



INDUSTRY INSIDER
**TECHNOLOGY, MANUFACTURING
& LIFESTYLE PRODUCTS**

INDUSTRY REPORT

2018



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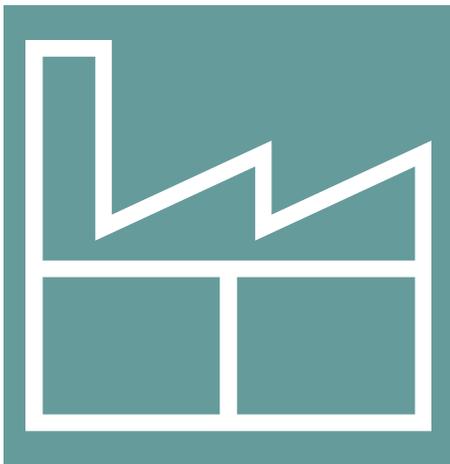


EXECUTIVE SUMMARY

February 2018

The Sonoma County Economic Development Board (EDB), in partnership with the Sonoma County Workforce Investment Board (WIB), is pleased to present the 2018 Technology, Manufacturing, and Lifestyle Products Industry Insiders report. Our research partner, Moody's Analytics, provided the research for this report. For additional information, questions, comments, or suggestions please contact us at (707) 565-7170 or visit www.sonomaedb.org.

HIGHLIGHTS



Among Sonoma County's manufacturing subsectors, Food & Beverage has bright immediate and long-term prospects. Food, Beverage, and Apparel employment eclipsed High-Tech in 2009 and payroll continues to grow at a steady pace. As national demand grows for organic and ethnically sourced products, Food & Beverage producers in Sonoma County will reap higher demand and revenue. This is driven in-part by historically low household debt and higher consumer discretionary spending. It has also been driven in recent years by a larger share of venture capital funding for new Food & Beverage establishments. But while employment growth is strongest among subsectors, wages are notably low.



High-Tech Manufacturing—including medical devices, electronic testing equipment, and telecommunications equipment—will face several challenges. While the sector is no longer shedding jobs as it once was, employment has stagnated. Employment is further hampered by low-inventory and high prices for industrial commercial properties, which will hamper expansion and output potential. Emerging tech hubs in other parts of the country are becoming cheaper alternatives for domestic research and design, and could siphon talent away from Sonoma County. But a national demand for technology and capital equipment will benefit electronic testing and broadband manufacturers, and increasing demand for medical devices from Asia may advantage Sonoma County.



In an increasingly uncertain future, several factors affect long-term outlook for the respective subsectors of the manufacturing industry. Food & Beverage may profit from greater national demand and spending on organic products, but may face increased competition from supermarket organic product lines. High-Tech may see a decline in R&D employment as cheaper tech hubs siphon off workers, but may profit from increased national demand for more capital equipment, software, facility upgrades, and other investments in labor-saving technologies. Cosmetics, Apparel, and Outdoor Recreation producers will continue to enjoy market dominance over "premium" product lines as long as consumers' appetite for substitution goods remains low.



Recent Performance. Sonoma County's high-tech and specialty manufacturing industries continue to grow apart. While food, beverage and lifestyle product makers are thriving, high-tech manufacturers and tech-related services are struggling to make headway. The once-formidable medical device, electronic testing and telecommunications industries are no longer shedding jobs, but employment in high-tech manufacturing and services has not measurably risen in the past eight years. As a result, high-tech firms' share of county employment and wages has waned. Sonoma hosts a diverse cluster of small aerospace, medical device, telecommunications, electronics, pharmaceutical and green-tech firms, but rising sales have yet to translate into a sustained increase in high-tech payrolls.

Goods producers are still a pillar of the county's economy, thanks in no small part to the tremendous growth of county food and beverage makers. Wineries, breweries, dairies, and produce and meat producers are expanding to meet rising demand for organic and artisanal food products, pushing total manufacturing employment higher over the past year. According to the Organic Trade Association, in 2016, sales of organic-labeled food and beverages reached \$43 billion, which amounts to more than 5% of total retail food and beverage sales. Sonoma-based food and beverage makers are expanding production capacity both nationally and within the county itself, and rising sales have helped to sprout new firms: According to the Quarterly Census of Employment and Wages, the ranks of Sonoma-based food and beverage-producing establishments have swelled by a third in the past five years alone.

Apparel makers and boutique cosmetics producers, which form a small share of the county's manufacturing base, have expanded less vigorously. However, local firms are benefiting from consumers' increasing concern for ethical and fair trade practices, bolstering sales of county-produced apparel, cosmetics, and fashion and clothing accessories.

