



Data Centers and the Local Workforce

Should your community be building data centers?

It's a **complex decision**. Any regional leader facing this question has to navigate a gauntlet of challenging factors, especially public backlash and environmental impact, which must be weighed against the potential upside of new, high-tech, multi-million dollar investments.

This whitepaper won't tell you whether or not data centers are worth the cost for your community. But we can tell you this: you can't make that decision without understanding the implications for the local workforce.

The overall workforce impact includes more than job estimates announced in a press release. It also depends on the size and duration of construction employment, the number of permanent on-site roles, the availability of local workers, the skills gaps between adjacent occupations and data center jobs, and the risk that scarce labor is pulled away from other local priorities.

Without understanding the workforce math and long-term impact, communities risk overestimating the benefits and underestimating the bottlenecks to take advantage of the data center boom.

In deciding whether data centers are the right choice for your community, **here are three questions regional leaders can ask.**

1. What Are The Economic Benefits of a Data Center?
2. Do You Have Enough Workers To Build A Data Center?
3. If You Build A Data Center, Can You Maintain It?



1.

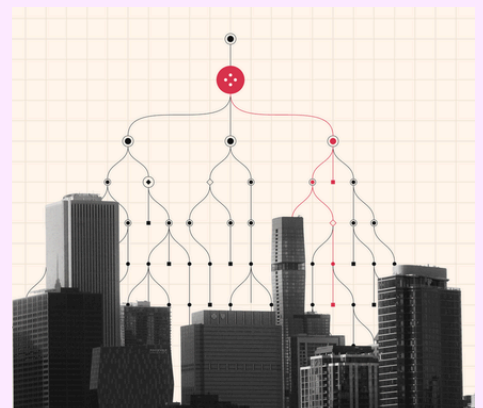
What Are The Economic Benefits of a Data Center?

The Lightcast Input-Output Model calculates the economic ripple effect of an industry expansion or investment by estimating earnings, tax revenue, and supply-chain activity across a region. Starting with the “initial effect” being modeled (e.g., 100 new jobs in a given field), we can forecast the supply-chain impact as the initial business purchases goods and services from local suppliers, and they in turn purchase them from others. The model also includes the “induced effect” of household spending as workers affected by these changes put their earnings back into the economy. Data centers are a perfect candidate for this kind of analysis.

Lightcast Input-Output Model

Turn complex scenarios into clear, defensible impact stories. Backed by two decades of labor market intelligence, the Lightcast Input-Output Model helps organizations estimate how jobs, earnings, and industry output ripple through regional economies.

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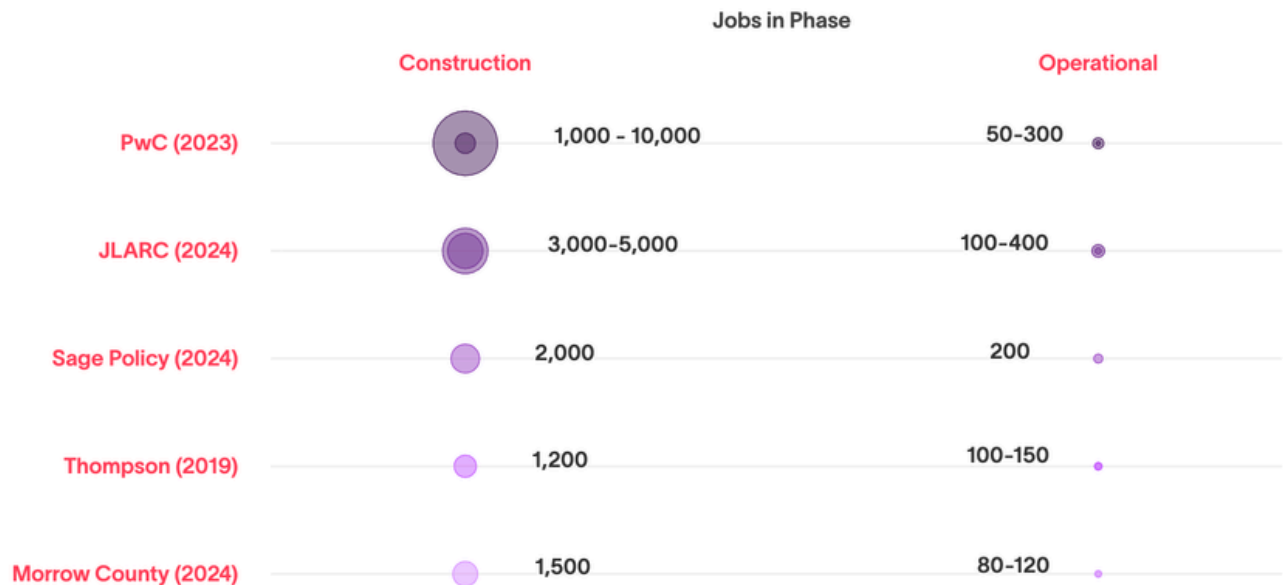


[A survey on the size of data-center workforces](#), from an analysis of several economic reports, reveals that the short-term construction demand ranges from 1,000 up to 10,000, while the long-term operational need is much lower, ranging from 50 up to 400 permanent staff.

Already, this highlights one of the most important concepts for regional leaders to understand about data center planning: the headline-grabbing number of jobs in the construction phase are temporary, while the job gain in the permanent operational phase is much lower.

Data center employment is heavily concentrated in temporary jobs.

Across compiled studies, long-term operational employment remains small relative to construction-phase job creation.



