



CENTER FOR
AUTOMOTIVE
RESEARCH

The Future is Electrifying -The Electric Vehicle Jobs Market

EVJA Employer Provider Meeting

Center For Automotive Research

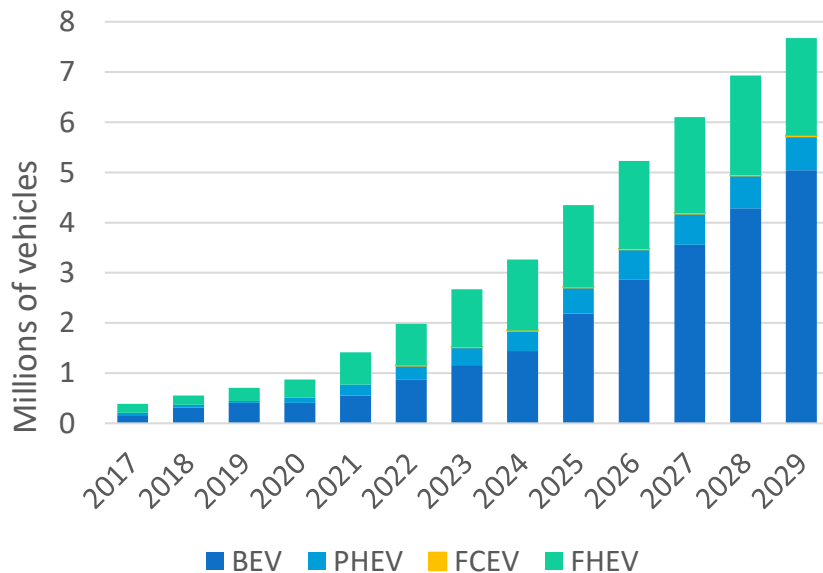
October 27, 2022



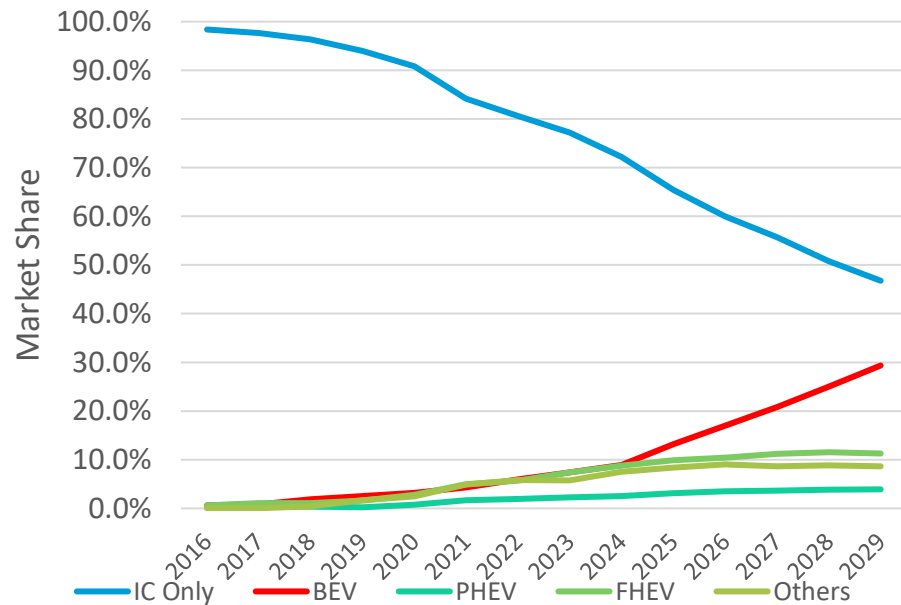
Electrification and Workforce - Assessing the Need

