

# A ONCE-IN-A-GENERATION OPPORTUNITY: CASTROL'S ROLE IN DRIVING THE EVOLUTION



Rebecca Yates, VP Advanced Mobility & Industrial Products, bp, talks about the pivotal role that Castrol's e-Fluid technology is playing in driving the evolution.



## THE FUTURE IS ELECTRIC

At Castrol, we believe that it is vital to be at the forefront of the future of mobility. Looking at predictions for the vehicle mix over the coming decades, the size of the opportunity becomes clear.

According to [bp Energy Outlook](https://www.bp.com/en/global/corporate/energy-economics/energy-outlook/) Rapid Transition Scenario estimate, there could be 1 billion electrified cars & trucks in the global vehicle parc by 2040, and EVs could account for 80% of passenger cars in use by 2050.

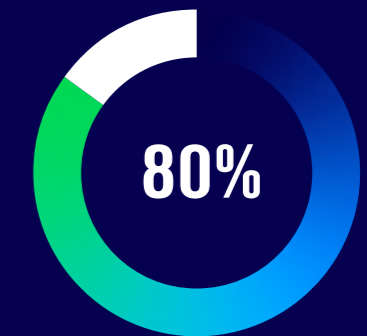
**One thing is not in doubt: the industry is set to undergo monumental change over the next few years.**

With our leading technical expertise and pioneering approach, Castrol is at the cutting-edge. We are developing new specifications and fluids at our R&D facilities, and collaborating closely with OEMs and suppliers, pushing boundaries to co-engineer the next generation of e-fluids. Alongside this work to improve fluid technology, we offer training to automotive workshops in how to maintain

and service EVs and hybrids, while providing EV service and maintenance through our Castrol service centres across the world. We're also taking this knowledge and expertise and applying it to supplying advanced e-fluids for e-motorbikes and commercial EVs.

But there will still be many diesel and petrol-powered vehicles on the road for years to come. By 2040, according to [bp Energy Outlook's](https://www.bp.com/en/global/corporate/energy-economics/energy-outlook/) Rapid Transition Scenario, the number of cars on the roads is likely to have grown massively, and around 1.6 billion of the forecasted 2.3 billion cars and trucks are likely to still require engine oils. Alongside enabling electrification, engine oils will continue to be an important part of our business. We will keep working on oils for ICE vehicles that improve efficiency, and we will keep developing lower-carbon lubricants to help reduce environmental impact.

EVs could account for...



of passenger cars in use by 2050.<sup>1</sup>



<sup>1</sup> bp Energy Outlook: <https://www.bp.com/en/global/corporate/energy-economics/energy-outlook/>

## THE TIPPING POINTS TO MAINSTREAM ADOPTION

Accelerating the EVolution found that the average consumer would consider buying an EV by:

2024  
2022  
2020  
2022

Despite a 29% decline in the light-vehicle market during the first quarter of 2020, global electric vehicle market penetration increased from 2.5% to 2.8%.<sup>1</sup>

Castrol's previous study, *Accelerating the EVolution* found that the average consumer would consider buying an EV by 2024, and some governments across the world have announced a ban on the sale of new petrol and diesel vehicles by 2030.

Although these milestones are rapidly approaching, roadblocks remain: the EVs that are currently on the market do not quite match consumer expectations. While there are EVs available now that meet some of the tipping points, there isn't currently an EV that meets all of them. This is where there is a once-in-a-generation opportunity for the industry to develop an EV that meets the needs of the average consumer. And we believe that Castrol has a key role to play.

## HOW CASTROL IS HELPING TO DRIVE THE EVOLUTION

Although many associate Castrol with the world of petrol and diesel-powered vehicles, we have been working in the realm of hybrids and EVs for over a decade, and exploring new opportunities in the future of e-mobility.

Castrol has a history of pioneering technology that spans more than a century. Our core mission is deliberately inclusive: we aim to 'serve every driver, every motorcyclist and every industry on earth', through liquid engineering. That means creating high performance lubricants which improve efficiency in every vehicle application or industrial use-case. These lubricants are as essential to EVs as they are to ICE vehicles. Advanced Castrol ON e-Fluids can bring us closer to reaching the tipping points identified in the *Accelerating the EVolution* study by increasing the durability and longevity of vehicle components and extending battery range or increasing battery charge rates.

