

Annex A

A.1 Data Dictionary for "EnergyInfrastructureTable"

A.1.1 "Classes" package

A.1.1.1 Location of "Classes" package

The location of "Classes" package is:

— D2Payload/Common/Classes

A.1.1.2 Classes of the "Classes" package

Table A.1— Classes of the "Classes" package

| Class name | Designation | Definition | Stereotype | Abstract |
|-------------------------|--------------------------|---|-------------|----------|
| HeaderInformation | Header information | Management information relating to the data contained within a publication. | D2Class | no |
| InternationalIdentifier | International identifier | An identifier/name whose range is specific to the particular country. | D2Class | no |
| NamedArea | Named area | An abstract hook class to hook in a model for a named area. | D2Class | yes |
| PayloadPublication | Payload publication | A payload publication of traffic related information or associated management information created at a specific point in time that can be exchanged via a DATEX II interface. | D2ModelRoot | yes |
| UrlLink | URL link | Details of a Uniform Resource Locator (URL) address pointing to a resource available on the Internet from where further relevant information may be obtained. | D2Class | no |

A.1.1.3 Specializations of the "Classes" package

There are no defined specializations in the "Classes" package.

A.1.1.4 Associations of the "Classes" package

Table A.2— Associations of the "Classes" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|--------------------|--------------------|---------------------|---|--------------|--------------------------------|
| PayloadPublication | publicationCreator | Publication creator | Publication creator for the associated PayloadPublication | 1..1 | Common.InternationalIdentifier |

A.1.1.5 Attributes of the "Classes" package

Table A.3— Attributes of the "Classes" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-------------------------|------------------------|--------------------------|--|--------------|--|
| HeaderInformation | allowedDeliveryChannel | Allowed delivery channel | The allowed delivery channel. | 0..* | Common.InformationDeliveryServicesEnum |
| | confidentiality | Confidentiality | The extent to which the related information may be circulated, according to the recipient type. | 0..1 | Common.ConfidentialityValueEnum |
| | informationStatus | Information status | The status of the related information (real, test, exercise). | 1..1 | Common.InformationStatusEnum |
| InternationalIdentifier | country | Country | EN ISO 3166-1 two-character country code. | 1..1 | Common.CountryCode |
| | nationalIdentifier | National identifier | Identifier or name unique within the specified country. | 1..1 | Common.String |
| PayloadPublication | defaultLanguage | Default language | The default language used throughout the payload publication. | 1..1 | Common.Language |
| | publicationTime | Publication time | Date/time at which the payload publication was created. | 1..1 | Common.DateTime |
| UrlLink | urlLinkAddress | URL link address | A Uniform Resource Locator (URL) address pointing to a resource available on the Internet from where further relevant information may be obtained. | 1..1 | Common.Url |
| | urlLinkDescription | URL link description | Description of the relevant information available on the Internet from the URL link. | 0..1 | Common.MultilingualString |
| | urlLinkType | URL link type | Details of the type of relevant information available on the Internet from the URL link. | 0..1 | Common.UrlLinkTypeEnum |

A.1.2 "Classes" package

A.1.2.1 Location of "Classes" package

The location of "Classes" package is:

— D2Payload/PayloadPublication/EnergyInfrastructure/Classes

A.1.2.2 Classes of the "Classes" package

Table A.4— Classes of the "Classes" package

| Class name | Designation | Definition | Stereotype | Abstract |
|-----------------------------|-------------------------------|--|-------------------------|----------|
| Connector | Connector | Parameters and description of an interface that is available at the given electric charging point to connect vehicles | D2Class | no |
| ElectricChargingEquipment | Electric charging equipment | A specialisation to the SupplementalFacility class adding an ElectricChargingPoint. | D2Class | no |
| ElectricChargingPoint | Electric charging point | Technical infrastructure at a specific location that facilitates electric charging of one vehicle at a time | D2Class | no |
| ElectricEnergy | Electric energy | A specific offer of energy, optional described with its electrical mix and its rates. | D2Class | no |
| ElectricEnergySourceRatio | Electric energy source ratio | Ratio for the specified energy source | D2Class | no |
| EnergyInfrastructureSite | Energy infrastructure site | A site where vehicles can be supplied with energy, including all buildings, stations, parking spaces and other associated services. | D2Class | no |
| EnergyInfrastructureStation | Energy infrastructure station | A collection of associated refill points (which can be of different type). An example would be a fuel dispenser that serves different types of fuel. Often the vehicle space of the station is shared between the different refill points. | D2Class | no |
| EnergyInfrastructureTable | Energy infrastructure table | A table of sites where vehicles can be supplied with energy. | D2VersionedIdentifiable | no |
| EnergyRate | Energy rate | A rate dedicated for Energy. | D2Identifiable | no |
| RefillPoint | Refill point | Technical infrastructure at a specific location that facilitates an energy refilling process being connected to max. one vehicle at a time | D2Class | yes |

| Class name | Designation | Definition | Stereotype | Abstract |
|-------------|--------------|--|------------|----------|
| ServiceType | Service type | A specification of service types for the fuelling/charging and payment process | D2Class | no |