Electrified Vehicle Production to Grow Rapidly

N. American Electrified Vehicle Production

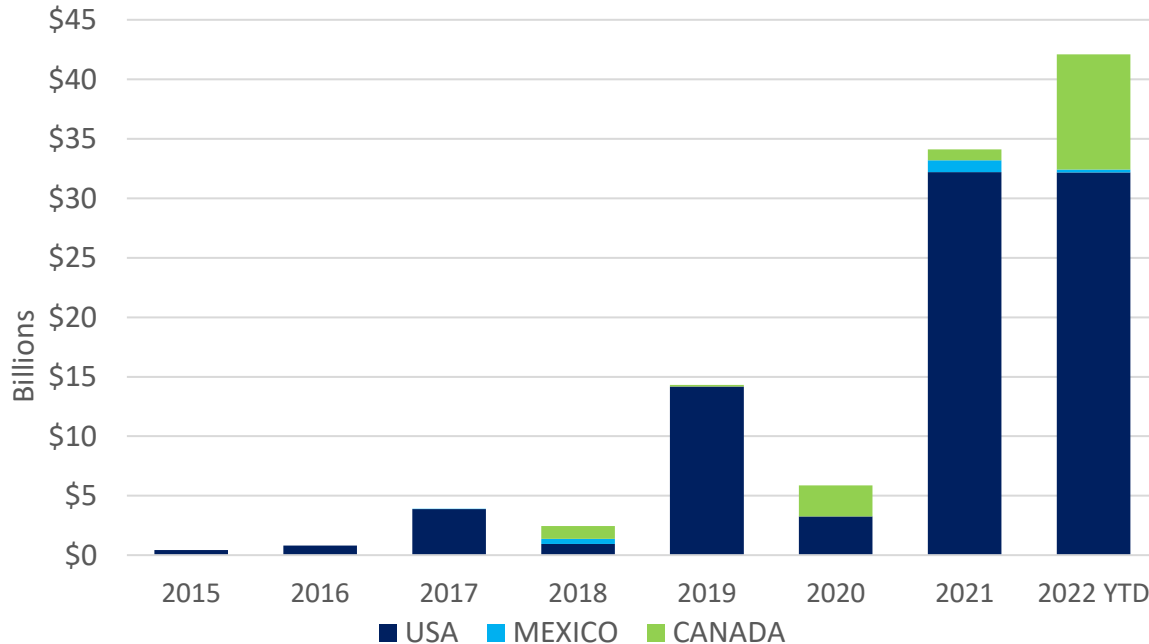


ICE and Electrified Share



Announced Automaker AV/EV-Related Investments by Country

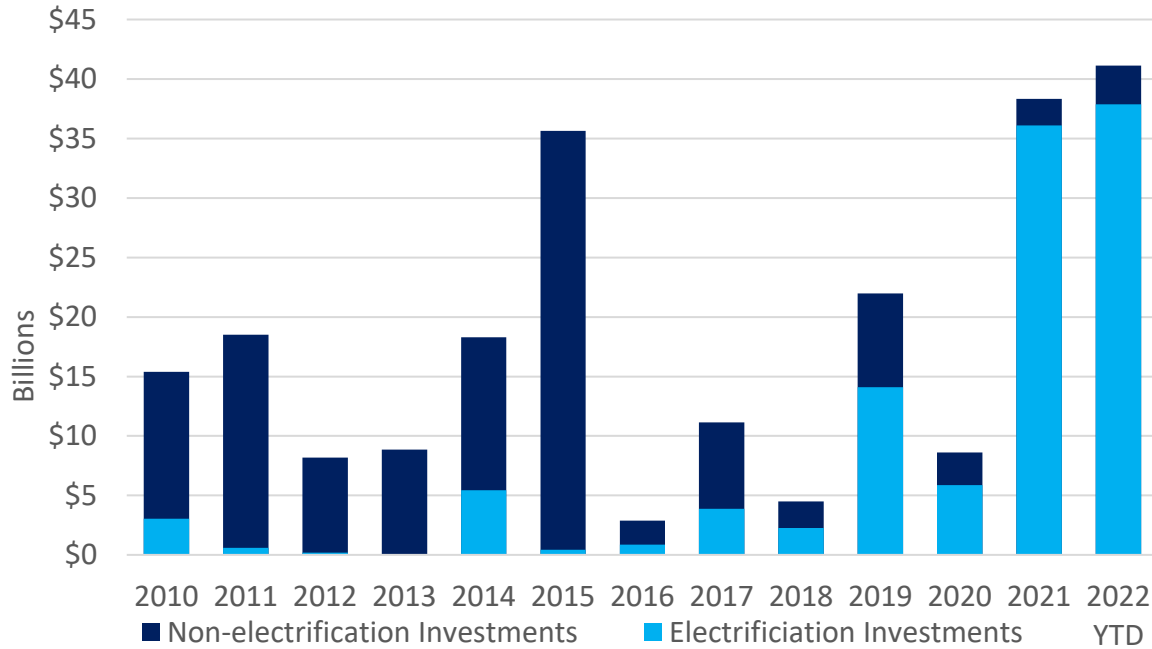
2015 to September 2022



The automotive industry has invested heavily in Electrified Vehicle (EV) and Automated Vehicle (AV) technology and capacity since 2017. In 2021 and the third quarter of 2022, some of the largest investments in the U.S. automotive industry history were announced. These investments over this 21-month span will contribute more than USD 76.2 billion to AV and EV technologies.