Sonoma's larger telecommunications, electronics and medical device-manufacturing firms continue to outperform financially but carry out little production in the county itself. Moreover, growth in high-tech services has been stunted by competition from lower-cost research hubs in the U.S. and overseas. Keysight Technologies and Medtronic—Sonoma's two largest tech firms—maintain a large research presence in the county but have added

little to their local workforce in the past two years. And while Sonoma remains an important research and design hub for outdoor sports equipment and specialty lifestyle firms, the departure of sportswear firm Athleta has kept employment in high-tech research and design approximately flat over the past year despite job additions at other sports equipment and apparel design firms.

Macro drivers. The U.S. economy is at full employment and is poised to strengthen further next year as stronger wage gains drive recovery in the housing market and as firms undertake long-delayed upgrades to capital equipment, software and structures. The firming global recovery will be an additional tailwind, and trade will shift from a net drag to a net boost as the dollar appreciates more slowly vis-à-vis major currencies. The likelihood of corporate tax cuts, strong profit margins, and firming business and consumer sentiment will support investment spending.

Although the tight labor market has yet to press up on inflation, stronger wage growth has finally begun to materialize, paving the way for the Federal Reserve to extend its rate-tightening campaign over the next year. Despite higher interest rates, sturdy household balance sheets will enable consumers to weather the increase in borrowing costs. Household debt burdens are near historic lows, and faster wage growth will clear additional space in consumers' budgets for discretionary purchases, including of specialty food and beverage products as well as apparel and recreational goods.

Rising wages will also raise the impetus for businesses to invest in labor-saving technologies ranging from greater automation on the production line to more sophisticated telephone and internet communications networks. Greater expenditures on software, information technology and networking equipment will hasten the transition to next-generation fiber and wireless networks, supporting electronic testing and broadband equipment manufacturers in Sonoma County.

Venture capital will be a less abundant source of funding as large technology companies mature and rising U.S. interest rates increase the return on safer investments. While food and beverage firms have absorbed a larger share of startup funds in recent years, marking a departure from the telecommunications and medical device firms that soaked up the lion's share of funds earlier in

the decade, they will face greater competition for existing funds. Still, venture capital will be an important source of financing for Sonoma County firms given the tight standards for business and home equity loans.

Industry drivers. Consumers' embrace of organic and artisanal food products will remain a boon for Sonoma-based food and beverage producers. Although organic produce, meat, dairy and snack foods command a price premium over conventional offerings, consumers across income levels are trading up to organic and small-batch goods. As consumers grow even more health conscious and scrutinize the environmental and ethical practices of the food they purchase, organic and artisanal products will make up a growing share of consumers' shopping carts.

Increased recreation spending will bolster county sports and outdoor equipment makers. Although outdoor sports giant CamelBak and cargo bicycle maker Yuba Bicycles source most goods from factories overseas, rising sales will support research, design and product development teams at the firms' county headquarters. Likewise, greater awareness of fair trade and animal welfare practices will be the primary driver of growth for Sonoma-based apparel and beauty products firms.

Demand for faster internet speeds and greater investment in telecommunications infrastructure will drive expansion at county broadband equipment makers. Meanwhile, advances in a broad range of high-tech fields, from self-driving automobiles to smart home devices and consumer electronics, will spur demand for electronic testing equipment designed and produced by Keysight. Rising smartphone penetration globally as well as the incorporation of additional computer and electronic components into automobiles, airplanes, and other transport vehicles will amplify sales of the firm's next-generation signal analyzers and oscilloscopes.

Sonoma-based medical device firms are poised to benefit as aging workers decide to remain in the workforce for longer and as the age composition of the broader U.S. and global population shifts toward older cohorts. Aortic device producers Medtronic and Endologix stand to gain the most, but the increased utilization of gene-based and other personalized treatments will create opportunities for the county's smaller medical device and biotech firms to flourish.

The mainstreaming of green tech offers another avenue for growth. With the

installed capacity of solar panels in the U.S. set to rise by one-third over the next two years, demand for grid optimizers and electronic connectors produced in the county will strengthen. Vintners' efforts to pioneer new irrigation techniques and to optimize crop yields will enable other green tech firms to prosper.

Pricing. Sonoma County's reputation as a haven for sustainable farming practices will differentiate county producers in an increasingly competitive marketplace for organic and sustainably sourced goods. However, the introduction of store brands by large supermarkets will hinder pricing power, forcing county producers to cut costs or double down on premium offerings. Consumer demand for ethically sourced apparel is relatively more inelastic. Therefore, county apparel makers will face only limited pressure to lower prices even as mass-market clothing brands race to lower costs. Outdoor sports equipment manufacturers face a more difficult pricing environment, and the battle to shift supply chains to less costly areas will lower input costs and drive down prices at major sporting goods retailers.

Tech-producing firms will face less pressure to lower prices than in recent years, and the new product cycle for electronic testing and broadband equipment will help firms fend off price pressures. Although prices for semiconductors continue to fall, a more stable dollar will be a bulwark against foreign competitors, which have benefited in recent years from a stronger dollar.

