



Business plan for a DIN SPEC project  
according to the PAS procedure on  
**"Unified Error Codes for a Reliable Electric  
Vehicle Charging Ecosystem"**

Status:  
**For the development of the DIN DKE SPEC  
after adoption on 2024-01-11**

Requests to participate in the project and/or comments on the  
business plan are to be **submitted by**  
**2024-01-04** to [mario.beier@din.de](mailto:mario.beier@din.de)<sup>1</sup>

Recipients of this business plan are requested to name **all patent rights**  
known to them to be relevant to the project and to make available  
all supporting documents.

Berlin, 2024-03-26 (Version 02)

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<sup>1</sup> Applications for participating in the project and comments on the business plan that are not received by the deadline do not need to be taken into consideration. Once constituted, the project workshop will decide whether or not to consider the comments received in good time.

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## 1. Status/version of the business plan

- **For public commenting (Version 1)**

This business plan is intended to inform the public of a new DIN SPEC project. Any interested party can take part in this project and/or comment on this business plan. Please send any requests to participate or comments by e-mail to [mario.beier@din.de](mailto:mario.beier@din.de).

Once this business plan is published, the Chairman of DIN's Executive Board decides whether or not the project is to be carried out.

If the project is accepted, all those who have applied for participation or have commented on the business plan by the deadline will be invited to the kick-off meeting of the project consortium.

- **For developing the DIN SPEC after adoption on 2024-01-11**

Changes to the previous version 01:

- Title
- Initiator
- 3.2 planned scope
- etc.

## 2. Initiator and other consortium members

- Initiator:

| Person/Organization                     | Short description  |
|---|--|
| Ricardo Michaelis - CharIN Academy GmbH | The activities of Charging Interface Initiative (CharIN) e. V. are member based and are developed by consensus. Members represent the relevant participants and players in the charging ecosystem. CharIN's mission is to support universal open charging standards and promote a high level of interoperability for a superior customer experience. CharIN counts more than 320 members from all over the world, including cross-industry stakeholders along the entire value chain of charging. Applications include two-wheelers, cars, lorries, busses, ships, aircraft and mining vehicles. |

- Other potential participants:

This DIN SPEC will be developed in a consortium (temporary body) that is open to any interested party. The participation of other experts would be helpful and is desired. It is recommended that

- Charge Point Operators
- vehicle manufacturers
- charging point manufacturers
- engineering service providers
- energy suppliers
- etc.

take part in the development of this DIN SPEC.

- Organisations that have adopted this business plan (consortium members):

| Person            | Organization                  |
|-------------------|-------------------------------|
| Ricardo Michaelis | CharIN Academy GmbH           |
| Sebastian Funda   | Volkswagen Aktiengesellschaft |
| Jeremy Bibeau     | EVgo                          |
| Boris Zuev        | BMW Group                     |
| Karol Nowacki     | EKOENERGETYKA-POLSKA S.A.     |
| Błażej Stelmaszyk | EKOENERGETYKA-POLSKA S.A.     |

### 3. Objectives of the project

#### 3.1. General

As the charging infrastructure is ramped-up, expanded and ultimately utilized more and more, there is a steady increase in routine in dealing with the charging of electric vehicles and the problems that arise with the charging process. However, a common error description is necessary as a basis for the traceability of charging errors and appropriate problem solving.

It is currently apparent that if charging stops or does not start during the charging process, a clear source of error cannot always be identified by evaluating the CDR (Call Details Record). This means that the problem can neither be identified nor solved and will continue to manifest itself in the field.

A standardised basis for dealing with such problems is required in order to identify them clearly and comprehensibly and to be able to solve them as efficiently as possible in the interests of the customer. The aim is therefore to describe a standardized error code handling based on the interface description of the charging ecosystem.

### 3.2. Planned scope

This document will define a comprehensive list of commonly used error codes in the electric vehicle (EV) charging ecosystem. It will reflect the perspective of the EVs which will be incorporated to ensure analyses capabilities.

In addition, the document will establish parameters related to the error codes, providing guidance for their interpretation and resolution.

This document will serve as an implementation guideline for commonly used communication protocols between electric vehicles, electric vehicle supply equipment (EVSE) and central management systems (CMS).

### 3.3. Related activities

The subject of the planned DIN SPEC is not at present the subject of a standard. However, there are committees, standards and/or other technical rules that deal with related subjects and thus need to be taken into account - and involved or incorporated, where necessary - in this project:

- DKE K353
- DIN Standards Committee Road Vehicles and Mobility (NA 052-00-37 AA Electrically propelled road vehicles)
- OCPP 1.6/ 2.0.1 of the „Open Charge Alliance“

## 4. Work programme

The aim of the project is to develop a DIN SPEC according to the PAS procedure (see [www.din.de/go/din-spec-en](http://www.din.de/go/din-spec-en)). The DIN SPEC shall be consistent with the body of German standards and shall not be in conflict with any DIN Standard.

The kick-off meeting took place on 11 January 2024 virtually. The project duration will be about 5 months.

At this kick-off meeting, the consortium for developing the DIN SPEC will be constituted, further organizational issues will be decided on and clarified, and, where possible, work on the subject matter will be begun.

A draft for public commenting will not be published.

A total of 1-2 project meetings (kick-off meeting and work meetings) and about 6 web conferences will be held, during which the content of the DIN SPEC will be presented, discussed and approved. The content of the DIN SPEC can be drawn up by individual consortium members or in working groups.

Dates of further meetings and/or web conferences are to be agreed on within the consortium in consultation with DIN.

The DIN SPEC will be drawn up in English (language of meetings, minutes, etc.). The DIN SPEC will be written in English.

