

# Rasa hydrogen-powered car will take on sale of service model

February 18 2016, by Nancy Owano

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As if this was not interesting enough—Rasa, a very cute little city car you can buy on contract like your mobile phone—comes the real news, the car is fuel cell-powered. The BBC's *TopGear* site reported on the

startup that wants to relieve hydrogen fuel cell cars from their reputation as too expensive to take seriously.

Wales-based Riversimple Movement is the company behind Rasa. "This February we are proud to present the [first](#) production prototype of a revolutionary hydrogen [fuel cell](#) car from Wales – Riversimple Rasa," blogged the Rasa team.

Riversimple's description: "This first car is a two seater 'network electric' car, powered by a hydrogen fuel cell. The engineering prototype has clocked over 60mph and has been weaving neatly through the traffic in London, as well as gliding down the country lanes of Powys."

The chassis is made from very lightweight but stiff carbon fiber composites. The monocoque chassis weighs less than 40 kg. The entire car is very light – the engineering prototype weighs 580 kg. There are four electric motors, one in each wheel.

The [two](#)-seater is designed for short trips. Jack Rix in *TopGear* said it was a VW XL1 1 lookalike but "if you squint, a lot, it looks like a Lamborghini." That is because of its doors. The production prototype was designed by Chris Reitz, former design chief for the Fiat 500.

*The Engineer* said that Riversimple's two-seat [hydrogen fuel cell](#) powered road car is set for trials. There will be a 12-month beta test of 20 cars this year. The car will come to market in 2018.

It can do 300 miles on 1.5kg of hydrogen said Rix. *Gas 2* said it can get to 55 mph in under 9 [seconds](#) and has a top speed of 60 mph.

So what is all this about getting hold of one in the way one would get a contract on a mobile phone?

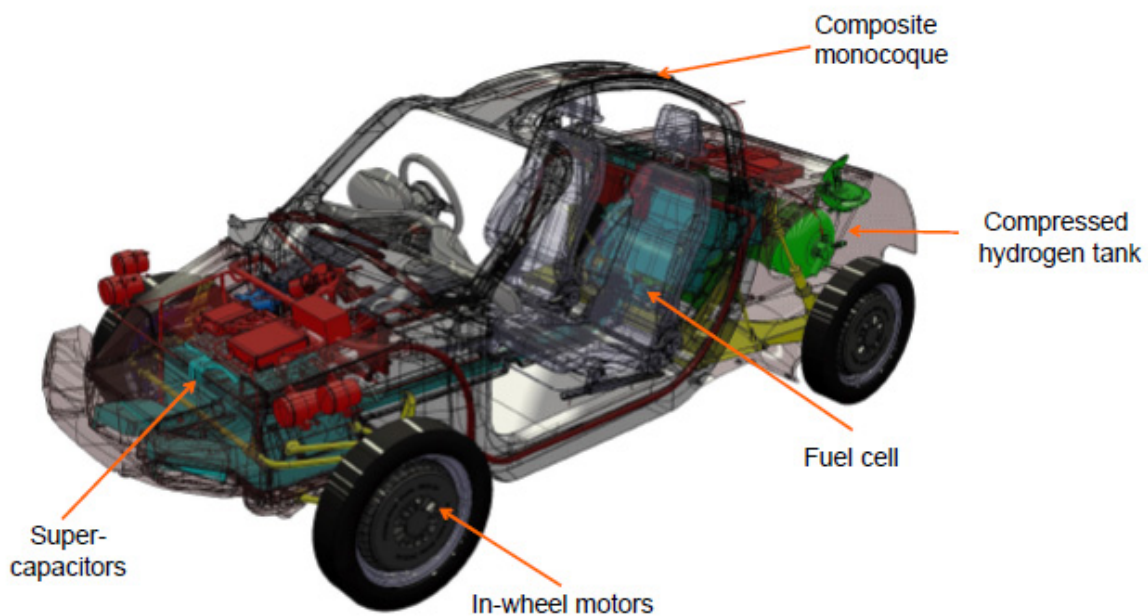


When it swings into production in 2018 at a facility with annual capacity of 5,000, reported *TopGear*, "customers will be asked to pay a fixed monthly fee, then a mileage charge on top of that – exactly like your mobile phone." It includes tax, fuel, insurance and maintenance costs, Rix added.

Actually, said the company, Riversimple will offer the car to motorists through a "sale of service" model, for a fixed monthly fee and mileage allowance. The company said this was similar in expenditure to leasing and running a family-sized hatchback, and the company will cover repair, maintenance, insurance and fuel expenses. Customers will exchange or return it at the end of the ownership period.

Jason Ford in *The Engineer* provided some detail of how the car operates: "When the [car](#) is moving, hydrogen passes through a Proton

Exchange Membrane (PEM) inside the 11hp, 8.5kW fuel cell where it combines with oxygen to form water and electricity to drive electric motors mounted in each [wheel](#), which each produce 170Nm of torque at 840rpm. When braking, the motors act as a kinetic energy recovery system (KERS) that generates electricity and replenishes Rasa's 120 lithium hybrid super-capacitors."



Company founder Hugo Spowers told *The Engineer* that Rasa was designed to maximize efficiency through a combination of lightweight materials and a simplified powertrain that contains 18 moving parts.

Is Rasa viable? The Rasa team blogged: "Just as there were those who

saw the potential for mobile phones in the 80s, despite the initial scarcity of masts; so there are those who see a great future for the Hydrogen Fuel Cell Car despite the current scarcity of refueling points. From an overall perspective, fuel cell electric vehicles (FCEVs) share the major benefits of battery electric vehicles (BEVs) – zero tailpipe emissions, new and cleaner fuel sources. Importantly, FCEVs don't share some of the major drawbacks of the BEVs- limited range, waiting for your battery to charge.

We believe that if fuel cell cars continue to prove themselves, then the supporting infrastructure will follow. That, after all, is what happened with mobile phones."

They said they envisaged a combination of quick-stop [hydrogen fuel pumps](#) and longer stop battery-charging points. "Ultimately petrol and diesel would be phased out as dirty fuels."

**More information:** [riversimple.com/the-technology ... -the-hydrogen-car/#!](https://www.riversimple.com/the-technology...-the-hydrogen-car/#!)

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