- 1) Ford: Blue Oval City and Blue Oval SK, USD 11.4 billion total
- 2) Hyundai-Kia: Plants in Georgia and Alabama for EVs and hydrogen fueling infrastructure, USD 12.9 billion total
- 3) Rivian: Georgia assembly plant, USD 5 billion total
- 4) Stellantis and LG Energy joint venture battery manufacturing facility in Windsor, Canada, CAD 5.0 billion (USD 4.1 billion)
- 5) Toyota: Battery Manufacturing facility in North Carolina, USD 2.5 billion

Announced Automaker EV/Battery Related Investments in NA 2010 to September 2022

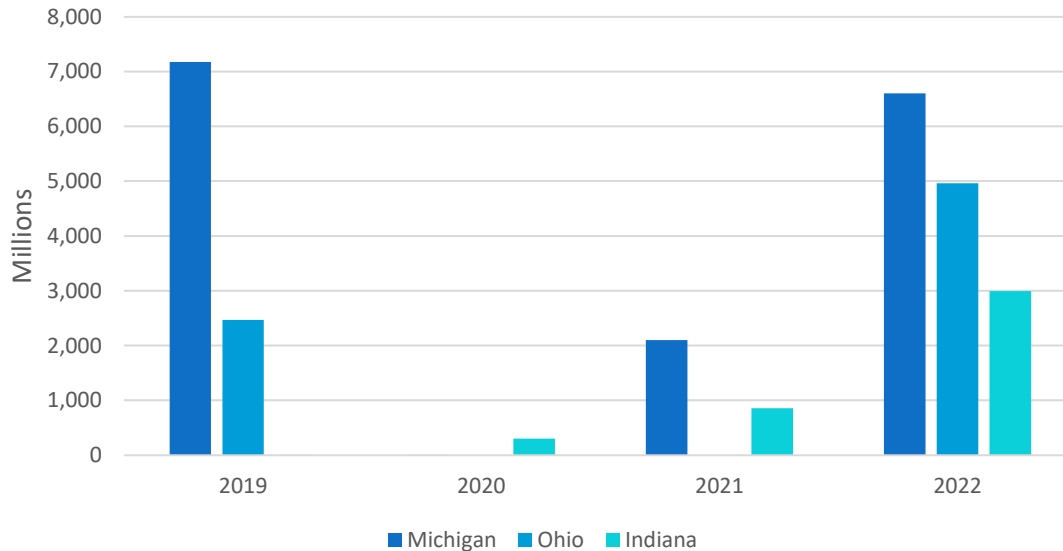


The automotive industry has invested heavily in electrified vehicle (EV) technology and capacity since 2019. Since 2020, some of the largest investments in North American automotive industry history were announced, totaling nearly USD 80 billion. The announcements include:

- 1) Ford Blue Oval City and Blue Oval SK, USD 11.4 billion total
- 2) Rivian Georgia assembly plant, USD 5 billion
- 3) Hyundai-Kia: for EVs, and hydrogen fueling infrastructure, USD 7.4 billion
- 4) Stellantis and LG Energy joint venture battery manufacturing facility in Windsor, Canada, CAD 5.0 billion (USD 4.1 billion)
- 5) Toyota will invest USD 2.5 billion to expand its Battery Manufacturing facility in North Carolina.
- 5) Honda and LG announced a USD 3.5 billion investment to build a battery plant in Ohio.

