Framework for energy market communications - Part 451-10: Profiles for Energy Consumption Data ("My Energy Data")

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NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 62325-451-10:2021 sisaldab Euroopa standardi EN IEC 62325-451-10:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 62325-451-10:2021 consists of the English text of the European standard EN IEC 62325-451-10:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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ICS 17.220.20, 19.080

EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN IEC 62325-451-10

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English Version

Framework for energy market communications - Part 451-10: Profiles for Energy Consumption Data ("My Energy Data") (IEC 62325-451-10:2020)

Cadre pour les communications pour le marché de l'énergie - Partie 451-10: Profils de données sur la consommation d'énergie ("Mes données d'énergie") (IEC 62325-451-10:2020)

Kommunikation im Energiemarkt - Teil 451-10: Profile für Energieverbrauchsdaten ("Meine Energiedaten") (IEC 62325-451-10:2020)

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European foreword

The text of document 57/2266/FDIS, future edition 1 of IEC 62325-451-10, prepared by IEC/TC 57 "Power systems management and associated information exchange" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62325-451-10:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-10-01
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Endorsement notice

The text of the International Standard IEC 62325-451-10:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61968-11	NOTE	Harmonized as EN 61968-11
IEC 61970-301	NOTE	Harmonized as EN IEC 61970-301
IEC 62325-301	NOTE	Harmonized as EN IEC 62325-301
IEC 62325-351	NOTE	Harmonized as EN 62325-351
IEC 62325-450	NOTE	Harmonized as EN 62325-450
IEC 62351-3	NOTE	Harmonized as EN 62351-3
IEC 61968-9	NOTE	Harmonized as EN 61968-9

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

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Publication	Year	Title	EN/HD	Year
IEC/TS 61970-2	2004	Energy management system application program interface (EMS-API) - Part 2: Glossary	CLC/TS 61970-2	2005
IEC 62325-351	-	Framework for energy market communications - Part 351: CIM European market model exchange profile	EN 62325-351	-
IEC 62325-450	2013	Framework for energy market communications - Part 450: Profile and context modelling rules	EN 62325-450	2013
IEC 62361-100	-	Power systems management and associated information exchange - Interoperability in the long term - Part 100: CIM profiles to XML schema mapping	EN 62361-100	-

IEC 62325-451-10

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INTERNATIONAL STANDARD

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Cadre pour les communications pour le marché de l'énergie – Partie 451-10: Profils de données sur la consommation d'énergie ("Mes données d'énergie")

IEC 62325-451-10:2020-11(en-fr)

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INTERNATIONAL STANDARD

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Cadre pour les communications pour le marché de l'énergie – Partie 451-10: Profils de données sur la consommation d'énergie ("Mes données d'énergie")

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 451-10: Profiles for Energy Consumption Data ("My Energy Data")

FOREWORD

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International Standard IEC 62325-451-10 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

The text of this standard is based on the following documents:

FDIS	Report on voting
57/2266/FDIS	57/2312/RVD

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

The French version of this standard has not been voted upon.

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

A list of all the parts in the IEC 62325 series, published under the general title *Framework for energy market communications*, can be found on the IEC website.

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The Code Components included in this IEC standard are also available as electronic machine readable file at: http://www.iec.ch/public/TC57/IEC_62325-451-10.zip.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This part of IEC 62325 is one of the IEC 62325 series for deregulated energy market communications.

The principal objective of the IEC 62325 series is to produce standards which facilitate the integration of market application software developed independently by different vendors into a market management system, between market management systems and market participant systems. This is accomplished by defining message exchanges to allow these applications or systems access to public data and exchange information independent of how such information is represented internally.

The common information model (CIM), i.e. IEC 62325-301, IEC 61970-301 and IEC 61968-11, specifies the basis for the semantics for message exchange.

This European style market profile is based on different parts of the CIM IEC standard, i.e. IEC 61970-301, IEC 62325-301, IEC 62325-351, and specifies the content of the messages exchanged.

"My Energy Data" (MED) is the term adopted in Europe as a generic description of services to offer customers (residential, municipalities, ...) the possibility of downloading their energy consumption information and granting access to third parties to that information to enable service providers to offer analytical and other services to customers (residential, municipalities, ...).

Europe needs to define a standard to support the "My Energy Data" requirements.

The application domain of this work is limited to customers connected to Distribution System Operator (DSO) grids.

The main objective is to have a standardized and interoperable format so that various actors (customers, municipalities, ...) can download electrical energy data. The content of the standard will mainly be an XML schema (XSD) associated with a message. The message will consist of an envelope and a semantic part. The semantic part will be essentially based on IEC 61970-301, IEC 61968-11, IEC 62325-301. The envelope part will take into account standards IEC 61968-100, IEC 62325-503, IEC 62325-504.

My Energy Data is primarily subject to Regulation (EU) 2019/943 of the European parliament and of the council of 5 june 2019 on the internal market for electricity.

As stated in the "My Energy Data" document (published in November 2016 by European Smart Grids Task Force Expert Group 1 – Standards and Interoperability):

- "My Energy Data services are primarily subject to the EU General Data Protection Regulation (GDPR) 2016/679/EC, the Energy Efficiency Directive 2012/27/EU, the Electricity Directive 2009/72/EC, the Gas Directive 2009/73/EC and further country-specific legislation"
- "One of the key aspects that would significantly contribute to opening the European internal market for future Energy Services is for the industrial initiative to establish a common format for energy data interchange that allows companies to seamlessly provide their services throughout the EU Member State. The ad hoc group intends to continue its work and invite to join all interested stakeholders which have not been extensively consulted due to time constraints. It recommends therefore that – after the publication of the European Commission Winter Package – a European industry initiative consisting of all interested stakeholders, such as, but not limited to manufacturers, utilities, vendors, laboratories and national regulators will be formed in early 2017 with the aim to provide further detailed specifications on a common format for energy data interchange under consideration of the high-level requirements provided by this report."

