

Innovation in Clean Energy Technologies for Electric Cars



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THE COMPANY

BYD is a high-tech company engaged in “technological innovation for a better life”. Founded in February by Wang Chuan-fu in Shenzhen, China, initially as a manufacturer of rechargeable batteries for mobile phones, it has experienced quick growth throughout 24 years, currently having over 30 industrial parks across the six continents. Its business areas include electronic products, automobiles, renewable energies, and railway transportation; it plays an important role in all of them (BYD Global, n/d).

From the generation and storage of energy to its use, BYD offers zero-emissions solutions due to the alternative energies it uses (BYD Global, 2024).

Learn the company's present market value [**HERE.**](#)

Image. Our-team in Freepik, 2024.

The company is listed in the Hong Kong and Shenzhen, China, stock exchanges, with a company value over \$75 billion dollars (USD) (BYD Global, 2024).

To expand their reach and connection with customers beyond the physical world and introduce them to the metaverse, BYD launched “BYD World” in July 2023, an interactive, virtual dealer designed to provide

a futuristic experience in car purchasing, in cooperation with MeetKai, an AI and metaverse company. This innovative concept will enable customers to interact with the brand and its products globally (BYD, 2023).

THE ELECTRIC VEHICLE MARKET

The history of electric cars dates back to mid-nineteenth century, where Europe and the United States were the first markets where this type of vehicles started developing. Nevertheless, factors such as high costs, low speed, and a limited battery autonomy led the industry to abandon this technology temporarily.

It was until the twenty-first century that the development of electric cars was reintroduced and boosted. Since then, there has been a steady growth, going from four hundred thousand units in circulation less than a decade ago, to nearly 20 million units today (Orus, 2023).

Image: Freepik, 2024.



A key factor in the acceptance of electric vehicles has been the increase in autonomy, which today has an average of 355 kilometers (Orus, 2023), that is, the distance a charge will hold out.

In the last ten years China has become [the global pioneer of electric vehicles](#); they have increased annual sales of fully electric vehicles from ten thousand in 2012 to ap-

proximately 4.2 million in 2022. By 2027, this country is expected to continue leading sales with around 7.5 million electric vehicles sold (Statista, 2023).

Electrification will play a crucial role in the transformation of the mobility industry as it represents great opportunities in all vehicles' segments, although the rhythm and extent of this change will vary. To ensure a quick and generalized adoption of electric mobility, the launching of new electric vehicles (EV) to the market is a crucial step. Additionally, the entire mobility ecosystem must cooperate to achieve a successful transformation, including EV manufacturers and suppliers, funders, dealers, energy suppliers, and recharge station operators, among others (Conzade, 2021).

"As more automobile buyers change to Battery Electric Vehicles (BEVs), traditional factors which are also important for gasoline vehicle buyers, are becoming critical for the satisfaction of BEV buyers. According to J.D.Power's 2024 US Electric Vehicle Ownership Study, quality and ownership cost have become the main factors in users' satisfaction. The study also reveals that the availability of public chargers is still not only the least satisfactory aspect of owning a BEV, but that the experience has notably worsened" (J.D.Power, 2024).