Employment estimates summarized by Michael J. Hicks, Data Centers and Local Job Creation (2025), as reproduced by Brookings Metro. Data visualization by Lightcast

We can analyze both phases in the I-O model. For simplicity's sake, we used round numbers within this range for our analysis: 1,000 construction jobs and 100 long-term operational jobs. The objective here is not to produce a high-level, bespoke consulting analysis. Instead, we are providing "back-of-the-



envelope" estimates—data that is robust enough to drive meaningful comparisons without requiring precision down to the last dollar. We chose the Laredo, Texas metro area because it already possesses an established presence in this industry, we are not starting from zero. This existing industrial footprint allows us to utilize these figures effectively, even as we model the introduction of a new data center into the local ecosystem.

Impact of 1,000 Data-Center Construction Jobs in Laredo, TX

\$73M

CHANGE IN EARNING

1.37 MULTIPLIER

1,443

CHANGE IN JOBS

1.44 MULTIPLIER

\$4M

CHANGE IN TAXES ON
PRODUCTION AND IMPORTS

An injection of nearly \$74 million into the local economy and over \$4.6 million is on the table when adding 1,000 construction jobs, and a multiplier of 1.44 (every job added in the industry leads to the creation of more elsewhere in the economy).

Our analysis focuses strictly on the Commercial and Institutional Building Construction industry. While sectors like Electrical Contractors, Plumbing and HVAC Contractors, Engineering, and Architectural Services are vital, they are already integrated into the model's direct, indirect, and induced spending calculations. (By not including them as separate inputs, we prevent the risk of double-counting.) It is worth noting, however, that data center projects typically demand a much higher concentration of specialized electrical and climate control expertise than standard commercial construction.

Impact of 100 Long-Term Data Center Jobs in Laredo, TX

Instead of looking at the potential economic impact of a data center in a vacuum, we should look at possible alternatives. What would it look like to add 100 new jobs in another industry?

\$8M

CHANGE IN EARNING

1.59 MULTIPLIER

174

CHANGE IN JOBS

1.74 MULTIPLIER

\$672K

CHANGE IN TAXES ON
PRODUCTION AND IMPORTS

In addition to the economic impact of the construction jobs, we can also calculate the impact of the long-term operations and maintenance of the data center. For a 100-job operational scenario, the Lightcast model estimates a 1.74 multiplier effect—every job directly added creates .74 other jobs through direct, indirect, and induced effects, along with \$8.2 million in total earnings impact and \$673,000 in taxes on production and imports. This operational scenario includes computing infrastructure providers, data processing, web hosting, and related services.

Looking at an additional \$8.2 million earned in the local economy, and over \$600,000 in new taxes, one might imagine that any economic developer would be thrilled to bring that kind of investment home to their community. However, data center investment needs to be considered against plausible alternatives, not against no investment at all. In the context of other potential employment surges, the ROI on 100 permanent data center jobs is good but not exceptional.



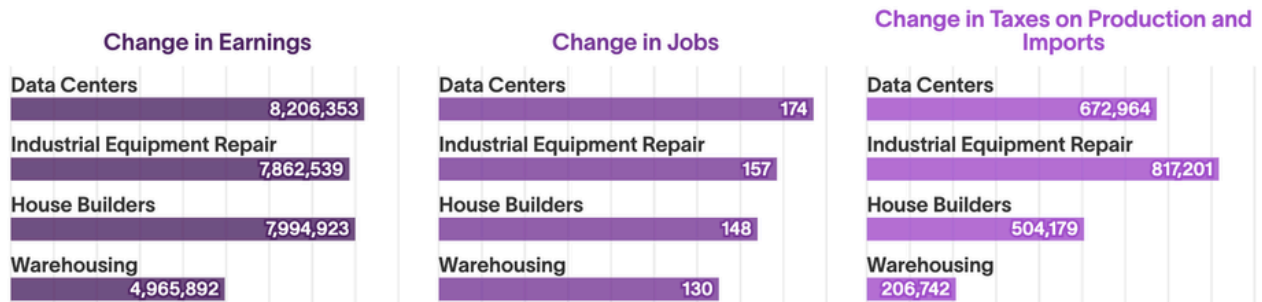
Impact of Alternative Job Scenarios in Laredo, TX

Instead of looking at the potential economic impact of a data center in a vacuum, we should look at possible alternatives. What would it look like to add 100 new jobs in another industry?

Data centers aren't the only option for economic growth.

Adding 100 jobs in different industries produces different local economic effects.

I-O Model Estimates Comparison for Laredo, TX



Source: Lightcast I-O Model Estimates

A 100-job expansion in general warehousing and storage produces an estimated 130 total jobs and \$5.0 million in earnings. A similar expansion in commercial and industrial machinery repair and maintenance produces 157 total jobs and \$7.9 million in earnings. New housing for-sale builders produce 148 total jobs and \$8.0 million in earnings.

We selected these specific industries because they already possess an established footprint in Laredo. This serves two purposes: first, it provides the Lightcast I-O model with the necessary baseline data to run its predictions; second, these sectors are familiar to regional leaders, making them logical candidates for comparison. Given its location on the US-Mexico border, Laredo is a major hub for General Warehousing and Storage, and like data centers, warehouses typically utilize large horizontal sites rather than dense vertical footprints. We also modeled Commercial and Industrial Machinery

Repair and Maintenance, which supports a technical, blue-collar workforce similar to the construction phase of a data center. Finally, we included House Builders because it draws from the same pool of construction workers as data centers do, and housing production is often a high priority for growing communities.

The potential upside of a data center is huge—but the question for regional leaders is whether its economic impact can actually be captured by the local workforce and business ecosystem. These comparisons don't suggest that any one investment is better than another, because each industry has different land and infrastructure requirements, wage profiles, and strategic value.

And importantly, they also have different talent needs. None of these projections are helpful if your region doesn't have enough people to fill the jobs you intend to create—which leads to the next two questions.



