



Manufacturing

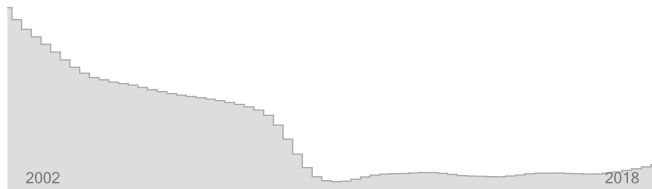


Industry Spotlight

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Manufacturing EDR4 – 2018Q4

EMPLOYMENT



386,880

Regional employment / **12,992,758** in the nation

-1.1% ↓

Avg Ann % Change Last 10 Years / **-0.5%** in the US



8.5%

% of Total Employment / **8.3%** in the US



WAGES



\$74,573

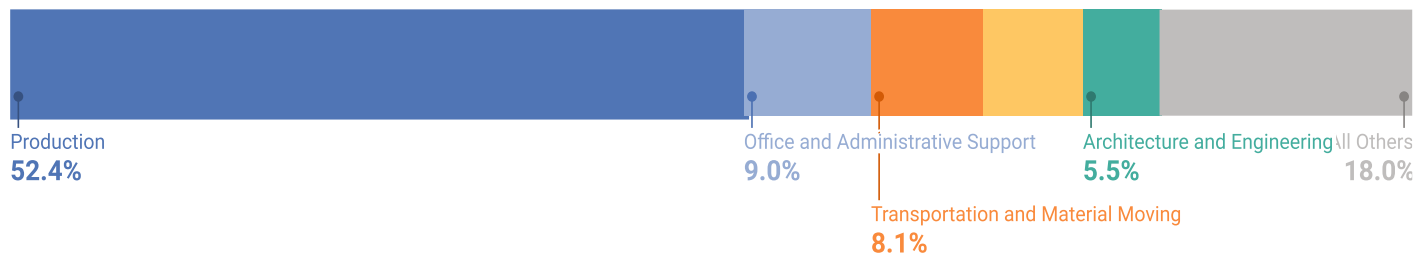
Avg Wages per Worker / **\$67,802** in the nation

