

The Medical Devices Industry in Carlsbad

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Prepared for: California



By: RESEARCH PARTNERSHIP





The purpose of this report is to provide a summary of the research findings of the medical device industry in Carlsbad, California. The data from this memo was gathered from the Bureau of Labor Statistics, California's Employment Development Department, EMSI (Economic Modeling Specialists International), Hoover's and executive interviews with Carlsbad Medical Devices employers and industry experts.

DEFINITION

The medical device industry is a foundational component in healthcare, life sciences and the advanced manufacturing industries. This industry includes the development and production of products ranging from simple tongue depressors to sophisticated imaging products. Medical devices are meant to diagnose and treat patients in the healthcare system but unlike pharmaceuticals, they do not achieve their intended use through a chemical reaction and are not metabolized in the body.

For this research, the medical devices industry was defined in two tiers, the primary NAICS codes which include those firms that manufacture and sell medical devices and the secondary NAICS codes which include those firms that do research, development and testing for medical device products.

Primary NAICS Codes¹

334510 - Electromedical and Electrotherapeutic Apparatus Manufacturing:

This industry code is made up of businesses engaged in manufacturing electromedical and electrotherapeutic apparatus, such as magnetic resonance imaging equipment, medical ultrasound equipment, pacemakers, hearing aids, electrocardiographs, and electromedical endoscopic equipment.

334516 – Analytical Laboratory Instrument Manufacturing:

This industry code is made up of businesses engaged in manufacturing instrument for monitoring and analyzing samples from medical patients, including manufacturing Blood bank process equipment, hematology instruments, and protein analyzers.

334517 – Irradiation Apparatus Manufacturing:

This industry code is made up of businesses engaged in manufacturing irradiation apparatus and tubes for applications, such as medical diagnostic, medical therapeutic, industrial, research and scientific evaluation. This would include the manufacture of equipment such as CT/CAT scanners, X-Ray tubes, and other irradiation apparatus.

¹ NAICS definitions are largely taken from US Census (www.census.gov)





33911 – Medical Equipment & Supplies Manufacturing:

This industry code is made up of businesses engaged in manufacturing medical equipment and supplies. Examples of products made by these establishments are surgical and medical instruments, surgical appliances and supplies, dental equipment and supplies, orthodontic goods, ophthalmic goods, dentures, and orthodontic appliances.

423450 – Medical, Dental, and Hospital Equipment Supplies Merchant Wholesalers:

This industry code is made up of businesses like Spinal Elements, that are engaged in the merchant wholesale distribution of professional medical equipment, instruments, and supplies (except ophthalmic equipment and instruments) as well as the development of those products.

Secondary NAICS Codes

541711 – Research & Development in Biotechnology

This industry codes is made up of businesses that are engaged in conducting biotechnology research and experimental development. Biotechnology research and experimental development involves the study of the use of microorganisms and cellular and biomolecular processes to develop or alter living or non-living materials.

541712 – Research & Development in the Physical, Engineering & Life Sciences

This industry codes is made up of businesses that are engaged in conducting research and experimental development (except biotechnology research and experimental development) in the physical, engineering, and life sciences

621511- Medical Laboratories

This industry codes is made up of medical laboratories primarily engaged in providing analytic or diagnostic services, including body fluid analysis, generally to the medical profession.



PROFILE OF THE MEDICAL DEVICES INDUSTRY IN CARLSBAD²

Number of Jobs: 3,969 (1,905 primary & 2,064 secondary)

Number of Establishments: 151 (80 primary & 71 secondary)

Average Earnings per year: \$126.2k (\$113.4k primary & \$138.1k secondary)

National Location Quotient: 5.96 (6.49 primary & 5.54 secondary)

The medical devices industry plays a significant role in Carlsbad's economy

Carlsbad's Medical Devices industry (primary and secondary) account for just over 1 in every 20 jobs (5.7%) in the City, with a total of about 4,000 jobs (3,969). When you factor in the average earnings per worker in the industry, medical devices plays an even more significant role in the City's economy, accounting for just over 1 in every 10 dollars earned by those working in the Carlsbad.



The medical devices industry is highly concentrated in Carlsbad

The relative industry concentration in Carlsbad for Medical Devices is approximately 6 times the national average, even higher in the primary medical devices industry (6.49). This is considerably more concentrated than any of the major industry categories in Carlsbad, the closest are Arts, Entertainment & Recreation (NAICS 71) with an industry concentration almost 3 times the national average (2.99) and Professional, Scientific and Technical Services that is just over 2 times the national average (2.15). It should be noted that there are some niche industries that have a higher industry concentration than medical devices, but none that employ 4,000 or more individuals.