**NOTE** The calculation covers only one language version. Please keep in mind the fact that other language versions involve additional expenses; for this reason, they shall be agreed on separately. If another language version is desired, Beuth/DIN can provide a translation. Requests for translations are to be submitted after the DIN SPEC manuscript has been approved for publication.

## **5. Resource planning**

Each consortium member shall bear the expenses he/she incurs as a result of participation in the project.

If the DIN Executive Board approves the project, the initiator of the project will then conclude a contract with DIN.

Consortium membership and participation in the project meetings is free of charge, as the costs incurred by DIN throughout the performance of this project are financed by funds from the research project “ELSTA – Förderung der Elektromobilität durch Normung und Standardisierung“ – funded by the Federal Ministry for Economic Affairs and Climate Action as part of the funding announcement “Elektromobil” (funding reference: 01MV20003A).

## **6. Rules of cooperation in the DIN SPEC consortium**

This project is governed by the PAS procedural rules. All interested parties and consortium members are to inform themselves of these procedures by going to [www.din.de/go/din-spec-en](http://www.din.de/go/din-spec-en).

The consortium will be constituted during the course of the kick-off meeting. The kick-off meeting will not take place until the business plan has been published and approved by DIN's Management Board. The consortium shall comprise at least three members from different organizations<sup>2</sup>. It is not necessary that these members come from different areas and represent different stakeholders. By approving this business plan, the interested parties declare their willingness to participate in the consortium and will be formally named as consortium members, with the associated rights and duties. Participants at the kick-off meeting who do not approve the business plan are not given the status of a consortium member and are thus excluded from further decisions made during the kick-off meeting and from any other decisions regarding the project.

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<sup>2</sup> Organizations are participating legal entities that send the experts to the DIN SPEC consortium and are assigned to a corporate structure as defined by § 15 of the German Stock Corporation Act or § 271 paragraph 2 of the German Commercial Code.

If an organization (e.g. an association) sends someone who is not an employee to the consortium, this person shall be authorized by the organization, who shall provide proof of this to DIN.

Each consortium member is entitled to vote and has one vote. If an organization sends several experts to the consortium, that organization has only one vote, regardless of how many consortium participants it sends. Transferring voting rights to other consortium members is not permitted. During voting procedures, decisions are passed by simple majority; abstentions never count.

As a rule, the consortium is closed once it is constituted. The current consortium members shall decide whether any additional members will be accepted or not.

During the kick-off meeting, the consortium members shall elect a consortium leader, who is responsible for content management and any decision-making and voting procedures. The leader is supported by the responsible DIN Project Manager, whereby DIN will always remain neutral regarding the content of the DIN SPEC. Furthermore, the DIN Project Manager shall ensure that DIN's rules of procedure, rules of presentation, and the principles governing the publication of DIN SPEC have been observed. Should a consortium leader no longer be able to carry out his/her duties, the DIN Project Manager shall initiate the election of a new leader.

The DIN Project Manager is responsible for organizing and leading the kick-off meeting, in consultation with the initiator. Further project meetings and/or web conferences shall be organized by the DIN Project Manager in consultation with the consortium leader.

If consortium members cannot be present when the DIN SPEC or its draft is approved, an alternative means of including them in the voting procedure shall be used (e.g. in writing, electronically).

All consortium members who voted for the publication of the DIN SPEC or its draft will be named as authors in the Foreword, including the organizations which they represent. All consortium members who voted against the publication of the DIN SPEC or its draft, or who have abstained, will not be named in the Foreword.

Any expansion of the consortium at a later date is decided on by the members making up the consortium at that time. It is particularly important to consider these aspects:

- a) expansion would be conducive to shortening the duration of the project or to avoiding or averting an impending delay in the planned duration of the project;
- b) the expansion would not result in the project taking longer to complete;

- c) the new consortium member would not address any new or complementary issues beyond the scope defined and approved in the business plan;
- d) the new consortium member would bring complementary expertise into the consortium in order to incorporate the latest scientific findings and state-of-the-art knowledge;
- e) the new consortium member would actively participate in the drafting of the manuscript by submitting concrete, not abstract, proposals and contributions;
- f) the new consortium member would ensure wider application of the DIN SPEC.

To allow the legal reproduction and distribution of results for the purposes of project work, the consortium members grant DIN rights of use on the basis of the copyright that will accrue to them for the results of their work on the DIN SPEC. The transfer of these utilization rights does not prevent the consortium members from using and further developing the knowledge, experience and findings they bring to the project.

Consortium members are requested to inform DIN of all patent rights known to them to be relevant to this DIN SPEC project.

Subsequent changes to the scope (Section 3.2) or to the resource planning (Section 5) require, in addition to a two-thirds majority of all votes cast, the approval of DIN.

## 7. Contacts

- Consortium leader:  
to be determined
  
- Team manager:  
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## Annex: Project schedule (preliminary)

| DIN SPEC project                           | 2023 |     |     |     |     |     | 2024 |     |     |     |     |     |     |  |
|--|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|--|
|  | Jul  | Aug | Sep | Oct | Nov | Dec | Jan  | Feb | Mar | Apr | May | Jun | Jul |  |
| <b>Initiation</b>                          |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 1. Request and review                      |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 2. Business plan drawn up                  |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 3. Publication of business plan            |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| <b>Development phase</b>                   |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 4. Kick-off meeting/consortium constituted |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 5. DIN SPEC drawn up                       |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 6. DIN SPEC approved by consortium         |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| <b>Publication</b>                         |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 7. Review and release by DIN               |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| 8. Publication of DIN SPEC                 |      |     |     |     |     |     |      |     |     |     |     |     |     |  |
| <b>Milestones</b>                          |      |     |     |     |     |     |      |     |     |     |     |     |     |  |

- K** Kick-off
- M** Project meeting
- W** Web conference
- A** Adoption of DIN SPEC