EV/Battery Investment in the States of Michigan, Ohio, and Indiana 2019 – September 2022

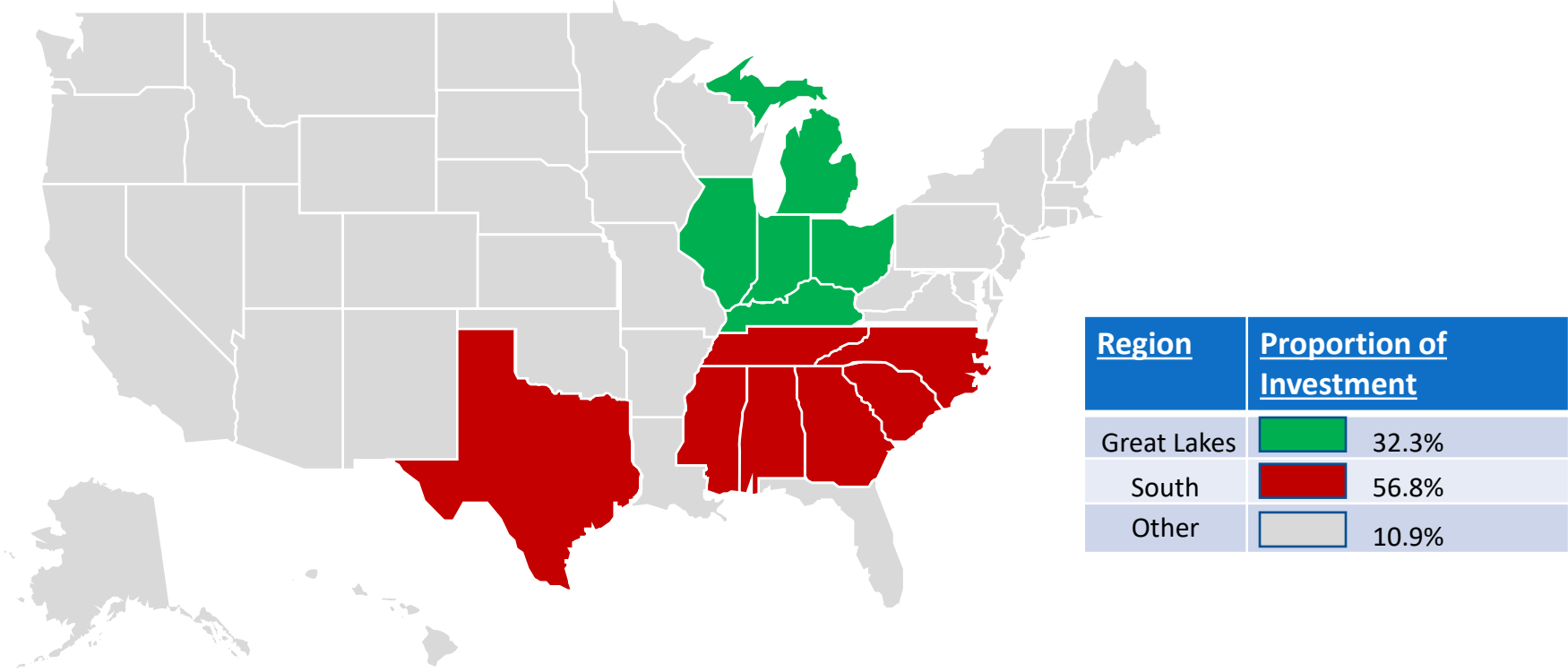
Michigan, Ohio & Indiana EV/Battery Investment
(2019 - September 2022)



Note: Investment data based on publicly available announcements, in some cases the actual amount of investment is unknown