A black and white photograph of a man in a server room, looking up and adjusting equipment. The room is filled with server racks and cables. A large purple number '2.' is overlaid on the left side of the image.

2.

Do You Have Enough Workers To Build A Data Center?

Before a data center can open, someone has to build the facility, wire it, cool it, inspect it, and connect it to the surrounding infrastructure. These projects depend on a large construction workforce: construction managers, electricians, HVAC workers, inspectors, equipment operators, carpenters, steel workers, estimators, foremen, and mechanical-electrical-plumbing specialists.

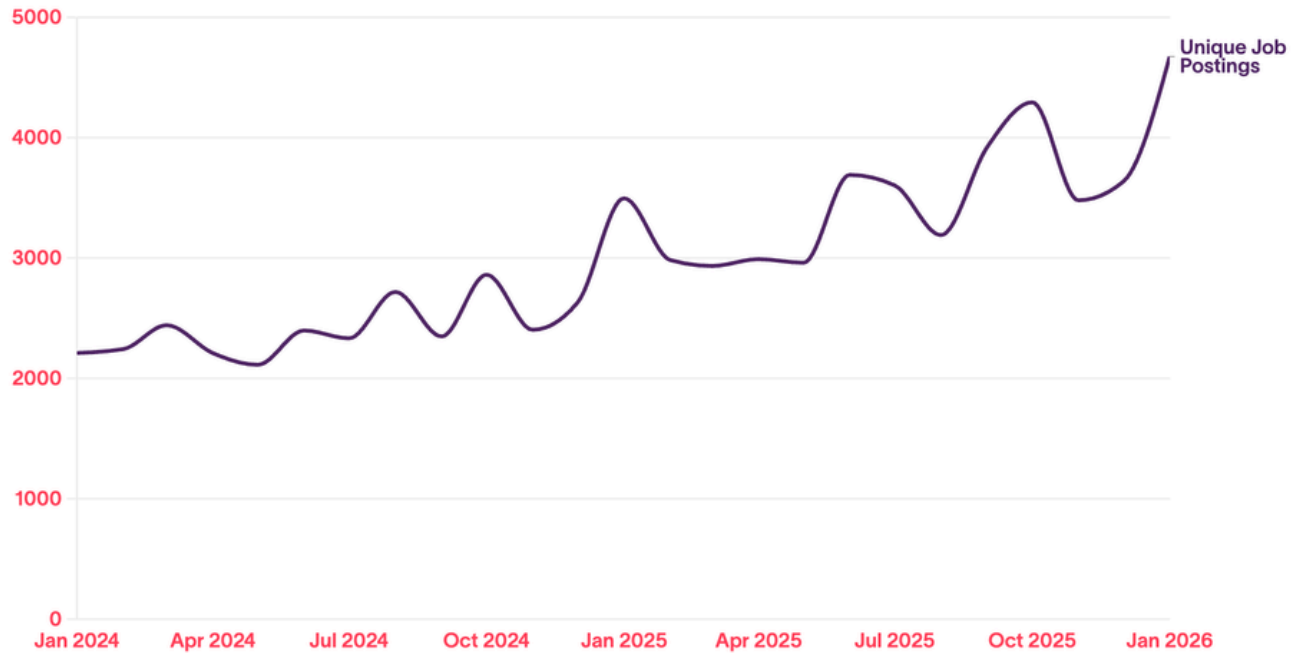
Over the past 6 months (Sep 2025 - Feb 2026), there have been 24,721 unique job postings for construction roles with “data center” in the job posting text across the world. This is up 23% from the 6 months prior (Mar 2025 - Aug 2025) when there were 19,372 unique job postings, indicating that the competition is gradually becoming more difficult.

Those numbers are the lowest possible estimate of how many construction workers are working on data center projects (many construction jobs tied to data centers are posted by third-party contractors, and not every posting mentions the end project). So postings that explicitly reference data centers should be treated as a conservative sample: these are the jobs we can identify with confidence, not the full universe of demand.

Even with that limitation, we can clearly see that data-center-related construction postings are rising: in fact, they have roughly doubled over the past two years.

Demand for construction related to Data Centers has increased over the past two years.

Unique global job postings for Construction, Extraction, and Architecture jobs with the keyword "Data Center" in the job posting text.



Source: Lightcast Job Postings



Construction Faces Bigger Challenges

The challenge of finding a workforce to build your data center is different from the challenge of finding permanent data center technicians and engineers to run it later. The construction work is often less data-center-specific, which can be good news for regional leaders: qualified electricians, construction managers, HVAC technicians, inspectors, or heavy equipment operators do not need to be trained from scratch to contribute to a data center project. Compared with highly specialized data center operations roles, many construction roles have clearer feeder pipelines and more transferable skills.

But that advantage cuts both ways. Because these workers are not useful only to data centers, they are being pulled in many directions at once. The same electricians, HVAC workers, project managers, inspectors, and equipment

operators are also needed for housing, roads, utilities, manufacturing facilities, energy projects, schools, hospitals, and other commercial construction. Data centers may face fewer skill barriers in the construction phase, but they also compete in a much broader and tighter labor market.

Looking more broadly at construction jobs that would be involved in a data center project, we can see that many of the top roles have seen a significant increase in postings over the past few years, intensifying the competition for this talent.