2.7% ↑

Avg Ann % Change Last 10 Years / **+2.3%** in the US

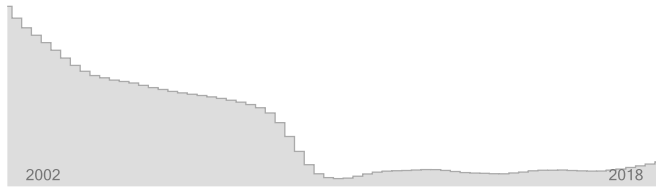


TOP OCCUPATION GROUPS

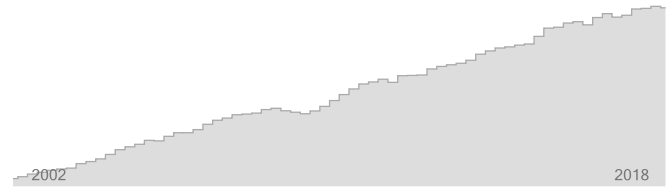



Industry Snapshot

EMPLOYMENT



WAGES

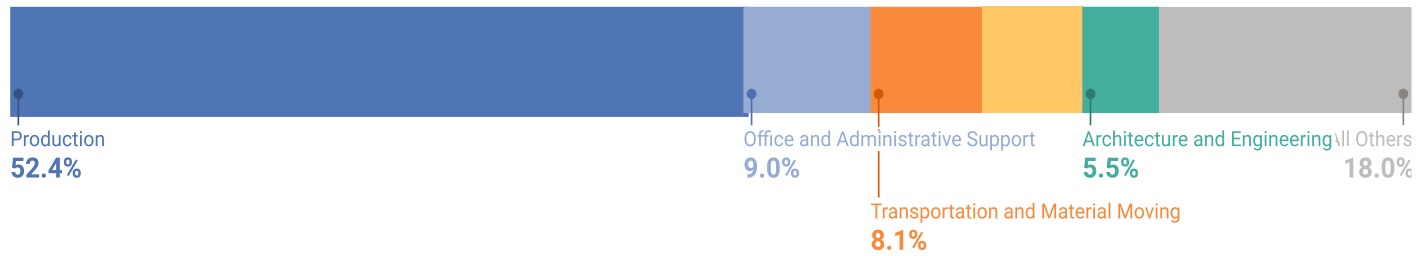


2-Digit Industry	Empl	Avg Ann Wages	LQ	5yr History	Annual Demand	Forecast Ann Growth
Manufacturing	386,880	\$74,573	1.03		35,540	-1.2%

💡 Employment is one of the broadest and most timely measures of a region's economy. Fluctuations in the number of jobs shed light on the health of an industry. A growing employment base creates more opportunities for regional residents and helps a region grow its population.

💡 Since wages and salaries generally compose the majority of a household's income, the annual average wages of a region affect its average household income, housing market, quality of life, and other socioeconomic indicators.

