

Electrical and Electronic Equipment Assemblers Labor Market Analysis: San Diego-Imperial Region

March 2018

Summary

This report was produced for Imperial County; however, due to insufficient data in the labor market, the greater San Diego-Imperial Region was used for analysis. The following list summarizes findings from the labor market analysis below for *Electrical and Electronic Equipment Assemblers*:

- There is insufficient data for Imperial County to determine labor market demand for *Electrical and Electronic Equipment Assemblers*; however, when analyzing data in the greater San Diego-Imperial Region between 2017 and 2022, *Electrical and Electronic Equipment Assemblers* are projected to increase by 77 jobs or three percent.
- Employers in San Diego-Imperial Region will need to hire 362 workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.
- Between 2010 and 2017, there was an average of 202 online job postings per year for *Electrical and Electronic Equipment Assemblers* in the San Diego-Imperial Region.
- There is insufficient data for Imperial County; however, when analyzing data in the greater San Diego-Imperial Region, *Electrical and Electronic Equipment Assemblers* earn median hourly earnings of \$17.32, more than the Self-Sufficiency Standard for two adults and two children (school-age) in Imperial County, which is \$11.32 per hour.
- According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, there are two Taxonomy of Programs (TOP) codes associated with this occupation: TOP 092400: Engineering Technology, General and 093420: Industrial Electronics.
- According to the TOP data, one college supplies the region with awards for this occupation: Imperial Valley College.
- Comparing labor demand (annual openings) with labor supply suggests that there is a supply gap for this occupation in the San Diego-Imperial Region, with 362 annual openings and one award. Comparatively, there are 4,115 annual openings in California and 333 completions. There are zero awards in Imperial County; however, there is insufficient labor market data to determine if there is a supply gap in Imperial County.

- Between January 1, 2015 and December 31, 2017, the top five employers in the San Diego-Imperial Region for this occupation were Teledyne Technologies, General Atomics, Serco, Mood Media Corporation and Targetcw.
- The typical on-the-job training for this profession is moderate-term on-the-job training. The typical entry-level education is a high school diploma or equivalent.

Introduction

This report provides labor market information in the San Diego-Imperial Region for the following occupational code in the Standard Occupational Classification (SOC)¹ system:

Electrical and Electronic Equipment Assemblers (SOC 51-2022): Assemble or modify electrical or electronic equipment such as computers, test equipment telemetering systems, electric motors and batteries. Sample reported job titles include:

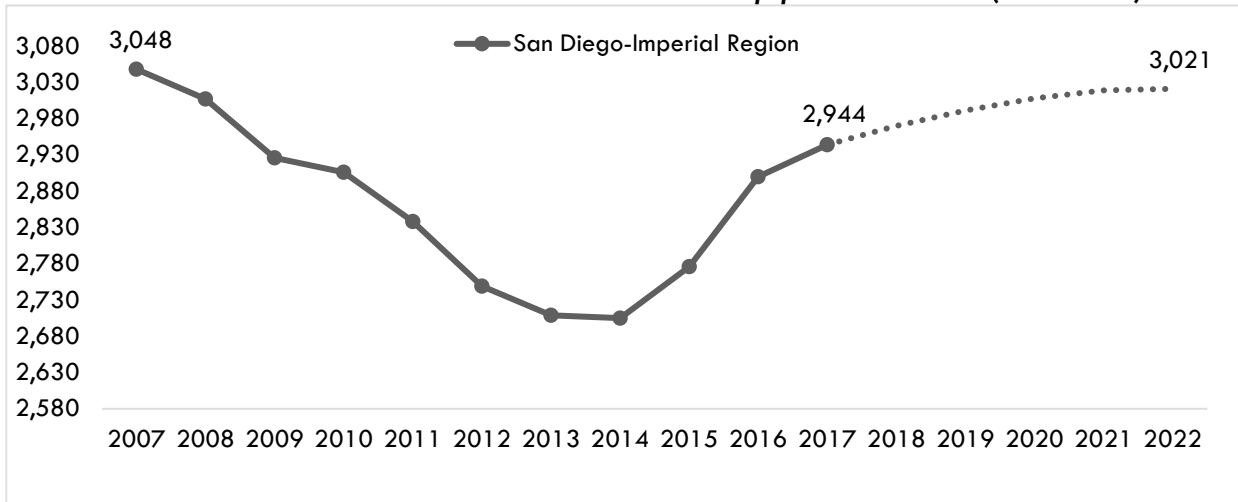
- Transformer Assembler
- Electrical Assembler
- Manufacturing Assembler
- Factory Worker
- Electronic Assembler, Group Leader
Electronics Assembler
- Assembler
- Production Worker
- Factory Assembler
- Assembly Worker

