

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Framework for energy market communications –  
Part 351: CIM European market model exchange profile**

**Cadre pour les communications pour le marché de l'énergie –  
Partie 351: Profil de modèle d'échange pour un système de gestion de marché  
de style européen basé sur le CIM**



**THIS PUBLICATION IS COPYRIGHT PROTECTED**  
**Copyright © 2016 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
Fax: +41 22 919 03 00  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

#### About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

#### About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

#### IEC Catalogue - [webstore.iec.ch/catalogue](http://webstore.iec.ch/catalogue)

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

#### IEC publications search - [www.iec.ch/searchpub](http://www.iec.ch/searchpub)

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

#### IEC Glossary - [std.iec.ch/glossary](http://std.iec.ch/glossary)

65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

#### IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [csc@iec.ch](mailto:csc@iec.ch).

#### A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

#### A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

#### Catalogue IEC - [webstore.iec.ch/catalogue](http://webstore.iec.ch/catalogue)

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

#### Recherche de publications IEC - [www.iec.ch/searchpub](http://www.iec.ch/searchpub)

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

#### IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 15 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

#### Glossaire IEC - [std.iec.ch/glossary](http://std.iec.ch/glossary)

65 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

#### Service Clients - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: [csc@iec.ch](mailto:csc@iec.ch).

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Framework for energy market communications –  
Part 351: CIM European market model exchange profile**

**Cadre pour les communications pour le marché de l'énergie –  
Partie 351: Profil de modèle d'échange pour un système de gestion de marché  
de style européen basé sur le CIM**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 33.200

ISBN 978-2-8322-3470-9

**Warning! Make sure that you obtained this publication from an authorized distributor.  
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references.....	9
3 Terms and definitions .....	9
4 European style market concepts .....	11
4.1 From the CIM information model to the European style market profile.....	11
4.1.1 General .....	11
4.1.2 Applying the framework to the European style electricity market.....	12
4.1.3 Examples for building a European style market profile .....	12
4.2 European style market package structure .....	13
4.3 The European electricity market concepts.....	15
4.4 Business process modelling .....	16
4.5 Business rules for the European style market profile .....	17
4.5.1 General .....	17
4.5.2 Identification of an ESMP electronic document.....	17
4.5.3 Time .....	18
4.5.4 Coding scheme identification.....	18
4.5.5 Direction of flow within TimeSeries .....	18
4.5.6 Quantity within a TimeSeries .....	19
5 Package architecture .....	22
5.1 Documentation structure .....	22
5.2 European style market classes .....	23
5.2.1 Overview of the model.....	23
5.2.2 IsBasedOn relationships from the European style market profile .....	24
5.2.3 Detailed ESMPClasses .....	25
5.2.4 Primitives.....	49
5.2.5 Datatypes .....	50
5.2.6 Enumeration .....	69
Bibliography .....	70
Figure 1 – IEC 62325-50 modelling framework.....	11
Figure 2 - Example of restrictions applied to CIM for a profile.....	13
Figure 3 – Overview of European style market profile dependency.....	14
Figure 4 – Curve – “Points” (24 hour day with a 4 hour resolution) .....	20
Figure 5 - Curve – “Sequential fixed size blocks” (24 hour day with a 4 hour resolution).....	20
Figure 6 – Curve – “Variable sized blocks” (24 hour day with a 4 hour resolution).....	21
Figure 7 – Curve – “Non-overlapping breakpoint” (24 hour day with a 4 hour resolution) .....	21
Figure 8 – Curve – “Overlapping breakpoint” (24 hour day with a 4 hour resolution) .....	22
Figure 9 – ESMPClasses .....	24
Table 1 – Attribute documentation example .....	23
Table 2 – Association Ends documentation example .....	23
Table 3 – Compound Datatype documentation example .....	23

