stakes.[2] Preserving and expanding the state's manufacturing base is thus crucial for jobs, GDP, and national competitiveness.

[1] Karp, Ethan. Manufacturing Is Facing a Real-Life Succession Crisis—Here's How Family-Owned Businesses Can Avoid the Drama. Forbes, 7 June 2023, www.forbes.com/sites/ethankarp/2023/06/07/manufacturing-is-facing-a-real-life-succession-crisis-heres-how-family-owned-businesses-can-avoid-the-drama. Accessed 24 June 2025.

[2] United States, Census Bureau. Annual Business Survey: Sales, Value of Shipments, or Revenue for Employer Firms by Industry and State: 2022. Table ID: AB00MYCSA01A, U.S. Department of Commerce, 2024. https://data.census.gov/table/ABSCS2022.AB00MYCSA01A?q=Annual+Survey+of+Manufactures+California+2022&codeset=naics~31-33:331:332:333:3364. Accessed 20 June 2025.

INDUSTRY OVERVIEW

The manufacturing sector is essential to job creation, innovation, and economic output in California and the United States. In 2024, manufacturing contributed $2.91 trillion to U.S. GDP.[3] At the state level, manufacturing accounts for roughly 10% of California's GDP and employs over 1.2 million people.[4] Beyond its direct economic impact, manufacturing produces critical goods that support other industries and daily life.

CNC machine shops in California are strategically located close to their customers. Bay Area machine shops focus on technology-based machining for companies like Apple and Meta, while Southern California machine shops specialize in aerospace and defense for companies such as Lockheed Martin and Boeing. California has the largest number of machine shops in the country, with approximately 2,282 statewide, including 138 serving primarily aerospace and defense.

In terms of overarching trends, many machine shops have shifted from traditional manual machines to Computer Numerical Control (CNC) machines, which use coded instructions to improve efficiency and precision. This technology is particularly critical for aerospace and defense, where accuracy is essential.

REGULATORY AND INCENTIVE ENVIRONMENT

California supports its manufacturing sector through a range of programs aimed at growth and retention. Key initiatives include the California Competes Tax Credit, the Partial Sales and Use Tax Exemption for Manufacturing, and the California Manufacturing Tax Credit, which provide income tax relief, exemptions on equipment purchases, and deductions for qualifying expenses. These incentives help manufacturers relocate, expand, or remain in the state, particularly in aerospace and defense, while also supporting research, development, and capital investments.

The State also invests in workforce development and infrastructure through the California Employee Training Panel and the Industrial Development Bond Financing Program. The training panel, fully funded by taxpayers, has reimbursed approximately $1.9 billion to train1.5 million employees,[5]

[3] United States, Bureau of Economic Analysis. Gross Domestic Product, First Quarter 2025 (Third Estimate). U.S. Department of Commerce, 27 June 2025, www.bea.gov/sites/default/files/2025-06/gdp1q25-3rd.pdf.

[4] Federal Reserve Bank of St. Louis. All Employees: Manufacturing in California [CAMFG]. FRED, U.S. Bureau of Labor Statistics, 16 Aug. 2025, fred.stlouisfed.org/series/CAMFG.

[5] California Employment Training Panel. 2022–2023 Annual Report. State of California, July 2024, etp.ca.gov/wp-content/uploads/sites/70/2024/07/ETP22-23_AnnualReport.pdf.

with manufacturing receiving preferential support.[6] Industrial Development Bonds offer low-interest financing for land, construction, renovations, and equipment. These programs are essential for retaining manufacturers, driving growth, and meeting rising demand across aerospace, defense, and broader manufacturing sectors.

APPLICATIONS OF ARTIFICIAL INTELLIGENCE (AI) IN CNC MACHINING & THE BENEFITS AND RISKS ASSOCIATED

Artificial Intelligence (AI) has created new opportunities for manufacturing but also poses many risks. The applications of AI in CNC machines are significant. Some shops have already implemented "Lights Out" technology, allowing CNC machines to run overnight without supervision. Since CNC machines operate using code, AI can actively guide the machining process, correcting deviations in real time and achieving unprecedented accuracy.

As legacy CNC machine shops in California adopt AI, robotics, and advanced automation, workforce retraining is essential to boost efficiency. Machine shops and trade schools should invest in training programs that equip current and future machinists with the skills needed to incorporate AI into their workflows.

To make AI work well in all companies, the right systems and partners are needed. First, a setup for the cloud-based system is used to store all the important data, including machine performance, quality checks, and supply chain details, so everything is in one place and easy to reach from any location. AI tools are then applied directly within systems like ERP and MES, so information moves automatically without extra work. With CNC machines, predicting when machines need maintenance and checking product quality would greatly benefit machine shops. Cloud computing would be utilized for big data jobs and edge computing to quickly process information right into the machines. This setup will make AI fast, reliable, and ready to grow with the business.