A.1.2.3 Specializations of the "Classes" package

Table A.5— Specializations of the "Classes" package

| Class name | Parent Class Name |
|-----------------------------|----------------------------------|
| ElectricChargingEquipment | Facilities.SupplementalFacility |
| ElectricChargingPoint | EnergyInfrastructure.RefillPoint |
| EnergyInfrastructureSite | Facilities.Facility |
| EnergyInfrastructureStation | Facilities.Facility |
| RefillPoint | Facilities.Facility |

A.1.2.4 Associations of the "Classes" package

Table A.6— Associations of the "Classes" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|---------------------------|---------------------------|------------------------------|--|--------------|--|
| ElectricChargingEquipment | electricChargingPoint | Electric charging point | Electric charging point for the associated ElectricChargingEquipment | 1..1 | EnergyInfrastructure.ElectricChargingPoint |
| ElectricChargingPoint | connector | Connector | Specify the connector(s). | 0..* | EnergyInfrastructure.Connector |
| | electricEnergy | Electric energy | Electric energy for the associated ElectricChargingPoint | 0..* | EnergyInfrastructure.ElectricEnergy |
| ElectricEnergy | electricEnergySourceRatio | Electric energy source ratio | Electric energy source ratio for the associated ElectricEnergy | 0..* | EnergyInfrastructure.ElectricEnergySourceRatio |

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|-----------------------------|-----------------------------|-------------------------------|--|--------------|--|
| | energyRate | Energy rate | Energy rate for the associated ElectricEnergy | 0..* | EnergyInfrastructure.EnergyRate |
| | mobilityServiceProvider | Mobility service provider | Mobility service providers offering contract-based recharging | 0..* | Facilities.Organisation |
| ElectricEnergySourceRatio | sourceRatioValue | Source ratio value | The percentage ratio value of this energy source. | 1..1 | Common.PercentageValue |
| EnergyInfrastructureSite | energyInfrastructureStation | Energy infrastructure station | Specifications of charging stations on the site. | 0..* | EnergyInfrastructure.EnergyInfrastructureStation |
| | entrance | Entrance | Possibility to specify the location of the site's entrance. | 0..* | LocationReferencing.Location |
| | exit | Exit | Possibility to specify the location of the site's exit. | 0..* | LocationReferencing.Location |
| | serviceType | Service type | Specify the type of service available at a EnergyInfrastructureSite | 0..* | EnergyInfrastructure.ServiceType |
| EnergyInfrastructureStation | electricEnergy | Electric energy | Electric energy for the associated EnergyInfrastructureStation | 0..* | EnergyInfrastructure.ElectricEnergy |
| | energyDistributor | Energy distributor | The distributor of the energy. | 0..1 | Facilities.Organisation |
| | mobilityServiceProvider | Mobility service provider | Mobility service providers offering contract-based recharging | 0..* | Facilities.Organisation |
| | refillPoint | Refill point | Specifications of refill points at a charging station. Note that the refillPointIndex must be unique within the complete site! | 0..* | EnergyInfrastructure.RefillPoint |
| | roamingPlatform | Roaming platform | Supported roaming platforms | 0..* | Facilities.Organisation |
| | serviceType | Service type | Specify the type of service available at the EnergyInfrastructureStation. | 1..* | EnergyInfrastructure.ServiceType |

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|---------------------------|--------------------------|----------------------------|---|--------------|--|
| EnergyInfrastructureTable | energyInfrastructureSite | Energy infrastructure site | Energy infrastructure site for the associated EnergyInfrastructureTable | 1..* | EnergyInfrastructureTable.EnergyInfrastructureSite |
| EnergyRate | energyPrice | Energy price | Energy price for the associated EnergyRate | 0..* | EnergyInfrastructureTable.EnergyPrice |
| | overallPeriod | Overall period | Overall period for the associated EnergyRate | 0..1 | Common.OverallPeriod |
| | paymentMethod | Payment method | Payment method for the associated EnergyRate | 0..1 | Facilities.PaymentMethod |
| ServiceType | overallPeriod | Overall period | Overall period for the associated ServiceType | 0..1 | Common.OverallPeriod |