Regional Share of Automaker EV/Battery Investments by Automaker

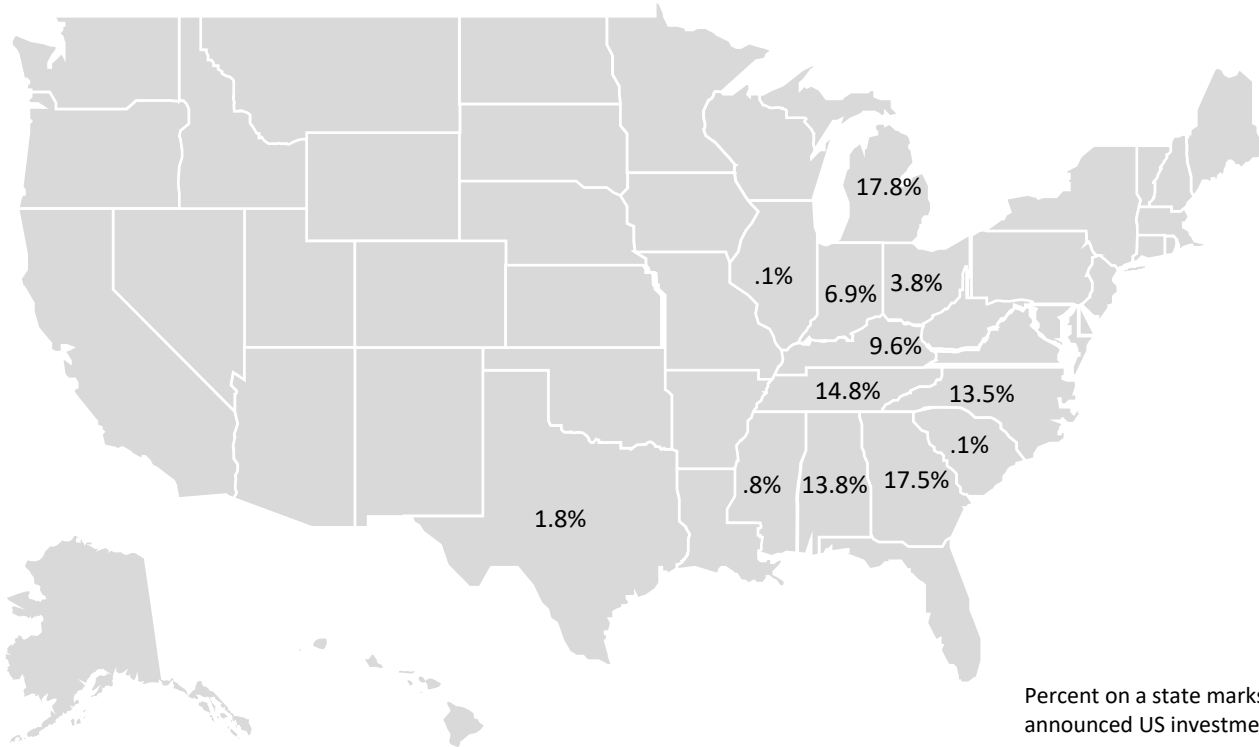
2020 to September 2022



Source: CAR Book of Deals, 2022

Share of Automaker EV/Battery Announced Investments

Select States: January 2020 to September 2022



State	Total Investment (\$USD)
Alabama	8.34B
Georgia	10.54B
Illinois	0.07B
Indiana	4.14B
Kentucky	5.80B
Michigan	10.70B
Mississippi	0.5B
North Carolina	7.83B
South Carolina	0.04B
Tennessee	8.9B
Texas	1.10B
Ohio	2.26B

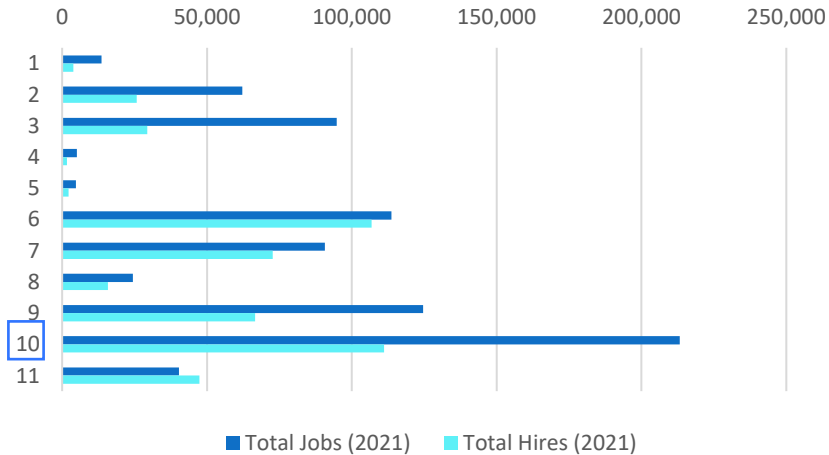
Percent on a state marks their proportion of announced US investments during this timeframe

The background of the slide is a green-tinted photograph of an industrial factory floor. In the foreground, a robotic arm is visible, and in the background, workers are seen working on a production line. The overall scene is brightly lit, suggesting a modern manufacturing environment.

