Cadillac’s electric Lyriq SUV has a massive touchscreen and a range ‘beyond 300 miles’

It’s been three years since General Motors first announced its plan to release 20 new electric vehicles by 2023 as part of its commitment to “an all-electric future.” The first vehicle would be an SUV from Cadillac, a brand that has been trying — and failing — for years to elevate its image despite being positioned by GM to lead the automaker’s march into this high-tech future.

Flash forward to today, and we’re finally getting our first look at what Cadillac’s been cooking up: the 2023 Cadillac Lyriq, a “beyond 300 mile” range EV with an absolutely massive 33-inch infotainment screen. It’s taken three years to get here, and it’s going to take nearly another three before it hits the showroom floor. (More on that later.)

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The vehicle was supposed to be unveiled April 2nd, but got delayed due to the coronavirus pandemic. And with the pandemic showing no signs of subsiding, the automaker decided to unveil the car during a virtual event Thursday evening.

It’d be an understatement to say that the Lyriq is crucial to GM’s future. The SUV is being built on the automaker’s recently announced scalable battery architecture, Ultium, which is said to be able to power a wide range of vehicle types and sizes. Along with the electric Hummer pickup truck, the Lyriq will serve as a launchpad for Ultium.

Courtesy of Cadillac

As such, the Lyriq will be evaluated for its range and performance, as well as its ability to draw new customers to the Cadillac brand. It will also need to convince those on Wall Street who have been jittery about GM's ability to catch up to Tesla. And when it eventually goes on sale, it will go head to head with the Audi E-Tron, Jaguar I-Pace, and Tesla Model X, as well as a host of upcoming electric SUVs from the likes of BMW and Mercedes-Benz.

"The Lyriq is a challenging launch for Cadillac," said Jessica Caldwell, Edmunds' executive director of insights. She noted that no other automaker besides Tesla has "tasted the joy of success" in terms of sales and demand. But there's often more to a vehicle's success than just sales, Caldwell added.

"It does mark a pivot point"
GM certainly sees the potential. In a briefing with reporters this week, GM's president for North America Steve Carlisle emphasized the importance of the Lyriq to the automaker's overall portfolio. "It does mark a pivot point at a very important time for all of us, a tremendous opportunity for the brand," Carlisle said, "the extent to which we've lost some momentum here in the last several months, to regain that and position ourselves for the next chapter of Cadillac."

Battery and range

The vehicle unveiled Thursday is a showroom version of the Lyriq, so it only features 80-85 percent of what will eventually go into production, GM said. Some of the specifications are still in flux; for example, Cadillac said the Lyriq will have a range of "beyond 300 miles" on a full charge when it's eventually certified by the Environmental Protection Agency. But GM executives have said they expect mid-300 miles to be the low end of the spectrum, and that a range in the low 400-miles is a realistic goal.

The Lyriq's Ultium battery pack will offer "approximately 100 kilowatt-hours of energy," Cadillac says. GM has said it anticipates being able to eventually offer up to 200kWh of energy for its Ultium vehicles, which would be a first of its kind in the auto industry. Tesla's biggest battery is 100kWh, available in the Model S and Model X, which is one of the largest batteries currently available. (The upcoming second-generation Tesla Roadster is expected to have a 200 kWh battery pack when it's released in 2021.) That confers a range of 402 miles on the latest version of the Tesla Model S.

GM is upping its capability for at-home (level 2) charging with the Lyriq to 19kW (the Chevy Bolt could only accept 7.7kW while charging at a level 2 charger). And with DC fast charging, the Lyriq can charge at rates over 150kW. Cadillac wouldn't say how long the Lyriq would take to charge at the various stations, but level 2 charging usually gives you between 15 and 40 miles per hour, while DC fast charging can get you to 80 percent charged in under 30 minutes.

GM altered the chemistry of its battery cells in a move that's distinct from most EV batteries in production today. The majority of batteries are made with NCM – nickel, cobalt, and magnesium. The Ultium batteries will add aluminum – so NCMA – and reduce the cobalt content by 70 percent. Additionally, the Lyriq's battery electronics will be incorporated directly into the modules, eliminating nearly 90 percent of the battery pack wiring as compared to GM's other EVs.

Performance and price

The Lyriq will come in two configurations: single motor, rear-

wheel drive; and dual motor, performance all-wheel drive. Cadillac is not revealing the sticker price right now, but as a luxury marque, you can expect the various trims to fall between $75,000 and $90,000.

One incentive that won't be available to prospective customers is the federal government's $7,500 tax break for new electric vehicle purchases. GM was the second automaker after Tesla to hit the 200,000 vehicle milestone that triggered the slow phase-out of the credit.

Cadillac says the rear-wheel-drive configuration enables the system to "channel more torque to the pavement without wheelspin for exhilarating acceleration and greater cornering capability" — though the automaker wouldn't reveal how quickly the Lyriq can leap to 60mph. Acceleration is sure to be brisk, at least at lower speeds, thanks to the immediate nature of an electric motor's power delivery.