TECHNOLOGY

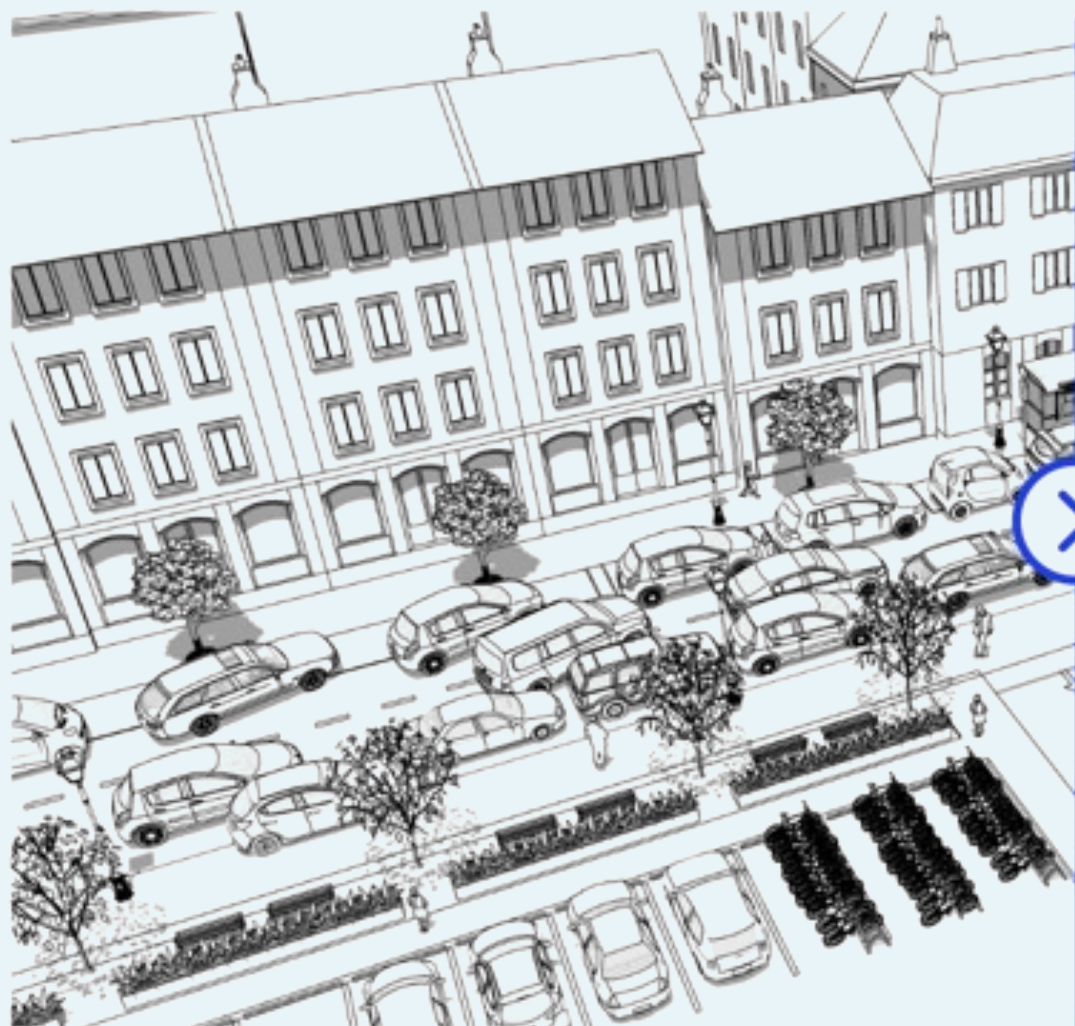
The automobile sector companies are fast-tracking technological innovation, developing new electric, connected, autonomous, and shared mobility concepts. These innovations will enable to reduce the costs of electric vehicles (EV) and to have [shared electric mobility](#) as a feasible alternative for car ownership (Conzade, 2021).

Regarding engine and braking technology, traditional gasoline engines offer basic braking when releasing the gas pedal, without a vehicle's complete stop. In electric vehicles, when slowing down, the engine generates electricity that is stored in the battery through regenerative braking, which enables to stop the car without changing the pedal. Although these vehicles also have conventional brakes, they are used less frequently. This system does not only recuperate energy, but it also tones down stops, reduces brake wear, and maintenance. However, making this system work dependably and fluently requires advanced engineering, which includes monitoring factors like pedal position and vehicle speed to determine the necessary amount of regenerative braking (Dunn, 2019).

Regulation, technology, and consumers' behavior will change the mobility scenario

Hoy

Las ciudades sufren por las emisiones, la congestión y la seguridad...