Projected Occupational Demand

There is insufficient data for Imperial County to determine labor market demand for *Electrical and Electronic Equipment Assemblers*; however, when analyzing data in the greater San Diego-Imperial Region between 2017 and 2022, *Electrical and Electronic Equipment Assemblers* are projected to increase by 77 jobs or three percent (Exhibit 1). Employers in San Diego-Imperial Region will need to hire 362 workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc/).

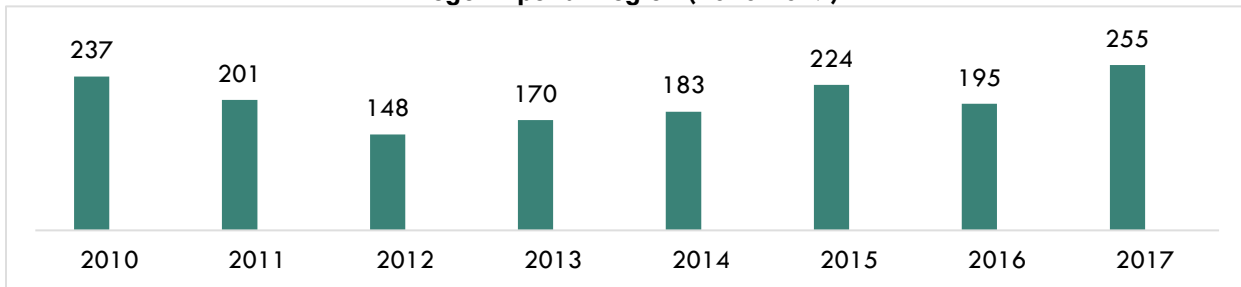
Exhibit 1: Number of Jobs for Electrical and Electronic Equipment Assemblers (2007-2022)²



Online Job Postings

Between 2010 and 2017, there was an average of 202 online job postings per year for *Electrical and Electronic Equipment Assemblers* in the San Diego-Imperial Region (Exhibit 3).

Exhibit 3: Number of Online Job Postings for Electrical and Electronic Equipment Assemblers in the San Diego-Imperial Region (2010-2017)³



Earnings

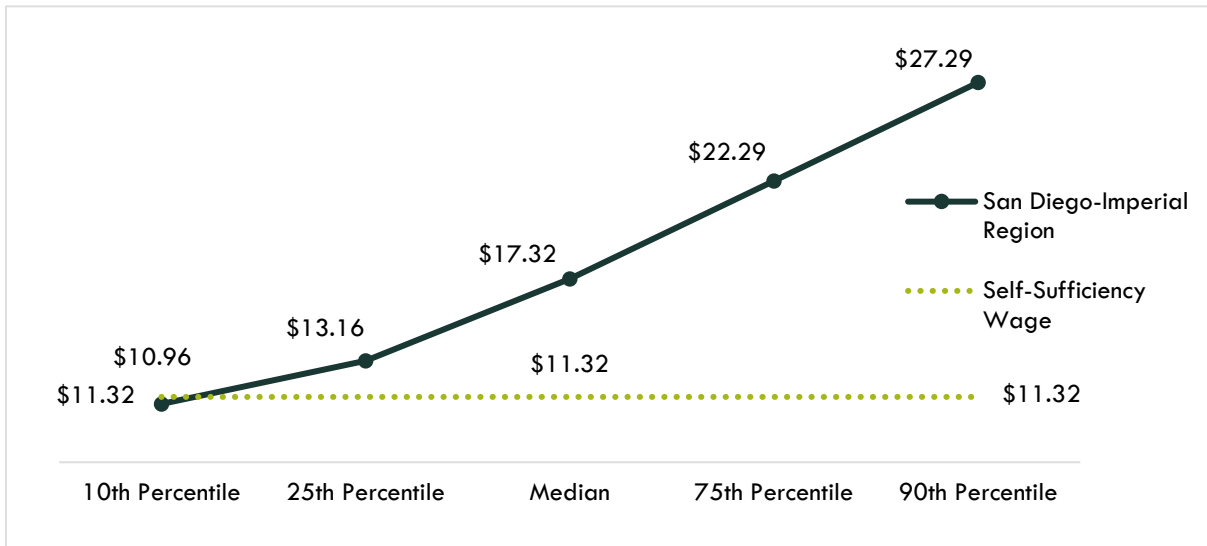
There is insufficient data for Imperial County; however, when analyzing data in the greater San Diego-Imperial Region, *Electrical and Electronic Equipment Assemblers* earn median hourly earnings of \$17.32, more than the Self-Sufficiency Standard for two adults and two children (school-age) in Imperial County, which is \$11.32 per hour (Exhibit 4).⁴

