

From Data to EV and new fuels: 10 Trends that will shape Mobility in the coming years

eMobility Expo World Congress 2024 defines the future of mobility and the trends that will shape the industry in this decade

Madrid, 27th February 2024 – The second edition of [eMobility Expo World Congress 2024](#), which took place in **Valencia, Spain, on the 13th, 14th, and 15th February**, analyzed the main challenges facing the mobility industry as it moves towards a more sustainable, connected and autonomous industry. With the help of 387 experts from around the world, the event identified the **10 key trends** that will define the future of mobility in the coming years.

Investment geo-strategy

The mobility sector is set to undergo the biggest transformation in recent years, driven by new energy sources and technology, and by the European Union's drive to make Europe a zero-emission continent by 2050. This situation creates a geopolitical and geostrategic opportunity for governments to attract investment in battery manufacturing plants, in plants for transforming hydrogen as a new fuel, and in plants for manufacturing electric cars. This is the case of PowerCO (Volkswagen Group), which announced at the eMobility Expo World Congress the start of construction work on its gigafactory in Valencia in the coming weeks.

The vehicles of the future are CASE (connected, autonomous, shared and electric)

The acronym CASE appeared to name the vehicles of the future: connected, autonomous, shared and electric. And these are precisely the four trends that are reshaping the industry towards more sustainable and efficient mobility. On the one hand, the electrification of mobility is key to achieving the goal of zero emissions by 2050, as electric vehicles generate 70% less CO2 emissions than combustion vehicles. On the other hand, in a context in which 95% of road accidents are due to human error, the autonomous and connected vehicle is the solution for greater safety at the wheel.

New lithium batteries with longer range and shorter recharge times

Today, lithium batteries still have a problem, and that is their limited autonomy and excessively long recharge times. That is why work is already underway on technology that transforms the state of lithium into a solid state, which will increase battery life and reduce recharge times. This technology, when it arrives, will make the electric car fully competitive in the market against fuel-powered vehicles. It is estimated that between 2025 and 2027 the charging time for electric vehicles will be considerably reduced. In addition, in the coming years, battery manufacturing costs are expected to fall by 30-50%, which will make it much cheaper to produce electric vehicles than combustion cars.

Hydrogen for the decarbonization of industry and as a new sustainable fuel

The largest green hydrogen projects currently under development are in Europe and Spain. The reason is that, after the war in Ukraine, Europe realized that it needed its own resources, such

as green hydrogen. A new energy source that will be essential for, on the one hand, decarbonizing industry; and, on the other hand, as an alternative to fossil fuels for transport. Now, one of the main challenges is to implement the use of hydrogen in the different means of transport, since while in ground transport it can be a viable alternative when electrification is not sufficient, in air and sea transport it is still a challenge to be tackled. In this sense, the solution does not lie in electrification or hydrogen alone, but in a combination of both. In the coming years, we will see how electric vehicles and hydrogen vehicles will coexist.

SAF, a new waste-based aviation fuel

In recent years, environmental challenges have become a major focus for the aviation industry. This is why SAF (Sustainable Aviation Fuels), a new fuel that is produced from waste such as used cooking oil or animal fat and reduces CO₂ emissions by 80% compared to fossil fuels, is already becoming an alternative for the decarbonization of the aviation sector. However, the supply of sustainable fuel is less than 1% of global demand, which means that investment in PBS production plants is needed. Repsol announced at the eMobility Expo World Congress that in the coming weeks, Spain will start up the first SAF plant in Cartagena where coconut oil will be transformed into paraffin, enabling the production of more than 2,000 tonnes of SAF.

Intermodality and CCAM (Cooperative, connected and automated mobility)

This is a new concept promoted by the European Commission that will permanently change the traffic of the future and is one of the main future trends in the mobility industry. By gradually connecting and automating the transport system, CCAM technologies will help to reduce the number of accidents, reduce CO₂ emissions, avoid empty journeys and fundamentally improve the efficiency of (urban) transport as a whole.

From MaaS to MaaF

MaaS (Mobility-as-a-Service) is a concept of bringing together different mobility services on a single platform. However, MaaF (Mobility-as-a-Feature), whose main characteristic is to address mobility as part of a wide range of services, is now gaining momentum. This is done by integrating a complete mobility offer into an existing application, not necessarily dedicated to transport. A new approach that makes mobility a value-added functionality.

Digitization of cities

The use of Artificial Intelligence, data and simulation by digital twins will mark a turning point in the decarbonization of cities. These technologies become key to reducing emissions and optimizing mobility. Furthermore, the paradigm shift towards the electrification of vehicles will be crucial to reduce noise pollution in cities.

The future of micro-mobility and last-mile logistics

In freight transport, 95% of trucks still run on diesel, and only 5% on alternative energy. However, the target is there and between 2022 and 2023 the use of more sustainable alternative energy has increased by 40%. Likewise, new transport systems are already appearing that are set to bring about a major revolution in last-mile transport and logistics. This is the case with the use of drones for delivery or eVTOLs (Electric Vertical Take-Off and Landing) for transporting both passengers and goods in cities.



Digitalization and maritime decarbonization

The port sector is a highly fragmented ecosystem with thousands of players and very different business models, so a more effective integration with the existing supply chain is essential. To this end, the use of new technologies such as Artificial Intelligence is key to making ports more resilient, sustainable and competitive. We are also witnessing a digital transformation and modernization of shipyards, changing their traditional concept to that of a fully digitized factory. Finally, the maritime transport sector is also in the midst of a decarbonization process, thanks in part to the role of hydrogen as a major catalyst for this transformation.

About [eMobility Expo World Congress](#) (February 13th-15th, 2024 – Feria de Valencia): eMobility Expo World Congress is a professional event for the sustainable mobility industry. For three days eMobility Expo will bring together in Valencia the leading firms specializing in micromobility, the automotive industry, technology, manufacturers of electric batteries and charging systems, new fuel sources, products for automated and autonomous driving, components industry, logistics, aeronautics, rail and shipbuilding, as well as startups that are revolutionizing the sector. The eMobility World Congress will be held as part of the event, where more than 375 experts will share the keys to implementing new business models and present the most cutting-edge technological and sustainable trends in the field of mobility.

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