For example, e-Transmission Fluids protect component parts, making them last longer, and can enable lower-cost parts to be used in transmission. Greater energy efficiency can also extend the range

that a vehicle can travel on a single charge. Dielectric e-Thermal fluids enable ultra-fast charging by allowing a higher rate of charge without damaging the battery cells.

Already, two out of three of the world's major car manufacturers use Castrol ON e-Fluids as part of their factory fill for EVs<sup>2</sup>, and this is just the beginning.



## CO-ENGINEERING WILL BE KEY TO DRIVING THE EVOLUTION

To make the future of mobility a reality will require significant collaboration and co-engineering across a long and complex global supply chain.

Accelerating the EVolution found that although consumers say they would consider buying an EV by 2024, most believe that it will be 2030 when the majority of new cars purchased are electric.

The mobility ecosystem must continue to work together on addressing the long-term technical challenges to widespread electrification so that EVs become a genuine choice; a mainstream consumer choice.

While the challenges ahead cannot be solved by e-Fluids alone, they have an important part to play. Castrol ON products are catering to the needs of our customers today and tomorrow, making electric vehicles go further<sup>3</sup>, charge faster<sup>4</sup> and last longer<sup>5\*</sup>.

### REBECCA YATES IN THE DRIVING SEAT: QUICK FIRE QUESTIONS

What do you think is the biggest stumbling block to mainstream EV adoption?

I think the biggest stumbling block is consumer confidence in the convenience of charging infrastructure. However, with huge investments and improvements currently ongoing with charging infrastructure this is changing fast.

What year do you think we'll achieve mainstream EV adoption?

I think we will reach mainstream EV adoption in 2030.

<sup>1</sup> McKinsey Electric Vehicle Index: Electric Vehicle Trends  
bp Energy Outlook: <https://www.bp.com/en/global/corporate/energy-economics/energy-outlook/>

<sup>2</sup> Based on LMCA data for top 20 selling OEMs (total new car sales) in 2019. Used as part of OEM factory fill.

\*Castrol e-Fluids benefits are demonstrated in bespoke testing and development.

<sup>3</sup> vs mass market EV factory fill fluid.

<sup>4</sup> vs indirect cooled battery system.

<sup>5</sup> vs standard EV-transmission fluid.



## CONTACT US

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# ABOUT CASTROL

Castrol provides the oils, fluids and lubricants the world needs, for every driver, every rider and every industry. It's more than just oil. It's liquid engineering.

The world of transport is going electric and e-fluids have a vital role to play. EVs play a key part in the mobility revolution and the pathway to decarbonising transport. Castrol's e-Fluid expertise extends across land, sea and even space.

## IN SPACE

Castrol e-Fluids help leap NASA's \$820 million InSight Mars Lander working in the unforgiving conditions on the Red Planet.

## AT SEA

Castrol e-Fluids support equipment used in the transfer of power from an engine or electric motor to a propeller or thruster.

## ON LAND

Castrol ON has developed a range of e-fluids to meet the needs of vehicle manufacturers. From transmission e-fluids, which are inside many EVs already on the road, to e-Greases and e-Thermal fluids, these fluids enable electric vehicles to run smoothly, efficiently and stay cool.

Developments include Castrol's lowest viscosity e-transmission oil, designed for efficiency, durability and reliability. Castrol is partnering with major manufacturers to ensure its lubricants deliver what drivers want: to go further on a single charge, enable longer life of transmission and component parts, and ensure long-lasting battery health.

As EVs continue to evolve, Castrol's best brains are not only defining the fluids, but the way the fluids are defined: pioneering unique testing and monitoring methods, driving efficiency and economy going beyond the standard requirements of the fluids, taking consumer insights and engineering technical solutions; advancing technologies that will lead to breakthroughs for the transport of tomorrow.

To find out more about Castrol please visit [www.castrol.com](https://www.castrol.com)



## CREDITS

*Driving the EVolution: Achieving the world's first truly mainstream electric vehicle is based on interviews with industry experts, commissioned by Castrol, designed by Castrol and Man Bites Dog.*

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