



MetroDenverEDC



2023 INDUSTRY CLUSTER STUDY

# BROADBAND & DIGITAL COMMUNICATION

METRODENVER.ORG

## ABOUT



The Metro Denver Economic Development Corporation (Metro Denver EDC) is the nation's first regional economic development entity, bringing together the entire nine-county Metro Denver and Northern Colorado region to promote and support the mutual growth of our region's talent and businesses, while also recruiting new talent and new business to join us living a prosperous and elevated life.

Metro Denver is a region on the rise, fueled by the passion of changemakers and boundary breakers that are in it for the long haul. With a culture that's always moving forward, the companies that call this community home are poised to make a real impact - one that goes beyond their own four walls - as we work together to build the best possible future for our region.

As part of the Metro Denver EDC brain trust, our 250+ investors get unmatched access to the decisions, directions and collaboration opportunities that are transforming the landscape of our economy, region and communities.

Join us to make your voice heard, collaborate with the region's top business executives, and be part of leading the changes you want to see happen.

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## 2023 INDUSTRY CLUSTER SCAN

# BROADBAND & DIGITAL COMMUNICATION

By The Numbers

## INDUSTRY SNAPSHOT US NUMBERS IN PARENTHESIS



**COMPANIES:** 6,400  
**AVERAGE WAGE:** \$120,150  
**EMPLOYMENT CONCENTRATION RANKING:** 5

**Direct Employment:** 42,400

**Direct Employment Concentration (2022):** 2.0% (0.6%)

**5-Year Employment Growth (2017 - 2022):** 1.0% (-14.4%)

**1-Year Employment Growth (2022):** -3.0% (-0.7%)

# INDUSTRY OVERVIEW

The Metro Denver and Northern Colorado region has evolved as a major Broadband & Digital Communications hub. The region is the birthplace of the cable television industry and is home to a significant concentration of cluster companies. With 42,400 employees, the region is more than 3 times more concentrated than the U.S. The region has the nation's fifth-highest Broadband & Digital Communications employment concentration and has ranked among the top 10 in employment concentration since 2006. Employment in the Broadband & Digital Communications cluster declined 3% in 2022, after rising 0.8% in 2021.

The number of Broadband & Digital Communications cluster companies rose 44% between 2017 and 2022, reaching a level that is five times higher than 2000. Major companies in the region include Comcast, DISH Network, Lumen Technologies, and Charter Spectrum, among others. The region is home to one of Comcast's largest employment centers and the Denver South region houses the largest campus for Charter Spectrum, serving as the largest Charter market. The region is also home to small Broadband & Digital Communications companies and startups alike, with 94% of the region's companies having less than 10 employees. Four Broadband & Digital Communications companies— Denver-based FluentStream, Castle Rock's Lake Ball and Innovative Business Solutions, and Windsor's Hixxa Communications —were named among Inc. 5000's list of the fastest-growing private companies in the U.S. in 2022. Dish Network is in the No. 2 spot on the Denver Business Journal's list of publicly traded companies in Colorado, based on 2021 revenue.

Across the country, the COVID-19 pandemic prompted a sudden shift to remote work and an increased demand for digital and streaming services. While many workers have since returned to the office full-time, there are still many workers who prefer the flexibility of hybrid or remote working options, and many companies that have made the switch to offering work-from-home options on a permanent basis. This has been a prominent trend across Metro Denver. The region ranks high for a work-from-home environment due to its high internet speeds and high quality of life. Colorado ranked No. 4 among the best states to work remotely, according to a Ziplly Fiber analysis. Further, Fort Collins ranked No. 7 and Thornton ranked No. 10 in a 2022 Ownerly study of America's best cities for remote workers who love the outdoors.

According to the "2022 Tech Sentiment Report" from Dice, 90% of tech workers believe the opportunity to work remotely is an important factor when considering their next job. Metro Denver has continued to grow as a hub for remote tech workers, meaning access to affordable high-speed broadband internet and the expansion of broadband to rural Colorado communities remains a top priority. Governor Jared Polis recently announced his goal to connect 99% of Coloradans with high-speed internet over the next 5 years. As part of the 2021 U.S. Infrastructure Bill, Colorado is slated to receive \$100 million to improve broadband services across the state. In 2022, the U.S. Department of Treasury approved the state's plan to use \$171 million from the American Rescue Plan to improve broadband across Colorado with the goal of connecting 18,000 unserved households with reliable internet.