EV Transition and Workforce

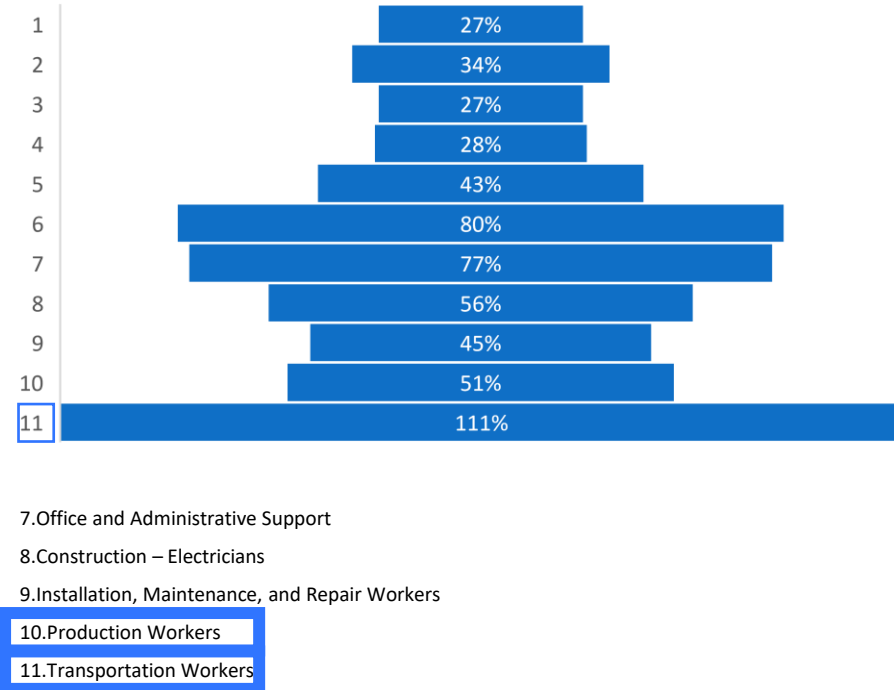
EV State Benchmarks- NAICS Edition Data Michigan

Available employment vs total hires



- 1. Industrial Production Manager
- 2. Computer, Mathematic, and Software-Related
- 3. Architecture and Engineering
- 4. Physical, and Social Science – Chemists, Material Scientists, and Urban Planners
- 5. Arts and Design – Designers and Technical Writers
- 6. Sales – Retail Salespersons