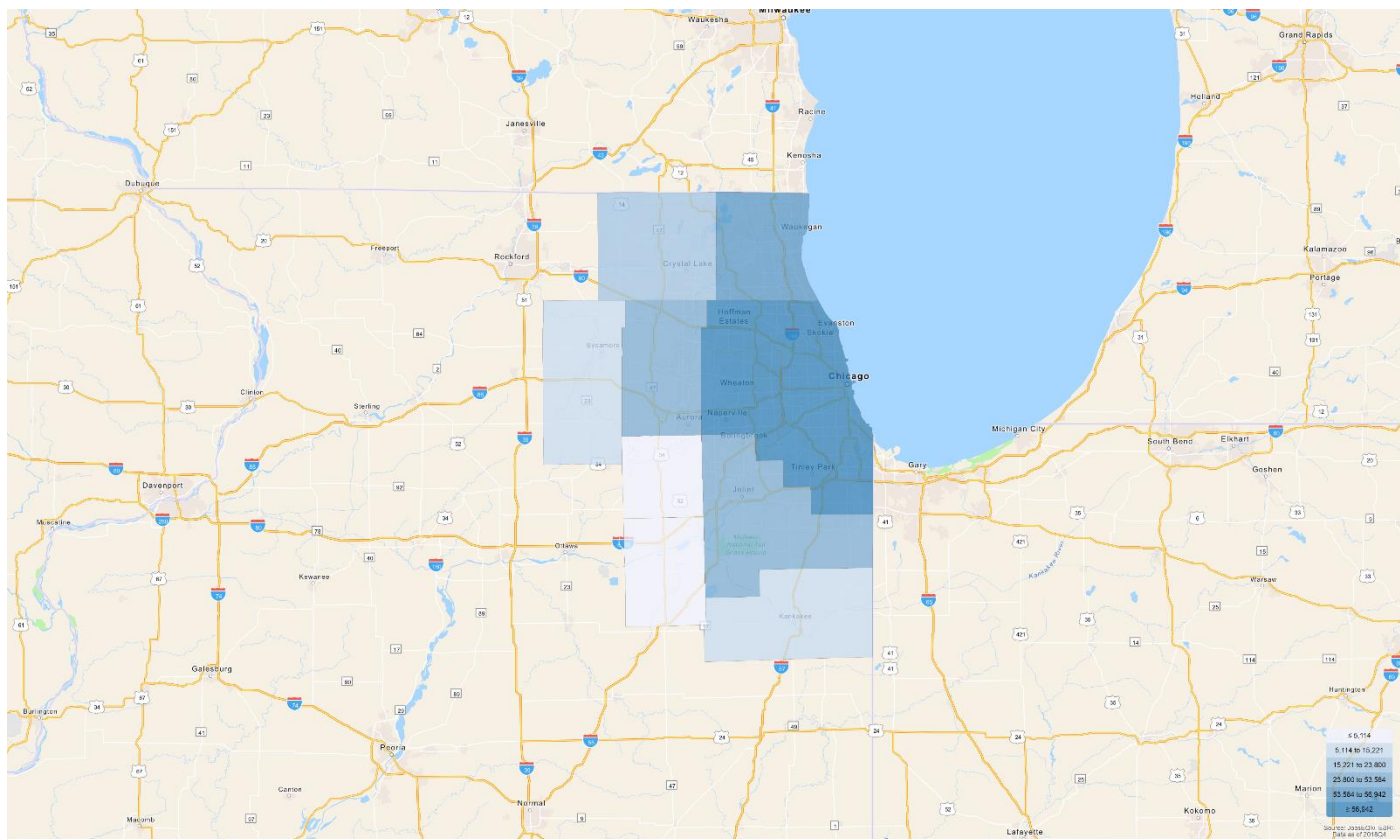
Staffing Pattern



6-digit Occupation	Empl	Avg Ann Wages	Annual Demand
Team Assemblers	24,165	\$30,500	1,953
Machinists	17,088	\$40,800	1,572
First-Line Supervisors of Production and Operating Workers	13,260	\$62,200	1,113
Inspectors, Testers, Sorters, Samplers, and Weighers	11,459	\$40,000	982
Packaging and Filling Machine Operators and Tenders	10,570	\$33,900	1,080
Production Workers, All Other	10,510	\$34,100	1,051
Laborers and Freight, Stock, and Material Movers, Hand	10,328	\$29,100	1,271
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	8,401	\$73,200	722
General and Operations Managers	8,250	\$132,600	560
Packers and Packagers, Hand	7,865	\$25,500	1,070
Remaining Component Occupations	264,970	\$58,400	22,677
Total	386,880		

💡 The mix of occupations points to the ability of a region to support an industry and its flexibility to adapt to future demand. Industry wages are a component of the cost of labor for regional employers.

Geographic Distribution



Region	Empl
Cook County, Illinois	188,192
Du Page County, Illinois	56,942
Lake County, Illinois	53,584
Kane County, Illinois	33,417
Will County, Illinois	23,800

Region	Empl
McHenry County, Illinois	15,221
Kankakee County, Illinois	6,736
DeKalb County, Illinois	5,114
Kendall County, Illinois	2,516
Grundy County, Illinois	1,358