A.1.2.5 Attributes of the "Classes" package

Table A.7— Attributes of the "Classes" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------|-------------------------|----------------------------|--|--------------|---|
| Connector | chargingMode | Charging mode | Available charging modes | 0..1 | EnergyInfrastructureTable.ChargingModeEnum |
| | connectorFormat | Connector format | Information on the cable type used. | 0..1 | EnergyInfrastructureTable.ConnectorFormatTypeEnum |
| | connectorType | Connector type | Specification of the connector, i.e. the charging interface type | 1..1 | EnergyInfrastructureTable.ConnectorTypeEnum |
| | countryOfDomesticSocket | Country of domestic socket | Countries for which the domestic socket is applicable. Only needed if explicit type of a domestic socket is not specified. | 0..* | Common.CountryCode |
| | maximumCurrent | Maximum current | Maximum current in Ampere | 0..1 | EnergyInfrastructureTable.Ampere |
| | maxPowerAtSocket | Max power at socket | Maximum power at the socket in Watts | 1..1 | EnergyInfrastructureTable.Watt |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-----------------------|--------------------------------|------------------------------------|---|--------------|---|
| | otherConnector | Other connector | Some other connector / charging interface | 0..1 | Common.String |
| | voltage | Voltage | Possible degrees of voltage. | 0..1 | EnergyInfrastructure.Volt |
| ElectricChargingPoint | availableChargingPower | Available charging power | Possible degrees of charging power in Watts. | 0..* | EnergyInfrastructure.Watt |
| | availableVoltage | Available voltage | Possible degrees of voltage. | 0..* | EnergyInfrastructure.Volt |
| | evseId | Evse id | Electric Vehicle Supply Equipment Identifier according to ISO 15118. | 0..1 | Common.String |
| | numberOfConnectors | Number of connectors | Information on the number of connectors at this charging point. | 0..1 | Common.NonNegativeInteger |
| | otherSmartRechargingServices | Other smart recharging services | Other smart recharging services that are available. | 0..* | Common.MultilingualString |
| | smartRechargingServices | Smart recharging services | Smart recharging services that are available. | 0..* | EnergyInfrastructure.SmartRechargingServicesEnum |
| | usageType | Usage type | Usage type of the electric charging point. | 0..* | EnergyInfrastructure.ChargingPointUsageTypeEnum |
| | vehicleToGridCommunicationType | Vehicle to grid communication type | Type of vehicle to grid communication used. | 0..* | EnergyInfrastructure.VehicleToGridCommunicationTypeEnum |
| ElectricEnergy | carbonDioxideImpact | Carbon dioxide impact | Exhausted carbon dioxide in grams per kilowatt hour | 0..1 | Common.Float |
| | energyProductName | Energy product name | A name for this energy product | 0..1 | Common.MultilingualString |
| | energyRateByReference | Energy rate by reference | Specifies one or more rates for this type of electric energy by reference to existing EnergyRate specification. | 0..* | Common.Reference (e.g.:EnergyRate) |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-----------------------------|--|---|--|--------------|--|
| | isGreenEnergy | Is green energy | True if 100% from regenerative sources (CO2 and nuclear waste is zero) | 0..1 | Common.Boolean |
| | nuclearWasteImpact | Nuclear waste impact | Produced nuclear waste in grams per kilowatt hour | 0..1 | Common.Float |
| ElectricEnergySourceRatio | energySource | Energy source | An electric energy source | 1..1 | EnergyInfrastructure.ElectricEnergySourceTypeEnum |
| | otherEnergySource | Other energy source | Some other energy source | 0..1 | Common.String |
| EnergyInfrastructureSite | brand | Brand | The brand of the site. | 0..1 | Common.MultilingualString |
| | exclusiveUsers | Exclusive users | Limitation to a set of users (exclusive) | 0..* | Facilities.UserTypeEnum |
