

As Rivian struggles to meet early demand, Illinois looks to become manufacturing hub in coming EV revolution

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Driven by legislators, automakers and growing consumer demand, electric vehicles are poised to rule the road over the next decade, and Illinois may be a key manufacturing hub in the auto industry's transformation.

Newly public EV startup Rivian is flush with cash and scrambling to keep up with orders for its electric truck, SUV and Amazon delivery vans at a former Mitsubishi plant in downstate Normal. Meanwhile, industry analysts expect Stellantis to convert its nearly dormant Belvidere Assembly Plant, which makes the Jeep Cherokee, into the automaker's first EV factory in the U.S. by 2024.

There's even an electric school bus factory being built in Joliet.

But with charging infrastructure lagging and new models just beginning to trickle out, there are still miles to go before EVs supplant gas-powered vehicles in many garages.

"We're not there yet," said Jessica Caldwell, executive director of insights for car shopping website Edmunds. "I think in the broader market we're still in early adopter phase. Until we see more production roll out, we'll probably still be at that phase for a while."

Rivian, which launched production of its R1T electric truck in September, raised \$13.7 billion through a massive initial public offering last month and is now worth more than Ford or General Motors. Buying stock in Rivian may be easier than getting your hands on the actual trucks.

The California-based startup has produced only 652 vehicles in its first three months of operation, according to its third quarter earnings report Thursday. The first two R1S SUVs rolled off the line this month, and Rivian is expected to deliver the first of 100,000 EV vans to Amazon, an

investor in the company, before the end of the year.

In total, Rivian is projected to come up a "few hundred vehicles short" of an initial 1,200-unit production target it set for 2021, CEO R.J. Scaringe said during the earnings call.

"Launching and ramping production of three different vehicles within a few months is an incredibly tough challenge," Scaringe said.

Rivian has 71,000 preorders for its R1T and R1S models, which means anyone who puts money down now on the \$70,000 EVs will have to wait until 2023 to take delivery, Scaringe said. The company announced Thursday it is building a second \$5 billion assembly plant in Georgia to keep up with anticipated future demand.

Electric vehicle sales gained traction in 2021, making up 2.5% of the U.S. auto market through November, up from 1.6% for the same period in 2020, according to Edmunds. Tesla accounted for nearly two-thirds of the EVs sold in the U.S., with Volkswagen at about 8%, followed by GM and Ford at about 7% each.

Edmunds projects the U.S. EV market share will climb to 4% in 2022, surpassing 600,000 vehicles sold, with Tesla's market share dropping to 46% as new players enter the segment.

New federal and state legislation is designed to accelerate the transition to [electric vehicles](#).

The Biden administration released its EV charging action plan Dec. 13, outlining the steps federal agencies are taking to boost infrastructure, manufacturing and consumer adoption. The \$1.2 trillion infrastructure bill, signed into law in November, includes \$5 billion in funding for states and a \$2.5 billion competitive grant program for rural and

disadvantaged communities to put the U.S. "on the path" to a national network of 500,000 charging stations.

A measure for increasing the maximum federal tax credit for EV buyers from \$7,500 up to \$12,500 is part of Biden's \$1.75 trillion Build Back Better Act, which was approved by the House in November and is now in the hands of the Senate.

In November, Pritzker signed the Reimagining Electric Vehicles in Illinois Act, which incentivizes EV manufacturers to locate in the state through tax credits, including up to 100% of income tax withheld for new jobs created. The legislation also allows local municipalities to abate property taxes for EV projects.

President Joe Biden has set an ambitious target of a 50% market share for EVs by 2030, while Gov. J.B. Pritzker wants to see 1 million registered EVs on Illinois roads by then—preferably built at Illinois plants.

Founded in 2009 by Scaringe, a 38-year-old MIT grad, Rivian has nearly 3,900 employees working at its sole production facility in Normal, a college town about 130 miles south of Chicago. Rivian said Thursday it plans to expand the plant's capacity from 150,000 to 200,000 vehicles per year.

Rivian, which has more than 10,000 employees overall, plans to break ground on the Georgia plant next summer and begin producing the "next generation" of EVs by 2024. The plant will employ 7,500 workers with an eventual production capacity of 400,000 vehicles per year, Scaringe said. Until then, Rivian's ambitions to become the Tesla of trucks will depend entirely on the production output at the Normal plant.

Stellantis, which was created by the merger of Fiat Chrysler and Peugeot

of France in January, is projecting more than 40% of its U.S. sales to be electric vehicles by 2030. Illinois could be at the center of those plans, with the Belvidere Assembly Plant near Rockford slated to build new electric versions of the Dodge Charger, Challenger and a crossover beginning in January 2024, according to industry analysts.

The sprawling plant, which has been laying off employees for several years amid dwindling sales for its only product—the Jeep Cherokee SUV—could be buzzing again with an all-electric future, said Sam Fiorani, vice president global vehicle forecasting at AutoForecast Solutions, a Pennsylvania-based research firm.

