Ohio Supports a Smart, Sustainable EV Future

Automotive Strengths

#1 Producer of Engines

#2 Manufacturer of Transmissions

#2 Automotive Manufacturing Strength

Ohio's Smart Mobility Environment

There's really no better place than Ohio when it comes to smart mobility. With an unmatched combination of partnerships between companies, government, and public-private institutions, tech and automotive companies alike can find the resources they need to design, test, and deploy smart mobility technology and components. By creating an environment to support changing how we move, from developing batteries for electric vehicles to connected infrastructures, Ohio is the perfect place to drive the future of smart mobility.

In addition to smart mobility infrastructure, Ohio also has the R&D, skilled talent, market access, and a comprehensive supply chain, making the state an automotive leader in the United States.

Design Plan, assess, and research your capabilities.

Test Push the capabilities of your technology by taking them into real-world environments.

Deploy Manufacture and implement your technology, and hire and train the workforce to make it run.

If you're exploring autonomous and connected transportation opportunities, here are a few of the smart mobility automotive assets you'll find in Ohio:

Transportation Research Center (TRC)

World-renowned testing facility that has 4,500 acres of road courses and a 7.5-mile, high-speed oval test track.

SMART Center

The 540-acre Smart Mobility Advanced Research and Test (SMART) Center at TRC enables testing of new technologies and autonomous and connected vehicles in a real-world environment.

Ohio State University (OSU)

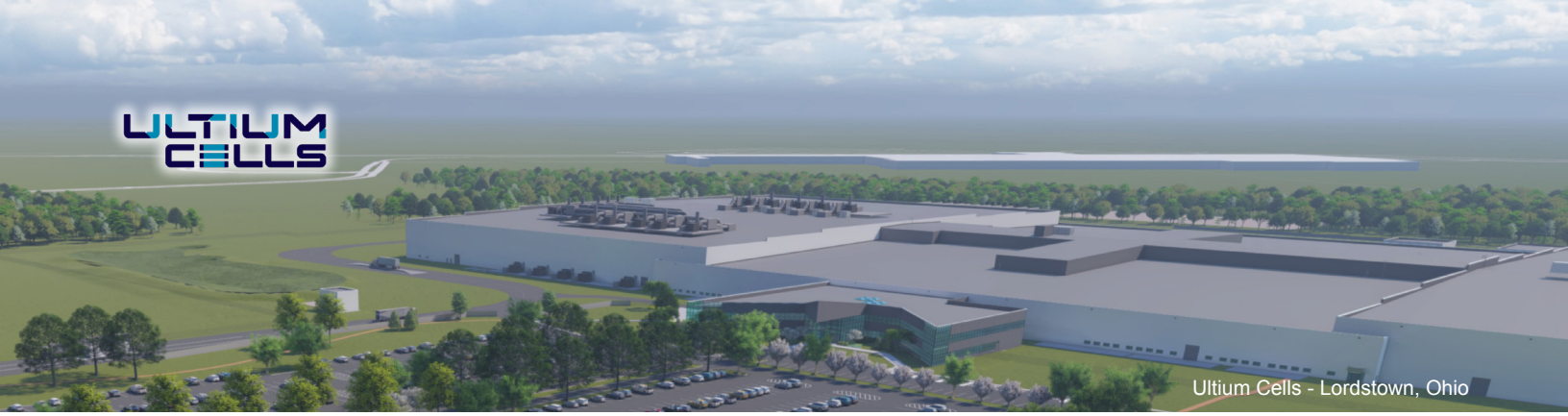
OSU's Center for Automotive Research (CAR) is focused on intelligent transportation systems, advanced vehicle safety, and sustainable mobility. OSU Driving Simulation Laboratory offers a state-of-the-art facility for measuring driver behavior.

Smart Columbus

Winning the "Smart City Challenge" came with a $40 million grant from the U.S. Department of Transportation and a $10 million grant from Vulcan Inc. to develop, deploy, and share lessons learned about smart mobility solutions that improve safety, mobility, access to opportunity, and sustainability.

