

# WE BUILD MOMENTUM

THE ECONOMIC IMPACT OF THE  
EQUIPMENT MANUFACTURING INDUSTRY

**AEM**   
Association of Equipment Manufacturers



**THE BUSTLING CONSTRUCTION SITE FOR A  
NEW HOUSING COMMUNITY.**

**A FIFTH-GENERATION FAMILY-OWNED FARM.**

**THE CENTRAL UTILITY SYSTEM THAT  
DELIVERS CLEAN WATER.**

Everywhere you look, equipment manufacturers are keeping people and critical goods moving and powering vital public services and utilities. Over the last three years, millions of people around the world endured business and school closures, supply chain constraints, and economic insecurity. Equipment manufacturers were an essential lifeline to the American and global economy. We got the job done.

We have proved the resiliency of our industry. But America's equipment manufacturers continue to face challenges beyond our reach. Our supply chain is stretched, and lead times are creeping up for critical equipment needed to fulfill the potential of the bipartisan infrastructure bill. We lack the trained workers to fill the high-skilled, family-sustaining jobs that manufacture agricultural, construction, mining, forestry, and utility equipment. But despite these obstacles, equipment manufacturers continue to lead the way.

Our industry is fueled by millions of men and women who make the equipment that builds, powers, and feeds the world. We get hardworking folks to school and work, help families put food on their tables, and build more resilient communities with safer roads, bridges, and highways.

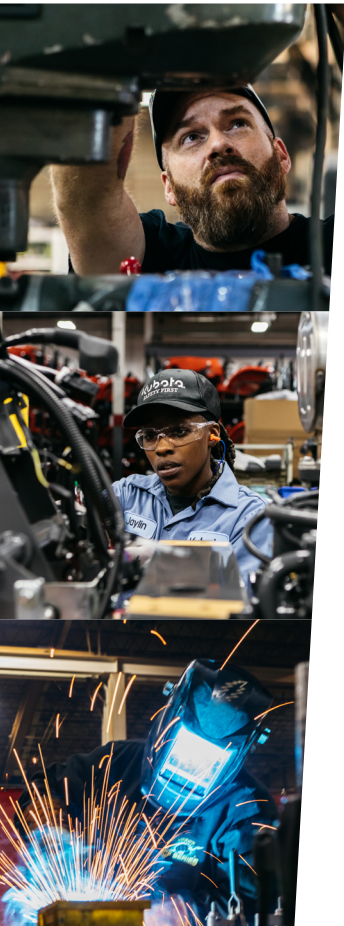
On behalf of the Association of Equipment Manufacturers (AEM), we are pleased to share this report, with findings from S&P Global Market Intelligence, that shows the significant impact the equipment manufacturing industry has on the U.S. economy.

# About This Report

## The economic impact of the equipment manufacturing industry is felt across the United States.

The Association of Equipment Manufacturers commissioned S&P Global Market Intelligence (SPGMI), a global information provider, to complete a report that estimates the contribution of the agriculture, construction and mining equipment manufacturing to the U.S. economy.

The report relies upon a well-established approach grounded upon government data and augmented by AEM member data and SPGMI proprietary industry analysis. The economic contribution of the industry is measured in terms of employment, output, value added (i.e. contribution of the GDP), labor income and tax revenue. For each measure, the direct, indirect, and induced contributions of the industry are calculated using a combination of the SPGMI Business Market Insights industry model, Regional economic models, census metrics and factors derived from the IMPLAN model, an input-output model based on government data.



### *Direct Contribution*

includes the equipment manufacturing industry's own activities, such as the GDP it generates and the number of people it directly employs each year.