² Economic Modeling Specialists, Int'l. (EMSI). San Diego County (6073); Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW+ Self-Employed. 2007-2022.

³ Labor Insight Jobs. Burning Glass Technologies. Imperial, CA. San Diego, CA. Full years 2010-2017.

⁴ The standard for two adults and two children was chosen due to the 3.68 persons per household (2012-2016) as determined by the U.S. Census for Imperial County.

Exhibit 4: Hourly Earnings for Electrical and Electronic Equipment Assemblers in the San Diego-Imperial Region⁵



Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of related program completers/graduates/awards in the San Diego-Imperial Region. According to the California Community Colleges Chancellor’s Office Management Information System (MIS) Data Mart, there are **two** Taxonomy of Programs (TOP) codes associated with this occupation: TOP 092400: Engineering Technology, General and 093420: Industrial Electronics (Exhibit 5).

Exhibit 5: Related TOP Codes in the San Diego-Imperial Region

SOC 51-2022: Electrical and Electronic Equipment Assemblers

TOP 092400: Engineering Technology, General

TOP 093420: Industrial Electronics

According to the TOP data, **one** college supplies the region with awards for this occupation: **Imperial Valley College** (Exhibit 6)⁶.

Please note: An award is not equivalent to a single person in search of a job opening because a student may earn more than one award such as an associate degree in addition to a certificate.

⁵ EMSI. San Diego County (6073); Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

⁶ EMSI. San Diego County (6073); Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

**Exhibit 6: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2013-14 through PY2016-17 Average)**

TOP06	TOP06 Title	3-Yr Annual Average CC Awards (PY14-15 to PY16-17)	Other Educational Institutions 3-Yr Annual Average Awards (PY13-14 to PY15-16)	3-Yr Total Average Supply (PY13-14 to PY16-17)
092400	Engineering Technology, General	0	0	0
093420	Industrial Electronics	1	0	0
	<ul style="list-style-type: none"> Imperial Valley College 	1	0	1
Total				1

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply⁷ suggests that there is a **supply gap** for this occupation in the San Diego-Imperial Region, with **362** annual openings and **one** award. Comparatively, there are **4,115** annual openings in California and **333** completions.⁸ There are zero awards in Imperial County; however, there is insufficient labor market data to determine if there is a supply gap in Imperial County (Exhibit 7).

Exhibit 7: Labor Demand (Annual Openings) Compared to Labor Supply (Average Annual Awards)

Community Colleges and Other Postsecondary Educational Institutions	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or Oversupply
Imperial County	Insufficient Data	0	-
San Diego-Imperial Region	362	1	361
California	4,115	333	3,782

Please note: This is a basic analysis of supply and demand of labor for these occupations. This data should be used to discuss the potential gaps or oversupply of workers for these occupations; however, it should not be the only basis for determining whether or not a program should be developed. Additionally, the

⁷ Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

⁸ EMSI. San Diego County (6073); Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

data does not include workers who are currently in the labor force who could fill these positions or workers who are not captured by publicly available data.

Student Outcomes

Based on the information available in the CTE LaunchBoard, students who took courses in the related TOP codes exhibited the following outcomes (Exhibit 8).

**Exhibit 8: Strong Workforce Program Metrics for
TOP 092400: Engineering Technology, General in the San Diego-Imperial Region (PY2013-14)**

Metric	San Diego-Imperial	California
Number of course enrollments ⁹	18	4,578
Number of students who got a degree or certificate ¹⁰	N/A	135
Number of students who transferred ¹¹	2	485
Employed in the second fiscal quarter after exit ¹²	100%	69%
Employed in the fourth fiscal quarter after exit ¹³	100%	71%
Job closely related to field of study ¹⁴	N/A	50%
Median earnings in the second fiscal quarter after exit ¹⁵	\$11,417	\$9,386
Median change in earnings ¹⁶	423%	111%
Attained a living wage ¹⁷	N/A	58%

⁹ The number of enrollments in courses assigned to the TOP code in the selected year.

