



Certified Technician – Supply Chain Automation (Other Engineering and Related Industrial Technologies TOP 0999.00)

August 2022

Prepared by the South Central Coast Center of Excellence for
Labor Market Research

Program Recommendation

This report was compiled by the South Central Coast¹ Center of Excellence to provide regional labor market data for the program recommendation – Certified Technician – Supply Chain Automation. This report can help determine whether there is demand in the local labor market that is not being met by the supply from programs of study (CCC and non-CCC) that align with this occupation group.

Key Findings

- In the South Central Coast region, **the number of jobs related to Certified Technician – Supply Chain Automation are expected to decrease** for Electro-Mechanical and Mechatronics Technologists and Technicians, and **increase** for the other three related occupations.
- Certified Technician – Supply Chain Automation is anticipated to experience a **low risk of automation** for First-Line Supervisors of Production and Operating Workers, and a **high risk of automation** for the other three related occupations.
- In 2020 there were 68 regional completions in programs related to the occupations identified as aligned with Certified Technician – Supply Chain Automation and 845 openings, indicating an **undersupply**.
- Typical entry-level education ranges from **no education credential** for Conveyor Operators and Tenders, to a **high school diploma or equivalent** for First-Line Supervisors of Production and Operating Workers and Production Workers, All Other; and an **Associate's degree** for Electro-Mechanical and Mechatronics Technologists and Technicians.
- Completers of Other Engineering and Related Industrial Technologies programs from the 2018-2019 academic year statewide had a **median annual wage upon completion of \$47,148**.
- 64% of students are **employed within a year** after completing a program. (statewide)
- 66% of students **attained a living wage** within a year of completion. (statewide)
- Completers experienced an average of **+16%** change in earnings after exiting. (statewide)
- 71% of students were **part-time**, 13% **skill builders**, 39% **first-generation**, and 72% **economically disadvantaged**. (statewide)

¹ The South Central Coast Region consists of San Luis Obispo County, Santa Barbara County, Ventura County, and the following cities from North Los Angeles County: Canyon Country, Castaic, Lake Hughes, Lancaster, Littlerock, Llano, Newhall, Palmdale, Pearblossom, Santa Clarita, Stevenson Ranch, and Valencia.

Occupation Codes and Descriptions

There are four occupations in the standard occupational classification (SOC) system that were identified as related to Certified Technician – Supply Chain Automation for this analysis. The occupation titles and descriptions, as well as reported job titles, are included in Exhibit 1.

Exhibit 1 – Occupation, description, and sample job titles

SOC Code	Title	Description	Sample of Reported Job Titles
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	Operate, test, maintain, or adjust unmanned, automated, servomechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment to observe or record visual information at sites such as oil rigs, crop fields, buildings, or for similar infrastructure, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.	Designer, Electro-Mechanic, Electro-Mechanical Technician (E/M Technician), Electronic Technician, Engineering Specialist, Engineering Technician, Maintenance Technician, Mechanical Technician, Process Control Tech, Product Test Specialist
51-1011	First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Excludes team or work leaders.	Assembly Supervisor, Line Supervisor, Manufacturing Supervisor, Molding Supervisor, Plant Supervisor, Production Manager, Production Supervisor, Quality Assurance Supervisor (QA Supervisor)
51-9199	Production Workers, All Other	All production workers not listed separately.	--
53-7011	Conveyor Operators and Tenders	Control or tend conveyors or conveyor systems that move materials or products to and from stockpiles, processing stations, departments, or vehicles. May control speed and routing of materials or products.	Chipper Operator, Debarker Operator, Flumer, Line Operator, Machine Operator, Package Line Operator, Packaging Line Operator, Packing Line Operator, Process Operator, Strapper Operator

Source: O*NET Online

Current and Future Employment

In the South Central Coast region, the number of jobs related to Certified Technician – Supply Chain Automation are expected to decrease for Electro-Mechanical and Mechatronics Technologists and Technicians and increase for the other three related occupations.

Exhibit 2 – Five-year projections for Certified Technician – Supply Chain Automation in the South Central Coast region

SOC	Occupation	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	120	90	-30	-25%
51-1011	First-Line Supervisors of Production and Operating Workers	2,424	2,641	197	8%
51-9199	Production Workers, All Other	1,440	1,829	389	27%
53-7011	Conveyor Operators and Tenders	75	123	48	64%

Source: Economic Modeling Specialists International (EMSI)

Earnings

In the South Central Coast region, the average wage for the listed occupations is \$23.03 per hour.