### *Indirect Contribution*

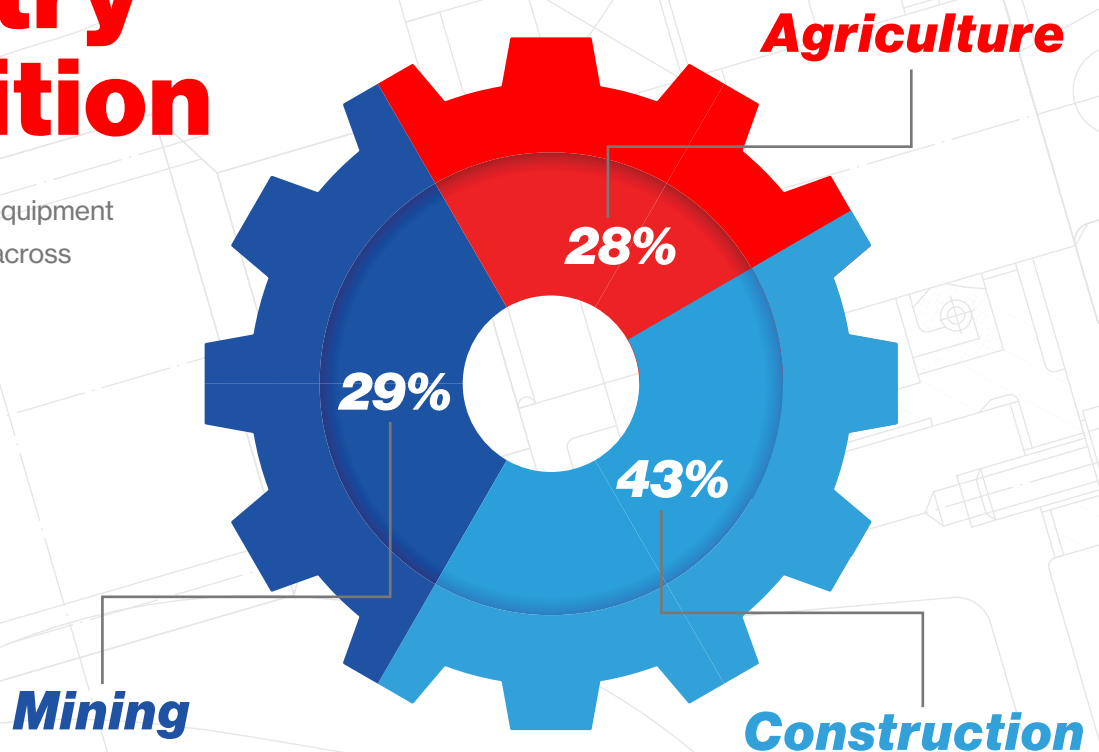
includes the activity and employment supported in the industry's broad supply chain, through its procurement of goods and services.

### *Induced Contribution*

includes the wider economic benefits that arise when workers within the equipment manufacturing industry and its supply chain spend their earnings – for example, in local retail and leisure establishments.

# Industry Definition

This report defines the equipment manufacturing industry across three segments:



## AGRICULTURE

Factors that impact agricultural equipment manufacturers include commodity production and yields, farm incomes, ethanol production, exports, investment in new equipment and regulatory policy.

## MINING

Factors impacting mining and energy-related equipment manufacturers include oil and gas prices and production, mineral prices and production, new oil, gas and mineral exploration, export markets and exploration and emission regulations.

## CONSTRUCTION

Factors that impact construction equipment manufacturers include infrastructure investment, home construction, commercial and industrial real estate construction, mine and well construction and institutional spending.