Occupations Required For Data Center Construction

Current United States Outlook For Selected Occupations

| Description | 2025 Jobs | Median Hourly Earnings | Age 55+ % of Occupation | 2022-2025 Jobs % Change |
|---|-----------|------------------------|-------------------------|-------------------------|
| Construction Laborers | 2,099,373 | \$20.72 | 21% | 11.46% |
| First-Line Supervisors of Construction Trades and Extraction Workers | 1,040,499 | \$35.76 | 30% | 8% |
| Electricians | 996,619 | \$29.09 | 22% | 9.38% |
| First-Line Supervisors of Production and Operating Workers | 716,380 | \$33.94 | 29% | |
| Plumbers, Pipefitters, and Steamfitters | 630,501 | \$28.87 | 23% | 7.9% |
| Operating Engineers and Other Construction Equipment Operators | 534,674 | \$28.07 | 28% | 11.81% |
| Heating, Air Conditioning, and Refrigeration Mechanics and Installers | 533,945 | \$27.93 | 22% | 10.28% |
| Telecommunications Line Installers and Repairers | 135,338 | \$32.56 | 22% | -5.75% |
| Electrical and Electronic Engineering Technologists and Technicians | 108,595 | \$36.94 | 33% | -6.62% |
| Helpers--Carpenters | 26,398 | \$19.96 | 12% | |

Source: Lightcast CoreLMI



When Lightcast collaborated with Area Development magazine to study how a worker shortage has become a bottleneck to development across the country, we found an annual shortfall of over 1.7 million skilled-trade workers. (Every year, employers across the US report roughly 2.9 million job openings for workers in the trades, but education and training programs only produce about 1.25 million qualified graduates.) Our data also revealed a ratio of only 4 workers for every 10 available jobs.

The Lightcast Workforce Risk Outlook ranks construction as the industry facing the highest risk (in the same tier as healthcare and hospitality). As we noted there, the industry is facing shortages across several essential roles, such as electricians, carpenters, and heavy equipment operators. This shortage is made worse by rising demand for infrastructure and a widening skills gap in emerging technologies. Furthermore, while foreign-born workers have sustained the construction industry for years, over-reliance on this workforce amidst uncertainties in immigration legislation puts the industry at great risk.

"For any data center build...we need a lot of construction workers all at once. What used to happen is we would bring in travelers from other places to help meet those needs, but now these needs are everywhere across the US. We don't have very many electricians, plumbers, or pipe fitters, so we have to invest in the medium and long term solutions, which means investing in the community colleges and investing in the folks who are doing training in the state."

—**Nick Lee Romagnolo,**

Workforce Development Principal, Amazon Web Services





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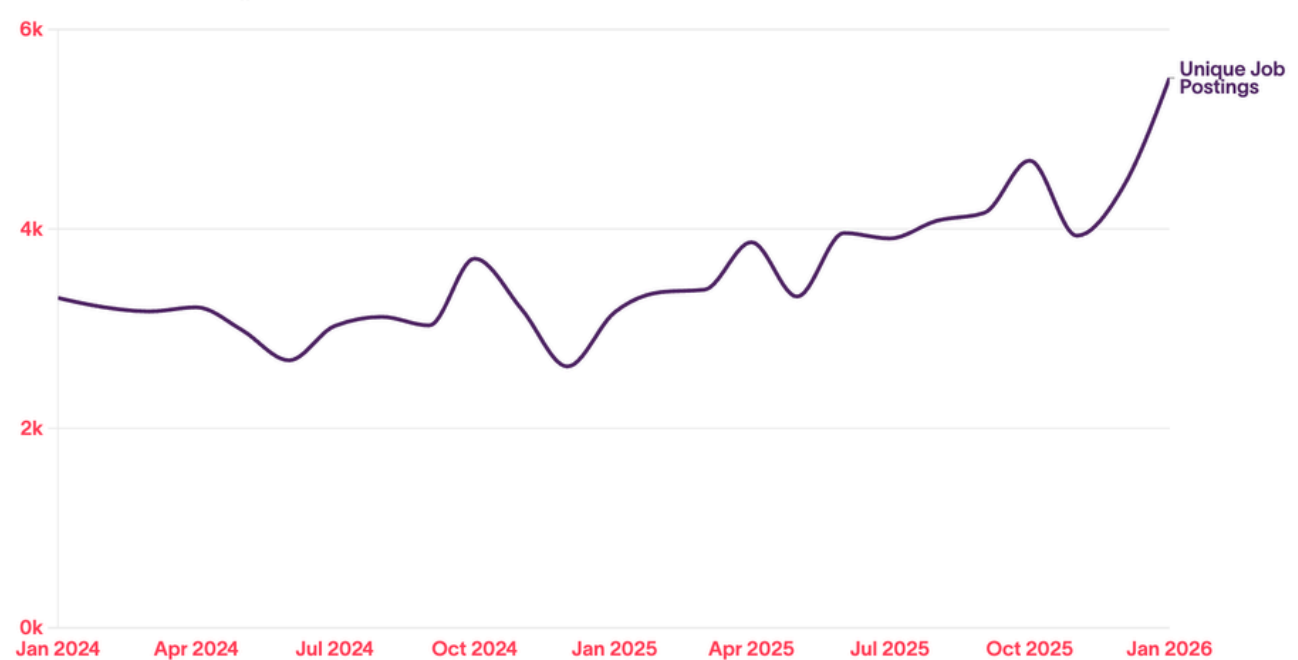
If You Build A Data Center, Can You Maintain It?

Earlier, when we estimated the impact of 100 long-term data center jobs using the Input-Output Model, those calculations relied on one important assumption: you find 100 data center workers. But that's far from a sure thing.

Demand for data center workers is very high: Lightcast job postings data show rising global demand for data center technicians and engineers. Over the six months from September 2025 through February 2026, there were 27,650 unique postings for these roles, up 23% from the previous six-month period. More than 4,400 companies posted for this talent.

Demand for Data Center Technician / Engineer is increasing.