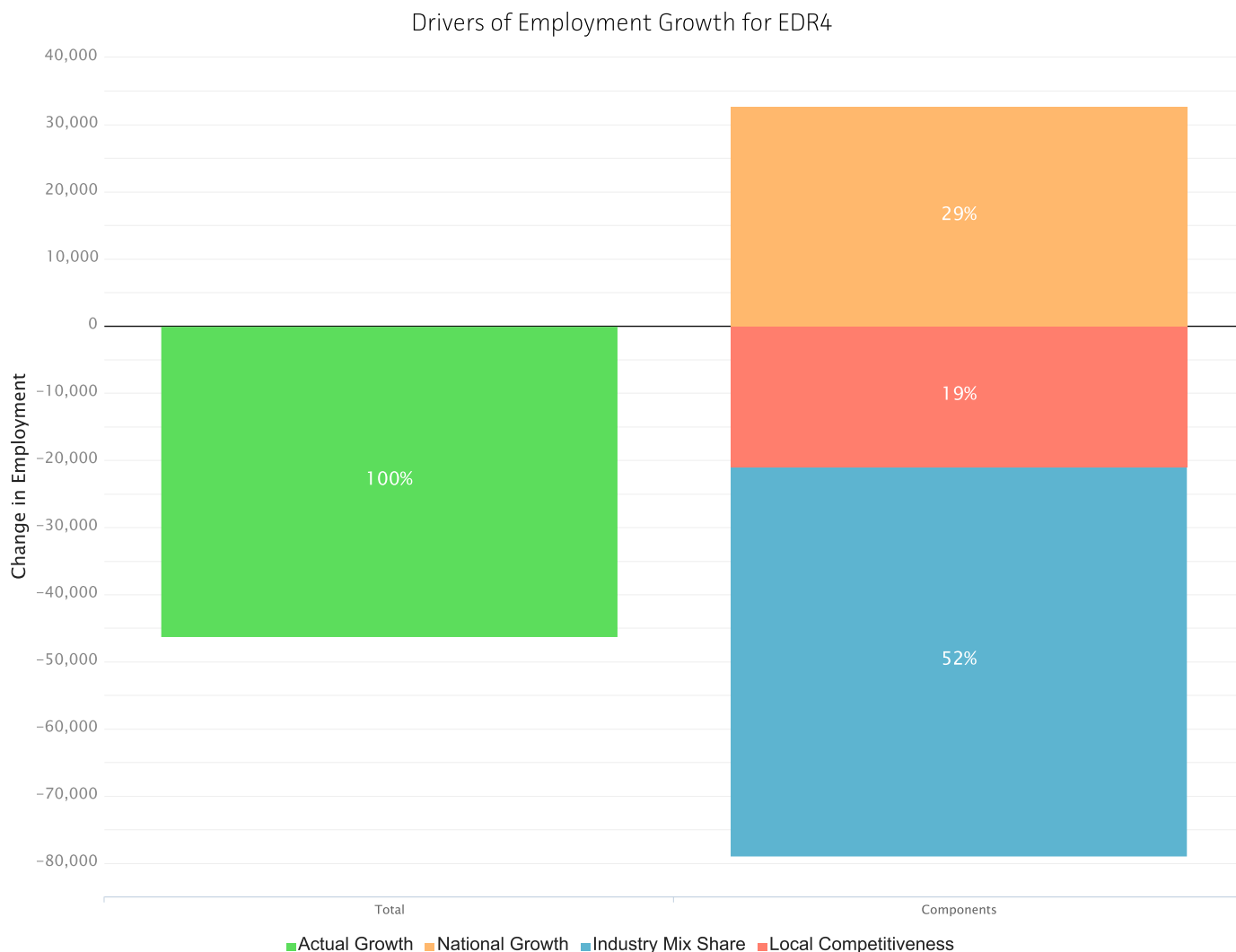
Source: JobsEQ®



A geographic concentration of firms in related fields of business may reduce production costs, attract more suppliers and customers, and increase supply and demand for specialized labor, but may also increase competitive pressure and drive down prices.

Drivers of Employment Growth

Over the ten years ending 2018, employment in Manufacturing for the EDR4 shed 46,137 jobs. After adjusting for national growth during this period and industry mix share, the part of this employment change due to local competitiveness was a loss of 20,808 jobs—meaning this industry was less competitive than its national counterpart during this period.

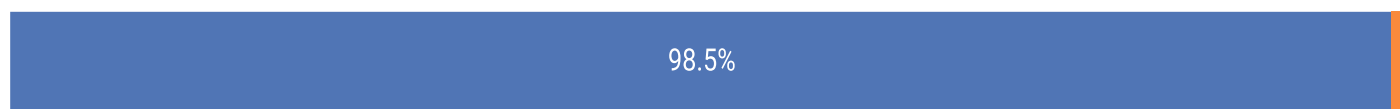


- Shift-share analysis sheds light on the factors that drive regional employment growth in an industry. A positive change in local competitiveness indicates advantages that may be due to factors such as superior technology, management, and labor pool, etc.
- National growth is due to the overall growth or contraction in the national economy. Industry mix share is the growth attributable to the specific industries examined (based on national industry growth patterns and the industry mix of the region).

Employment Distribution by Type

The table below shows the employment mix by ownership type for Manufacturing for the EDR4. Four of these ownership types — federal, state, and local government and the private sector — together constitute “Covered Employment” (employment covered by the Unemployment Insurance programs of the United States and reported via the Quarterly Census of Employment and Wages).

“Self-Employment” refers to unincorporated self-employment and represents workers whose primary job is self-employment (that is, these data do not include workers whose primary job is a wage-and-salary position that is supplemented with self-employment).



