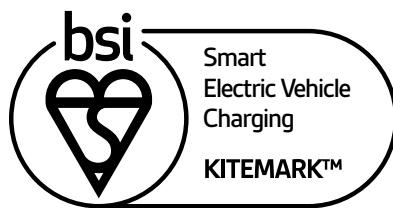
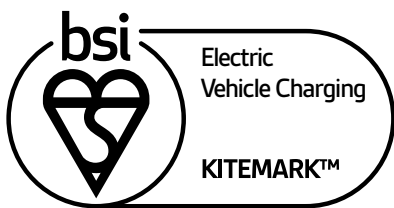


**bsi.**

...making excellence a habit.™

# Powering confidence in electric vehicle charging



# Driving confidence in vehicle charging

The electric vehicle charging market is experiencing significant growth and investment. The market is experiencing a surge in demand for electric vehicles as governments around the world set ambitious targets to reduce carbon emissions and combat climate change. This has led to an increase in the number of electric vehicles on the road, which in turn drives demand for charging infrastructure.

This emerging industry, with its influx of new global players that previously had little guidance on excellence and quality requires a route map to assurance. This is where BSI can help with new Kitemark schemes that demonstrate safety, quality, and cyber-security confidence in this innovative market.

Between today and 2040, the cumulative investment in charging infrastructure is predicted to **exceed USD 1 trillion globally** in the Economic Transition scenario and **USD 1.4 trillion in the Net Zero scenario**. By this time between **340 and 490 million chargers will be needed globally**, with the total dominated by home chargers. Chargers outside the home are expected to account for between **42 and 59 million chargers by 2040** depending on scenario.\*

Together with the development of EV charging infrastructure, the market observes the technological advancements and introduction of smart EV chargers. A smart electric vehicle charger is a type of EV charger that uses advanced technologies to optimize and manage the charging process. Smart EV chargers are designed to provide greater control and flexibility over the charging process, while also reducing cost and improving the efficiency of charging infrastructure.

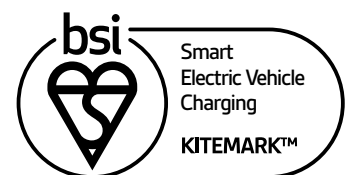
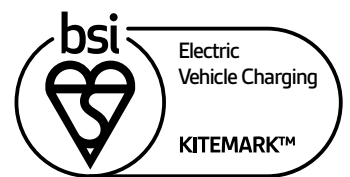
According to the report by MarketsandMarkets, the global EV charging station market size was valued at **USD 5.3 billion in 2020** and is expected to reach **USD 82.7 billion by 2030**, growing at a **CAGR of 30.8%** during the forecast period. The report also notes that the market for smart EV charging is expected to grow at a higher rate, with a **CAGR of 38.5%** during the same period. \*\*

## Legislation

To date, there has been no widely available industry scheme to help companies differentiate themselves and effectively market their products. In the UK, the Office for Zero-Emissions Vehicles (OZEV) introduced minimum technical specifications for home and workplace charging of vehicles. The specification is based on the test reports produced by the manufacturers rather than independent experts such as BSI.

As a result, many organizations needing to install these systems – such as local authorities are struggling to keep pace. Making purchasing decisions amid bewildering array of new developments has become challenging, which is why BSI has launched this dedicated new Kitemark schemes for Electric Vehicle Chargers and Smart Electric Vehicle Chargers.

Market growth at this speed requires independent market and expert assurance and our Kitemark certification is key to developing wide scale acceptance of quality and safety.



\* Source: BNEF, Electric Vehicle Outlook 2022 <https://about.bnef.com/electric-vehicle-outlook/>

\*\* Source: Marketsandmarkets, Electric Vehicle Report [https://www.marketsandmarkets.com/Market-Reports/electric-vehicle-market-209371461.html?gclid=CjwKCAjwq-WgBhBMEiwAzKSH6LITIDhrPZEGjIPVsXhkP9Rp31YaB8HncY7gL6UIhjwBYZRzXzVREBoCyZkQAvD\\_BwE](https://www.marketsandmarkets.com/Market-Reports/electric-vehicle-market-209371461.html?gclid=CjwKCAjwq-WgBhBMEiwAzKSH6LITIDhrPZEGjIPVsXhkP9Rp31YaB8HncY7gL6UIhjwBYZRzXzVREBoCyZkQAvD_BwE)

# BSI: responding to a fast-moving market



BSI has developed a Kitemark for Electric Vehicle Charging and Smart Electric Vehicle Charging points to address the current industry challenges.