Table 4 – IsBasedOn dependency .....	25
Table 5 – Attributes of ESMPClasses::AceTariffType .....	26
Table 6 – Association ends of ESMPClasses::AceTariffType with other classes .....	26
Table 7 – Attributes of ESMPClasses::AggregateNode .....	26
Table 8 – Attributes of ESMPClasses::Analog.....	27
Table 9 – Association ends of ESMPClasses::Analog with other classes .....	27
Table 10 – Attributes of ESMPClasses::AnalogValue .....	28
Table 11 – Attributes of ESMPClasses::AttributeInstanceComponent .....	28
Table 12 – Attributes of ESMPClasses::Auction.....	29
Table 13 – Attributes of ESMPClasses::BidTimeSeries .....	30
Table 14 – Attributes of ESMPClasses::ConstraintDuration.....	30
Table 15 – Attributes of ESMPClasses::Currency_Unit .....	30
Table 16 – Attributes of ESMPClasses::DateAndOrTime.....	31
Table 17 – Attributes of ESMPClasses::Domain.....	31
Table 18 – Association ends of ESMPClasses::Domain with other classes .....	32
Table 19 – Attributes of ESMPClasses::FlowDirection.....	32
Table 20 – Attributes of ESMPClasses::Location .....	33
Table 21 – Attributes of ESMPClasses::MarketAgreement .....	33
Table 22 – Attributes of ESMPClasses::MarketDocument.....	34
Table 23 – Association ends of ESMPClasses::MarketDocument with other classes .....	35
Table 24 – Attributes of ESMPClasses::MarketEvaluationPoint .....	36
Table 25 – Association ends of ESMPClasses::MarketEvaluationPoint with other classes.....	36
Table 26 – Attributes of ESMPClasses::MarketObjectStatus .....	36
Table 27 – Attributes of ESMPClasses::MarketParticipant.....	37
Table 28 – Association ends of ESMPClasses::MarketParticipant with other classes .....	37
Table 29 – Attributes of ESMPClasses::MarketRole.....	38
Table 30 – Attributes of ESMPClasses::Measure_Unit .....	38
Table 31 – Attributes of ESMPClasses::MktGeneratingUnit.....	38
Table 32 – Association ends of ESMPClasses::MktGeneratingUnit with other classes .....	39
Table 33 – Attributes of ESMPClasses::MktPSRType .....	39
Table 34 – Association ends of ESMPClasses::MktPSRType with other classes .....	39
Table 35 – Attributes of ESMPClasses::Name .....	40
Table 36 – Attributes of ESMPClasses::Point .....	40
Table 37 – Association ends of ESMPClasses::Point with other classes .....	41
Table 38 – Attributes of ESMPClasses::Price .....	41
Table 39 – Attributes of ESMPClasses::Process .....	42
Table 40 – Attributes of ESMPClasses::Quantity.....	42
Table 41 – Association ends of ESMPClasses::Quantity with other classes .....	42
Table 42 – Attributes of ESMPClasses::Reason.....	43
Table 43 – Attributes of ESMPClasses::RegisteredResource .....	43
Table 44 – Association ends of ESMPClasses::RegisteredResource with other classes.....	44
Table 45 – Attributes of ESMPClasses::Series_Period.....	44