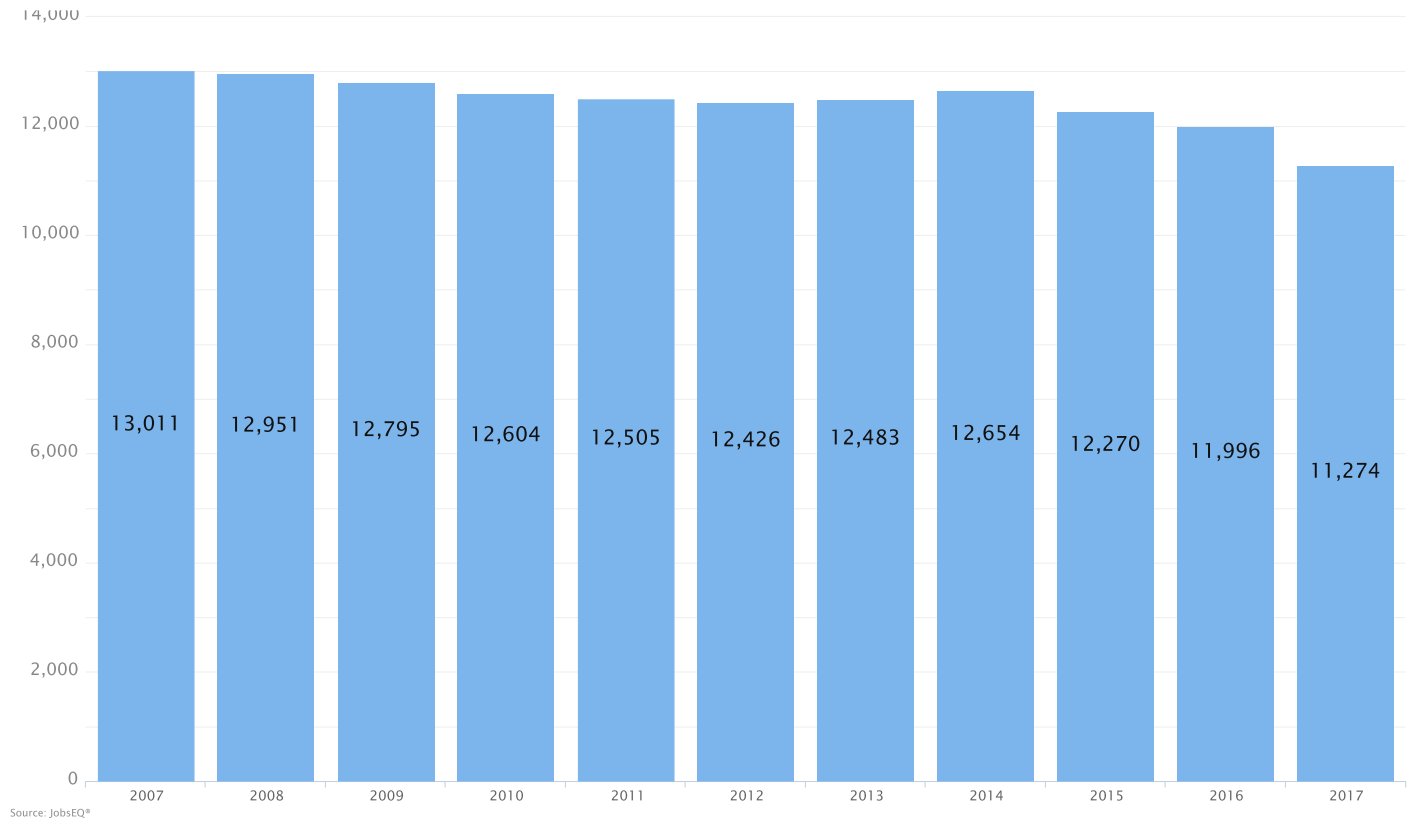
	Empl	%
Private	381,097	98.5%
Self-Employment	5,774	1.5%
Federal Government	9	0.0%


Source: JobsEQ®

💡 Strong entrepreneurial activity is indicative of growing industries. Using self-employment as a proxy for entrepreneurs, a higher share of self-employed individuals within a regional industry points to future growth.