2030

...lo que cambiará con la llegada de nuevas soluciones de movilidad integrada



La electrificación es uno de los factores clave para la nueva movilidad integrada en todos los segmentos de vehículos, por ejemplo:



Scooters

París concedió recientemente un contrato de 2 años para la implantación de 5,000 e-scooters



Coches de pasajeros

Oslo alcanzó el 66% de adopción de VE de pasajeros en julio de 2021



Autobuses

Shenzhen ya ha electrificado por completo su flota de 16,000 autobuses, así como 22,000 taxis

Source. Conzade, Julian, 2021.



Image: Freepik, 2024.

Batteries

In line with trends (studies, projections, calculations), in the immediate future, battery technologies will be fundamental in an environment of necessary global economic cooperation and development of energy alternatives for sustainable mobility.

According to Lane (2024), throughout history, few technological developments have had such a long-lasting impact as batteries’- “Since Alessandro Volta invented the voltaic battery in 1800, batteries have evolved to become an essential component in our everyday life, feeding from small gadgets to large infrastructures. Today, batteries are still evolving along with the most advanced technological developments, providing a reliable source of energy in times of uncertainty. Despite the emergence of new energy sources and radical changes in several industries, batteries will continue being a key resource in the next decades”.

KEY PLAYERS IN MEXICO

The offer of electric cars in Mexico is gradually increasing, and the variety of options develops every year to meet demand; today, consumers can choose from a broad range of vehicles, going from Tesla’s models to Zacua, the local brand. Regarding prices, they range between \$279, 000 to \$690,000 pesos (MXN), EV brands like BEV E-Wan Cross Lite, JAC E 10X, Renault Kwid E-Tech, BYD Dolphin Mini, Renault Kangoo E-Tech Cargo Maxi, Zacua MX2 and MX3, BYD Dolphin GS, GWM Ora 03 Premium, BEV E-Nat, EV E-Tus Lite and JMC EV Black.

There is competition with a price range between \$700,000 and \$1,300,000 pesos (MXN). It features ARRAX 3 3S, JAC E J7, BYD Seal RWD, BYD Yuan Plus EV GS, JAC E Sunray City Cargo, Tesla Model 3, Peugeot e-Partner Maxi Pack, Tesla Model Y, MINI Cooper SE Classic, Chevrolet Bolt EUV LT, Kia EV6 GT-Line, Mercedes EQA 300 4MATIC, Volvo C40 Recharge Plus, BMW Serie 3 330e, and JAC E X350 E.



With prices ranging between \$1,400,000 and \$2,500,000 pesos (MXN) we find the following models: Ford Mustang Mach-E Premium, BMW Serie 5 530e, BMW i4 eDrive40, Tesla Model S, BMW iX3 Inspiring, BMW i5 eDrive40, Ford E-Transit Regular, Tesla Model X, Mercedes EQE Sedán, BMW i4 M50 eDrive, Mercedes EQE 350, Porsche Macan 4 Electric, BMW X5 xDrive45e, Cadillac Lyriq AWD F y BMW iX xDrive40, Audi Q8 e-tron 55 S-line, BMW i5 M60 xDrive, and Porsche Taycan S Cross Turismo 4, or Porsche Taycan S 4S.

Finally, in the EV market there are \$2,800,000 pesos (MXN) and higher vehicles available, for instance: Mercedes EQS 450, Porsche Taycan Cross Turismo 4, Porsche Taycan GTS, Audi e-tron GT RS, Porsche Taycan Turbo, Porsche Taycan Turbo Cross Turismo, and Porsche Taycan Turbo S Turbo S.

THE DECISION

The role of marketing regarding the EV market and the challenges faced by BYD, must focus on the value proposition perceived by the market segments catered by each of the company's current business units, without losing sight of the leading brands which will capitalize to be positioned before the consumer.

Thus, it becomes necessary to define the BYD strategy so that its technological developments and cooperation with AI lead it to be positioned with new alternatives in each of their target segments.

- Considering the company's environment, which is its current situation in Mexico?
- Which would the market opportunity in the venue be (SWOT)?
- From this market, on which and on how many segments should BYD focus?
- What should BYD offer to stand out from the competition?
- Which would the marketing goals be? Which marketing and communication strategies (4 P's), particularly P in promotion, will be implemented to make their value proposition known?

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