Global Job Postings



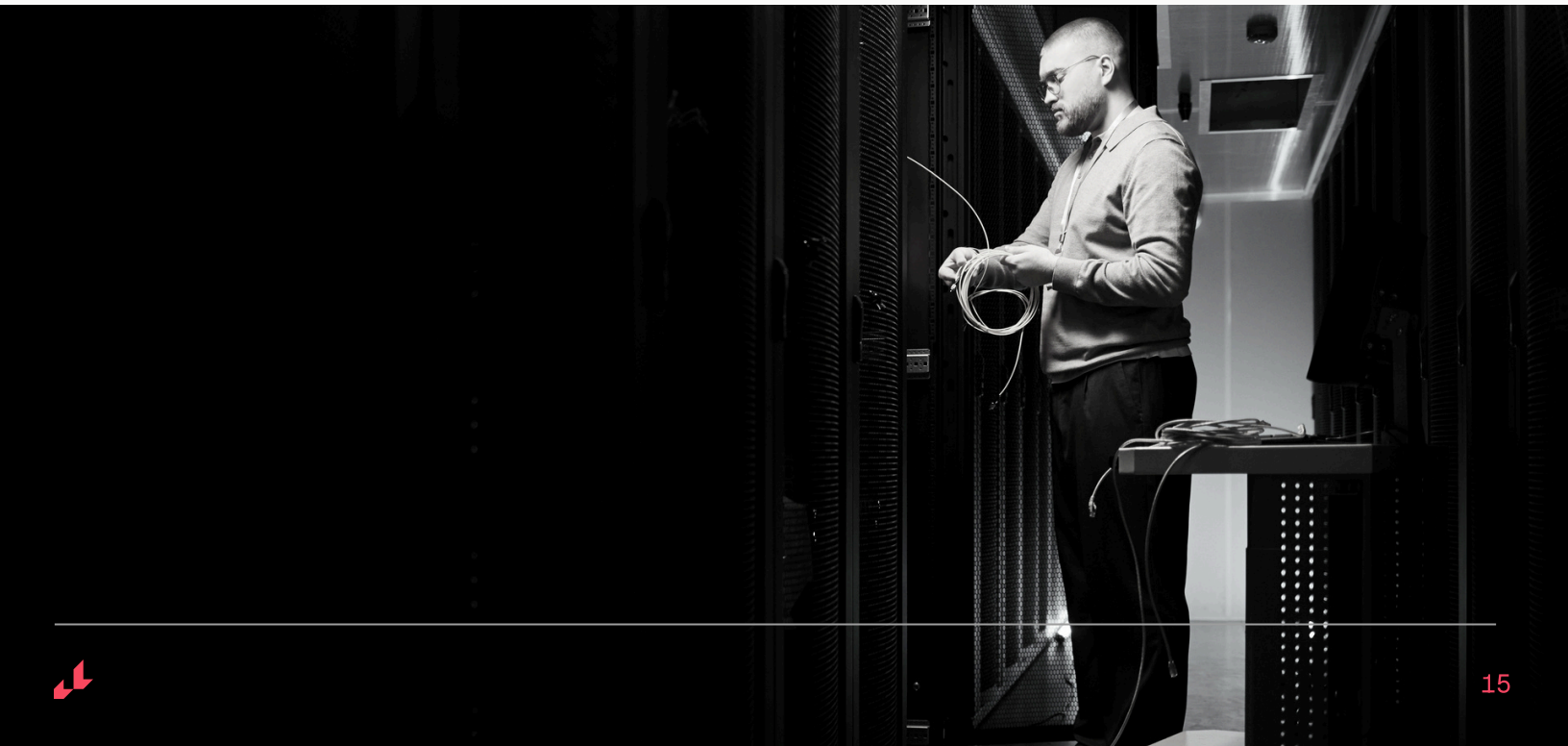
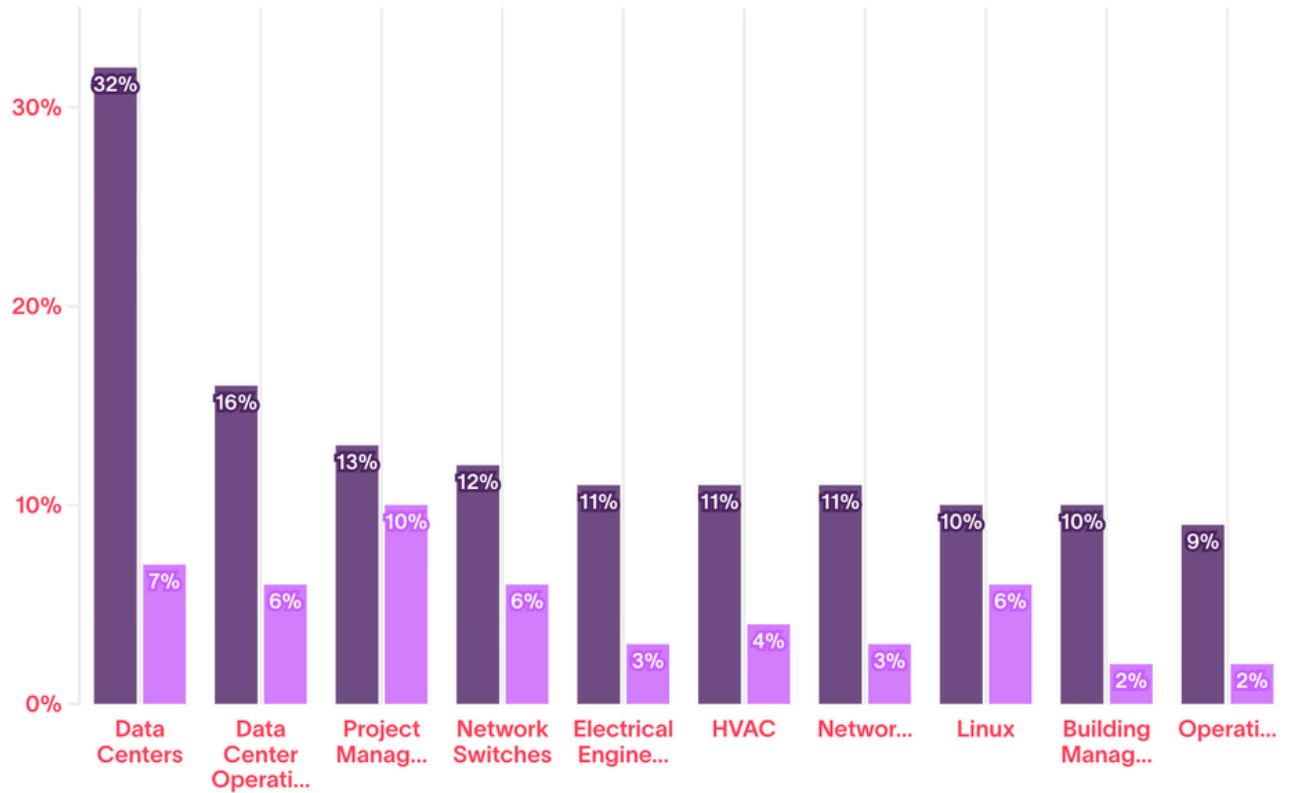
Source: Lightcast Job Postings

