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Consumer Sector Briefing

E-Bikes are charged up

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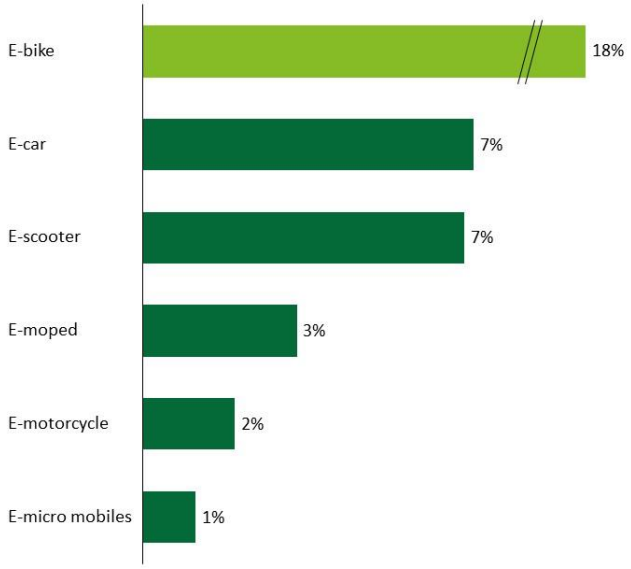
E-bikes are key drivers of electromobility and are on the rise – in line with other electrified means of transport (hereafter "e-mobility"). E-mobility is viewed as a key pillar for a more sustainable future. In recent years, e-bikes have benefited from the current developments of increasing sustainability and health awareness. These have been further accelerated by the COVID-19 pandemic and the urge of many people to exercise outdoors. According to the German Bicycle Industry Association (ZIV), the number of e-bikes sold rose from 1.36 million in 2019 to 1.95 million in the first pandemic year of 2020. This high level was sustained in 2021 (2.00 million) despite difficulties in supply chains and the resulting limited (e-)bike supply. At this level, e-bikes were responsible for nearly every second bicycle purchase in Germany (43%). This reconfirms its continuously increasing share of the German bicycle market.[1]

This Deloitte Sector Briefing looks at the utilization rates, reasons, and purposes of e-bikes, as well as at the associated average distances covered by e-bikes compared to other e-mobility means such as e-cars and e-scooters. The results are based on a representative consumer survey conducted by Deloitte in May 2022. A total of 1,008 respondents from Germany aged 18 and older participated in the survey.

E-bikes most attractive electric means of transport

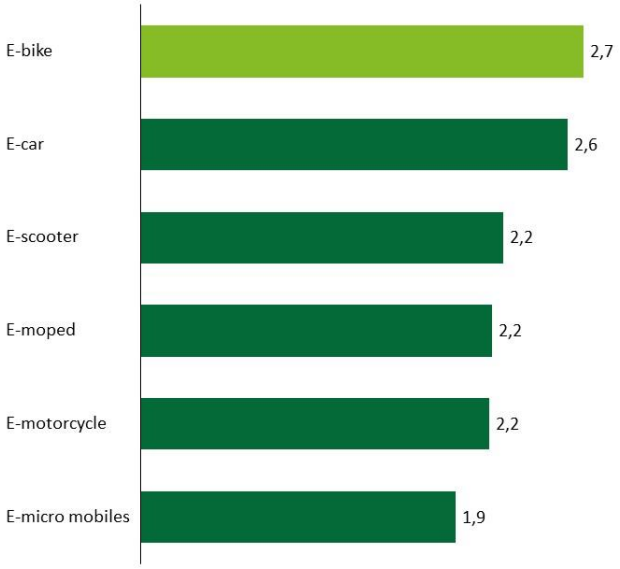
18% of the participants stated that they use an e-bike. Thus, e-bikes are the most frequently used electric means of transportation and are used by significantly more respondents than e-cars and e-scooters (7% each, Fig. 1). One key reason for this is the high level of perceived attractiveness. Comparing the respondents' assessment between the individual means of e-transportation, e-bikes (2.7) achieve the highest average value (on a scale of 1 – "very unattractive" to 4 – "very attractive"), followed by e-cars (2.6) in second place (Fig. 2).

Fig. 1 – Use of selected means of electric transportation



Note: Question to all respondents (n=1,008): "Which of the following means of transportation do you use?"
Source: Deloitte E-Mobility Survey 2022.