Metro Denver is only 346 miles west of the geographic center of the continental United States, offering companies in the Broadband & Digital Communications cluster an excellent location for doing business with the entire nation. Located on the 105th meridian, the region's central location at the exact midpoint between Tokyo and Frankfurt positions the region favorably to serve growing world markets. The region is the largest area to offer one-bounce satellite uplinks that provide real-time connections to six out of seven continents in one business day. The Mountain Time Zone location allows efficient communication with both coasts as well as with Europe, South America, and Asia in the same business day. Metro Denver is supported by access to national and global business hubs through a strong transportation infrastructure, including close proximity to Denver International Airport (DEN), boasting some of the best connectivity of any airport in the nation with three-hour flights reaching anywhere in the Continental U.S.

<sup>1</sup>The nine-county region is comprised of two principal areas, Metro Denver and Northern Colorado. Metro Denver consists of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson counties. Northern Colorado consists of Larimer and Weld counties.

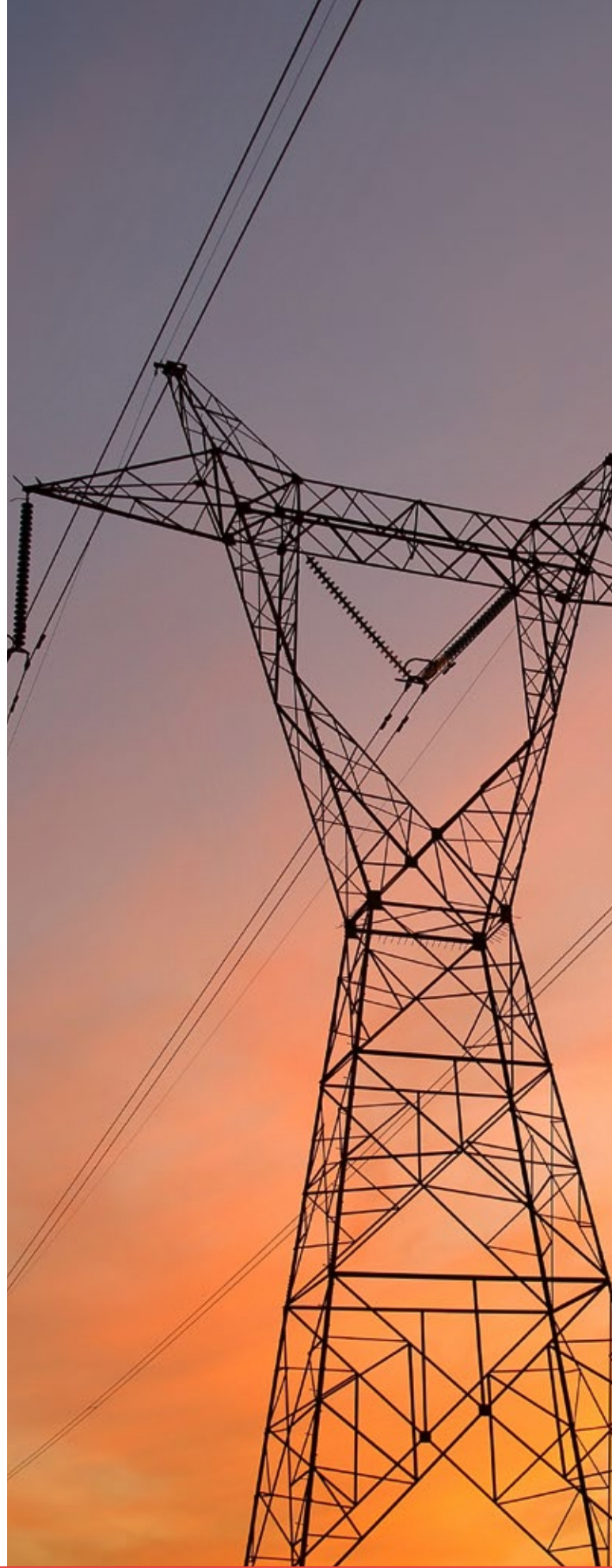


# CLUSTER DEFINITION

The Metro Denver and Northern Colorado region is comprised of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Weld counties. In this report, the Broadband & Digital Communications cluster consists of 16, six-digit North American Industry Classification System (NAICS) codes including companies that deliver voice, data, and video to end users. It includes landline and wireless telephone communications companies, radio and television communications services, and cable and internet service providers. This definition allows for a comparative analysis of the Metro Denver and Northern Colorado region's Broadband & Digital Communications cluster relative to other metropolitan regions across the nation.