# Making a Difference for the American Economy

**2.3M**

jobs across all 50 states



**\$714B**

generated in total output and sales activity each year



**\$316B**

contributed each year to GDP



**11%**

of total manufacturing sector jobs are supported by equipment manufacturers



**\$89,700**

is our industry's average annual pay for each employee



**\$47B**

paid each year in federal, state and local tax revenue





*"I treat quality as if it is my name on every machine we produce."*

**Golden**

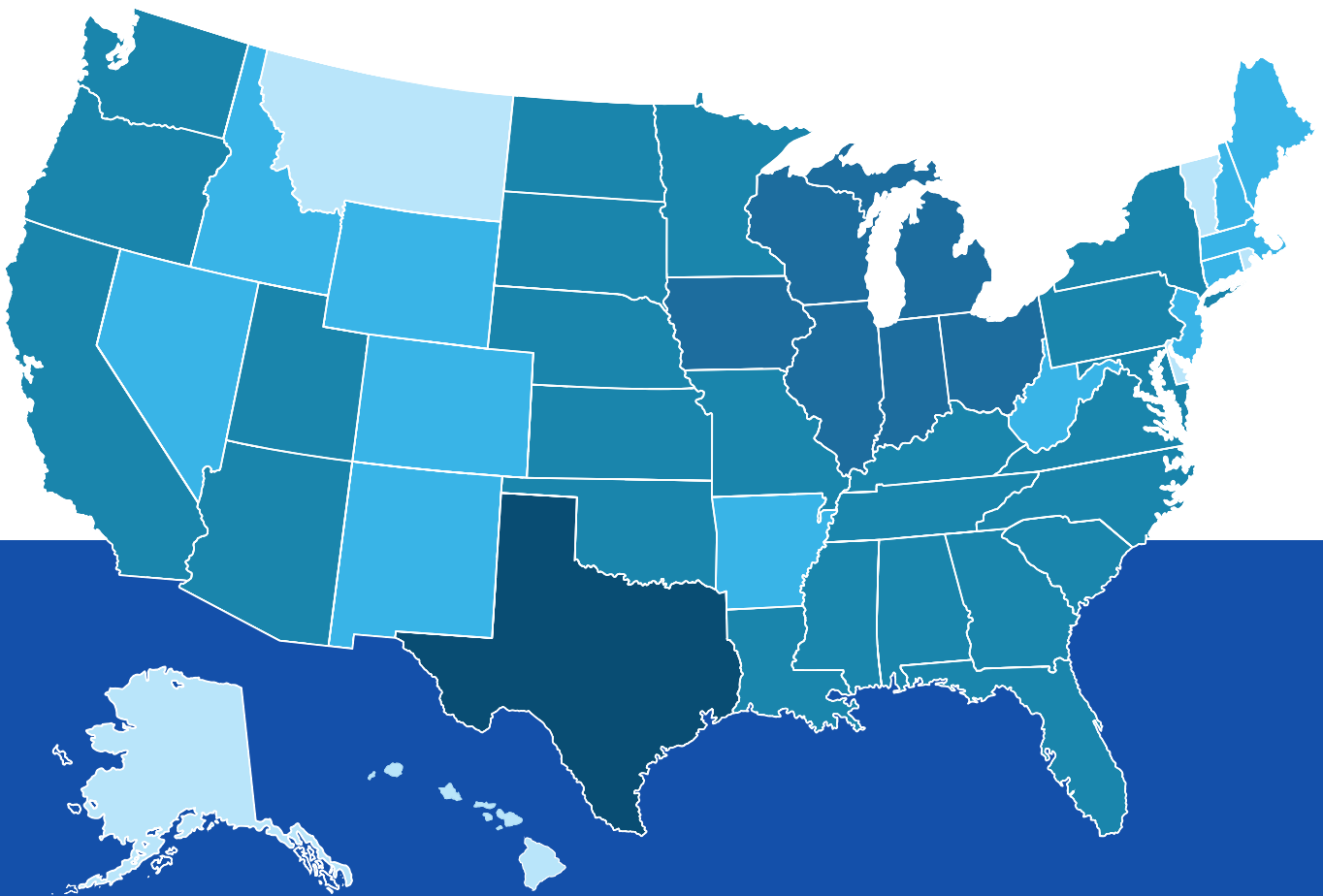
*Jr. Supplier Quality Technician*

*Ridgeway, SC*

# Meaningful Impact from Coast to Coast

The total economic contribution of the equipment manufacturing industry can be seen across the United States. In 44 states, the industry supports at least 1,000 jobs. Texas alone has over 345,000 jobs supported by the equipment manufacturing industry, Illinois has over 238,000 jobs and Wisconsin has over 181,000 jobs.

There are enough jobs supported by equipment manufacturers across the country to place over 5,400 jobs in every U.S. congressional district. There's a job supported by our industry in every district across the country.



*Total jobs supported by equipment manufacturers*



# The Ripple Effects of Equipment Manufacturers

The combination of equipment manufacturers' direct, indirect and induced contribution to the U.S. economy each year creates a ripple effect across the country. This includes an economic impact made through total sales activity, total value added to our nation's GDP and the labor income paid to employees.

The ripple effect is illustrated below, organized by our industry's three sectors: construction, mining and agriculture manufacturing. Due to rounding, the totals beside the pie charts do not match the final figures.

## Direct Impact

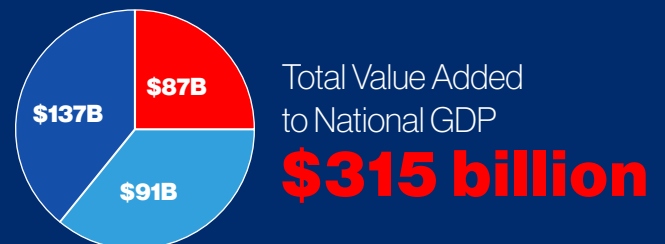
■ Agriculture   ■ Mining   ■ Construction



## The Ripple Effect

(Direct, Indirect and Induced)