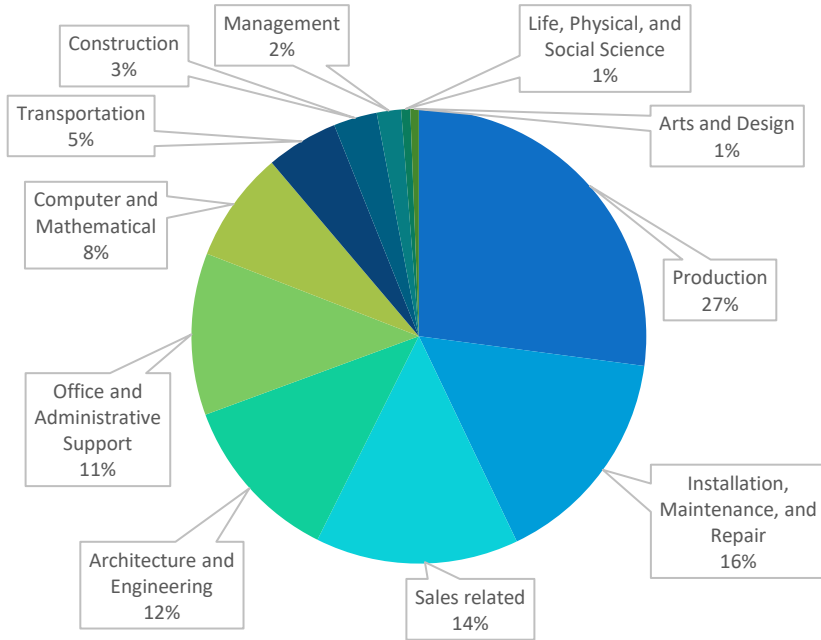
Turnover rate



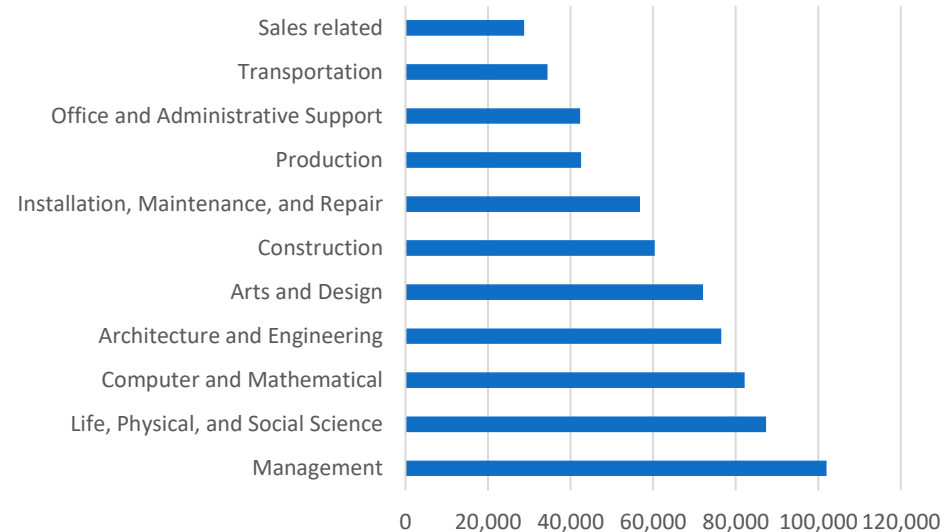
- 7. Office and Administrative Support
- 8. Construction – Electricians
- 9. Installation, Maintenance, and Repair Workers
- 10. Production Workers
- 11. Transportation Workers

Michigan

Total Jobs (2021)

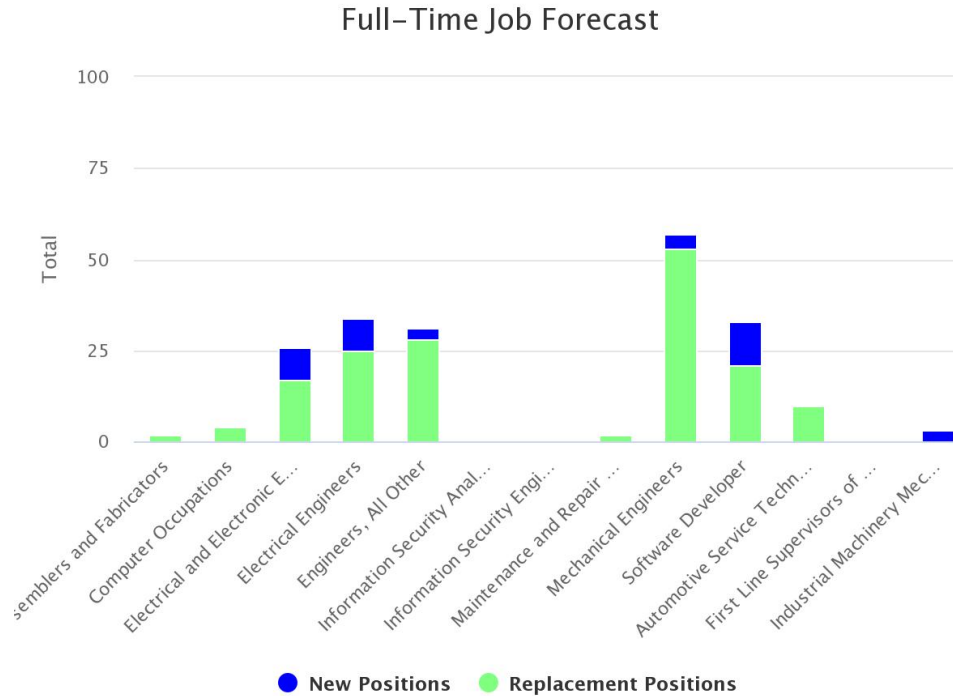


Median Annual Income (2021)



*Due to data constraints, these statistics were calculated using seven-state employment data instead of calculating through national dataset

Employer Survey Results: Mechanical Engineers Needed Most



Highcharts.com



Thank You



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bswiecki@cargroup.org