# CLUSTER JOB TRENDS

- » Employment in the region's Broadband & Digital Communications cluster declined 3% between 2021 and 2022, compared with a 0.7% decline nationwide.
- » The region has ranked among the top 10 metro areas in employment concentration since 2006.
- » Between 2017 and 2022, the cluster posted 1% employment growth, more than 15 percentage points higher than -14.4% posted nationally.
- » The number of companies in the cluster increased 44% over the past five years, compared with 12.1% nationally.
- » Broadcasting & Digital Communications cluster companies are primarily small, with 93.7% of the companies employing fewer than 10 people.





# MAJOR INDUSTRY INVESTMENTS, EXPANSIONS & MILESTONES

## Headquarter Relocations & Expansions

- » After nearly 20 years in the Liberty Media Headquarters campus in Englewood, entertainment and media company **Starz** moved to a new 100,000-square-foot space in Greenwood Village. The company plans to keep its Denver-area employment at about 400.
- » Denver-based live streaming TV startup **Frndly TV Inc.** moved its headquarters to a larger space at 1777 S. Harrison Street with plans to expand its headcount by 10 to 20 from about 39 people.

## Venture Capital & Financing Deals

- » Startups in the region raised \$5.7 billion in 2022, down from the nearly \$7 billion raised in 2021 but much higher than the previous record of \$2.7 billion in 2020.
- » Englewood-based broadband distributor and reseller **Digicomm International** plans to hire more employees and offer more services following a significant investment from New York firm, Crestview Partners. Digicomm plans to increase its headcount from 90 to 150, as well as expand the company into adjacent markets, such as 5G wireless technology. The company will also focus on growing its broadband market and offering more products and services to its current customers.

## 5G Deployment

- » Englewood-based **DISH Wireless** is constructing the nation's fourth wireless network, a 5G cellular network that the company is calling Project Genesis. In mid-June 2022, the network launched in more than 120 cities, including Grand Junction and Pueblo, reaching their interim goal of 20% national coverage. The project is expected to ramp up to 70% national coverage within the next year. DISH Wireless has hired more than 1,600 workers in the past 18 months and plans to add 500 more.

## Broadband

- » Colorado officials expect to connect 18,000 homes, businesses, and farms to high-speed internet in coming years through a \$171 million grant program from the federal government. The money comes from the \$10 billion coronavirus capital projects fund, which was included in the \$1.9 trillion American Rescue Plan that passed in March 2021. Colorado will use the money for the Advance Colorado Broadband competitive grant program, which aims to deliver 100 megabits-per-second internet to households and businesses and prioritizes parts of the state with the lowest levels of internet service.
- » Longmont's **NextLight** fiber-optic network ranked among the nation's fastest internet providers for the fifth-consecutive year, according to PC Magazine. **Fort Collins Connexion** also ranked among the top 10 fastest Satellite ISPs nationally.
- » **Comcast Corp.** is offering businesses in Metro Denver a new tier of multi-gig internet that promises download speeds 2 gigabits-per-second faster than previous network connections. Denver is one of 34 markets that received the network upgrade over the last five years.
- » The city of Lakewood has teamed up with **Google Fiber** to bring gigabit service to the city. The company's first "fiber-to-the-home" service in Colorado is scheduled to start going into the ground in Lakewood in the first quarter of 2023.
- » Boulder-based **Zayo Group Holdings Inc.** deployed a 400G fiber-optic route between Paris and Marseille. The route is built to support and transport the fast-paced bandwidth growth and increasingly high demand for connectivity in these markets, giving customers a more reliable, scalable, and secure way to share data to the rest of Europe and the U.S. To date, Zayo owns and operates 2.2 million kilometers of fiber and connects 16 key metro markets and nine countries in Europe.