Establishments

In 2017, there were 11,274 Manufacturing establishments in the EDR4 (per covered employment establishment counts), a decrease from 13,011 establishments ten years earlier in 2007.

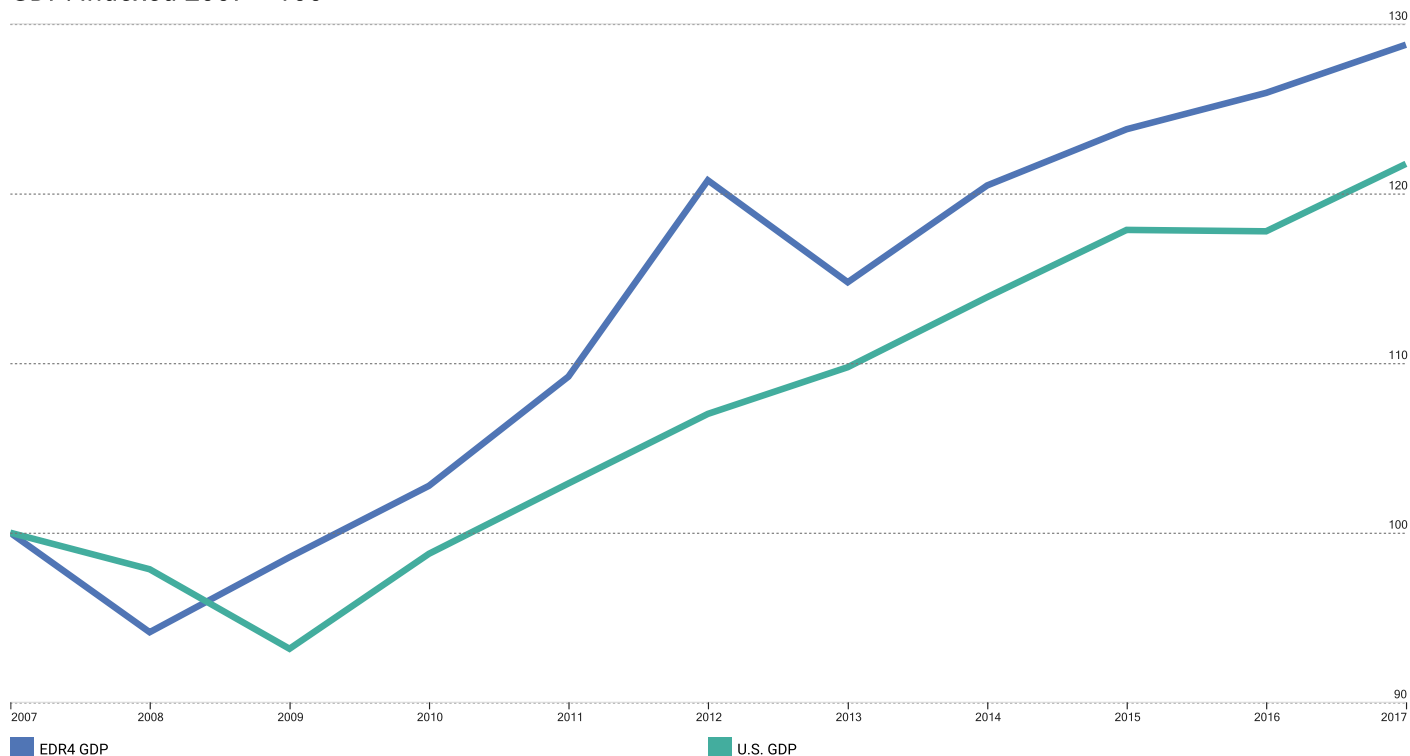


 New business formations are an important source of job creation in a regional economy, spurring innovation and competition, and driving productivity growth. Establishment data can provide an indicator of growth in businesses by counting each single location (such as a factory or a store) where business activity takes place, and with at least one employee.

GDP & Productivity

In 2017, Manufacturing produced \$71 billion in GDP for the EDR4.