The Lyriq appears to be about the same size as the Cadillac XT5. It has a long wheelbase and rides on 22-inch wheels. The absence of a transmission tunnel means there's more space for a cantilevered center console, which extends forward between the front seats, with open air below.

Courtesy of Cadillac

That screen, though

One of the most eye-catching features of the Lyriq is the curved, 33-inch LED infotainment display. That's nearly three feet of screen, almost stretching the entire length of the dashboard pillar to pillar. We first got a taste of this style of curved screen with the 2021 Cadillac Escalade, but the Lyriq is taking it to a whole other level. All-encompassing infotainment screens is clearly a direction GM is headed.

Chinese startup Byton has a 48-inch screen in its first prototype vehicle, but that’s not a real car — nor does it seem like it will be any time soon.

“When you look at it and experience it, it’s just like, ‘wow’”
The picture quality is described as next level. Cadillac says the display has the “highest pixel density available in the automotive industry today and can display over one billion colors, 64 times more than any other vehicle in the automotive industry.” Prepare your eyes to be overwhelmed by pixels.

“When you look at it and experience it, it’s just like, ‘wow,’” said Mark Hogan, executive chief engineer on the Lyriq, “this is just so cool.”

But unlike Tesla, not everything will be routed through the vehicle’s screen. There are still plenty of tactile controls like volume knobs and HVAC buttons. Below the surfboard-sized screen in the center are two opening drawers for storage. And the steering wheel features a light-up Cadillac logo in the center.

Futuristic tech

Those familiar with GM’s Super Cruise system will also notice light bars embedded in the steering wheel. The Lyriq will have the latest version of the “hands-free” advanced driver assist system, which displays green lights in the steering wheel when activated. Recently announced functions, like automated lane-changing, which enables the hands-free system to change lanes when conditions are appropriate, will also be included.

But there will also be brand-new tech — at least, for GM — making its debut in the Lyriq. Cadillac says there will be a “dual plane” augmented reality heads-up display, with a “near

plane" displaying speed and directions, and a "far plane" displaying transparent navigation signals and other alerts.

And the Lyriq will have a remote parking capability that uses ultrasonic sensors to enable the vehicle to park itself either in a parallel or perpendicular space, whether the driver is inside the vehicle or not. It's too soon to say how well this will work. Tesla rolled out a beta version of its Smart Summon remote parking feature and was instantly lambasted for causing chaos in grocery store parking lots. Of course, Tesla was aiming for something more ambitious, such as the ability to traverse an entire parking lot, than what Cadillac appears to be attempting.

Production timing

Where Cadillac is sure to disappoint some of its customers, though, is the timing for the release of the Lyriq. The automaker says it won't go into production until "late 2022," with production starting first in China and then in the US. GM won't say where the Lyriq will be made, although many observers assume it will be at its Detroit-Hamtramck plant, which GM is spending $2.2 billion to retrofit into its first "fully-dedicated" electric vehicle assembly plant.

By the time the Lyriq arrives, the luxury EV market will be a much more crowded space than it is now. BMW is expected to release its iNext SUV next year. Audi and Mercedes-Benz will have new electric models. Startups like Rivian and Lucid Motors are expected to have their first models shipping to customers. Even the Ford Mustang Mach-E – not necessarily a direct competitor with Cadillac – will have been on the market for two years by the time the Lyriq hits the showroom.

"As good as it is, it really seems like it should be coming sooner like, you know, preferably next year," said Sam Abuelsamid, principal analyst at Guidehouse Insights.

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Abuelsamid said Cadillac’s caginess about naming the production location could indicate that the Lyriq will be exclusive to China — at least in the short term. And that would make sense, given the brand’s popularity in that country as compared to North America. Meanwhile, GM will have the GMC Hummer electric pickup truck going into production in 2021 for its US customers.

Outside of Tesla and Nissan, really no other automaker has put as much energy — and as much money — into electrification over the past decade. GM has said it will spend $20 billion in capital and engineering costs by 2025 to help usher in its “all-electric future.” That’s really a staggering sum of money for one automaker to spend.

But given Tesla’s recent success in the stock market — the company’s stock has been sitting above $1,000 a share for several months and is now the most valuable automaker in the world by that metric — and the rush to go public by a host of smaller EV firms, GM’s ambitious and costly plans could look prescient, especially if they translate into real profits for the automakers.

The luxury EV SUV space is still really small — a fraction of an already minute overall market for electric vehicles. Edmunds estimates the existing players (Tesla Model X, Jaguar I-Pace, Audi E-tron) had combined sales of less than 12,000 units in the first half of 2020.

That tiny volume of sales is one of the reasons GM believes it can compete. But to do that, it will need to rival, if not outperform, everyone else on the market — and that includes Tesla.

https://www.theverge.com/2020/8/6/21357717/cadillac-lyriq-gm-ev-suv-touchscreen-size-specs-release-date