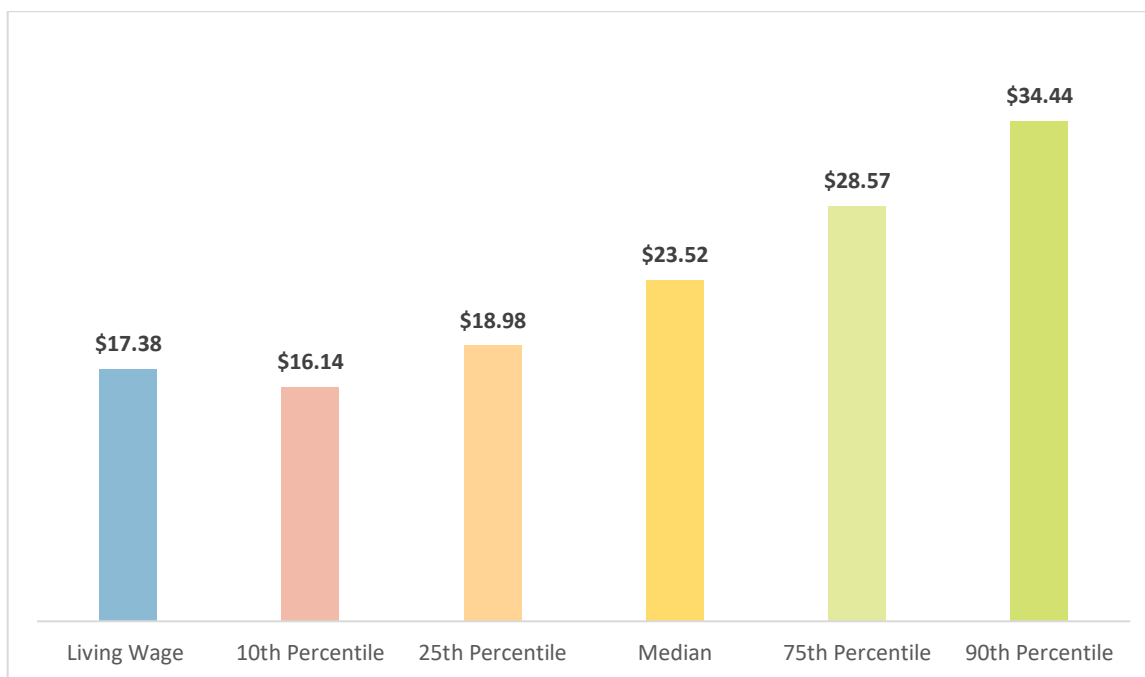
Exhibit 3 contains hourly wages and annual average earnings for these occupations. Entry-level hourly earnings are represented by the 25th percentile of wages, median hourly earnings are represented by the 50th percentile of wages, and experienced hourly earnings are represented by the 75th percentile of wages, demonstrating various levels of employment.

Exhibit 3 – Earnings for Certified Technician – Supply Chain Automation in the South Central Coast region

SOC	Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	\$23.47	\$30.19	\$36.82
51-1011	First-Line Supervisors of Production and Operating Workers	\$22.76	\$29.50	\$37.92
51-9199	Production Workers, All Other	\$14.70	\$17.86	\$19.14
53-7011	Conveyor Operators and Tenders	\$14.99	\$16.55	\$20.41

Source: Economic Modeling Specialists International (EMSI)

Exhibit 3b: Earnings for Certified Technician – Supply Chain Automation in the South Central Coast Region



Source: Family Needs Calculator (Living wage is based on Single Adult household with no children); Economic Modeling Specialists International (EMSI)

Employer Job Postings

In this research brief, real-time labor market information is used to provide a more nuanced view of the current job market, as it captures job advertisements for occupations relevant to the field of study. Employer job postings are consulted to understand who is looking for Certified Technicians – Supply Chain Automation, and what they are looking for in potential candidates. To identify job postings related to Certified Technician – Supply Chain Automation the following standard occupational classifications were used:

17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians
51-1011	First-Line Supervisors of Production and Operating Workers
51-9199	Production Workers, All Other
53-7011	Conveyor Operators and Tenders

Top Occupations

In 2021, there were 1,982 employer postings for the occupations related to Certified Technician – Supply Chain Automation.