| | preferredUsers | Preferred users | Users that are preferred at this site (but not exclusive) | 0..* | Facilities.UserTypeEnum |
| | typeOfSite | Type of site | Specifies the type of the site. | 0..1 | EnergyInfrastructure.EnergyInfrastructureSiteTypeEnum |
| EnergyInfrastructureStation | authenticationAndIdentificationMethods | Authentication and identification methods | Information on what methods of identification and/or authentication are accepted | 1..* | EnergyInfrastructure.AuthenticationAndIdentificationEnum |
| | numberOfRefillPoints | Number of refill points | Information on the number of refill points at the station. | 1..1 | Common.NonNegativeInteger |
| | refillPointByReference | Refill point by reference | Refill points can be attached to an EnergyInfrastructureStation instance either by directly associating with a RefillPoint instance or by using this attribute to refer to a RefillPoint instance that has already been defined. | 0..* | Common.VersionedReference |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------------------|---------------------------|------------------------------|--|--------------|-------------------------------------|
| | stationIdBNetzA | Station id b netz a | Ladeeinrichtungs-ID der Bundesnetzagentur (siehe https://www.bundesnetzagentur.de/DE/Fachthemen/ElektrizitaetundGas/E-Mobilitaet/AnzeigeNEU/start.html) | 1..1 | Common.String |
| | totalMaximumPower | Total maximum power | The total maximum power of the station. | 1..1 | EnergyInfrastructure.Watt |
| | userInterfaceLanguage | User interface language | Languages, in which a user interface is available, if any | 1..* | Common.Language |
| EnergyInfrastructureTable | tableName | Table name | The name of the Energy Infrastructure Table. | 0..1 | Common.String |
| EnergyRate | additionalInformation | Additional information | Free text field for additional information regarding the energy rates. | 0..1 | Common.MultilingualString |
| | applicableCurrency | Applicable currency | A general information on the applicable monetary currency. | 1..* | Facilities.CurrencyCode |
| | combinationWithParkingFee | Combination with parking fee | Indicates whether vehicle charging and parking are included in one combined fee | 0..1 | Common.Boolean |
| | discount | Discount | Discount indicated in % | 0..1 | Common.Percentage |
| | lastUpdated | Last updated | The date/time at which this information was last updated. | 1..1 | Common.DateTime |
| | maximumDeliveryFee | Maximum delivery fee | A maximum delivery fee. | 0..1 | Facilities.AmountOfMoney |
| | minimumDeliveryFee | Minimum delivery fee | A minimum delivery fee. | 0..1 | Facilities.AmountOfMoney |
| | rateName | Rate name | A name for this rate, for example the name of the specific energy contract. | 0..1 | Common.MultilingualString |
| | ratePolicy | Rate policy | Indication if contract based or ad hoc price | 1..1 | EnergyInfrastructure.RatePolicyEnum |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-------------|-----------------------|-------------------------|--|--------------|---------------------------------------|
| RefillPoint | deliveryUnit | Delivery unit | Measurement unit that is used for delivery and accounting the energy provided at this refill point | 1..1 | EnergyInfrastructure.DeliveryUnitEnum |
| | maximumDeliveryAmount | Maximum delivery amount | Maximum delivery amount | 0..1 | EnergyInfrastructure.Units |
| | minimumDeliveryAmount | Minimum delivery amount | Minimum delivery amount | 0..1 | EnergyInfrastructure.Units |
| | modelType | Model type | A description of the refill point model type. | 0..1 | Common.MultilingualString |
| | reservation | Reservation | Information regarding options for reservation of a time frame. | 0..1 | Facilities.ReservationTypeEnum |
| ServiceType | serviceType | Service type | Information on different service types for the fuelling/charging and payment process. | 1..1 | EnergyInfrastructure.ServiceTypeEnum |