Table 46 – Association ends of ESMPClasses::Series_Period with other classes .....	45
Table 47 – Attributes of ESMPClasses::Time_Period .....	45
Table 48 – Association ends of ESMPClasses::Time_Period with other classes.....	45
Table 49 – Attributes of ESMPClasses::TimeSeries .....	46
Table 50 – Association ends of ESMPClasses::TimeSeries with other classes.....	47
Table 51 – Attributes of ESMPClasses::VoltageLevel.....	49
Table 52 – Attributes of ESMPDataTypes::Action_Status .....	50
Table 53 – Attributes of ESMPDataTypes::ElectronicAddress .....	50
Table 54 – Attributes of ESMPDataTypes::ESMP_DateTimeInterval.....	50
Table 55 – Attributes of ESMPDataTypes::StreetAddress .....	51
Table 56 – Attributes of ESMPDataTypes::StreetDetail .....	51
Table 57 – Attributes of ESMPDataTypes::TelephoneNumber .....	51
Table 58 – Attributes of ESMPDataTypes::TownDetail .....	52
Table 59 – Attributes of ESMPDataTypes::AllocationMode_String.....	52
Table 60 – Attributes of ESMPDataTypes::Amount_Decimal .....	52
Table 61 – Restrictions of attributes for ESMPDataTypes::Amount_Decimal.....	52
Table 62 – Attributes of ESMPDataTypes::AnalogID_String .....	53
Table 63 – Attributes of ESMPDataTypes::AnalogType_String .....	53
Table 64 – Attributes of ESMPDataTypes::AreaID_String.....	53
Table 65 – Restrictions of attributes for ESMPDataTypes::AreaID_String.....	53
Table 66 – Attributes of ESMPDataTypes::AttributeValue_String.....	54
Table 67 – Restrictions of attributes for ESMPDataTypes::AttributeValue_String.....	54
Table 68 – Attributes of ESMPDataTypes::ActionKind_String.....	54
Table 69 – Attributes of ESMPDataTypes::BusinessKind_String.....	54
Table 70 – Attributes of ESMPDataTypes::CapacityContractKind_String.....	55
Table 71 – Attributes of ESMPDataTypes::Category_String .....	55
Table 72 – Attributes of ESMPDataTypes::Characters10_String.....	55
Table 73 – Restrictions of attributes for ESMPDataTypes::Characters10_String.....	55
Table 74 – Attributes of ESMPDataTypes::Characters15_String.....	56
Table 75 – Restrictions of attributes for ESMPDataTypes::Characters15_String.....	56
Table 76 – Attributes of ESMPDataTypes::Characters2_String.....	56
Table 77 – Restrictions of attributes for ESMPDataTypes::Characters2_String.....	56
Table 78 – Attributes of ESMPDataTypes::Characters35_String.....	57
Table 79 – Restrictions of attributes for ESMPDataTypes::Characters35_String.....	57
Table 80 – Attributes of ESMPDataTypes::Characters70_String.....	57
Table 81 – Restrictions of attributes for ESMPDataTypes::Characters70_String.....	57
Table 82 – Attributes of ESMPDataTypes::ClassificationKind_String.....	57
Table 83 – Attributes of ESMPDataTypes::CurrencyCode_String .....	58
Table 84 – Attributes of ESMPDataTypes::CurveType_String.....	58
Table 85 – Attributes of ESMPDataTypes::DirectionKind_String.....	58
Table 86 – Attributes of ESMPDataTypes::EnergyProductKind_String.....	58
Table 87 – Attributes of ESMPDataTypes::ESMP_ActivePower.....	59
Table 88 – Restrictions of attributes for ESMPDataTypes::ESMP_ActivePower.....	59

Table 89 – Attributes of ESMPDataTypes::ESMP_DateTime .....	59
Table 90 – Restrictions of attributes for ESMPDataTypes::ESMP_DateTime .....	59
Table 91 – Attributes of ESMPDataTypes::ESMP_Float .....	60
Table 92 – Restrictions of attributes for ESMPDataTypes::ESMP_Float .....	60
Table 93 – Attributes of ESMPDataTypes::ESMP_Voltage .....	60
Table 94 – Restrictions of attributes for ESMPDataTypes::ESMP_Voltage .....	60
Table 95 – Attributes of ESMPDataTypes::ESMPBoolean_String .....	61
Table 96 – Attributes of ESMPDataTypes::ESMPVersion_String .....	61
Table 97 – Restrictions of attributes for ESMPDataTypes::ESMPVersion_String .....	61
Table 98 – Attributes of ESMPDataTypes::ID_String .....	62
Table 99 – Restrictions of attributes for ESMPDataTypes::ID_String .....	62
Table 100 – Attributes of ESMPDataTypes::MarketRoleKind_String .....	62
Table 101 – Attributes of ESMPDataTypes::MeasurementPointID_String .....	62
Table 102 – Restrictions of attributes for ESMPDataTypes::MeasurementPointID_String .....	63
Table 103 – Attributes of ESMPDataTypes::MeasurementUnitKind_String .....	63
Table 104 – Attributes of ESMPDataTypes::MessageKind_String .....	63
Table 105 – Attributes of ESMPDataTypes::ObjectAggregationKind_String .....	63
Table 106 – Attributes of ESMPDataTypes::PartyID_String .....	64
Table 107 – Restrictions of attributes for ESMPDataTypes::PartyID_String .....	64
Table 108 – Attributes of ESMPDataTypes::PayloadId_String .....	64
Table 109 – Restrictions of attributes for ESMPDataTypes::PayloadId_String .....	64
Table 110 – Attributes of ESMPDataTypes::PaymentTerms_String .....	64
Table 111 – Attributes of ESMPDataTypes::Position_Integer .....	65
Table 112 – Restrictions of attributes for ESMPDataTypes::Position_Integer .....	65
Table 113 – Attributes of ESMPDataTypes::PriceCategory_String .....	65
Table 114 – Attributes of ESMPDataTypes::PriceDirection_String .....	65
Table 115 – Attributes of ESMPDataTypes::ProcessKind_String .....	66
Table 116 – Attributes of ESMPDataTypes::PsrType_String .....	66
Table 117 – Attributes of ESMPDataTypes::Quality_String .....	66
Table 118 – Attributes of ESMPDataTypes::ReasonCode_String .....	66
Table 119 – Attributes of ESMPDataTypes::ReasonText_String .....	67
Table 120 – Restrictions of attributes for ESMPDataTypes::ReasonText_String .....	67
Table 121 – Attributes of ESMPDataTypes::ResourceID_String .....	67
Table 122 – Restrictions of attributes for ESMPDataTypes::ResourceID_String .....	67
Table 123 – Attributes of ESMPDataTypes::RightsKind_String .....	68
Table 124 – Attributes of ESMPDataTypes::Status_String .....	68
Table 125 – Attributes of ESMPDataTypes::TariffKind_String .....	68
Table 126 – Attributes of ESMPDataTypes::YMDHM_DateTime .....	68
Table 127 – Restrictions of attributes for ESMPDataTypes::YMDHM_DateTime .....	69

