# Experts warn of rising cyber espionage risks in electric vehicles amid insurance hikes and industry shifts



Security experts have raised concerns regarding the vulnerability of electric vehicles (EVs) to cyber espionage, highlighting the increasing sophistication of hacking tactics. According to specialists interviewed by the Guardian, the integration of advanced technologies, including microphones, cameras, and Wi-Fi connectivity in modern electric cars creates multiple entry points for potential hackers. These vehicles can generate a wealth of data, which is highly appealing not only to criminals but also to hostile states, given the increasing interconnectedness of digital ecosystems. Additionally, mobile phones linked to the vehicle—whether via a charging cable or Bluetooth—are further sources of data that could be exploited.

In a related development, Tesla has reported significant increases in insurance premiums for its vehicles, which are rising at a rate more than double that of the overall U.S. auto market. This surge is attributed to escalating repair costs amid rising instances of vandalism. A study indicated that insurance premiums for Tesla cars, particularly the Model Y, surged by nearly three times compared to the overall market increase.

On another front, a proposed change in federal regulations could have implications for the e-bike industry in the United States. If the Consumer Product Safety Commission (CPSC) and Congress approve the new rules, e-bikes that adhere to certain standards may no longer be legally sold. This raises questions regarding the inventory of e-bikes that may not meet these forthcoming standards. Companies like Giant Group and advocacy organisation PeopleForBikes have expressed scepticism about the proposed unique testing standard, arguing that it may not enhance safety for consumers.

In a striking analysis of fuel cell vehicles, it appears that their popularity is waning, with registration figures showcasing a significant decline over recent years. While 900 hydrogen-powered cars were sold in 2022, this number decreased sharply to just 260 in 2023 and further fell to 150 the subsequent year. In contrast, China continues to register approximately 4,000 new fuel cell trucks each year, though the adoption of battery-electric trucks in the same timeframe reached 75,000.

Isuzu has officially launched its first electric pickup, the D-MAX EV, closely mirroring the design of its well-regarded gasoline version. This electric model replaces the traditional diesel powertrain with a pair of electric motors, delivering a combined output of 188 horsepower and a maximum torque of 240 lb-ft. It is equipped with a 66.9 kWh battery, offering a driving range of up to 263 km (162 miles) under the WLTP cycle.

Meanwhile, TAE Technologies has unveiled its ambitious fusion reactor concept, termed "Norm." The company claims this setup can produce power at a rate 100 times that of existing fusion designs, and at half the cost. The field-reversed configuration (FRC) technology holds hot plasma without relying on the extensive magnets typical in other fusion reactors, potentially offering a more compact and efficient design.

In the realm of electric vehicle charging, ZF has introduced a novel gas-powered "range extender." This system is designed to recharge the vehicle's battery when charging stations are scarce. ZF argues that this approach could be more economically viable than traditional plug-in hybrids, featuring reduced production costs and simpler supply chains. The range extender will be available in two variants, known as eRE and eRE+.

Innovations in hydrogen technology have also emerged from the United Kingdom, where a company has developed a portable hydrogen generation module capable of producing up to 1,100 pounds of hydrogen daily from ammonia. This system boasts a purity level exceeding 99.9% and is positioned as a scalable and cost-effective solution for various industries, including steel manufacturing and off-grid electric vehicle charging.

Lastly, the auto market witnessed the introduction of the Slate auto company’s analog electric pickup truck, which distinguishes itself from competitors like Tesla. The base model is designed to achieve a range of 150 miles from a 52.7 kWh battery, with an optional larger battery promised to extend the range to approximately 240 miles. Slate has indicated that customers will have access to over 100 accessories for customisation, designed for easy installation by users.

In a notable contribution to electric motor technology, Koenigsegg has unveiled the Dark Matter motor, an 86 lb (39 kg) unit delivering an impressive 800 hp (600 kW) and 922 lb-ft of torque. This motor’s design, while compact, represents a significant advancement in power-to-weight ratio in the industry, demonstrating the continuing evolution of electric automotive technologies.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.coalfire.com/the-coalfire-blog/iot-security-vulnerabilities-electric-vehicles> - This article discusses various cybersecurity vulnerabilities in electric vehicles, including manipulation of CAN bus signals, Bluetooth and Wi-Fi attacks, and sensor input manipulation, highlighting the risks associated with advanced technologies in modern EVs.
2. <https://www.theverge.com/2017/6/5/15739262/tesla-insurance-premiums-aaa-claim-rate-repair-costs> - This report details how AAA increased insurance premiums for Tesla's Model S and Model X due to higher-than-average claim rates and repair costs, underscoring the financial impact of vehicle design and technology on insurance rates.
3. <https://www.cnn.com/2025/03/24/cars/expect-tesla-insurance-to-go-up-if-vandalisms-keep-happening> - This article examines the potential for rising insurance premiums for Tesla vehicles in response to increased vandalism incidents, highlighting the interplay between vehicle security concerns and insurance costs.
4. <https://www.arxiv.org/abs/2211.05775> - This survey explores the state of the Internet of Vehicles (IoV) and its security vulnerabilities, emphasizing the need to address cybersecurity challenges as vehicles become more interconnected and reliant on internet technologies.
5. <https://www.arxiv.org/abs/2301.04587> - This study provides an in-depth analysis of the security and privacy threats associated with the electric vehicle ecosystem, highlighting the novel attack surfaces introduced by components like charging systems and battery management systems.
6. <https://www.arxiv.org/abs/2007.08041> - This survey presents a comprehensive overview of security attacks and defense techniques for connected and autonomous vehicles, discussing the vulnerabilities in vehicle components and the importance of robust cybersecurity measures.
7. <https://news.google.com/rss/articles/CBMiWEFVX3lxTE1XVjlwcUxtS19ST2hIcUV0aGc3RlR5R1J6bUV4QzBuSjJCSkZlYWRoUTZQY183aUIwVHhDTTdwWjFHSHBVTm1URjUyVTBXS3ZsMUY3Q0ZFdV8?oc=5&hl=en-US&gl=US&ceid=US:en> - Please view link - unable to able to access data