ELECTRIC VEHICLE (EV) & BATTERY



Indiana
Economic Development Corp®

iedc.in.gov

INDIANA'S AUTOMOTIVE INDUSTRY IS THE

2ND LARGEST

BY GDP IN THE U.S. (>$18.5B)

2ND LARGEST
PRODUCER OF TRUCKS

3RD LARGEST
PRODUCER OF CARS

3RD IN OVERALL AUTOMOTIVE PRODUCTION

5 MAJOR OEM ASSEMBLY PLANTS

500+
AUTOMOTIVE PARTS SUPPLIERS

9,000
MANUFACTURING OPERATIONS

INDIANA'S AUTOMOTIVE SECTOR EMPLOYS

115,000 + WORKERS

$78,000+
AVERAGE WAGE

1.3 MILLION
CARS AND TRUCKS PRODUCED ANNUALLY

1 IN 5
HOOSIERS WORK IN ADVANCED MANUFACTURING

$7.3 BILLION
IN AUTO EXPORTS

MAJOR COMPANIES & INDUSTRY FOOTPRINT

SOURCE: Dun & Bradstreet, November 2020.

CUMMINS INC.
Columbus

BORGWARNER INC.
Anderson

THOR INDUSTRIES INC.
Elkhart

KEIHIN CORPORATION
Anderson

WABASH NATIONAL CORPORATION
Lafayette

STELLANTIS – SAMSUNG SDI
Kokomo

FAURECIA
Fort Wayne

KPS CAPITAL PARTNERS LP
South Bend

ALLISON TRANSMISSION HOLDINGS INC.
Indianapolis

TENNECO INC.
Ligonier

LCI INDUSTRIES
Elkhart

VALEO
Seymour

ENKEI AMERICA INC.
Columbus

BERKSHIRE HATHAWAY INC.
Indianapolis

GROTE INDUSTRIES LLC
Madison

GULF STREAM COACH INC.
Nappanee

F.C.C. CO. LTD
Berne

WINNEBAGO INDUSTRIES INC.
Middlebury

NTN CORPORATION
Columbus, Anderson

JASPER ENGINE EXCHANGE INC.
Jasper

FLEX-N-GATE LLC
Covington

GECOM
Greensburg

HENRY CROWN AND COMPANY
Indianapolis

UC HOLDINGS INC.
Indianapolis

TI FLUID SYSTEMS PLC
Ossian



A new charging cable design developed by Purdue professor Issam Mudawar (center) and his students could reduce an electric vehicle's charging time to under five minutes.

THE NEXT GENERATION OF ENERGY

As demand for electric vehicles and renewable energy increases, Indiana is working to meet the demand for next-generation energy systems in a global market with access to world-class research universities, a highly-trained workforce and a business-friendly environment.

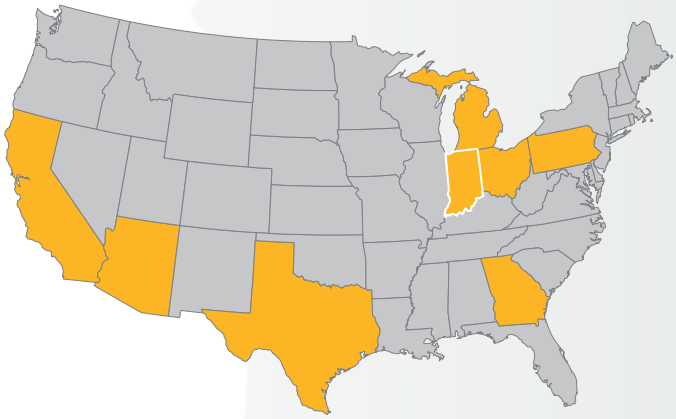
POWERFUL MINDS AT WORK

Indiana is home to nationally ranked universities and some of the nation's best energy research and engineering degree programs.

TALENT PIPELINE

Indiana is ranked one of the Top 10 states in the U.S. for degree universities relevant to EV/battery manufacturing. As a result, Indiana boasts one of the most highly trained, work-ready labor forces in the country.

- Purdue University is ranked the No.1 school in the U.S. for graduates with degrees relevant to EV/battery manufacturing.
- Approximately 240,000 Hoosiers across the state are employed in industries related to EV/battery manufacturing, including automotive, electrical and electronic manufacturing.
- More than 120,000 workers across Indiana have already received next-generation energy systems training.