GDP: Indexed 2007 = 100



11.4 %

Industry Share of Total GDP /
11.8 % in the nation



2.6 % ↑

Avg Ann % Change Last 10 Yrs /
2.0 % in the nation



\$521k

Output per Worker /
\$516k in the nation



💡 Gross domestic product (GDP) is the most comprehensive measure of regional economic activity, and an industry's contribution to GDP is an important indicator of regional industry strength. It is a measure of total value-added to a regional economy in the form of labor income, proprietor's income, and business profits, among others.

💡 Growth in productivity (output per worker) leads to increases in wealth and higher average standards of living in a region.

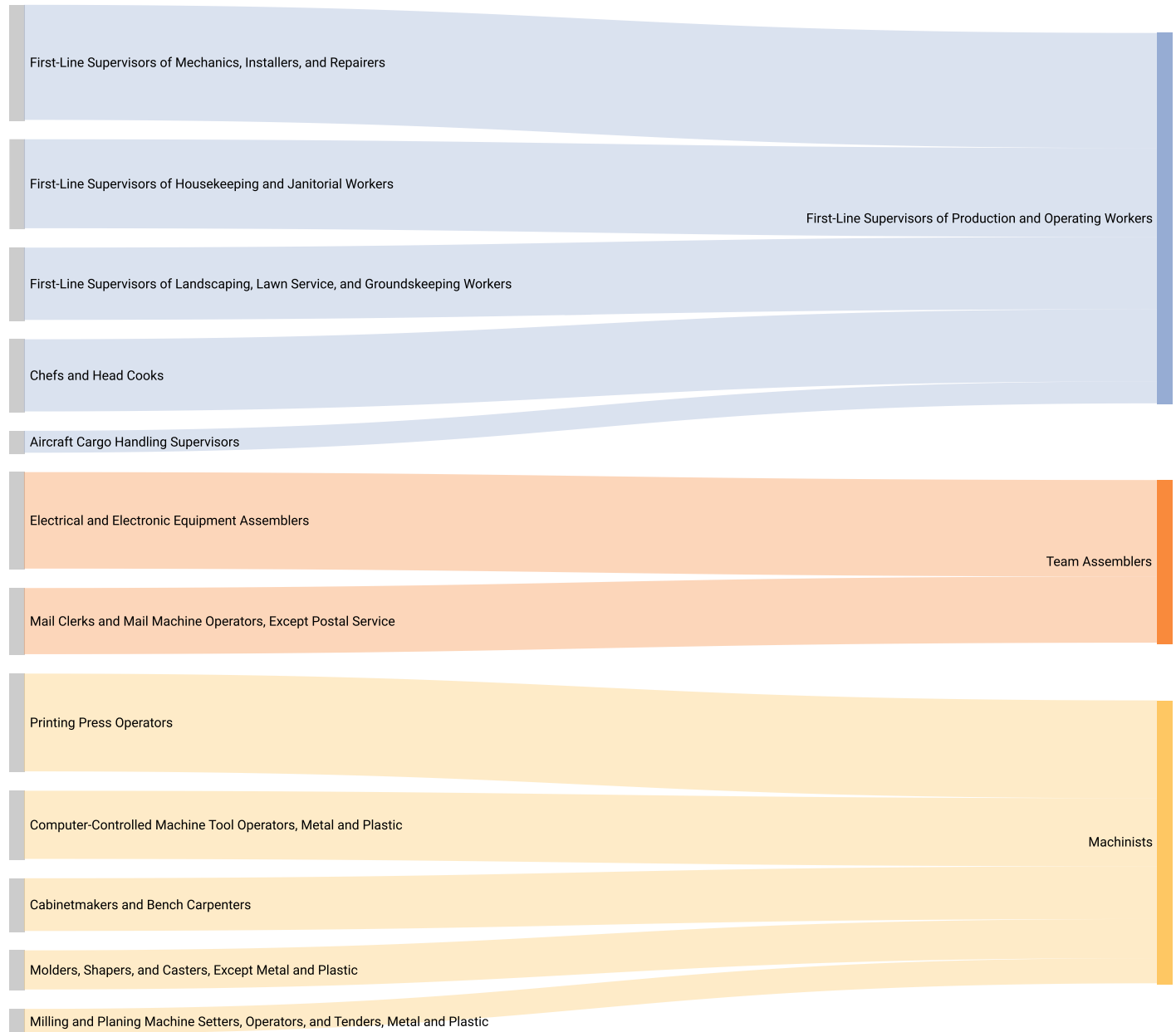
Supply Chain: Top Suppliers


As of 2018Q4, Manufacturing in the EDR4 are estimated to make \$121.1 billion in annual purchases from suppliers in the United States with about 52% or \$62.4 billion of these purchases being made from businesses located in the EDR4.

2-digit Supplier Industries	Purchases from In-Region (\$M)	Purchases from Out-of-Region (\$M)
Manufacturing	\$29,015.9	\$23,827.8
Wholesale Trade	\$7,935.7	\$5,985.0
Transportation and Warehousing	\$4,366.7	\$3,357.1
Professional, Scientific, and Technical Services	\$4,406.7	\$3,063.9
Mining, Quarrying, and Oil and Gas Extraction	\$223.7	\$5,914.3
Remaining Supplier Industries	\$16,450.1	\$16,589.0
Total	\$62,398.8	\$58,737.0

 Supplier-buyer networks can indicate local linkages between industries, regional capacity to support growth in an industry, and potential leakage of sales out of the region.

Sector Strategy Pathways





 The graphics on this page illustrate relationships and potential movement (from left to right) between occupations that share similar skill sets. Developing career pathways as a strategy promotes industry employment growth and workforce engagement.

Postsecondary Programs Linked to Manufacturing

Program	Awards
City Colleges of Chicago-Wilbur Wright College	
Biological and Physical Sciences	255
Computer Numerically Controlled (CNC) Machinist Technology/CNC Machinist	73
College of DuPage	
Biological and Physical Sciences	339
ETI School of Skilled Trades	
Welding Technology/Welder	80
Kishwaukee College	
Biological and Physical Sciences	355
McHenry County College	
Biological and Physical Sciences	285
Moraine Valley Community College	
Biological and Physical Sciences	875
Welding Technology/Welder	127
Oakton Community College	