Exhibit 4 – Top occupations in job postings and risk of automation tables

SOC Code	Occupation	Job Postings, Full Year 2021
51-9199	Production Workers, All Other	1,342
51-1011	First-Line Supervisors of Production and Operating Workers	450
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	181
53-7011	Conveyor Operators and Tenders	9

Source: Labor Insight/Jobs (Burning Glass)

SOC Code	Occupation	Risk of Automation
51-9199	Production Workers, All Other	High
51-1011	First-Line Supervisors of Production and Operating Workers	Low
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	High
53-7011	Conveyor Operators and Tenders	High

Source: Labor Insight/Jobs (Burning Glass)

Top Titles

The top job titles for employers posting ads for jobs related to Certified Technician – Supply Chain Automation are listed in Exhibit 5. Production Worker is mentioned as the job title in 6% of all relevant job postings (123 postings).

Exhibit 5 –Job Titles (n=1,650)

Title	Job Postings, Full Year 2021
Production Worker	123
Machine Operator	104
Production Supervisor	83
Production Associate	58
Manufacturing Associate	49

Source: Labor Insight/Jobs (Burning Glass)

Top Employers

Exhibit 6 lists the major employers hiring professionals in the Supply Chain Automation field. The top employer posting job ads was Smart & Final Stores. The top worksite cities in the region for these occupations were Santa Clarita, Oxnard, Simi Valley, Thousand Oaks, and Ventura.

Exhibit 6 – Top Employers (n=1,204)

Employer	Job Postings, Full Year 2021
Smart & Final Stores	30
Avantor	29
Lockheed Martin Corporation	28
Amgen	25
Express Oxnard	24
Bimbo Bakeries Usa	21
Takeda Pharmaceuticals North America, Inc.	15
Meggitt Plc	15
Raytheon	14
Milgard Manufacturing	14

Source: Labor Insight/Jobs (Burning Glass)

Skills

The tables in Exhibit 7 list employers' most commonly requested skills in job postings related to Certified Technician – Supply Chain Automation. Scheduling is the most sought-after specialized skill for employers, followed by Machine Operation and Cleaning. Physical Abilities, Communication Skills, and Detail-Oriented were the most requested baseline skills. Microsoft Excel, Microsoft Office, and Microsoft Word were the most commonly requested software and programming skills.

Exhibit 7 – Specialized Skills (n= 10,209)

Skills	Job Postings, Full Year 2021
Scheduling	314
Machine Operation	277
Cleaning	260
Repair	254
Machinery	253
Packaging	218
Personal Protective Equipment (PPE)	173
Good Manufacturing Practices (GMP)	164
Lifting Ability	157
Manufacturing Processes	153
Hand Tools	148
Forklift Operation	144
Quality Assurance and Control	144
Basic Mathematics	125
Customer Service	118

Source: Labor Insight/Jobs (Burning Glass)

Baseline Skills (n= 5,373)

Skills	Job Postings, Full Year 2021
Physical Abilities	495
Communication Skills	452
Detail-Oriented	358
Troubleshooting	306
Organizational Skills	278
Teamwork/Collaboration	268
Computer Literacy	264
Problem Solving	259
English	252
Planning	220

Source: Labor Insight/Jobs (Burning Glass)

Software and Programming Skills (n= 848)

Skills	Job Postings, Full Year 2021
Microsoft Excel	198
Microsoft Office	177
Microsoft Word	110
Enterprise Resource Planning (ERP)	54
Microsoft Powerpoint	46
SAP	33
Microsoft Outlook	27
Microsoft Windows	20
Microsoft Access	15
Word Processing	14

Source: Labor Insight/Jobs (Burning Glass)

The table below lists the skill clusters most in demand for Certified Technician – Supply Chain Automation occupations.

Skill Clusters in Demand (n= 8,812)

Skill Cluster	Job Postings, Full Year 2021
Manufacturing and Production: Machinery	520
Manufacturing and Production: Manufacturing Processes	342
Human Resources: Occupational Health and Safety	339
Administration: Scheduling	314
Customer and Client Support: Basic Customer Service	314
Information Technology: Microsoft Office and Productivity Tools	241
Maintenance, Repair, and Installation: Equipment Repair and Maintenance	237
Supply Chain and Logistics: Material Handling	224
Marketing and Public Relations: Packaging and Labeling	221
Business: People Management	195

Source: Labor Insight/Jobs (Burning Glass)

Industry Concentration

Exhibit 8 shows the industries with most Certified Technician – Supply Chain Automation postings in the South Central Coast. Note: 37% of records have been excluded because they do not include an industry. As a result, the chart below may not be representative of the full sample.