BSI Kitemark certification is the ultimate mark of trust. First developed in the early twentieth century, Kitemark certification schemes recognize excellence in manufacturing and service provision. In other words, BSI Kitemark certification tells a customer, a company or service is certified to the highest levels of quality and safety

BSI Kitemark certification will support market assurance around the rapid expansion and technological advancement in electric vehicles and their associated systems.

BSI Kitemark will complement BSI's existing electric vehicle charging standards

## The Kitemark effect



**65%**

said BSI Kitemark had **increased sales**



**75%**

said BSI Kitemark certification helped them **attract more customers**



**80%**

said it improved their **business reputation**



**95%**

of consumers are **more likely to buy** a product if it has a BSI Kitemark

		KM	VC
<b>BS EN IEC 61851-1:2019</b>	Electric vehicle conductive charging system Part 1: General requirements	OK	OK
<b>BS EN IEC 62840-2:2019</b>	Electric vehicle battery swap system – Part 2: Safety requirements	OK	No
<b>ETSI EN 303645 and TS 103 701*</b>	Cyber Security for Consumer Internet of Things: Baseline Requirements	OK	OK
<b>The Electric Vehicles (Smart Charging Points) Regulations 2021**</b>	Smart charging points must comply with certain technical specifications such as communication protocols, data formats, and security standards	OK	OK
<b>BS EN IEC 61851-21:2021</b>	Electric vehicle conductive charging system. Electric vehicle requirements for conductive connection to an AC/DC supply. EMC requirements for off board electric vehicle charging systems	No	OK
<b>BS EN 62196-1:2014</b>	Plugs, socket-outlets vehicle connectors and vehicle inlets- Conductive charging electric vehicles- Part 1: General requirements	No	OK
<b>BS EN 62196-2:2017</b>	Plugs, socket-outlets, vehicle connectors and vehicle inlets- Conductive charging of electric vehicles – Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories	No	OK
<b>BS EN 62196-3: 2017</b>	Plugs, socket-outlets, vehicle connectors and vehicle inlets- Conductive charging of electric vehicles for d.c. and a.c./d.c. pin and contact-tube vehicle couplers	No	Yes
<b>EMC / Radio testing</b>		No	Yes
<b>Technical file review</b>		No	Yes

\* Source: [https://www.etsi.org/deliver/etsi\\_ts/103700\\_103799/103701/01.01.01\\_60/ts\\_103701v010101p.pdf](https://www.etsi.org/deliver/etsi_ts/103700_103799/103701/01.01.01_60/ts_103701v010101p.pdf)  
[https://www.etsi.org/deliver/etsi\\_en/303600\\_303699/303645/02.01.01\\_60/en\\_303645v020101p.pdf](https://www.etsi.org/deliver/etsi_en/303600_303699/303645/02.01.01_60/en_303645v020101p.pdf)

\*\* Source: <https://www.legislation.gov.uk/ukdsi/2021/9780348228434/resources>

# BSI Kitemark™ certification

Kitemark certification is exclusive to BSI and cannot be awarded by any other certification body.

Our laboratories carry out safety and performance testing of household and commercial electrical appliances so you can achieve Kitemark certification based on evaluation at BSI's state-of-the-art laboratories, which were the world's first UKAS accredited labs for EV chargers.

Why apply for Kitemark certification? A gold standard of safety, performance, and reliability, it can differentiate you from the competition. It has far reach as a quality and safety symbol and is recognized equivalent to many global counterparts.



## Why BSI?



BSI has been developing world-leading standards for over 100 years and continues to break new ground. Our blend of heritage and newness makes us unique – we are the only organization that can offer such a powerful combination of innovation and international reach.

We work closely with leading manufacturers to ensure their products meet the latest regulations to gain market access. We focus on delivering a testing and certification partnership underpinned by quality, safety, reliability, and accuracy aligned to your product development requirements. That's why we're best placed to help you understand standards and to meet the requirements.

At BSI we share knowledge, innovation, and best practice to help people and organizations realize their potential. We are client-centric, agile, and collaborative.

**BSI: Inspiring trust for a more resilient world.**



**Get in touch today and find out more**

Call: **+44 (0)345 0765 606**

Email: **[productcertification.sales@bsigroup.com](mailto:productcertification.sales@bsigroup.com)**

Visit: **[bsigroup.com/kitemark](https://www.bsigroup.com/kitemark)**

