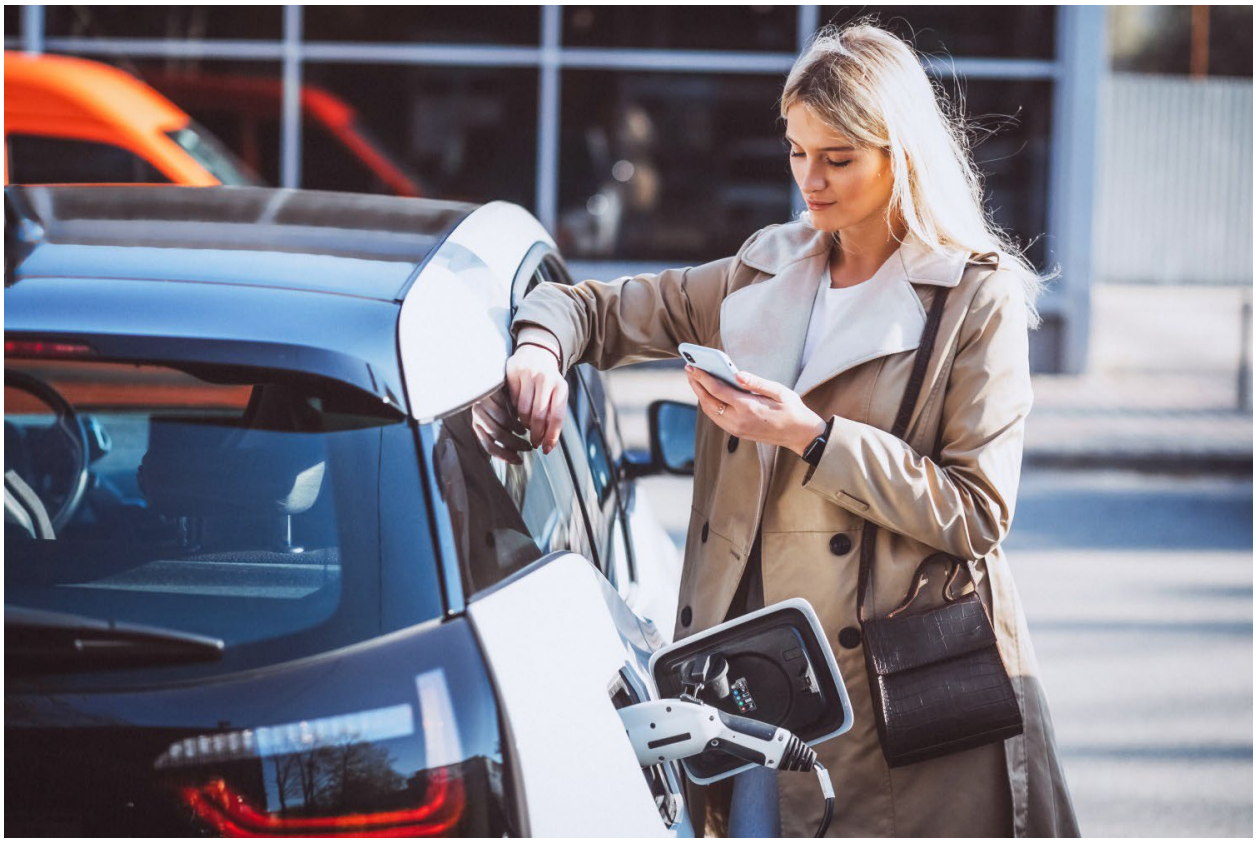
ELATEC
RFID Systems

CHARGING INFRASTRUCTURE WITH A FUTURE

Flexible authentication solution for electromobility



The increasing use of electric vehicles requires a powerful charging infrastructure to meet demand—including a reliable authentication solution. To ensure that this meets current and future requirements in a highly dynamic environment, manufacturers and operators of charging stations must take important aspects into account.

The requirements for user authentication, access restrictions and billing models are highly dependent on the respective application and operator when charging electric vehicles. Companies that maintain an internal charging infrastructure for fleet vehicles have different requirements than operators of public charging points. The latter, for example, face the challenge of offering their customers easy access and transparent billing models. What they all have in common, however, is that fast, convenient access to use the charging infrastructure is essential. At the same time, operators must ensure that only authorized persons have access to the charging stations and that sensitive information such as payment data does not fall into the wrong hands. Charging stations also need to continue to function reliably in the event of changes in technology standards, laws and regulations, or customer demands, even without expensive and time-consuming retrofitting.

Criteria for choosing the right reader

For OEMs, this means offering their customers maximum flexibility in terms of access control and user authentication options. This is the only way they can meet the different needs. To meet these challenges, a secure and easily customizable authentication solution via radio frequency identification (RFID), near-field communication (NFC) or Bluetooth® Low Energy (BLE) is ideal. Readers are at the heart of such a solution. OEMs should pay particular attention to the following aspects when selecting the appropriate reader technology:

- **High flexibility**: The highly fragmented nature of the charging market can be a challenge for OEMs and network operators, especially if they offer their services across regions or countries. Different regions have different technical requirements, data protection laws and certification requirements. OEMs selling e-chargers in a global market need solutions that work everywhere and are adaptable to future requirements. Therefore, they should focus on multi-frequency readers. Universal readers are available on the market that can process more than 60 transponder technologies commonly used worldwide and are certified for use in up to 110 countries. These readers, which solution provider ELATEC has in its portfolio, for example, are compatible with virtually every transponder technology used by users and also process mobile credentials. OEMs thus only need to maintain a single system for their customers.
- **Easy remote updates and upgrades**: Keeping pace with changing requirements and IT infrastructures requires a flexible system. It enables operators to keep the charging infrastructure up to date with the latest technology and ensure proper functioning. OEMs should therefore select readers that can be easily and quickly updated through remote updates and upgrades, regardless of their location. This gives them an advantage over the competition with future-proof devices. At the same time, they avoid the potential costs incurred if they have unsold stock that needs to be replaced or reconfigured.
- **Security for infrastructure and data:** A reliable authentication solution makes it possible to control access to the charging station, protecting confidential data and valuable charging infrastructure. A system that uses RFID-based badges as well as mobile authentication solutions ensures that only authorized users are allowed to charge. In addition, this solution allows easy tracking of charging behavior. To further enhance data security, the reader should be able to be programmed to support encryption technologies, including cryptographic methods that require high computing power. With a charging infrastructure that offers this capability, operators are always on the safe side.

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