■ Agriculture   ■ Mining   ■ Construction

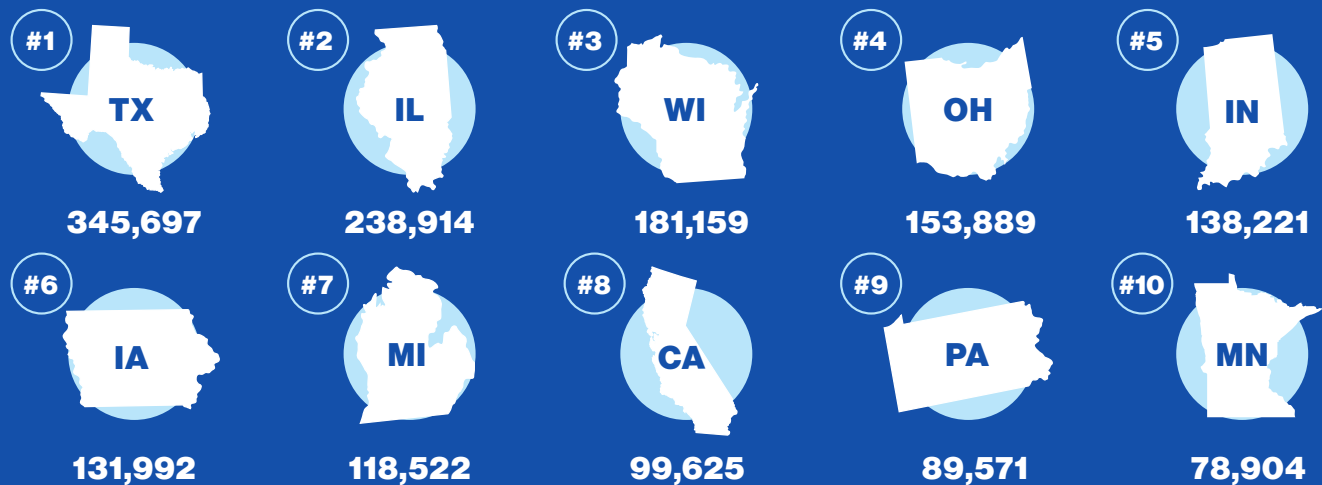




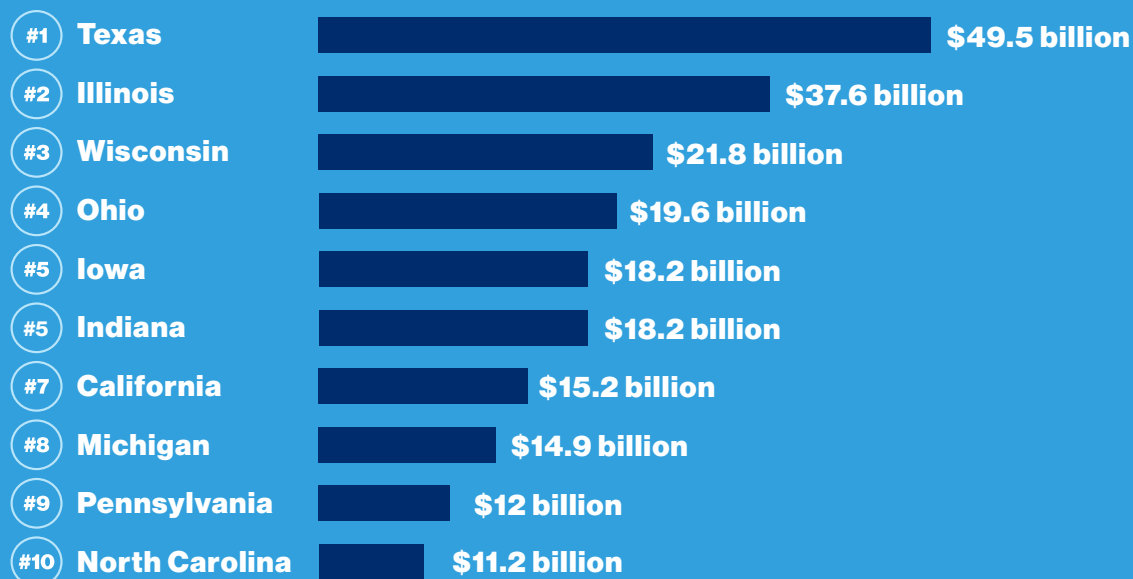
# The United States of Equipment Manufacturers

All 50 states benefit from the equipment manufacturing industry's economic activity. Depending on our industry's footprint, our contribution varies from state to state. Below are the states with the most jobs supported by equipment manufacturers and where our industry makes the largest annual contribution to state economies:

## Top 10 States for Total Equipment Manufacturing Jobs



## Top 10 States for Total GDP Contribution





**Bill**

*Material Handler*

*Salisbury, NC*

*“Our work keeps the world moving. Without manufacturing, the world would stop.”*