While demand is increasing, employers are finding a lack of workers with relevant skills. In Lightcast global postings for Data Center Technician/Engineer roles from January 2024 to January 2026, “Data Centers” appeared in 32% of postings but only 7% of relevant profiles. “Data Center Operations” appeared in 16% of postings and 6% of profiles. Electrical engineering appeared in 11% of postings and 3% of profiles—across the board, demand far exceeded supply.

There is a shortage of the skills most demanded in Data Center Technician / Engineer roles.

Top Specialized Skills in Global Posting (Jan 2024- Jan 2026)

● Frequency in Postings ● Frequency in Profiles



Adjacent Jobs And Skills for Data Center Workers

This shortfall means that data centers cannot expect to find workers with the requisite skills waiting around, looking for a job—instead, they must invest in the upskilling and reskilling to bring in new workers that can meet their needs. Instead of starting entirely from scratch, we can look at adjacent roles (using [Lightcast Career Pathways](#)) to see what workers could feasibly be redeployed into data center roles with the addition of a few new skills.

Adjacent roles could be targeted to fill worker shortages.

Compatible Roles to Computer Network Support Specialists based on Skills Transferability in United States

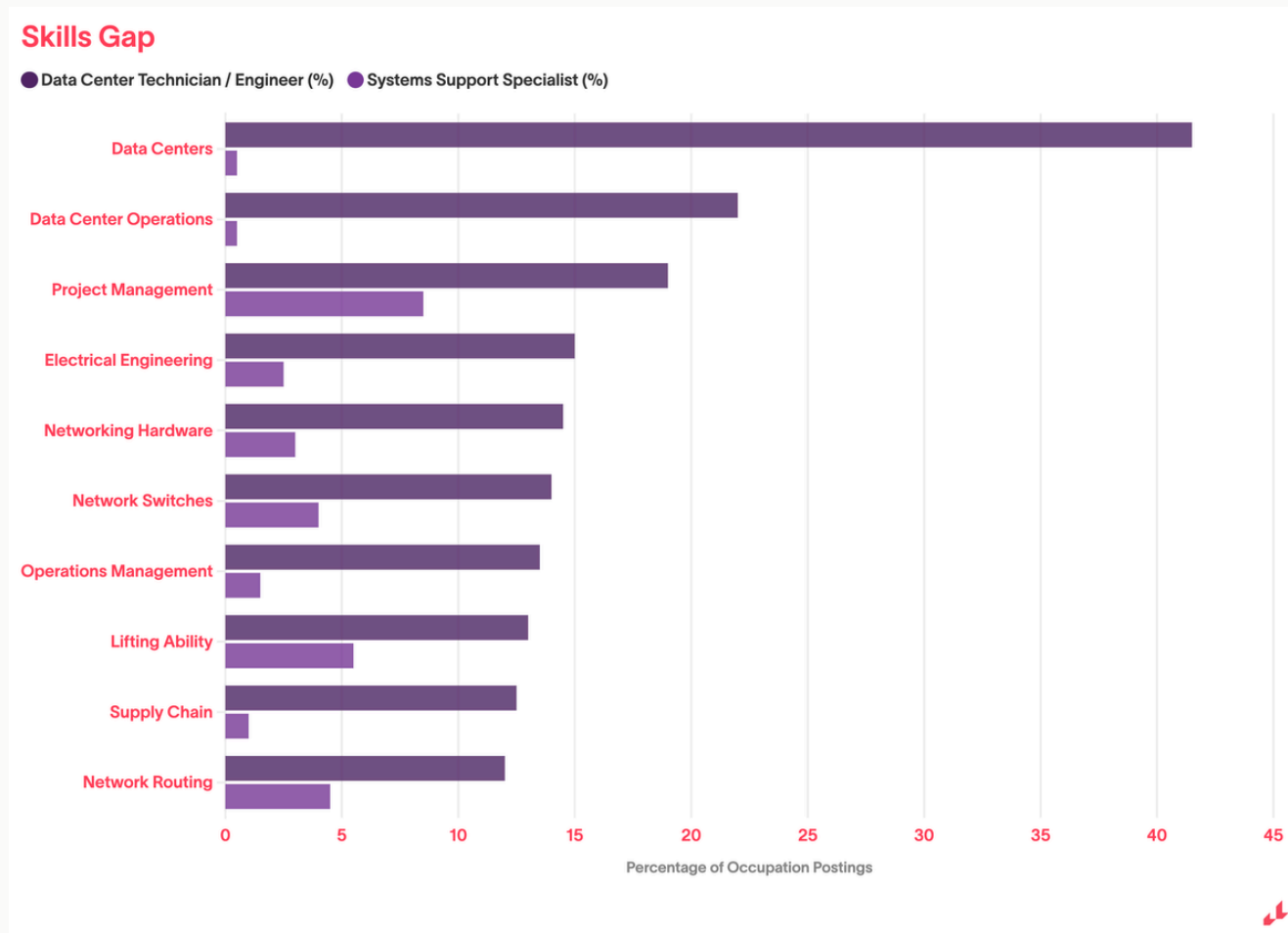
| O*NET Occupation | Median Hourly Earnings | 2025 Jobs | 2023-2025 Change | Compatibility Index |
|---|------------------------|-----------|------------------|---------------------|
| Broadcast Technicians | \$25.92 | 20,927 | -4,563 | 93 |
| Information Security Analysts | \$60.05 | 182,120 | 7,204 | 93 |
| Information Security Engineers | \$52.39 | 441,355 | 1,021 | 93 |
| Computer User Support Specialists | \$29.01 | 676,332 | -2,230 | 93 |
| Telecommunications Engineering Specialists | \$62.69 | 173,890 | 2,206 | 93 |
| Network and Computer Systems Administrators | \$46.54 | 306,842 | -8,853 | 92 |
| Radio Frequency Identification Device Specialists | \$61.34 | 96,100 | -3,597 | 91 |
| Electrical and Electronic Engineering Technologists and Technicians | \$37.11 | 91,217 | -6,334 | 91 |
| Computer Network Architects | \$62.69 | 173,890 | 2,206 | 91 |
| Software Quality Assurance Analysts and Testers | \$49.33 | 196,318 | -4,441 | 90 |