Electromechanical and Instrumentation and Maintenance Technologies/Technicians, Other	56
Waubensee Community College	
Biological and Physical Sciences	518

Source: JobsEQ®

-  The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.
-  Among postsecondary programs at schools located in the the EDR4, the sampling above identifies those most linked to occupations relevant to Manufacturing.

Region Definition

EDR4 is defined as the following counties:

Cook County, Illinois

DeKalb County, Illinois

Du Page County, Illinois

Grundy County, Illinois

Kane County, Illinois

Kankakee County, Illinois

Kendall County, Illinois

Lake County, Illinois

McHenry County, Illinois

Will County, Illinois

Data Notes

- Industry employment and wages (including total regional employment and wages) are as of 2018Q4 and are based upon BLS QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including Census ZBP data. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts.
- Occupation employment is as of 2018Q4 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS OES data. Occupation wages are per the BLS OES data and are as of 2017.
- GDP is derived from BEA data and imputations by Chmura. Productivity (output per worker) is calculated by Chmura using industry employment and wages as well as GDP and BLS output data. Supply chain modeling including purchases by industry are developed by Chmura.
- Postsecondary awards are per the NCES and are for the 2016-2017 academic year.
- Establishment counts are per the BLS QCEW data.
- Figures may not sum due to rounding.

FAQ

What is (LQ) location quotient?

Location quotient is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is annual demand?

Annual demand is a of the sum of the annual projected growth demand and separation demand. Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. Growth demand is the increase or decrease of jobs expected due to expansion or contraction of the overall number of jobs.

What is the difference between industry wages and occupation wages?

Industry wages and occupation wages are estimated via separate data sets, often the time periods being reported do not align, and wages are defined slightly differently in the two systems (for example, certain bonuses are included in the industry wages but not the occupation wages). It is therefore common that estimates of the average industry wages and average occupation wages in a region do not match exactly.