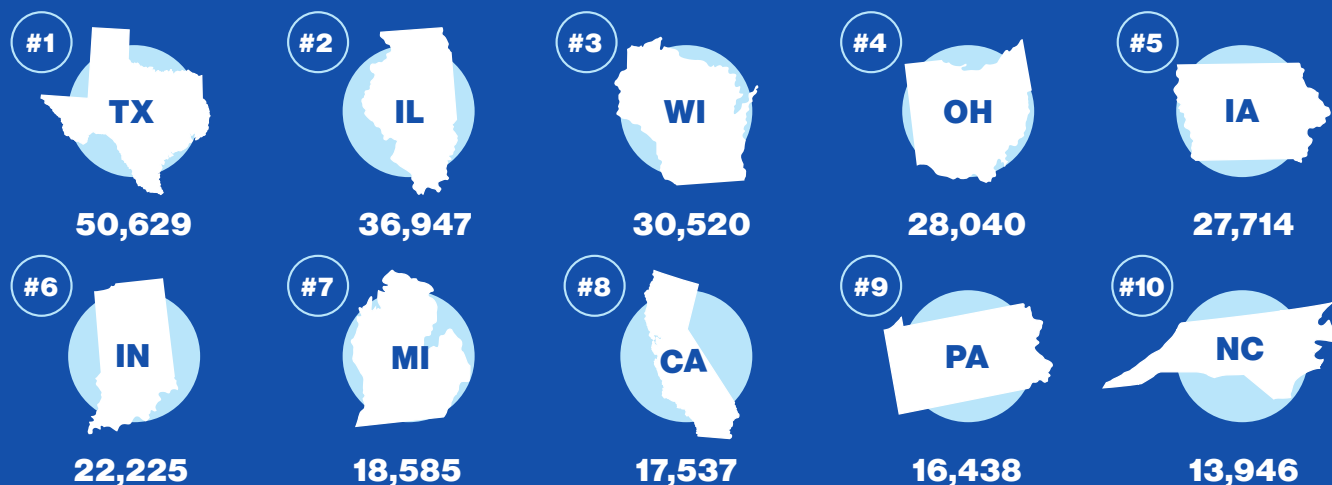
# The United States of Equipment Manufacturers

The total number of direct jobs supported by equipment manufacturers is over 426,000.

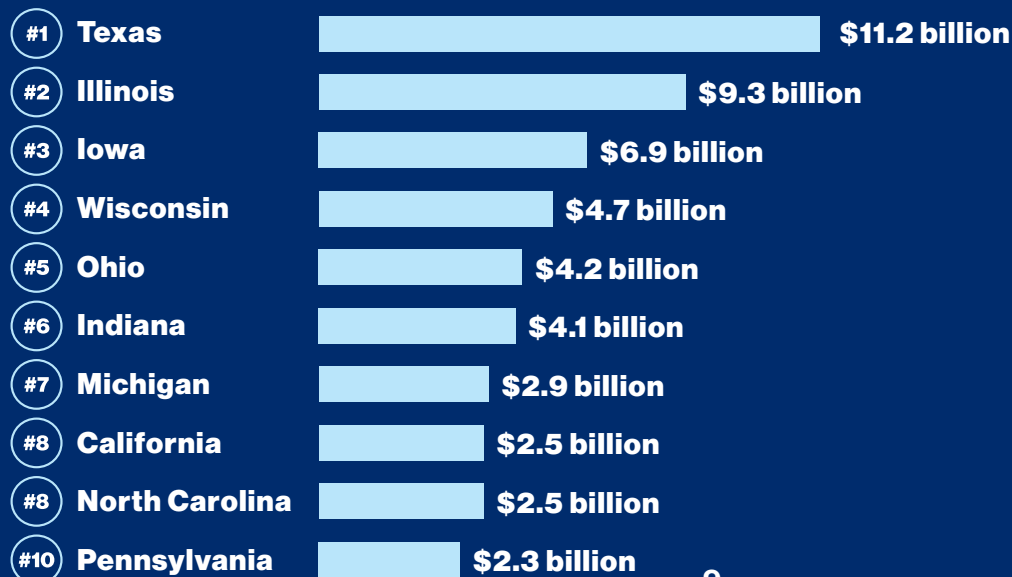
Texas ranks substantially above all other states in terms of direct contributions of the equipment manufacturing industry, with over 50,629 jobs, \$11.5 billion of labor income and \$11.2 billion in value added in GDP each year. Other states with exceptionally large direct contributions include Illinois, Wisconsin, Ohio and Iowa, each with more than 27,000 jobs directly attributable to equipment manufacturers.