Fig. 2 – Perceived attractiveness of selected means of electric transportation
1 – "very unattractive"; 4 – "very attractive"

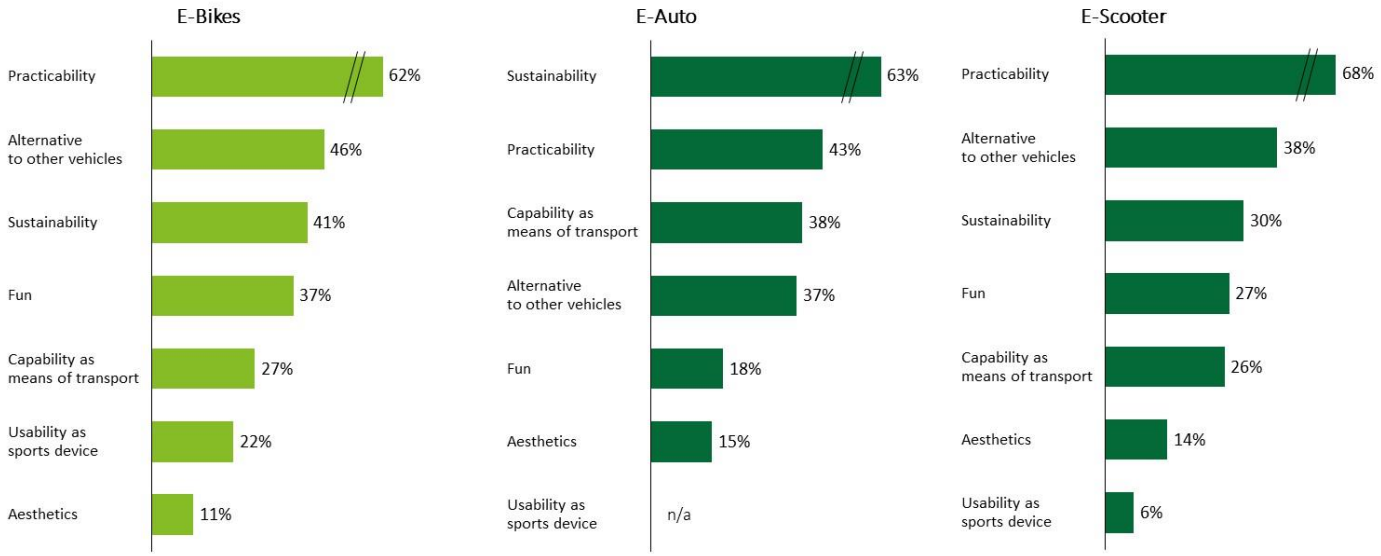


Note: Question to all respondents (n=1,008): "How attractive do you consider the following means of transportation?"
Source: Deloitte E-Mobility Survey 2022.

Practicability and sustainability are core reasons for attractiveness

Next to electrification itself, there are further drivers for the high attractiveness of e-bikes. Consumers who rate them as "very attractive" value the perceived practicality above all other factors (62%, Fig. 3). This includes the higher operating range and the reduced physical exertion compared to conventional bicycles. A large proportion of respondents perceive e-bikes as an alternative to other means of transport (46%) and as a more sustainable form of transportation (41%).

Fig. 3 – Reasons for attractiveness by means of electric transportation
Multiple answers possible



Note: Question to all respondents who perceive the respective means of transport as "very attractive" (e-bike n=248, e-car n=213, e-scooter n=96): "Why do you consider this means of transport very attractive?"
Source: Deloitte E-Mobility Survey 2022.