Satellite broadband is prompting new technologies and innovation, offering customers internet access from signals bounced off a satellite overhead rather than through a fiber optic line, coaxial cable, or mobile phone network on the ground.

- » Amazon's **Project Kuiper** internet services hired Centennial-based **United Launch Alliance (ULA)** to launch 47 rockets carrying about 2,000 satellites in the coming years. Project Kuiper is a low Earth orbit satellite system designed to provide fast, affordable broadband to unserved and underserved communities around the world. Project Kuiper's license from the Federal Communications Commission requires half the 3,236 total satellites be launched by 2026 and the full constellation by 2029.

## Research & Development

- » Federal laboratories dedicated to supporting the Broadband & Digital Communications cluster include the **Institute for Telecommunication Sciences**, the **National Telecommunications and Information Administration**, and **NIST's Communications Laboratory**.

# INDUSTRY INFRASTRUCTURE

CableLabs®

**CBA**  
Colorado Broadcasters Association

**CTA** COLORADO  
TELECOMMUNICATIONS  
ASSOCIATION

  
COLORADO  
TECHNOLOGY  
ASSOCIATION

  
COLORADO RURAL BROADBAND PROVIDERS



# BROADBAND & DIGITAL COMMUNICATIONS ECONOMIC PROFILE

## 9-County Rankings, 2022<sup>2</sup>

### Broadband & Digital Communications Summary

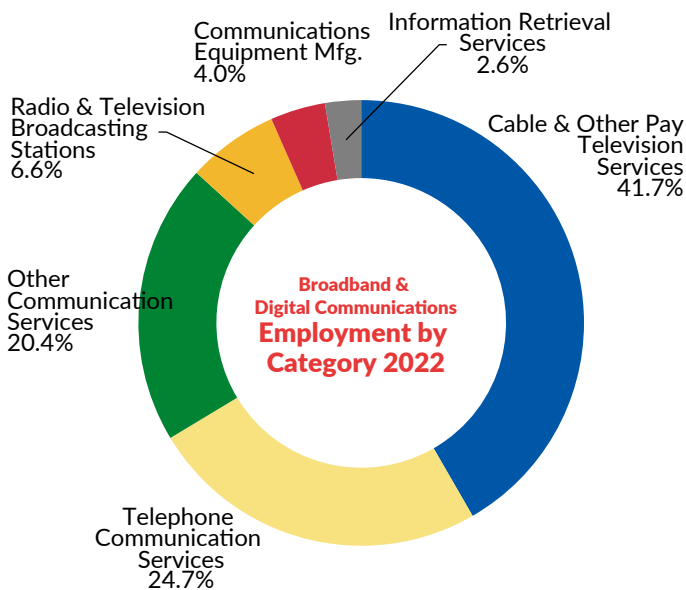
Broadband & Digital Communications Employment Rank **9th**  
(down from 7th in 2021)

Broadband & Digital Communications Employment Concentration Rank **5th**  
(down from 4th in 2021)