Exhibit 8 – Industries employing the most in the Certified Technician – Supply Chain Automation field, 2021

Industry	Occupation Group Jobs in Industry	% of Occupation Group in Industry
Manufacturing	715	57.2%
Retail Trade	127	10.2%
Professional, Scientific, and Technical Services	71	5.7%
Accommodation and Food Services	55	4.4%
Retail Trade	73	7.6%

Source: Labor Insight/Jobs (Burning Glass)

Certifications

Exhibit 9 lists the most in-demand certifications in the Certified Technician – Supply Chain Automation field. The top requested certification in job postings was Driver's License.

Exhibit 9: Certifications (n= 421)

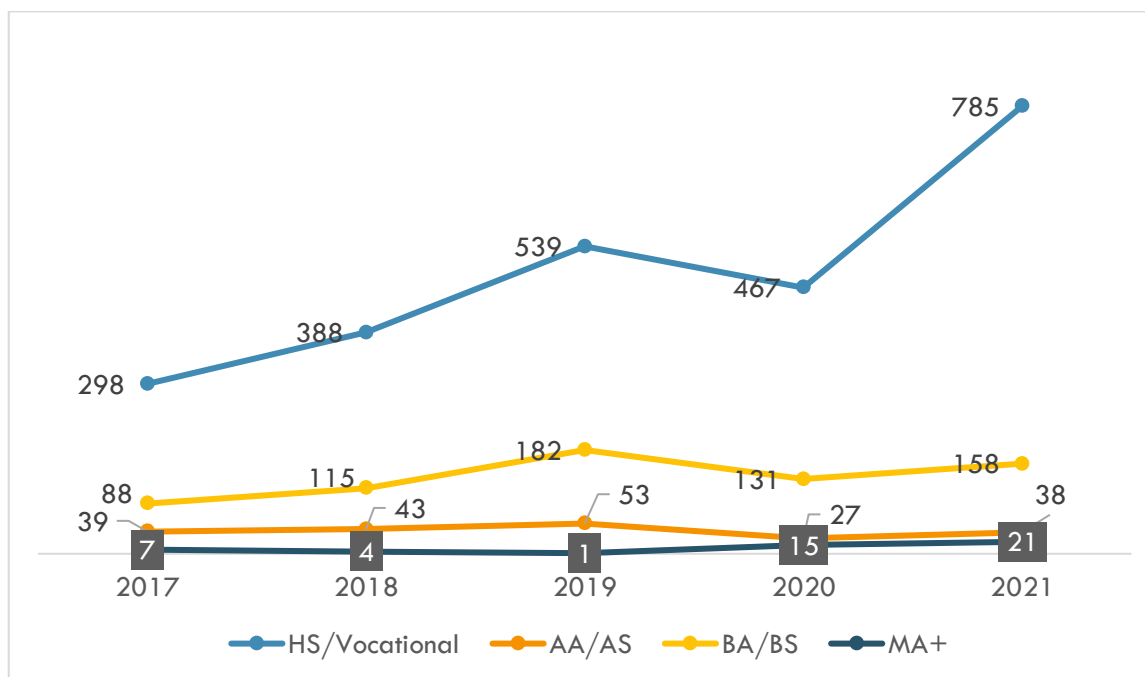
Skills	Job Postings, Full Year 2021
Driver's License	182
Security Clearance	40
OSHA Forklift Certification	39
Casino Gaming License	17
American Society For Quality (ASQ) Certification	15
Wastewater Treatment Plant Operator	12
First Aid Cpr Aed	8
Certified Quality Engineer (CQE)	8
Cdl Class C	8
Certified in Production and Inventory Management (CPIM)	7

Source: Labor Insight/Jobs (Burning Glass)

Job Postings - Minimum Educational Attainment – Change Over Time

Exhibit 10 displays the change in job advertisements over the last five years for Certified Technician – Supply Chain Automation, according to the minimum advertised education. In 2021, there were 1,002 total job ads posted with advertised minimum education, with 785 of them requiring a high school diploma or vocational degree.