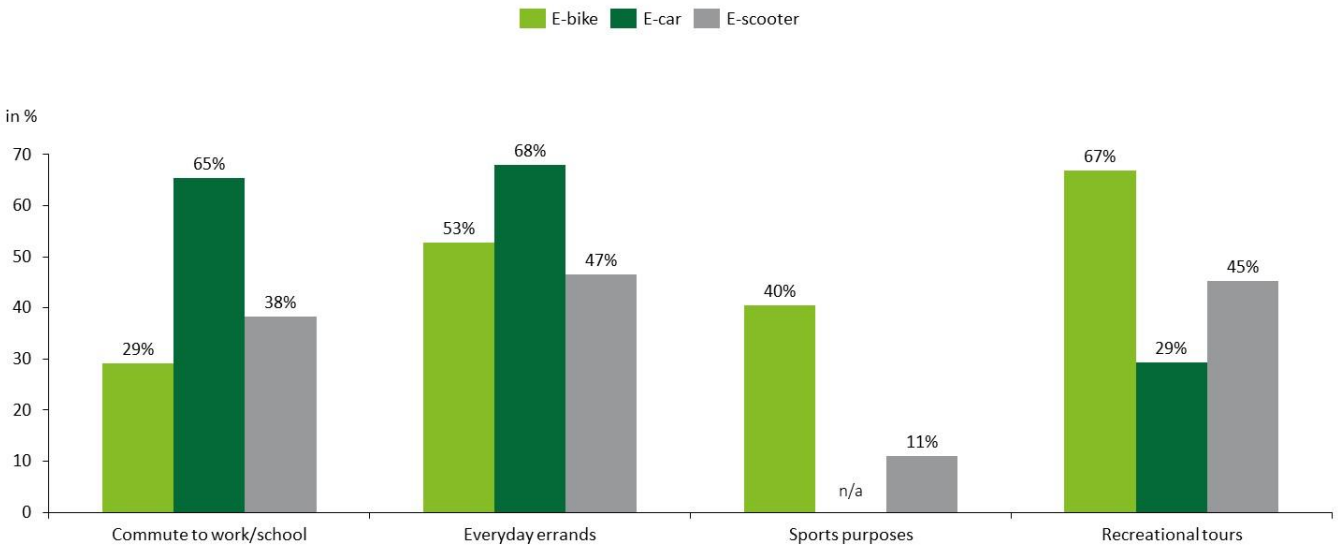
E-bikes differentiate themselves through recreational and sports purposes

According to the respondents, e-bikes convey a higher fun factor (37%) and greater usability as sports equipment (22%). The fact that the electric motor only supports the user's physical performance and does not entirely replace it differentiates e-bikes from other means of e-mobility (Fig. 4). In contrast to other means of electric transportation, e-bikes are commonly used for sporting purposes (40%) as well as for recreational tours and excursions (67%).

However, for daily commuting, e-bikes are perceived as somewhat less attractive – only 29% of users reported using an e-bike for commuting to work or school. Reasons for this include the perceived lack of e-bike-compatible infrastructure, increased physical exertion compared to e-scooters, and direct exposure to the weather elements. A different picture emerges for e-cars. The latter serves a large proportion of users (65%) as a means of transport to get to work. A key advantage of the e-car is its independence from weather conditions. This factor is particularly important for unavoidable daily commutes. Nevertheless, technological advancements, better weather resistance, and better transportation options (e.g., cargo bikes) could increase the relevance of e-bikes, and thus, contribute to additional future growth.

For everyday errands, on the other hand, an e-bike is used by approximately every second user (53%). Again, the study results show that e-cars (68%) are used slightly more often for everyday errands, partly due to the ability to transport larger items such as beverage crates. However, the trend of electrified cargo bikes and/or trailers enables consumers to also use e-bikes for larger purchases.

Fig. 4 – Purpose of selected electric means of transportation
Multiple answers possible



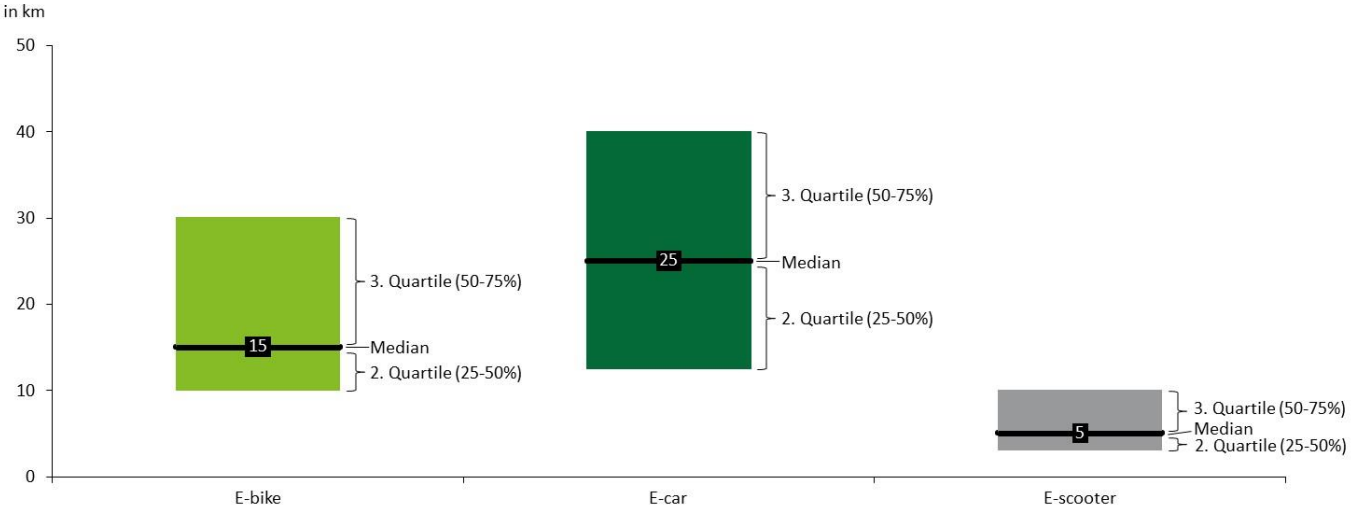
Note: Question to all respondents who use the respective means of transportation (e-bike n=178, e-car n=75, e-scooter n=73): "For which purposes do you use the following means of transportation?"
Source: Deloitte E-Mobility Survey 2022.