### Broadband & Digital Communications Employment & Company Profile, 2022

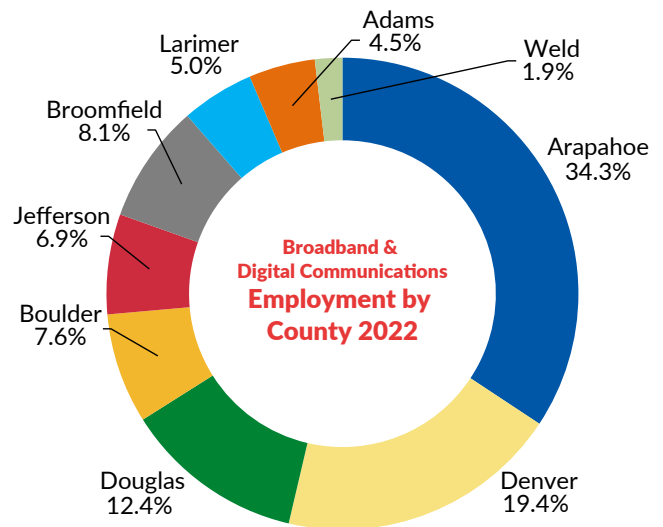
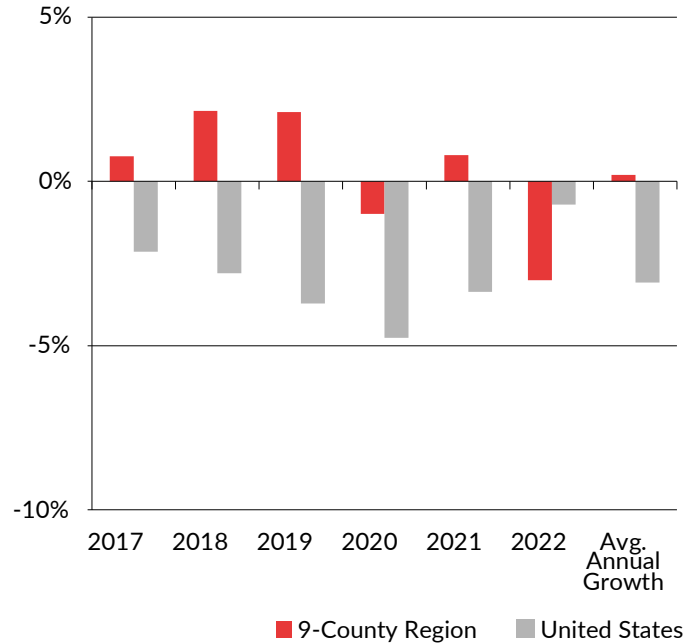
	9-County Region	USA
Direct Employment, 2022	42,400	951,710
Number Of Direct Companies, 2022	6,400	163,060
One-Year Direct Employment Growth, 2021-2022	-3.0%	-0.7%
Five-Year Direct Employment Growth, 2017-2022	1.0%	-14.4%
Avg. Annual Direct Employment Growth, 2017-2022	0.2%	-3.1%
Direct Employment Concentration	2.0%	0.6%
% Of Companies With <10 Employees	93.7%	86.9%

Sources: Dun & Bradstreet, Inc., Hoover's Online Database; Market Analysis Profile, 2017-2022; Development Research Partners.



Sources: Market Analysis Profile, 2022; Development Research Partners.

## Broadband & Digital Communications Number of Employees Growth Rate



Sources: Market Analysis Profile, 2022; Development Research Partners.

<sup>2</sup>Direct employment rank based on the number of employees in the industry cluster in a region. Employment concentration rank based on the direct cluster employment in a region expressed as a percent of total employment in all industries in the same region. Rankings are for the 50 largest metropolitan statistical areas (MSAs). No multiplier effects are included. 1st = highest for both rankings.

# BROADBAND & DIGITAL COMMUNICATIONS WORKFORCE PROFILE

- » Denver ranked No. 10 on CBRE's 2022 Scoring Tech Talent report and had the seventh fastest-growing tech labor pool among large tech talent markets in North America.
- » Telecommunications and Internet Services ranked second among the leading tech industry sectors by employment in Metro Denver for the fifth-consecutive year, according to CompTIA's Cyberstates 2022 report.
- » Cyberstates ranked Denver third among the top metros by net tech employment job gains in 2022 and eighth among top metros by tech economic impact as a percent of local economy.
- » Denver ranked No. 6 for the highest average tech salaries in the U.S. in Dice's 2022 Tech Salary Report.

## Age Distribution

- » The Broadband & Digital Communications cluster has a larger share of employees that are between the ages of 35 and 54 years (52.1%), compared with the age distribution of all industries across the nine-county region (42%).