¹⁰ The number of unduplicated students who earned a locally-issued certificate, Chancellor's Office approved certificate, associate degree, and/or California Community Colleges bachelor's degree in the selected TOP code

¹¹ Students who took non-introductory courses or completed a California Community Colleges Chancellor's Office award in the selected TOP code in selected year who subsequently enrolled for the first time in a four-year institution the following year.

¹² Among all exiters with a valid SSN, the percentage who were employed two quarters after exiting California Community Colleges.

¹³ Among exiting students with a valid SSN, the percentage who were employed four quarters after exiting California Community Colleges.

¹⁴ Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

¹⁵ Among exiting students, the median second-quarter earnings one year after the year in which they exited California Community Colleges.

¹⁶ Among exiting students with a valid SSN, the percentage change in earnings one year before and one year after exiting California Community Colleges.

¹⁷ Among completers and skills-builders who exited, the proportion of students who attained a living wage.

Top Employers and Work Locations

Between January 1, 2015 and December 31, 2017, the top five employers in the San Diego-Imperial Region for this occupation were **Teledyne Technologies, General Atomics, Serco, Mood Media Corporation and Targetcw** (Exhibit 9).

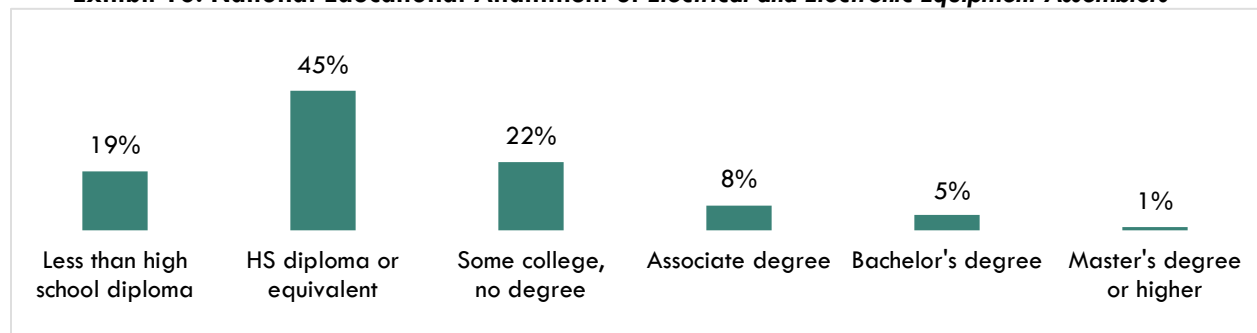
Exhibit 9: Top Employers in the San Diego-Imperial Region for *Electrical and Electronic Equipment Assemblers*

Top Employers	
• Teledyne Technologies	• Software Galaxy System
• General Atomics	• Cobham
• Serco	• Teledyne Paradise Datacom
• Mood Media Corporation	• Leidos
• Targetcw	• Teledyne Monitor Labs
• Viasat	• Teledyne Oil And Gas

Skills, Education and Certifications

Exhibit 10 indicates the educational attainment for the occupation found currently in the national labor force. There is no typical on-the-job training for this occupation. The typical entry-level education is an **associate degree**.¹⁸

Exhibit 10: National Educational Attainment of *Electrical and Electronic Equipment Assemblers* ¹⁹



*May not add to 100% due to rounding.

¹⁸ EMSI. San Diego County (6073) Imperial County (6025). 2017.04 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

¹⁹ Bureau of Labor Statistics, Educational attainment for workers 25 years and older by detailed occupation. [bls.gov/emp/ep_table_111.htm](https://www.bls.gov/emp/ep_table_111.htm)

Exhibit 11 lists the top specialized and soft skills that appeared in online job postings between January 1, 2015 and December 31, 2017.

Exhibit 11: Top Skills for *Electrical and Electronic Equipment Assemblers* in the San Diego-Imperial Region²⁰

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Hand Tools • Soldering • Power Tools • Schematic Diagrams • Screwdrivers • Mechanical Assembly • Electromechanical Assemblies 	<ul style="list-style-type: none"> • English • Mathematics • Writing • Physical Demand 	<ul style="list-style-type: none"> • Microsoft Excel • Microsoft Word

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²⁰ Labor Insight Jobs. Burning Glass Technologies. Imperial, CA. San Diego, CA. Full years 2015-2017.