Carlsbad's Medical Devices Industry has Grown Since the Recession

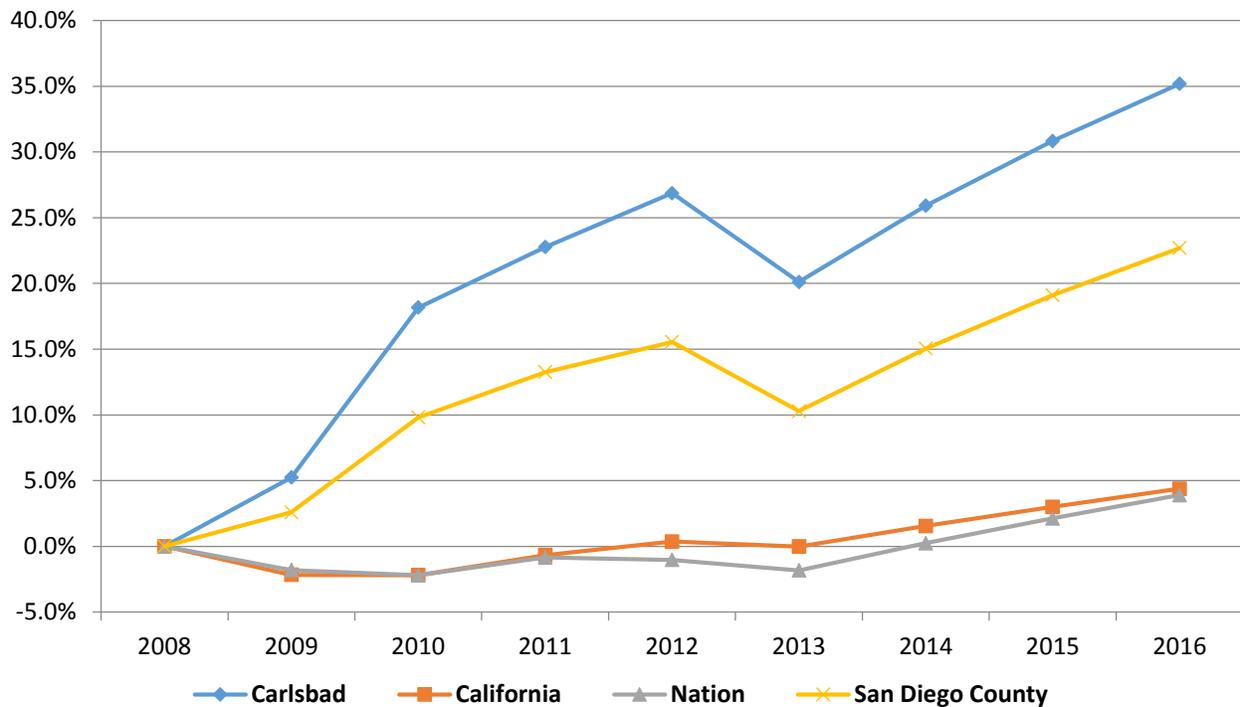
From 2008 through 2013, Carlsbad's medical devices grew by over 1,000 jobs and 25 percent of the industry's employment. During this same time period Carlsbad as a whole saw no overall increase in employment. From an industry perspective, the medical devices industry grew proportionally more in Carlsbad than it did in San Diego County, California or the United States, this can be seen in the figures on the following pages that show historic and forecasted employment growth in both the primary and secondary medical devices industry.

² Employment is based on QCEW and Non-QCEW employment – using EDD and EMSI (2013 q.2) as data sources

Carlsbad's Primary Medical Devices Industry

As the figure below demonstrates, the primary medical devices industry in Carlsbad has grown considerably faster than San Diego County, California or the United States. Both Carlsbad and San Diego County experience a decline in employment from 2012 to 2013, that is expected to rebound in 2014 that will continue to experience strong growth through 2016.

Figure 1: Proportional Change in Employment in Medical Devices Industry (Primary) Historic & Forecasted