The adoption of AI also introduces new ethical risks, since fully automated CNC machines will reduce the need for human operators. Microsoft Research estimates that AI could perform up to 90% of a CNC tool programmer's work.[7] While this can strengthen shop margins, it may negatively affect the job market.

[6] California Employment Training Panel. "Funding Limitations." Employment Training Panel, State of California, 2025, etp.ca.gov/program-overview/funding-limitations/.

[7] Felten, Edward W., Manav Raj, and Robert Seamans. Working with AI: Measuring the Occupational Implications of Generative AI. Microsoft Research, 2023, www.microsoft.com/en-us/research/publication/working-with-ai-measuring-the-occupational-implications-of-generative-ai/

However, if implemented thoughtfully, AI can expand shop capacity through adding CNC machines while reserving machinist jobs. Automating repetitive tasks allows machinists to focus on higher-value work, such as new product development or client management.

STAKEHOLDER PERSPECTIVES

In a conversation with Melissa Garza, Portfolio Operations and General Manager at Northstrive Companies Inc., who is a seasoned CNC machine shop manager with over 20 years in the industry, she explained that in California, if you want to work with chemicals, there are a limited number of suppliers, and as a result, costs tend to be higher and there is less emphasis on speed from said suppliers since it is essentially an oligopoly. High rents further limit both the size and number of shops in the state.

To address the shortage of machinists, Melissa emphasized the importance of strong management that understands the industry and genuinely cares about their employees. *"Workplace culture is critical for retention,"* she explained, *"alongside fair compensation. Skilled employees should receive higher wages and be trained to take on multiple roles, improving overall efficiency."*

She also highlighted the value of recognizing high-performing employees through KPIs, rewarding employees who exceed expectations, and reviewing annual reports to ensure consistent top performers receive appropriate raises. When asked about the increasing shortage of CNC machinists, Melissa noted that *"after more than two decades in the industry [she's] seen first-hand how vital machinists are to California's aerospace and defense supply chain."* She added that *"without a new generation of skilled tradespeople, we risk bottlenecks that AI and automation alone cannot solve."*

We also spoke with Rick Bloom, manager and portfolio advisor to Northstrive Companies Inc., and VP of Tur-Bo Jet Products, a California-based CNC machine shop doing over $20 million in annual revenue with over 200 employees. Rick noted that *"for investors, CNC machine shops represent businesses with strong fundamentals: recurring customers, cash flow, and essential industry ties."* Rick added that *"with the right support, these businesses can scale rapidly to meet demand."*

Rick also mentioned that the most turnkey CNC machine shop acquisitions typically take place when the business is doing over $5 million in annual revenue with around 20 employees since, "at this size, machine shops are more likely to be AS9100 certified, and all departments are properly staffed." When explaining this, Rick affirmed that "processes and procedures are critical to running a consistently performing operation."

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THE OPPORTUNITY

The U.S. CNC machining industry is projected to grow at a compound annual growth rate of approximately 9.9% through 2034,[8] reflecting strong demand for precision manufacturing. California has a unique opportunity to lead the nation in revitalizing its CNC machining industry. The plethora of Baby Boomer CNC machine shop owners that are looking to retire is creating a surge of available, established businesses. By supporting investors that are looking to acquire these shops, California can sustain and grow a critical industry that supports local economies and job creation. State and Federal initiatives, including reshoring efforts and the CHIPS Act, are driving demand for domestic manufacturing, positioning California to lead in innovation and economic growth in CNC machining.

Investing in existing CNC machine shops offers a relatively low-risk opportunity. These businesses are often cash-flow positive with established customer bases and operational history. Acquiring multiple shops provides scale and diversification, reducing risk. Retaining current management during transitions helps maintain customer relationships and stabilize operations.

Scaling these businesses to meet rising demand, potentially increasing returns through operational efficiencies and expanded contracts.

For investors, acquiring CNC machine shops provides an established platform with trained staff, loyal customers, and proven products. Investors can focus on modernization, financial improvements, and growth opportunities. As these businesses expand, they create jobs and support workforce development through partnerships with trade schools, securing the future of CNC machining careers in California.

[8] *"CNC Machine Market Size, Share, Trends Analysis Report by Type, Application, and Region 2024–2033."* Dimension Market Research, 2024, dimensionmarketresearch.com/report/cnc-machine-market/.

CONCLUSION

The shortage of machinists to sustain the manufacturing sector poses a critical risk to California and the United States, threatening supply chains, product quality, and innovation, especially in aerospace and defense. Machine shops offer a strong investment opportunity, with potential for high returns when scaled with capital and supported by experienced management. Proper implementation of AI can boost efficiency and margins, but workforce training is essential to ensure economic and operational stability. Addressing these challenges can sustain manufacturing, support jobs, and secure the future of critical industries.

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