"The plant is a relatively large plant, and the Cherokee was supposed to fill it. But it is not anymore," Fiorani said. "Instead of having just one, they'll have at least three models built in Belvidere, so that will fill up capacity a little better."

Fiorani said Stellantis is expected to retool the Belvidere plant to launch its EV production, while moving production of the Cherokee to another plant outside of Illinois.

"While we won't comment on rumor or speculation about the future of any of our facilities, we can say that Stellantis is committed to bringing consumers an electrified future, investing \$35 billion through 2025 on electrification and software," Stellantis spokeswoman Jodi Tinson said in an email.

Biden's infrastructure bill also includes \$5 billion for zero- and low-emission busses, with the White House saying it will "replace the yellow school bus fleet" with thousands of electric school busses nationwide.

Canadian EV truck manufacturer Lion Electric announced in May it was investing \$70 million to convert a Joliet warehouse into a factory to

produce up to 20,000 electric trucks and busses a year. Construction to repurpose the 900,000-square-foot building is finishing up and Lion will begin moving its manufacturing equipment into the plant early next year, company spokesman Brian Alexander said.

The Joliet facility will produce up to 15 different models in the next two years, including 11 trucks and four school busses. Lion, which is in line to receive \$7.9 million in state tax credits if it meets investment and job creation goals, plans to hire 745 workers over the next three years, with recruiting efforts getting underway early next year, Alexander said.

"We're still planning to have vehicles rolling out of there by the second half of next year," Alexander said.

While EV manufacturing is gearing up, consumer adoption has a long way to go to hit Pritzker's goal of 1 million EVs by 2030. There are currently 33,390 electric vehicles registered in Illinois, or less than 1% of the state's 10.3 million vehicles, according to Dave Druker, a spokesman for the Illinois secretary of state's office.

The biggest obstacle may be building a charging infrastructure.

There are 46,341 public charging stations in the U.S., including 943 in Illinois, according to the U.S. Department of Energy's alternative fuels website. The network is far less developed for fast-charging stations, where drivers can fully charge their vehicles in 15 to 45 minutes, with 5,682 stations in the U.S. and 110 in Illinois. Most public stations use Level 2 chargers, which generally take hours to recharge an EV.

The lack of a robust charging network may make EVs more costly to refuel than gas-powered cars, according to a recent study.

Patrick Anderson, a Michigan automotive industry economist, became a

lightning rod for criticism with an October report challenging the widely accepted notion that EVs are cheaper to operate than gas-powered vehicles. The study found the "real world" cost of driving 100 miles was \$12 to \$15 in an EV, compared with \$8 to \$12 in a gas-powered vehicle.

"A midpriced or luxury EV is going to cost an amount of fuel that is not significantly less and may be more than for an ICE (internal combustion engine) vehicle," Anderson said.

Anderson's study calculates the EV cost with home charging equipment and installation costs, "deadhead" miles spent driving to public stations and the higher cost of commercial charging. It also adds \$200 per year for higher EV registration fees, which some states charge to recoup lost gas taxes used for road repairs.

In 2019, Illinois lawmakers briefly flirted with jacking the annual EV registration fee up to \$1,000 before settling on the current \$251 per year—which is \$100 higher than gas-powered car owners pay.

The rising price of gas has already thrown a wrench in Anderson's numbers. At the time of the study, regular gas was calculated at \$2.81 per gallon, while the current national average price is \$3.30 per gallon, according to AAA. In Chicago, gas prices are much higher, averaging \$3.84 per gallon, according to AAA.

Recalculating current costs for a Chicago driver using Anderson's methodology, the midpriced gas-powered car and midpriced EV using mostly commercial charging both cost about \$12 per 100 miles of driving.

While a number of EVs get 300 miles or more on a full charge, reducing so-called range anxiety, Caldwell said the spotty public charging network may deter some buyers—particularly in less urban areas—at least until

Biden's infrastructure build out starts filling in the gaps.

"Automakers need to convince people this is something that can fit seamlessly in their lives," Caldwell said. "People have to think about an electric [vehicle](#) and where to charge it. That is probably going to be a big barrier to entry that we don't really talk about too much—just change of behavior."

Caldwell said EVs will remain mostly the province of EAs—early adopters—throughout 2022, but the introduction of electric trucks and SUVs will likely provide a significant bump to sales, and a glimpse of the road ahead. Light trucks and SUVs are far more popular than sedans across the entire auto market and are projected to account for 73% of the 15 million new vehicles sold this year, according to Edmunds.

In addition to Rivian, the Ford F-150 Lightning is set to launch in the spring, starting at just under \$40,000, offset by a \$7,500 federal tax credit for electric vehicles. Ford recently stopped taking reservations on the EV truck after reaching nearly 200,000 preorders, the company said.

"The key to growth is meeting consumers where they want to buy, which in this country is SUVs and pickups," Caldwell said. "So I think the introduction of a lot of those products in the coming year will probably let us gage a bit more in terms of how fast we can get to that 50% target."

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