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

## Part 351: CIM European market model exchange profile

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62325-351 has been prepared by IEC technical committee 57: Power system management and associated information exchange.

This second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.

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

- a) Add the attribute “cancelledTS” to the class TimeSeries. The attribute is defined in IEC 62325-301 Edition 1, and was not use in the European style market profile but is now necessary for the Transparency Regulation.
- b) Add the attribute “quality” to the class “Point” and a new CIMDataType “QualityString”. The attribute is defined in IEC 62325-301 Edition 1, and was not use in the European style market profile. This attribute will enable to develop the data exchange related to the settlement business process within a synchronous power system for cross-border flows.

- c) Add an association between the class “Reason” and the class “Series\_Period”. This association enables to report errors on the “Series\_Period”.
- d) Add the class “MktGeneratingUnit” from IEC 62325-301. This class is necessary to publish information on generation units as per Transparency Regulation.
- e) Add a class “VoltageLevel” from IEC 61970-301. This class is necessary to publish information as per Transparency Regulation.
- f) Add a class “Location” from IEC 61968-11. This class is necessary to publish information as per Transparency Regulation.
- g) Class “MarketParticipant”, change the cardinality of the attribute “mRID” to [0..1] and add the attribute “name” from IEC 62325-301 as [0..1].
- h) Class “Price”, change the cardinality of attribute “amount” from [1] to [0..1] and add an association with the class “TimeSeries” as [0..\*] to [0..\*].
- i) Add a class “ConstraintDuration” from IEC 62325-301 necessary for activation constraints on the balancing market
- j) Add the constraints on datatypes.

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

CDV	Report on voting
57/1618/CDV	57/1681/RVC

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

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.

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
- amended.

**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 61968-1 specifies the basis for the semantics for message exchange.

The European style market profile is based on different parts of the CIM IEC standards and specifies the business processes and the content of the messages exchanged.

This part of IEC 62325 provides the European style market profile specification that support the European style design electricity markets. These electricity markets are based on the European regulations, and on the concepts of third party access and zonal markets. This part of IEC 62325 was originally based upon the work of the European Transmission System Operators (ETSO) and then on the work of the European Union work of Transmission System Operators (ENTSO-E) on electronic data interchange.

## FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

### Part 351: CIM European market model exchange profile

#### 1 Scope

This part of IEC 62325 is applicable to European style electricity markets.

This part of IEC 62325 specifies a UML package which provides a logical view of the functional aspects of European style market management within an electricity markets.

This package is based on the common information model (CIM). The use of the CIM goes far beyond its application in a market management system.

Due to the size of the complete CIM, the object classes contained in the CIM are grouped into a number of logical packages, each of which represents a certain part of the overall power system being modelled. Collections of these packages are progressed as separate International Standards.

From the CIM packages, regional contextual models are built to cover the market information interchange requirements for a given region, i.e. the business context. A region may be a continent where common electricity market designs are used for the exchange of information (Europe, North America, Asia, etc.). It may also be a specific country or an organization that has particular needs and wishes to benefit from the CIM.

This new edition of IEC 62325-351 contains new classes and associations required to comply with new business development for European style market, and in particular the implementation of the European regulations (No. 1227/2011 and No. 543/2013).

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 62325-450:2013, *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: Naming and design rules for 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, as well as the following apply.