E-bikes also used for longer distances

In terms of median trip length, e-bikes sit in the middle between e-scooters and e-cars. However, e-bikes are occasionally also used for longer rides: The top quartile exceeds 30 kilometers per trip (i.e., 25% of the values given are above this value). A common usage of e-bikes for leisure activities and long tours are among the reasons for such distances.

Unsurprisingly, e-cars are used for the longest distances (3rd quartile until 40 km) with a median distance of 25 kilometers. Like their combustion counterpart, e-cars are predestined for long distances as an effortless and weather-protected form of e-mobility. In contrast, e-scooters, to be operated standing up and susceptible to weather conditions, are used for a median of only 5 kilometers. This is also due to the comparatively shorter range.[2]

Fig. 5 – Trip length by means of electric transportation



Note: Question to all respondents who use the respective means of transportation (e-bike n=178, e-car n=75, e-scooter n=73): "For what distance do you use the following means of transportation per trip on average?"
Source: Deloitte E-Mobility Survey 2022.

For now, e-bikes are riding ahead

E-bikes are already the most commonly used means of electric transportation in Germany. Above all, a positive perception of e-bikes among a wide range of consumers suggests further market penetration. The combination of higher ranges (compared to conventional bicycles), more environmentally conscious transportation (compared to cars with internal combustion engines), and sportive activity meets current consumer demands and distinguishes e-bikes from other electric transportation. Accordingly, e-bikes are used both for everyday commuting and for recreational purposes. Among others, additional infrastructural adjustments will be required to further increase the attractiveness of e-bikes if this type of electric transportation becomes more widespread. The relatively high price point of e-bikes poses a further challenge. According to the German Association of Two-Wheel Dealers (Verband des Deutschen Zweiradhandels e.V.)[3], prices have risen steadily in recent years. However, the overall success of e-bikes can be expected to continue both in terms of further penetration of e-bikes in the bicycle market and in terms of total sales. Additionally, the potential of corporate bike leasing and better e-bike availability after recent supply problems could drive e-bike sales figures in Germany even further. Thus, e-bikes could extend their lead in the short and medium-term due to their current advantages over e-cars and e-scooters.

[1] *Zweirad-Industrie-Verband: „Marktdaten Fahrräder und E-Bikes 2021“, in: https://www.ziv-zweirad.de/fileadmin/redakteure/Downloads/Marktdaten/ZIV_Marktdatenpraesentation_2022_fuer_Geschaeftsjahr_2021.pdf (retrieved on 07.06.2022).*

[2] *Allgemeine Deutsche Automobil-Club e. V. (ADAC): „E-Scooter-Test: Große Unterschiede bei Qualität und Reichweite“, in: https://www.adac.de/rund-ums-fahrzeug/tests/elektromobilitaet/e-scooter-test/ (retrieved on 14.06.2022)*

[3] *Verband des Deutschen Zweiradhandels e.V.: „Der Fahrradfachhandel 2021/2022“, in: https://www.handelsverband-owl.de/wp-content/uploads/sites/24/2022/03/2022_03_16_Presseinfo.pdf (retrieved on 07.06.2022*

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06/2022