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Information exchange for electric vehicle charging roaming service – Part 1: General

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 63119-1 has been prepared by IEC technical committee 69: Electrical power/energy systems for electrically propelled road vehicles and industrial trucks. It is an International Standard.

This second edition cancels and replaces the first edition published in 2019.

This edition includes the following significant technical changes with respect to the previous edition:

a) the scope is expanded to include differentiation between home and visited service provider roles and adds an explicit definition of roaming entity;
b) adds definitions for "home charging service provider (home-CSP)", "visited charging station operator (visited-CSO)", and "charging detail record (CDR)", and expands related terms such as "service" and "roaming entity";
c) introduces abbreviation variants for "home-CSP" and "visited-CSO" in the terminology, aligning with North American and European conventions;

d) updates the communication protocol stack by adopting a newer TLS version (upgraded from 1.2 to 1.3);

e) system architecture and communication interfaces include detailed interactions between home-CSP and visited-CSO;

f) adds a definition for "service" to cover a broader range of applications such as parking and reservation management;

g) adds a distinction between "charging detail record (CDR)" and "service detail record (SDR)" and clarifies their relationship in the terminology;

h) enhances the description of user credential transfer methods in communication interfaces with greater diversity;

i) enhances the description of the mixed mode in the classification of roaming service models, emphasizing improved user experience through faster response times.

The text of this International Standard is based on the following documents:

Draft	Report on voting
69/1050/FDIS	69/1063/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 63119 series, published under the general title *Information exchange for electric vehicle charging roaming service*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

1 Scope

This part of IEC 63119 establishes a basis for the other parts of IEC 63119, specifying the terms and definitions, general description of the system model, classification, information exchange and security mechanisms for roaming between EV charging service providers (CSPs), charging station operators (CSOs) and clearing house platforms through roaming endpoints. It provides an overview and describes the general requirements of the EV roaming service system.

The IEC 63119 series is applicable to high-level communication involved in information exchange/interaction between different CSPs, as well as between a CSP and a CSO with or without a clearing house platform through the roaming endpoint.

The IEC 63119 series does not specify the information exchange, either between the charging station (CS) and the charging station operator (CSO), or between the EV and the CS.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1
electric vehicle
EV
electric road vehicle
vehicle propelled by an electric motor drawing current from a rechargeable storage battery or from other portable energy storage devices (rechargeable, using energy from a source of the vehicle such as a residential or public electric service), which is manufactured primarily for use on public streets, roads or highways

[SOURCE: IEC 61851-1:2017, 3.4.1, modified – The definition has been expanded and the note to entry has been deleted.]

3.2
service
suite of functions provided by the service provider to the EV users, such as energy transfer, reservation management, parking, etc.

3.3
electric vehicle user
EV user
person or legal entity using the vehicle and providing information about its needs

[SOURCE: IEC SRD 62913-2-4:2019, Table 3]