Operating expenses. Labor costs make up the highest share of operating expenses for high-tech, food and beverage, and specialty manufacturing firms, and tight labor markets herald an increased wage bill over the next few years. However, with industrial space increasingly scarce, office rents and plant expenditures will add more to firms' cost structure than in recent years.

As large tech producers shift production overseas and shave headcount at remaining plants, cost-containment efforts will shift to R&D, where county salaries exceed those in emerging tech hubs in the South and Mountain West. The increasing feasibility of conducting R&D in emerging markets provides a further outlet for managing operating costs.

Profits. Reduced pricing power and rising costs will compress margins for county food and beverage producers, making the upcoming year one of the most challenging. Though

organic and artisanal food producers will enjoy robust sales and revenue growth, rising labor and rent costs will apply restraint. Tech producers face a more favorable environment but, having exhausted most of the gains of offshoring, will now face rising labor and R&D costs. Tighter labor markets both locally and nationally will cue stronger wage growth that will offset gains from rising prices for medical, telecommunications and electronic testing equipment. Similar to food producers, county sports and outdoor equipment makers will see leaner margins as fierce retail competition forces price cuts.

Long-term outlook. Sonoma County will struggle to burnish its comparative advantage as a hub for high-tech manufacturing and design, but prospects for its food, beverage and lifestyle products remain sunny. Though employment in high-tech manufacturing such as medical devices and electronics will slip as large tech firms shift production and R&D overseas, total factory employment will rise modestly over the next few years as Sonoma-based artisanal and organic goods producers expand. The mainstreaming of the organic food movement will create opportunities for county producers, especially as consumers prioritize environmental and ethical practices in the production of the food and clothing they purchase. The introduction of mass-market organic brands at large food stores and supermarkets will pose a challenge for smaller Sonoma brands, but the county's reputation as a haven for sustainable and organic farming practices will help county producers grab additional shelf space.

Greater automation in all manufacturing sectors, including food and beverage production, will mean that growth at new and existing firms will result in few new jobs. As a result, manufacturing's contribution to county-wide job and income growth will rest on entrepreneurs' ability to innovate across product lines and to pioneer new product segments.

As the county's economic expansion matures, land and labor constraints will make it increasingly difficult for firms to grow. In-migration to Sonoma County has slowed in tandem with rising house prices and rents, while the tremendous growth of food and beverage manufacturing facilities within the county itself has cleared out its inventory of industrial space. As a result, county stakeholders will need to develop new facilities while heeding calls to preserve Sonoma's natural beauty.

Though Sonoma County will remain a regional hub for high-tech R&D, high-tech services face considerable barriers to growth. High business and living costs relative to those in emerging tech hubs and a shortage of new engineering graduates are structural challenges that outweigh advantages such as proximity to Bay Area tech centers and a high quality of life. As a result, county-based tech firms will staff up at lower-cost destinations in the U.S. and in other countries.

Upside risks. Spillover from the large biopharmaceutical corridor in neighboring Marin County is the greatest source of upside risk for high-tech firms in Sonoma County. Should office rents rise even faster in neighboring Marin, Sonoma's still-large inventory of office space could draw firms north, providing a much-welcomed injection of high-paid life sciences jobs. Greater investment in telecommunications along with faster adoption of smart devices in household and business settings would benefit existing tech firms based in the county as well.

Greater synergies with wine tourism as well as a faster than expected recovery in tourist visits following October wildfires would deliver a boost to county food and beverage makers. As visitors make their way to county taprooms and restaurants, the exhibition of local produce, meats and dairy products has the potential to create bonds that will translate into greater sales as visitors return home. Finally, greater recreation spending would boost sales of outdoor sports equipment designed in the county.

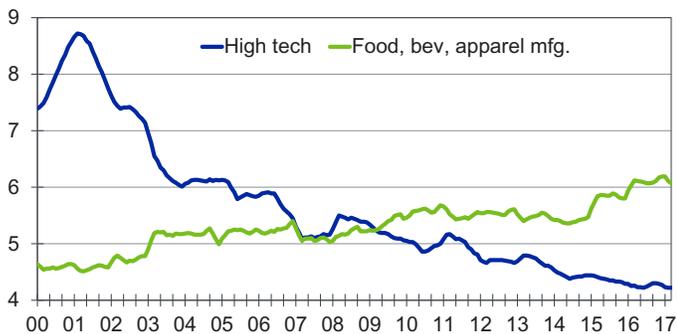
Downside risks. Most industrial buildings were spared by recent wildfires, but an even more severe shortage of industrial space could force food and beverage makers to look beyond the county for growth. The rapid rise in leasing activity by aspiring marijuana producers could further drain the market for industrial space, leaving county food producers with even less room to grow.