"This document will support the European Regulation. It will increase interoperability. The following parties which will benefit from this standard are: customers, suppliers, transmission and distribution system operators, aggregators, energy service companies, and other parties which provide energy or other services to customers."

This document provides the profile associated to use case "Download My Data" and is named "EUMED Market" profile. The first use case, "Download my data", is described in Annex A. The previous version of EUMED, called "EUMED Metering" circulated among the task force in January 2018 is described in Annex B, Annex C and Annex D.

The "EUMED Metering" proposal was based on IntervalBlock and IntervalReading CIM classes as proposed in 61968-9 IS standard to Model Time Series. It was based on a European project proposal (Flexiciency deliverable D6.0).

As an alternative, and in order to be consistent with IEC European Style Market Profiles (ESMP), experts familiar with 62325 and ESMP proposed to investigate a EUMED CIM based on Time Series.

As a consequence, the decision was to postpone circulation of first CD among National Committees in order to define a solution based on TimeSeries.

Figure 1 presents the two models, EUMED Market and EUMED Metering.

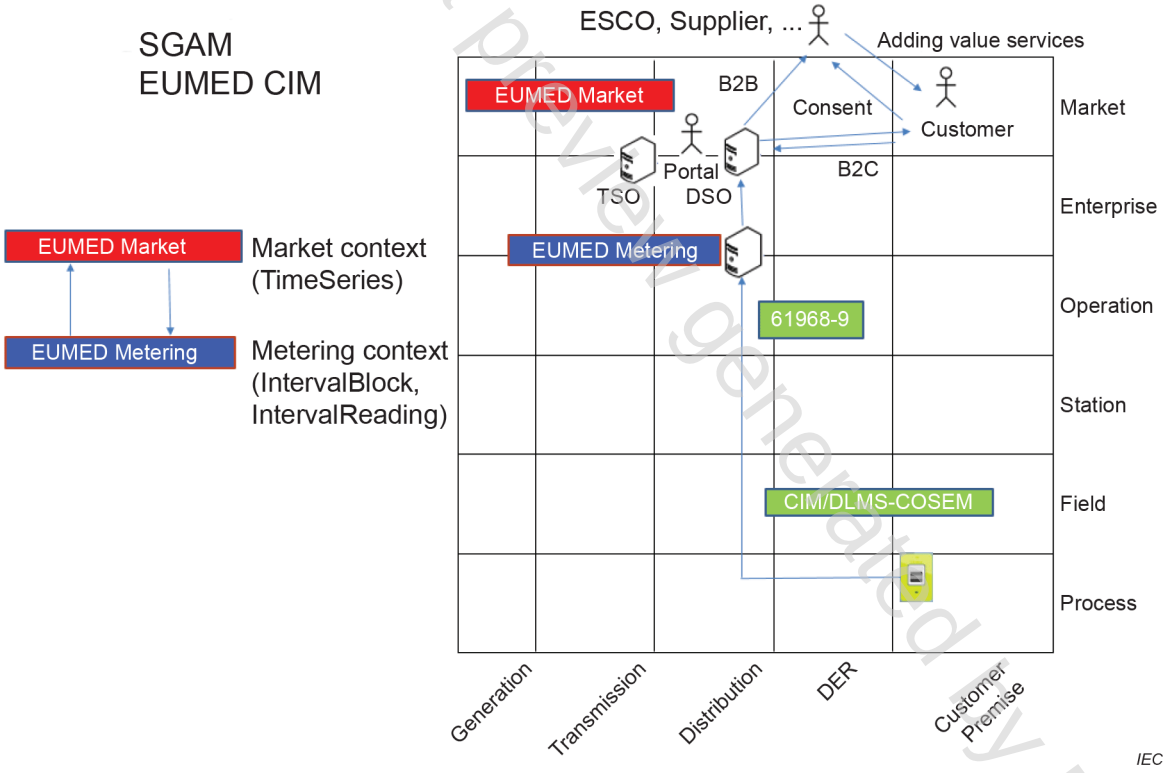

Figure 1 – Positioning of EUMED Market and EUMED Metering

The EUMED Metering profile has been described in Annex B of this document. The compatibility between EUMED Metering and EUMED Market will be studied later, and EUMED Metering profile will potentially be integrated in IEC 61968 series.

FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 451-10: Profiles for Energy Consumption Data ("My Energy Data")

1 Scope

Based on the European style market contextual model (IEC 62325-351), this part of IEC 62325 specifies a UML package for the Energy Consumption Data business process and its associated document contextual model, assembly model and XML schema for use within the European style electricity markets.

The relevant aggregate core components (ACCs) defined in IEC 62325-351 have been contextualised into aggregated business information entities (ABIEs) to satisfy the requirements of the European style market Energy Consumption Data business process.

The contextualised ABIEs have been assembled into the Energy Consumption Data document contextual model.

A related assembly model and an XML schema for the exchange of Energy Consumption information between market participants is automatically generated from the assembled document contextual model. The XML schema follows IEC Code Components management and copyright licensing.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TS 61970-2:2004, *Energy management system application program interface (EMS-API) – Part 2: Glossary*

IEC 62325-351, *Framework for energy market communications – Part 351: CIM European market model exchange profile*

IEC 62325-450:2013, *Framework for energy market communications – Part 450: Profile and context modelling rules*

IEC 62361-100, *Power systems management and associated information exchange – Interoperability in the long term – Part 100: CIM profiles to XML schema mapping*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC TS 61970-2 and the following apply.

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

- IEC Electropedia: available at http://www.electropedia.org/
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