Communities throughout these states widely benefit from the jobs and economic contributions directly made by equipment manufacturers each year.

## Top 10 States for Direct Equipment Manufacturing Jobs



## Top 10 States for Direct GDP Contribution



A woman with her hair in a bun, wearing a dark blue Kubota baseball cap with "Kubota SAFETY FIRST" on it, safety glasses, and orange earplugs. She is wearing a dark blue t-shirt with the Kubota logo. She is focused on her work in a factory setting.

# **Esmerelda**

*Assembly Team*

*Gainesville, GA*

*"I take pride in building our customers a quality product they can rely on for years to come."*

# Congressional District Impact

Equipment manufacturing industry activity varies considerably across congressional districts.

At the congressional district level, the number of jobs attributable to the equipment manufacturing industry is at least 1,000 jobs in nearly two-thirds of every district. Including direct, indirect and induced effects, the industry supports more than 100 jobs in 419 congressional districts.

The top 10 districts with jobs supported by equipment manufacturers range from at least 21,000 jobs to over 36,000 jobs. Equipment manufacturers support more than 2,000 jobs in 271 congressional districts.

Below are the 50 districts with the most jobs supported by equipment manufacturers.

| State        | District | Total Jobs | State          | District | Total Jobs |
|--------------|----------|------------|----------------|----------|------------|
| Illinois     | IL-07    | 36,627     | Texas          | TX-03    | 16,145     |
| Iowa         | IA-03    | 33,810     | Illinois       | IL-09    | 15,841     |
| Iowa         | IA-01    | 33,622     | Illinois       | IL-05    | 15,830     |
| Iowa         | IA-04    | 32,628     | Illinois       | IL-08    | 15,725     |
| Iowa         | IA-02    | 31,932     | Ohio           | OH-15    | 15,012     |
| Wisconsin    | WI-02    | 27,874     | Minnesota      | MN-05    | 14,913     |
| Wisconsin    | WI-06    | 26,285     | Illinois       | IL-02    | 14,410     |
| Wisconsin    | WI-04    | 25,346     | Michigan       | MI-11    | 14,348     |
| Wisconsin    | WI-05    | 24,029     | Ohio           | OH-11    | 14,151     |
| South Dakota | SD-00    | 21,498     | Illinois       | IL-16    | 13,743     |
| Wisconsin    | WI-03    | 20,879     | Texas          | TX-04    | 13,729     |
| Wisconsin    | WI-08    | 20,728     | Illinois       | IL-15    | 13,675     |
| Wisconsin    | WI-07    | 19,645     | Illinois       | IL-13    | 13,511     |
| Indiana      | IN-02    | 19,333     | Texas          | TX-26    | 13,500     |
| North Dakota | ND-00    | 18,908     | Illinois       | IL-10    | 13,318     |
| Indiana      | IN-08    | 18,691     | Ohio           | OH-01    | 13,242     |
| Texas        | TX-24    | 18,546     | Illinois       | IL-03    | 13,225     |
| Indiana      | IN-07    | 18,213     | Texas          | TX-21    | 12,956     |
| Minnesota    | MN-03    | 18,115     | Texas          | TX-06    | 12,926     |
| Indiana      | IN-05    | 18,088     | Illinois       | IL-11    | 12,912     |
| Texas        | TX-38    | 17,571     | Ohio           | OH-04    | 12,746     |
| Texas        | TX-32    | 17,032     | Indiana        | IN-01    | 12,649     |
| Indiana      | IN-03    | 16,516     | Illinois       | IL-06    | 12,517     |
| New York     | NY-12    | 16,411     | North Carolina | NC-14    | 12,434     |
| Wisconsin    | WI-01    | 16,371     | Michigan       | MI-13    | 12,398     |



# Constance

Welder

Savannah, GA

*“Our industry makes the equipment that is bringing our nation's infrastructure into the 21st century.”*

# Our Industry's Policy Priorities

*Infrastructure* American infrastructure must meet the challenges of a 21st century economy. Modernizing our infrastructure – roads, bridges, waterways and other critical assets – will spur investment in local communities, create more jobs and propel economic growth. For equipment manufacturers to help build, power and feed the world, policymakers must make critical infrastructure investments to match today's global marketplace. Equipment manufacturers call on policymakers to prioritize infrastructure investments in rural, urban, suburban communities across the country, while creating a sustainable and long-term funding mechanism for America's infrastructure.