Source: Lightcast CoreLMI



Feeder roles include systems support specialists, network analysts, telecommunications field technicians, and utilities and power distribution engineers. These workers may be closer to data center roles than the general labor force, but many still need targeted training in data center operations, electrical systems, networking hardware, building management systems, safety protocols, and site operations.

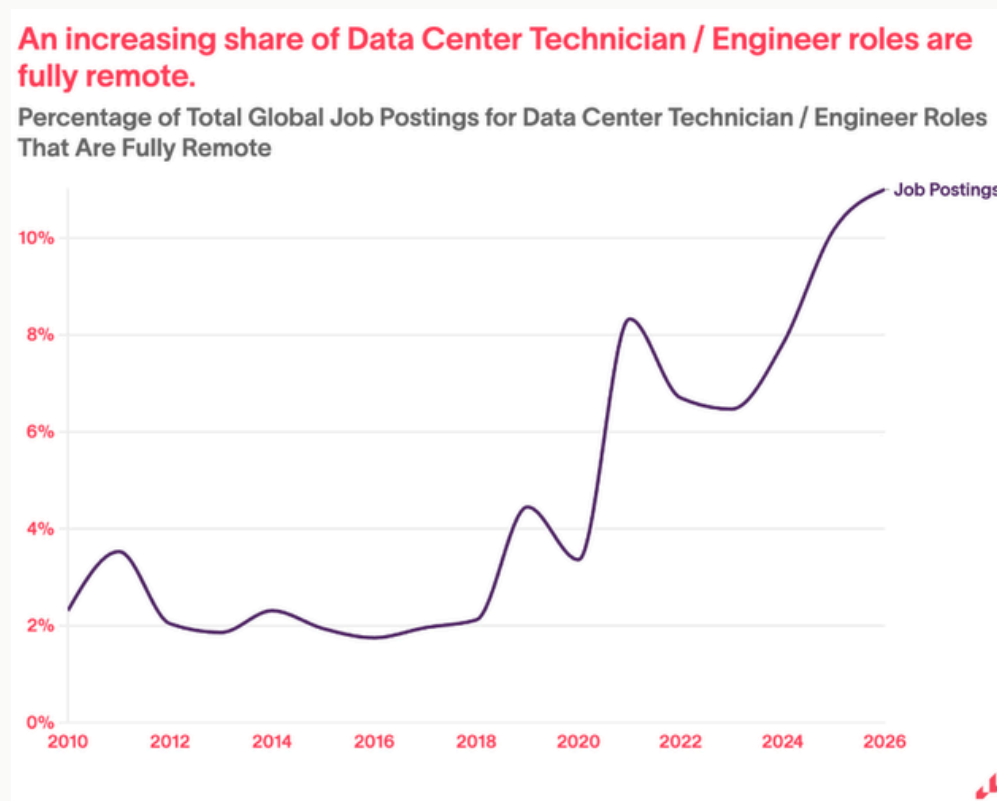
But even where skill overlap helps smooth the transition, it's not a seamless pivot. Every occupational shift involves inherent friction, and identifying skills gaps is essential for identifying exactly where local talent will need to be retrained.



The Automation Option: Pros and Cons

In this environment, where workers are hard to find, automation and remote work might seem to offer a solution. If an AI agent can handle routine maintenance, like rebooting systems, then fewer human workers are needed. Furthermore, the technical and digital work of data center maintenance lends itself well to remote work; the person troubleshooting an issue at a data center in Oklahoma might be in-office in Silicon Valley, remote elsewhere in the US, or even remote internationally. For community leaders, the end result is the same: fewer local employees.