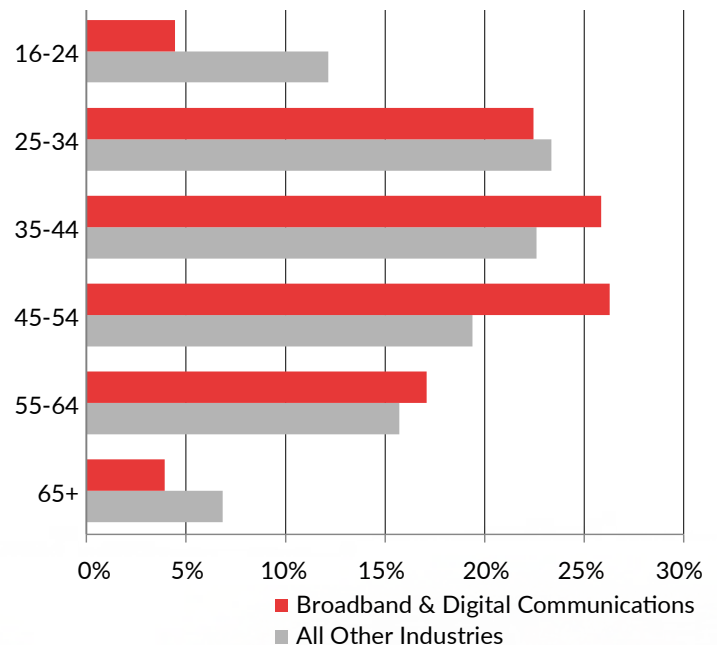
## Wages

- » The 2021 average annual salary for workers in the Broadband & Digital Communications cluster was \$120,150 in the region, which was 13.3% higher than the national average of \$106,090.
- » The average starting salary for workers in the Broadband & Digital Communications cluster was \$59,730 in the region, compared with \$43,070 across all industries.
- » Total payroll reached \$5.3 billion in 2021, rising 3.3% over-the-year.

## Occupation & Salary Profile

The Occupation & Salary Profile below includes the 10 largest cluster occupations. It details the total number of workers employed in that occupation across all industries, the number of available applicants that would like to be working in that occupation, the number of recent graduates that are qualified for that occupation, and the median and sample percentile annual salaries.

**Metro Denver and Northern Colorado's Distribution of Employment by Age**



Source: QCEW Employees, Non-QCEW Employees, & Self Employed - Lightcast 2022.4 Class of Worker.



# METRO DENVER & NORTHERN COLORADO BROADBAND & DIGITAL COMMUNICATIONS OCCUPATION & SALARY PROFILE, 2022

10 Largest Broadband & Digital Communications Occupations in Metro Denver and Northern Colorado	Total Working Across All Industries (2022)	Number of Available Applicants (2022)	Number of Graduates (2021)	Median Salary	10th Percentile Salary	25th Percentile Salary	75th Percentile Salary	90th Percentile Salary
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	29,574	540	6,414	\$65,884	\$36,133	\$47,997	\$106,356	\$155,057
Telecommunications Equipment Installers and Repairers, Except Line Installers	3,131	64	22	\$60,424	\$45,526	\$50,153	\$77,692	\$95,885
Customer Service Representatives	35,805	1,702	10,041	\$37,554	\$28,962	\$31,804	\$47,206	\$59,067
Electronics Engineers, Except Computer	5,319	13	966	\$119,639	\$76,331	\$94,150	\$150,131	\$169,576
Software Developers	37,179	260	3,228	\$119,901	\$76,977	\$97,231	\$140,252	\$167,728
Computer Network Architects	7,069	19	2,801	\$128,221	\$78,041	\$97,655	\$161,093	\$175,742
Business Operations Specialists, All Other	28,003	366	11,159	\$78,945	\$47,302	\$60,749	\$103,240	\$145,205
Market Research Analysts and Marketing Specialists	21,225	190	8,296	\$76,476	\$44,466	\$56,605	\$102,678	\$132,186
Telecommunications Line Installers and Repairers	1,080	23	20	\$58,151	\$36,992	\$44,862	\$76,060	\$85,935
Network and Computer Systems Administrators	9,772	174	3,080	\$96,298	\$58,395	\$74,732	\$117,007	\$132,932

Notes: The number of available applicants is a point-in-time measurement of the number of people who have registered in Colorado's workforce development system's statewide database, Connecting Colorado, as being able and available to work in a particular occupation. Results should be interpreted with caution since registration in Connecting Colorado is self-reported. In addition, the skills rubric may assign up to four occupation codes for each registrant. Therefore, the number of available applicants could be inflated. Source: Arapahoe/Douglas Works!; QCEW Employees, Non-QCEW Employees, & Self Employed - Lightcast 2022.4 Class of Worker.



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