*Rural America* A strong farm economy not only benefits farmers and ranchers, but also helps protect the 650,000 agricultural equipment manufacturing jobs across the United States. Supporting rural America is not just about supporting the farm economy – it is so much more. America's heartland is dotted with small towns that depend on a stable local economy, state-of-the-art infrastructure assets and reliable public utilities. Equipment manufacturers urge lawmakers to provide a vital safety net for farmers and ranchers and advance comprehensive policies that will allow producers of all sizes to tap into the latest in agricultural innovation and technology.

*Workforce* A reliable pipeline of skilled workers will address the current labor shortage and help build the next generation of equipment manufacturers. Our industry cannot succeed and grow without the right tools or skilled workforce. It is essential that policymakers equip job creators with the resources to attract, retain and retrain hardworking men and women to fill the skills gap. Equipment manufacturers support policies to expand access and eligibility to state and federal career and technical education programs while encouraging young adults to explore family-sustaining careers and vocational opportunities beyond a traditional college education.

*Trade & International* One-in-five American jobs depend on reliable and consistent trade policies. Following the COVID-19 pandemic, America must reassert its global leadership role to guarantee the prosperity made possible by free and open markets and thriving international trade. Equipment manufacturers call on lawmakers to support policies that promote U.S. trade and investment with allies near and far, create a level playing field for U.S. companies competing in global markets and make goods and services more available and affordable for Americans.

*Tax* America currently operates under one of the most competitive tax codes in the world, making the United States a viable place to conduct business. Countries around the world are prioritizing economic growth, meaning the U.S. tax code will need to continue its aggressive approach towards creating a viable and friendly tax environment, so businesses look to invest and grow in America.

*Immigration* Part of America's workforce shortage can be addressed by offering meaningful employment and legal certainty for nearly 3 million young adults ("Dreamers") living in the United States. We should provide these individuals, brought here as children through no fault of their own, a path to citizenship while developing their skills and expertise through family-sustaining jobs in the equipment manufacturing industry. A modernized and streamlined immigration system will also help solve the skills gap by allowing American-educated students to remain here legally and contribute to our nation's innovation and manufacturing renaissance. Equipment manufacturers support commonsense immigration reform that both secures our borders and helps address our nation's workforce challenges.

*"It's very satisfying to know what I create here goes out to build and develop communities all across the world."*

**Aaron**

*Welder*

*Taylors, SC*



# Detailed Methodology

The foundation of the analysis is SPGMI's proprietary Business Market Insights (BMI) service. This database is developed by SPGMI industry experts utilizing information from the U.S. Census, Bureau of Labor Statistics and County Business Patterns data and provides employment for all six-digit NAICS categories for the U.S., down to the zip-code level. This analysis leveraged AEM's membership list and secondary research on employment and output by business location. Totaling the employment figures for individual manufacturing plants allowed SPGMI to fully account for the total contributions of companies that cross state lines.