As county medical device and electronics manufacturers face cost-cutting pressures, the increased feasibility of conducting R&D overseas could prompt an exodus of high-tech service positions. Finally, rising U.S. interest rates will raise returns on safer investments that could steer capital away from startup funds that have played a key role in the expansion of food and beverage producers.

*Jesse Rogers
December 2017*

Food, Lifestyle Products Eclipse Tech...

% of total employment, Sonoma County

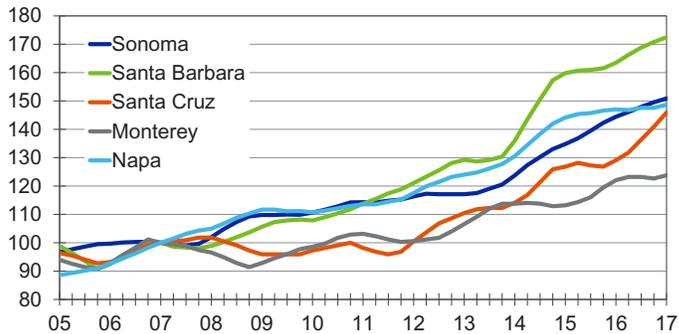


Sources: BLS, Moody's Analytics

Rapid growth in food, beverage and lifestyle products manufacturing has returned Sonoma County to its pastoral roots, with employment in nondurable goods surpassing that of the once-formidable high-tech sector. Although new food and beverage manufacturing jobs pay less on average than the high-tech positions they replace, consumers' increasing interest in the ethical practices of the goods they purchase will propel growth and ensure that goods producers make up an outsize share of the county's industrial base.

...Propelled by New Establishments

Establishments, #, food, beverage, apparel mfg, 2007Q1=100

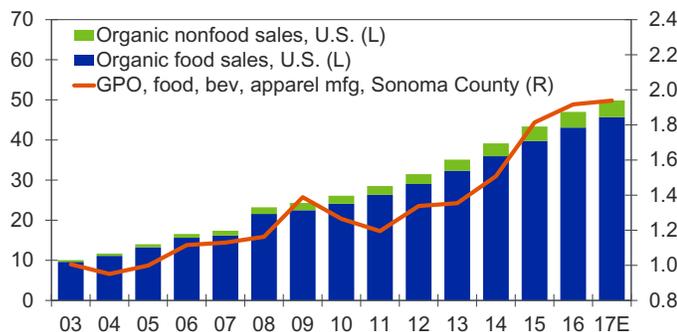


Sources: BLS, Moody's Analytics

Food and beverage makers are sprouting up in Sonoma County at an impressive rate, with growth in new establishments rivaling that of Napa, Santa Barbara, and other coastal California counties. Although apparel and other specialty lifestyle products have grown less vigorously, existing firms such as Indigenous Clothing and Farm Fresh Brands are reaching new consumers with a focus on organic and ethically sourced fabrics. By contrast, growth in high-tech firms has stagnated as county tech giants shift manufacturing and research and development to lower-cost centers in the U.S. and overseas.

County Producers Seize Organic Fervor

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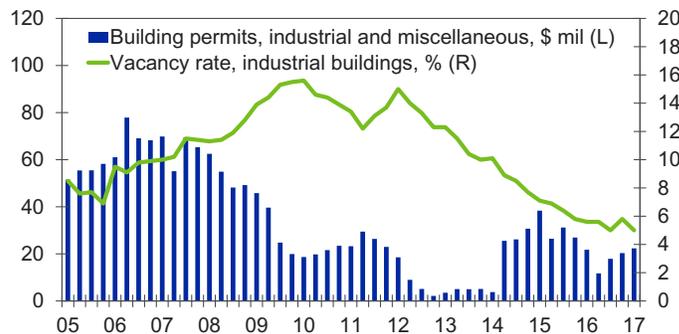


Sources: Organic Trade Association, BEA, Moody's Analytics

Sales of organic food and nonfood products have grown at more than double the pace of conventional offerings over the past decade, elevating organic food and clothing makers in Sonoma County. As consumers embrace organic goods with even greater enthusiasm, county food and beverage producers will prosper. The county's recent move to join the nation's largest GMO-free agricultural zone will burnish its reputation as a haven for organic and artisanal goods and will help contain pricing pressure as large supermarkets release their own organic brands.

New Industrial Space in Short Supply

Sonoma County



Sources: CIRB, CHF, Keegan & Coppin Co., Moody's Analytics

Despite the positive outlook for the county's food, beverage, and specialty lifestyle products makers, a shortage of industrial space will make expansions costlier and could force producers to expand elsewhere. As firms expand into space vacated by high-tech companies formerly based in the county, net absorption has spiked, pushing the industrial vacancy rate to a two-decade low. Despite red-hot demand, construction of new industrial space has yet to show a sustained increase, with the dollar value of industrial permits just half its prerecession average.



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