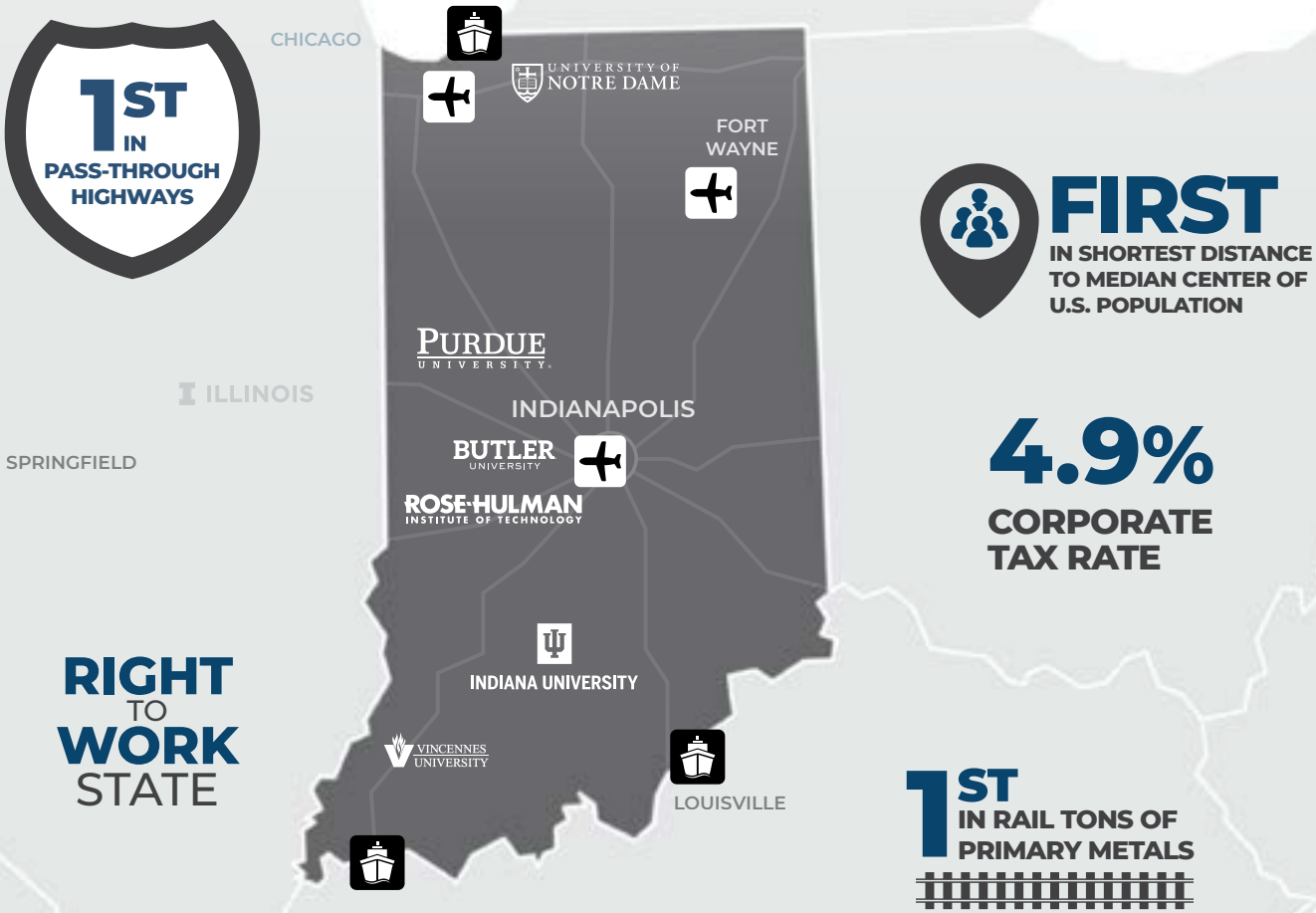
Highlighted states indicate location of Top 10 talent/degree universities relevant to EV/battery manufacturing.

TOP-RANKED BUSINESS ENVIRONMENT

Through hard work and common-sense spending, Indiana has maintained a balanced budget for years and has built a healthy reserve of “rainy day” cash. As a result, already low business taxes are actually trending down. Indiana businesses also enjoy remarkable regulatory freedom. As a “Right to Work” state, Indiana workers are free to work without the pressure to join a union. All of this makes Indiana more competitive than other states, including California, Illinois and New York.

TALENT PIPELINE

Indiana is home to nationally-ranked universities with world-class engineering and manufacturing degree programs. Training initiatives like Next Level Jobs include a powerful advanced manufacturing track dedicated to automation and robotics technology. As a result, Indiana boasts a deep, highly-skilled workforce. In fact, 20% of Hoosiers are working in advanced manufacturing — well above the national average.





INDIANA SUCCESS STORIES

Located in Newberry, Indiana, the Battery Innovation Center (BIC) brings leadership from universities, government agencies and commercial enterprises together to accelerate the development, testing, commercialization and advanced learning of safe, reliable, high-performance lightweight energy storage systems. The bold initiative catalyzes technologies by reducing lengthy, expensive innovation-to-commercialization development cycles. To further expedite the process, the Battery Innovation Center does not hold patent rights, encouraging joint development.

The 35,000-square-foot space is capable of handling a wide range of services including:

"The BIC has far-reaching impacts on everything from electric vehicles, to military applications, to grid storage. Indiana is at the center of this innovation through this organization."

– Paul Mitchell
ESN President and CEO
BIC Board Chairman

Advanced Cell Manufacturing

- Low volume cell and pack production
- Material and process research and development

Testing, Evaluation and Certification

- Battery testing and validation
- Micro-grid and V2G testing

Research & Development

- Standards and materials development
- Nobel labs

Applied Services and Technical Advisory

- Expert feedback and analysis
- Competitive analysis

Applied Services and Technical Advisory

- Battery energy storage short courses *(continuing education units)*
- AC/DC HV fundamentals courses *(continuing education units)*
- Energy storage technologies executive workshop
- Customized on-site and remote training

BATTERY INNOVATION CENTER STRATEGIC ALLIANCES

The Battery Innovation Center is also the home of several strategic alliances and incubators, featuring some of the top names in the energy industry:

UL Testing

- Battery and Energy Storage Technology Test Center—exclusive large-format U.S. energy storage system test facility

BrightVolt

- Scale-up for ultra-thin film and flexible batteries
- Commercialization for medical patches, industrial sensors, internet of things (IoT) devices, shipping labels and smart card technologies

Ateios

- Highly customizable flexible batteries
- Scale-up for flexible electronics, smart textiles, soft robotics, internet of things (IoT) and medical/fitness wearables

Duke Energy

- Micro grid simulation and grid-level control algorithm development
- Leveraging installed and new renewable generation

NSWC Crane

- CITE agreement allows direct access to the U.S. Navy's world-class environment, health and safety test facilities
- Crush, shock, drop, vibe, rapid disassembly, intrusion, EMI

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– Paul Mitchell
ESN President and CEO
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