



EV News: Motorcycles and 3-Wheelers

Internal Combustion Engines (ICEs) are complicated. According to Forbes magazine, the drivetrain in an ICE vehicle contains 2,000+ moving parts typically, whereas the drivetrain in an EV contains around 20 ([source](#)). You need fuel delivery, air intake, a cooling system to get rid of the excess heat, an exhaust system to route the emissions as well as an elaborate mechanical and electrical system of belts, pumps, alternators, spark and timing to keep it all running. That tends to dictate where these components need to be in the vehicle and therefore constrains vehicle design.

By contrast, electric vehicles need a relatively small motor, a battery, a charging system and controls. While the motor should be close to the drive wheels, they can also be in the wheels. Battery packs can be spread out and placed low on the vehicle to help with stability.

What does all this mean?

In addition to liberating EV car designs with features like “frunks” (front trunks), no tunnels or humps in the middle of the passenger compartment and huge amounts of storage space (no gas tank), EV battery and motor technology has catalyzed a whole industry of e-bikes, electric kick scooters, electric motorcycles and, more recently three-wheelers.

Hang on tight! Let’s take a spin with all that instant torque.



Internal Combustion Engine
ImageSource:Scott Liddell [freemages.com](https://www.freemages.com)

Electric Motorcycles

The ignition key turns – a click, then silence. With no clutch to release, all that’s left to do is twist the throttle which is not a throttle at all. The spring-loaded rheostat sends a signal to the motor controller to release the flow of electrons. With a high-frequency whirr of a Star Wars speeder, the bike weaves through the tree-lined city streets scattering a few squirrels that have not encountered this strange beast: an electric motorcycle.

Whether you’re a fan of dirt bikes, street machines, dual-sport adventure bikes, or racetrack machines, there’s an electric motorcycle out there with instant torque that’s guaranteed to get your adrenaline flowing.



Zero DSR Motorcycle

California electric motorcycle manufacturer Zero is celebrating its 15th anniversary in 2021 and released its second-generation SR/F street bike in 2019 followed by the fully-faired SR/S. In 2019 Harley-Davidson released its LiveWire motorcycle that gained fame in the series Long Way Up by following Ewan McGregor and Charlie Boorman on their epic adventure up South America. Italian Energica Motor Company was officially founded in 2014 with the aim of creating high-performance sustainable motorcycles and now features three platforms including DC fast charging.

For those familiar with wind therapy: experience the next revolution in your ride. Sure, big throaty engines are fun ... until they're not. Strip away the cumbersome aspects of combustion engine technology, remove the clutch and the shift lever and the noise and the vibration, all that remains is the pure energy of riding electric.

Arcimoto: The FUV

Every day, drivers use expensive, polluting, oversized vehicles to drive short distances, alone or with only a single passenger. The result? An increase in harmful pollution and carbon emissions while countless hours are lost in gridlock traffic.

Oregon-based Arcimoto founder Mark Frohnmayer believed there's a better way. Now in its 8th generation ([source](#)) design, the FUV (Fun Utility Vehicle) is being delivered to preorder customers in early adopter states of California, Oregon, and Washington. The three-wheeled reverse trike vehicle is classified as a motorcycle. However, Arcimoto is working with legislators around the country to create exemptions for helmet and license requirements by demonstrating how simple it is to operate its vehicles.



Arcimoto FUV
Image Source: www.Arcimoto.com

If you're ready to give it a try, the FUV is available to rent at a rental franchise in Key West, Florida (arcimotokeywest.com) and GoCar Tours in San Francisco (gocartours.com).

Note: All Arcimoto information sourced from: [Arcimoto | Ultra Efficient Electric Vehicles](#)

Aptera: The EV with 1,000-Mile Range

How much range is enough to avoid range anxiety? While seasoned EV drivers soon learn that range anxiety turns into range awareness, how does 1,000 miles between charges sound? It must have a huge battery, right? Actually, it's all about efficiency. Inspired by fighter jets and race cars, the carbon, Kevlar and hemp resin-infused lightweight shell and streamlined shape gives the Aptera a projected efficiency about 3-4 times the efficiency of a standard EV. At the same time, the shape and materials are designed to exceed passenger car standards on side and frontal crash tests as well as roof crush strength.

Because it has three wheels, technically speaking, Aptera can be classified as a motorcycle or auto-cycle. It also features solar panels integrated into the shell. Why doesn't every electric car do this? They'd need a LOT more solar cells (like a 20' billboard size) to do the job. But, because Aptera is so efficient there's no need for so many cells. Of course, the Aptera can still be charged like a standard EV.

While the Aptera is still a concept and not yet on the market, it is available for pre-order. You can follow the company's journey at www.aptera.us.



Aptera ultra-efficient EV Image
Source: www.aptera.us

Note: All Aptera information sourced from: [FAQ | Aptera Motors](#)