DriveOhio

Bringing together all of the public and private entities involved in building the transportation infrastructure in Ohio, DriveOhio coordinates with those who are developing the advanced mobility technologies needed to create a smart transportation system.



Ultium Cells - Lordstown, Ohio

Ultium Cells, a Joint Venture with GM, Plugs Ohio Into an Electric Vehicle Future

GM and Ohio have a history dating back to the mid-1900s. Over that time, GM has invested billions of dollars into the state, which is a leader in the North American automotive industry. Ohio has the second-largest automotive workforce in the U.S., and its geographic location makes it possible for automotive companies to reach 77% of North American automotive assembly production within a one-day drive.

Looking Toward an EV Future

In recent years, GM decided to restructure its business model to cut losses and focus on its most profitable operations, including furthering its investment in EVs. Meanwhile, LG Chem, Korea's largest diversified chemical company, was considering establishing a battery cell manufacturing plant in the southeastern region of the U.S. Their shared interest in the EV space brought the two companies together to consider forming a joint venture (JV) to mass-produce lithium-ion batteries for EVs.

As they evaluated where to establish this new EV battery manufacturing facility, the JV team reached out to Ohio to consider this exciting project.

Ohio Works Quickly

The joint venture aimed to begin site work in early 2020 to meet their aggressive production goals. Ohio only had a few months to work out the details to win the investment. JobsOhio's unique, privately-funded economic development organization model made it possible for the organization to quickly present options and data, including cost analysis related to taxes and labor, as well as the overall cost of doing business in Ohio.

Challenges assembling the acreage required for the project sprung up quickly. Potential sites had issues with existing wetlands. Many entities worked with the JV team to resolve issues and identify a viable site.

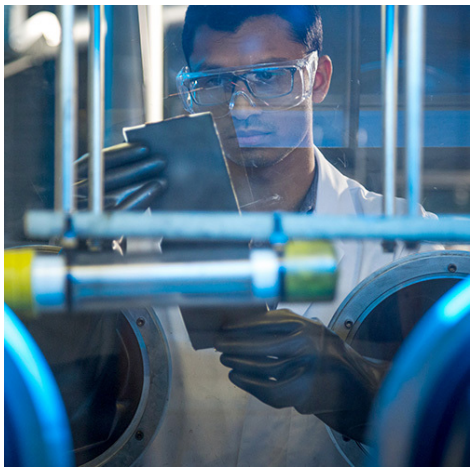
The multi-billion dollar investment also required financial support from Ohio for the state to be considered for the project, as the cost of the investment by GM and LG Chem would be significant.

Welcome to Ohio, Ultium Cells

Finally, in December 2019, GM and LG Chem announced the creation of their 50/50 joint venture, known as Ultium Cells LLC, to mass produce batteries for future EVs in Lordstown, creating 1,000 jobs. Ultium Cells will be an integral part of GM's ambitious plans to develop 20 EV models by 2023, and it represents an investment of up to $2.3 billion through the new, equally-owned JV. At the completion of the project, this facility will be one of the largest cell manufacturing plants in the world.

As the world transitions from internal combustion engines to EVs, battery technology and production will be the new backbone of the automotive industry. This project marks the start of a new era in Lordstown, the Mahoning Valley, and Ohio. Locals in the Lordstown-Mahoning Valley region are beginning to describe it as the "Voltage Valley."

The Ultium Cells investment will continue to strengthen the automotive industry in Ohio, enable economic resiliency and potential for the local and regional economy, and create a new EV-based cluster that reconfirms Ohio's leading position in the new wave of a global automotive technology transition.



> With this investment, Ohio and its highly capable workforce will play a key role in our journey toward a world with zero emissions. Combining our manufacturing expertise with LG Chem's leading battery-cell technology will help accelerate our pursuit of an all-electric future. We look forward to collaborating with LG Chem on future cell technologies that will continue to improve the value we deliver to our customers."
>
> **Mary Barra**
> Chairman and CEO, GM

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To learn about the partnerships and resources available in Ohio, visit JobsOhio.com/SmartMobility

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