Exhibit 10: Educational Demand, Minimum Advertised (n= 1,002)



Source: Labor Insight / Jobs (Burning Glass)

Job Postings – Proportion of Job Postings by Minimum Educational Attainment Required

To gauge employer preference for candidates with particular education levels, the proportion of job postings by minimum advertised education appears in Exhibit 11. Employers posting job ads for Certified Technician – Supply Chain Automation have frequently sought candidates with a high school diploma or vocational degree, ranging from a low of 69% in 2017 to a high of 78% in 2021.

Exhibit 11: Occupational Demand by Education, Minimum Advertised (n=1,350)

Minimum Education Requirement	2017	2018	2019	2020	2021
HS Diploma / Vocational Training	69%	72%	70%	73%	78%
Associate Degree	9%	8%	7%	4%	4%
Bachelor's Degree	20%	20%	24%	21%	16%
Graduate Degree	2%	1%	-	1%	2%

Source: Labor Insight/Jobs (Burning Glass)

Education and Training

Exhibit 12 shows the typical entry-level education requirement for the occupations of interest, along with the typical on-the-job training needed to attain competency in the occupation.

Exhibit 12 – Education and Training Requirements

SOC	Occupation	Typical entry-level education	Typical on-the-job training
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	Associate's degree	None
51-1011	First-Line Supervisors of Production and Operating Workers	High school diploma or equivalent	None
51-9199	Production Workers, All Other	High school diploma or equivalent	Moderate-term on-the-job training
53-7011	Conveyor Operators and Tenders	No formal education credential	Short-term on-the-job training

Source: Bureau of Labor Statistics Employment Projections (Educational Attainment)

Regional Completions and Openings

There were 68 regional completions (2020) and 845 regional openings (2020) in the South Central Coast region in programs related to the occupations identified as related to Certified Technician – Supply Chain Automation.

Exhibit 13 – Completions and Openings

10 Regional Institutions had Related Programs (2020)	68 Regional Completions (2020)	845 Annual Openings (2020)
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Source: Economic Modeling Specialists International (EMSI)

Related Programs

CIP Code	Program	Completions (2020)
47.0105	Industrial Electronics Technology/Technician	33
15.0613	Manufacturing Engineering Technology/Technician	22
15.1501	Engineering/Industrial Management	9
15.0000	Engineering Technologies/Technicians, General	3
15.9999	Engineering/Engineering-Related Technologies/Technicians, Other	1
15.0805	Mechanical/Mechanical Engineering Technology/Technician	0

Source: Economic Modeling Specialists International (EMSI)

CCC and Non-CCC Awards

Most awards related to Certified Technician – Supply Chain Automation in the South Central Coast region were earned by students at community colleges. California Polytechnic State University—San Luis Obispo offers a master’s degree in Engineering/Industrial Management. In 2020, this program had 9 completers. Exhibit 14 below lists the number of completers for each school in the South Central Coast Region.

Exhibit 14: CCC and Non-CCC Awards in the South Central Coast Region, 2020

CCC Programs		Completers
Antelope Valley College		33
College of the Canyons		18
Allan Hancock College		3
Ventura College		3
College of the Canyons		1
College of the Canyons		1
Non-CCC Programs		Completers
California Polytechnic State University, San Luis Obispo		9

Source: Economic Modeling Specialists International (EMSI)

Student Outcomes

The CTE LaunchBoard provides student outcome data on the effectiveness of CTE programs. The following student outcome information was collected from exiters of Other Engineering and Related Industrial Technologies Program (TOP: 0999.00) statewide for the 2018-19 academic year.

- Completers of statewide Other Engineering and Related Industrial Technologies programs from the 2018-2019 academic year had a **median annual wage upon completion of \$47,148**.
- 64% of students are **employed within a year** after completing a program. (statewide)
- 66% of students **attained a living wage** within a year of completion. (statewide)
- Completers experienced an average of **+16%** change in earnings after exiting. (statewide)
- 71% of students were **part time**, 13% **skill builders**, 39% **first-generation**, and 72% **economically disadvantaged**. (statewide)

Sources

O*Net Online, Labor Insight/Jobs (Burning Glass), Economic Modeling Specialists International (EMSI), MIT Living Wage Calculator, Bureau of Labor Statistics (BLS) Education Attainment, California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, CTE LaunchBoard, Statewide CTE Outcomes Survey, Employment Development Department Unemployment Insurance Dataset

Notes

Data included in this analysis represent the labor market demand for relevant positions most closely related to Certified Technician – Supply Chain Automation. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study and can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions. All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.