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SYSTEMS REFERENCE DELIVERABLE

colour inside

Energy and data interfaces of users connected to the smart grid with other smart grid stakeholders – Standardization landscape

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CONTENTS

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ENERGY AND DATA INTERFACES OF USERS CONNECTED TO THE SMART GRID WITH OTHER SMART GRID STAKEHOLDERS – STANDARDIZATION LANDSCAPE

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The text of this Systems Reference Deliverable is based on the following documents:

Draft SRD	Report on voting
SyCSmartEnergy/136/DTS	SyCSmartEnergy/144/RVDTS

Full information on the voting for the approval of this Systems Reference Deliverable can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

One of the main impacts of the smart grid and/or the smart energy grid is the increasing interactions between the grid users and the other energy-related stakeholders.

The main driver remains the introduction of renewables to the grid which makes the grid operation much more complex, but other drivers are also the consequences of the digitalization trend and the coupling with energy efficiency and greener energy trends.

All these new interactions and trends make the interface between grid users and the other stakeholders more complex, and it is the ambition of this document is to build this new landscape.

It is in some way very close to the objective of the IEC TR 63097 [1] smart grid standardization roadmap, with however a clear focus on the area related to interfacing the grid users, and also the objective to map the roles of the different IEC entities coping with this objective.

This document aims as well at providing an entry point for solving the situation 7. S-HBES/BACS-1 of the IEC SRD 63199 SyC Smart Energy development plan established by the IEC SyC Smart Energy WG 2.

As decided in the Worcester joint IEC SyC SE WG 2/WG 3 meeting, in June 2018, addressing this point will need to get a global landscape of the grid user interface, and restricted neither to demand-response type of interface (which is just one type of interface) nor to home and buildings (except for the internal implementation of DER unit hosted within this grid user, all interfaces seem common to all types of grid user).

It will serve as well the IEC TR 63097 roadmap update but will also be a source for the SGAM (IEC SRD 63200 [2]) currently under development by the IEC SyC SE WG 6.

ENERGY AND DATA INTERFACES OF USERS CONNECTED TO THE SMART GRID WITH OTHER SMART GRID STAKEHOLDERS – STANDARDIZATION LANDSCAPE

1 Scope

This document depicts a comprehensive standardization landscape of the interfaces between the main grid stakeholders and the grid users, grid users comprising DERs and Customer Premises.

This document considers the main "physical" and "logical" interactions (i.e. through wires/functions – power and/or communication) between grid users and grid stakeholders, both from an electrical standpoint and from a data standpoint. Then for each interaction type, the document presents the standardization landscape.

This document depicts, as well, the interactions between the grid stakeholders manipulating grid user related data, themselves. Effectively it appears that considering the sole landscape of the interfaces between the grid users and the grid would be very limited without considering the way the data attached to grid users are manipulated/managed within and between the different stakeholders holding these data. Providing a seamless vision of the management of these data is becoming of highest priority.

The document focuses exclusively on Distribution grid users, excluding as such "bulk generation" grid users and "transmission connected grid users", the main reason being that the main breakthrough resulting from the introduction of distributed energy resources affects mostly the Distribution grid users.

This document mostly focuses on establishing the standardization landscape for the considered domain, including the IEC entities involved in producing reports, technical specifications and standards related to it. From this assessment a first set of recommendations is issued related to the way IEC addresses this scope.

2 Normative references

There are no normative references in this document**.**

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

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

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