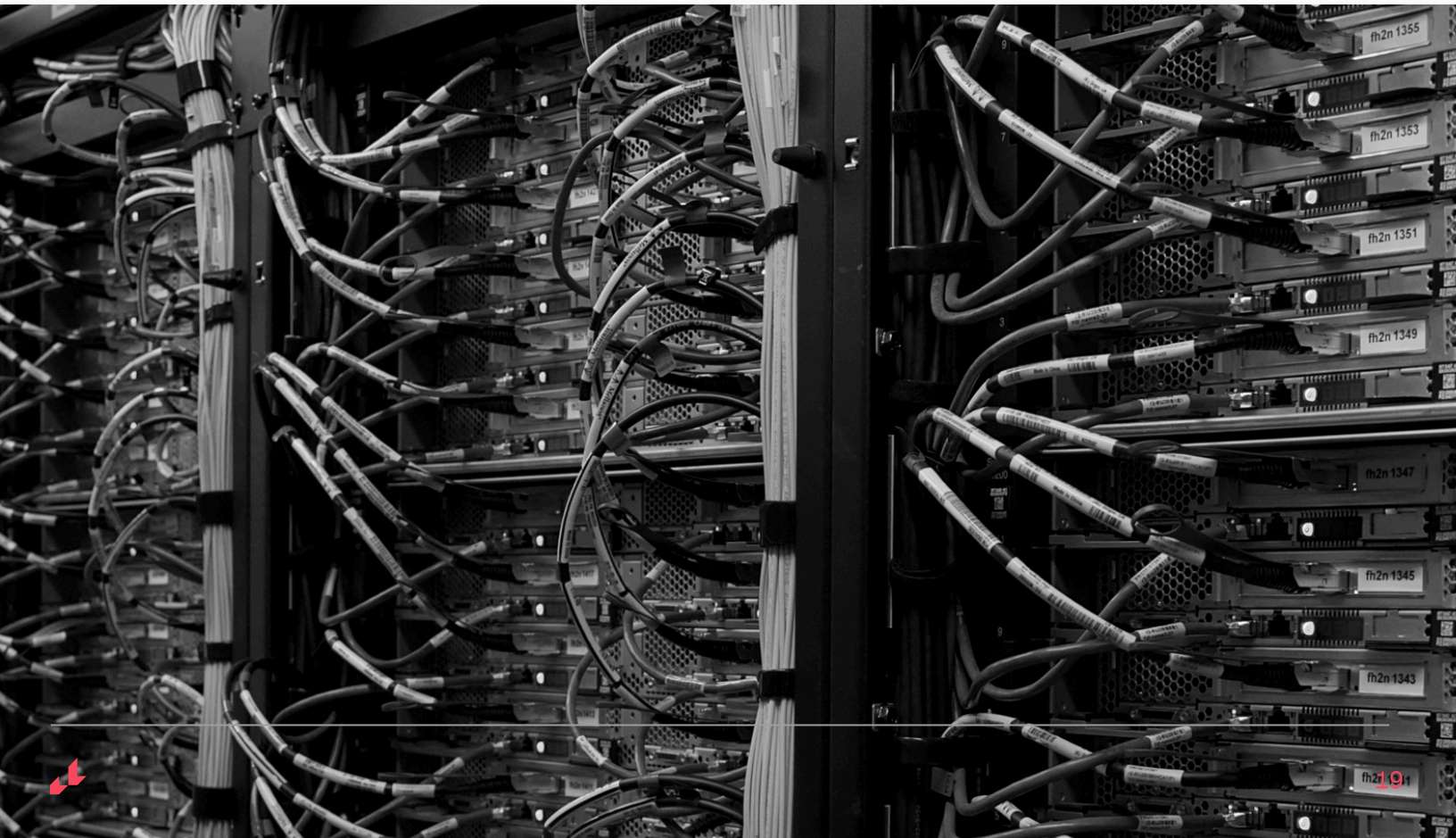
Lightcast postings data suggests this shift is already underway: 10.2% of postings for data center technician and engineer roles were remote in 2025, up from 6.7% in 2022. This also presents the possibility that a leaner business is more profitable, increasing local tax revenue.



The disadvantage, from a labor-market perspective, is that having fewer on-site workers means fewer permanent local jobs and less local wage activity after construction ends. But in a tight labor market, automation may make the difference between landing a project and losing it altogether.

For communities, that means being clear-eyed: a data center relying on automation or remote work may still bring construction jobs, supplier activity, and tax revenue, but it may offer a smaller gain in long-term employment. But if your region wouldn't have been able to find the workers to maintain the facility anyway, the alternative would be no data center at all.

In short, finding data center workers will be tough. Demand is rising globally, supply is uneven, and adjacent workers often need retraining before they can step into these roles. Automation and remote work may help projects move forward, but communities should understand the tradeoff: fewer workforce bottlenecks may also mean fewer permanent local jobs.



Conclusion

Before committing to a data center project, regional leaders should ask three questions—and answer them with data of their own: What are the economic benefits, compared with plausible alternatives? Do we have enough workers to build it? And if we build it, can we maintain it?

For a region to sustain a data center project, workforce analysis must be an integral part of the decision-making process. The goal is to go beyond an estimate of the potential benefit, and instead understand whether the local and regional labor market can support the project well enough for that upside to materialize.

A community may have the land, incentives, power strategy, and investor interest to attract a data center, but without the workforce to build and operate it, those advantages may not be enough.

Political, technological, and environmental challenges will shape whether data centers are viable in any given community. But even if leaders resolve every question around permitting, power, water, land use, incentives, and public support, success is not guaranteed. The funding may be there. The site may be ready. The demand may be real. The regional workforce is still the constraint.