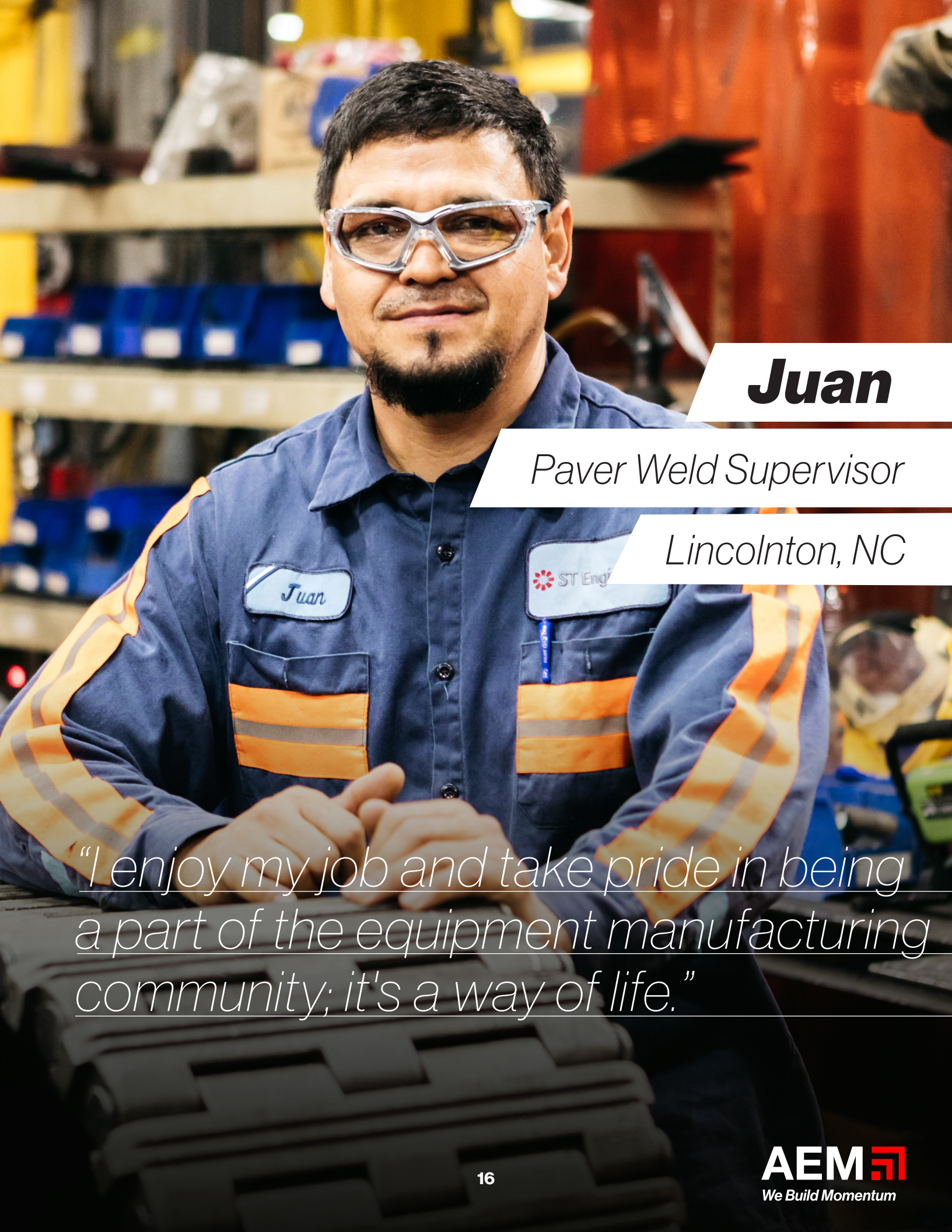
Business transactions with local suppliers and service providers trigger economic activity. For example, when a supplier sells something to a producer of an end-use good or service, that supplier needs to hire employees to transform inputs into the final product. The economic impact model contains productivity (output per employee) statistics for 536 industry sectors that are produced by IMPLAN, a software package that measures economic impacts. The SPGMI BMI employment data provided the number of jobs for each industry sector. Industry-specific productivity data could then be applied to employment to quantify the level of output supported by each industry sector. These contributions arise from direct spending with a tier-1 supplier and represent the direct impact.

Sourcing the inputs that a supplier requires to make the product ordered by the producer of an end-use good invokes additional rounds of economic impact. For example, a tier-1 supplier must purchase the inputs needed to produce its final product. Some of these purchases will be imported from outside the U.S. economy and are excluded from this analysis. The remaining purchases stay within the U.S. economy and are counted. Each supplier must, in turn, hire employees and source additional inputs from its suppliers. This effect occurs as a result of transactions between vendors and their supplier networks (interindustry) and represents the indirect economic impact.

Finally, direct and indirect employees spend a portion of their incomes on consumer goods and services. This stimulates yet another round of economic activity, which results in induced effects on employment and other economic measures.

The results from the national model yield output, employment, value added, labor income and tax revenue generated by the equipment manufacturing industry. State-level models were driven by the direct employment determined in the data analysis and segment breakdown. State-level analysis provided industry-specific output, income, employment and value-added data. IHS Markit maintains industry-level data by state for employment and gross state product through its U.S. Regional group. The results of our findings not only capture the overall impact of the industry by segment within the context of each state's unique economy, but also highlight the significance of the industries within each state – i.e. the equipment manufacturing industry provides X% of total manufacturing employment in state Y, while also supporting Z% of professional services employment.

SPGMI further broke down state-level impacts into U.S. congressional districts. This methodology was an extension of that used for the state-level impacts. The BMI data was aggregated to congressional districts and each district's share of impacted industry segments was utilized to distribute the state-level direct and indirect impacts. Induced impacts at the congressional district level were based on the combined share of direct and indirect impacts, as the income driving induced impacts is based on direct and indirect activity.



**Juan**

*Paver Weld Supervisor*

*Lincolnton, NC*

*"I enjoy my job and take pride in being a part of the equipment manufacturing community; it's a way of life."*



The Association of Equipment Manufacturers (AEM) is the North American-based international trade group representing off-road equipment manufacturers and suppliers, with more than **1,000 companies** and more than **200 product lines** in the agriculture and construction-related industry sectors worldwide. The equipment manufacturing industry in the United States supports **2.3 million jobs** and contributes roughly **\$316 billion** to the economy every year.





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