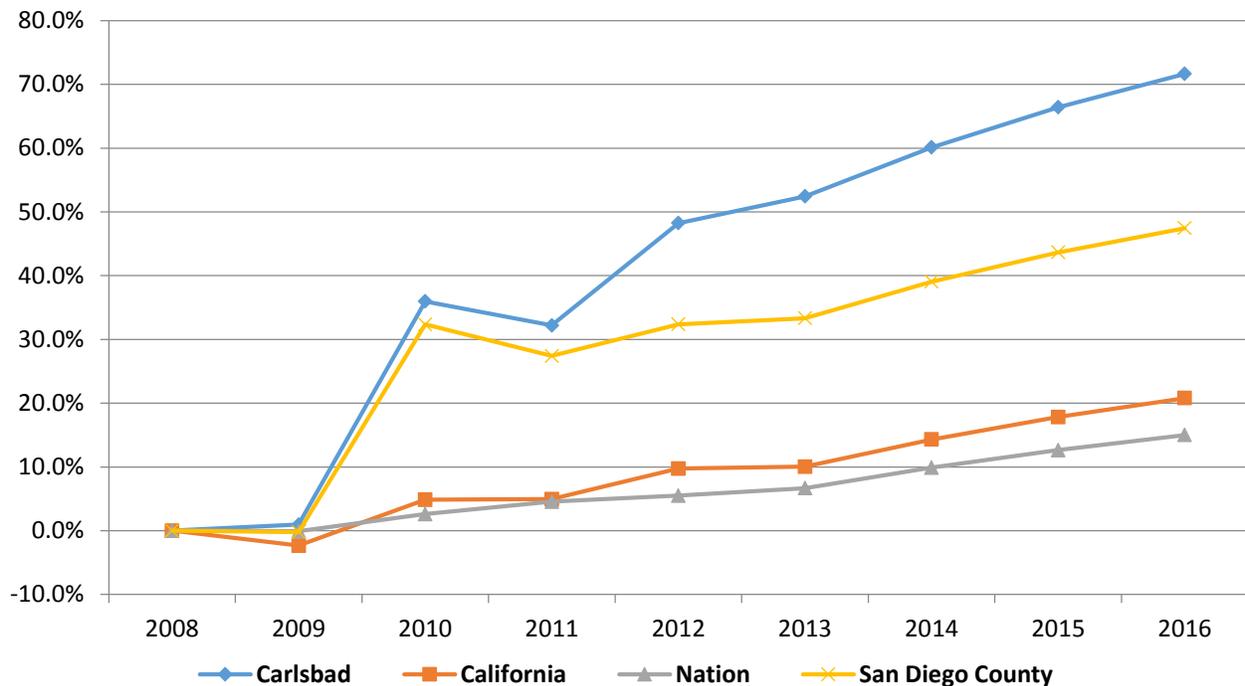
Some of the key occupations in the primary medical devices industry in Carlsbad, include:

- Team Assemblers (166 - \$11.46 Median hourly)
- Sales Representatives (107 - \$30.60 Median hourly)
- Software Developers (75 - \$49.26 Median hourly)
- Customer Service Representatives (62 - \$17.20 Median hourly)
- General and Operations Managers (45 - \$50.60 Median hourly)

Carlsbad's Secondary Medical Devices Industry

As the figure below illustrates, the secondary medical devices industry in Carlsbad has grown considerably faster than San Diego County, California or the United States. Both Carlsbad and San Diego County experienced a significant increase in employment from 2009 to 2010, followed by a slight decline the following year and steady growth moving forward.

Figure 2: Proportional Change in Employment in Medical Devices Industry (Secondary) Historic & Forecasted



Some of the key occupations in the secondary medical devices industry in Carlsbad, include;

- Medical Scientists (179 - \$39.63 Median hourly)
- Medical & Clinical Laboratory Technicians & Technologists (137 - \$26.51 Median hourly)
- Phlebotomists (61 - \$18.35 Median hourly)
- Biochemists & Biophysicists (54 - \$44.20 Median hourly)
- Computer Hardware Engineers (52 - \$42.44 Median hourly)



BUSINESS INPUT

As part of the research of Carlsbad's medical devices industry, seven employers and industry professionals from the City's medical devices community were interviewed. The purpose of these executive interviews was to gather input from businesses about their firm and its economic and workforce development needs as well as their current and potential interactions with the City. Please note that this qualitative feedback should not be interpreted as being representative of Carlsbad's medical devices industry but is instead meant to provide an initial perspective of what some businesses within the City and the industry are focused on in terms of their attitudes and short-term needs as a business.

The Industry Expects to Grow Despite Economic Concerns

Although there are concerns about the potential impact of implementing the Patient Protection and Affordable Care Act (PPACA or Obamacare), taxes affecting their industry and the general economic uncertainty, businesses were generally optimistic that the employment growth at their business and within their industry would continue. In addition, more than half of employers indicated they had little to no difficulty finding qualified professional and technically skilled applicants.

A Positive Business Climate for Carlsbad Medical Devices Employers

The City of Carlsbad was rated positively as a place to do business; the majority of respondents rated the city as "Excellent" or "Good" with one respondent rating it as "Fair". One respondent said the city could continue on the same path and that they liked the fact that they had "very little dealings with the city" and they were not a hindrance on their ability to grow or expand.

Most businesses are primarily connected to Healthcare or the Medical Industry

While the medical devices industry is often connected with life sciences and advanced manufacturing, most businesses said they were most connected to healthcare or the medical industry. Only one business stated biotechnology was the important industry to their business.

Quality of life and Entrepreneurial Residents Drive Location Decisions

Respondents identified the quality of life and that the founders lived here, or at least close to here as the primary reasons they were located in Carlsbad. One firm indicated that the presence of Life Technologies in Carlsbad and close to their business was a key reason for deciding on Carlsbad as their business location.

The city could help support firms by giving grants, lobbying to eliminate flat tax and contributing to helping networking efforts

Several respondents said there was nothing that they could think of that the City of Carlsbad could do to help support firms like theirs that are engaged in the medical devices industry. One respondent answered that the city could help by giving grants to small startups and another respondent said they could help them with lobbying efforts to eliminate the medical devices flat tax, networking efforts and bringing together companies that could potentially partner and work with one another.