A.1.3 "DataValue" package

A.1.3.1 Location of "DataValue" package

The location of "DataValue" package is:

— D2Payload/Common/Classes/DataValue

A.1.3.2 Classes of the "DataValue" package

Table A.8— Classes of the "DataValue" package

| Class name | Designation | Definition | Stereotype | Abstract |
|-----------------|------------------|--|------------|----------|
| DataValue | Data value | A data value of something that can be measured or calculated. Any provided meta-data values specified in the attributes override any specified generic characteristics such as defined for a specific measurement in the MeasurementSiteTable. | D2Class | yes |
| PercentageValue | Percentage value | A measured or calculated value expressed as a percentage (amount per hundred). | D2Class | no |

A.1.3.3 Specializations of the "DataValue" package

Table A.9— Specializations of the "DataValue" package

| Class name | Parent Class Name |
|-----------------|-------------------|
| PercentageValue | Common.DataValue |

A.1.3.4 Associations of the "DataValue" package

There are no defined associations in the "DataValue" package.

A.1.3.5 Attributes of the "DataValue" package**Table A.10— Attributes of the "DataValue" package**

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-----------------|----------------|-------------|---|--------------|--------------------|
| PercentageValue | percentage | Percentage | A value expressed as a percentage (amount per hundred). | 1..1 | Common.Percent age |

A.1.4 "Dimension" package**A.1.4.1 Location of "Dimension" package**

The location of "Dimension" package is:

— D2Payload/PayloadPublication/Facilities/Dimension

A.1.4.2 Classes of the "Dimension" package**Table A.11— Classes of the "Dimension" package**

| Class name | Designation | Definition | Stereotype | Abstract |
|------------|-------------|---|------------|----------|
| Dimension | Dimension | A component that provides dimension information. Especially for multi-storey buildings, the usable area might be larger than the product from its length and width. | D2Class | no |

A.1.4.3 Specializations of the "Dimension" package

There are no defined specializations in the "Dimension" package.

A.1.4.4 Associations of the "Dimension" package

There are no defined associations in the "Dimension" package.

A.1.4.5 Attributes of the "Dimension" package

Table A.12— Attributes of the "Dimension" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------|----------------|-------------|--|--------------|-------------------------|
| Dimension | height | Height | Height. | 0..1 | Common.MetresAsFloat |
| | length | Length | Length. | 0..1 | Common.MetresAsFloat |
| | usableArea | Usable area | The area measured in square metres, that is available for some specific purpose. | 0..1 | Facilities.SquareMetres |
| | width | Width | Width. | 0..1 | Common.MetresAsFloat |

A.1.5 "EnergyInfrastructureTablePublication" package

A.1.5.1 Location of "EnergyInfrastructureTablePublication" package

The location of "EnergyInfrastructureTablePublication" package is:

— D2Payload/PayloadPublication/EnergyInfrastructure/EnergyInfrastructureTablePublication

A.1.5.2 Classes of the "EnergyInfrastructureTablePublication" package

Table A.13— Classes of the "EnergyInfrastructureTablePublication" package

| Class name | Designation | Definition | Stereotype | Abstract |
|--------------------------------------|---|--|------------|----------|
| EnergyInfrastructureTablePublication | Energy infrastructure table publication | A publication of static information on the infrastructure for vehicle energy supply. | D2Class | no |
| EnergyPrice | Energy price | A price definition for energy refueling | D2Class | no |

A.1.5.3 Specializations of the "EnergyInfrastructureTablePublication" package

Table A.14— Specializations of the "EnergyInfrastructureTablePublication" package

| Class name | Parent Class Name |
|--------------------------------------|---------------------------|
| EnergyInfrastructureTablePublication | Common.PayloadPublication |

A.1.5.4 Associations of the "EnergyInfrastructureTablePublication" package**Table A.15— Associations of the "EnergyInfrastructureTablePublication" package**

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|--------------------------------------|---------------------------|-----------------------------|---|--------------|--------------------------------------|
| EnergyInfrastructureTablePublication | energyInfrastructureTable | Energy infrastructure table | Energy infrastructure table for the associated EnergyInfrastructureTablePublication | 1..* | EnergyInfrastructureTablePublication |
| | headerInformation | Header information | Header information for the associated EnergyInfrastructureTablePublication | 0..1 | Common.HeaderInformation |
| EnergyPrice | overallPeriod | Overall period | Overall period for the associated EnergyPrice | 0..1 | Common.OverallPeriod |

A.1.5.5 Attributes of the "EnergyInfrastructureTablePublication" package**Table A.16— Attributes of the "EnergyInfrastructureTablePublication" package**

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-------------|-----------------------|------------------------|---|--------------|--|
| EnergyPrice | additionalInformation | Additional information | Free text field for additional information regarding the price. | 0..1 | Common.MultilingualString |
| | priceType | Price type | The type of price for the energy supply | 1..1 | EnergyInfrastructureTablePublication.PriceTypeEnum |
| | taxIncluded | Tax included | [TRUE] Indication that tax to be applied is included [FALSE] indicates that the tax is added additionally to the total. | 0..1 | Common.Boolean |
| | taxRate | Tax rate | The percentage rate of tax to be applied. | 0..1 | Common.Percentage |
| | value | Value | The price for the energy according to the price type | 1..1 | Facilities.AmountOfMoney |

A.1.6 "Facility" package

A.1.6.1 Location of "Facility" package

The location of "Facility" package is:

— D2Payload/PayloadPublication/Facilities/Facility

A.1.6.2 Classes of the "Facility" package

Table A.17— Classes of the "Facility" package

| Class name | Designation | Definition | Stereotype | Abstract |
|----------------|-----------------|---|-------------------------|----------|
| Amenities | Amenities | Amenities such as the facility (or a facility in the surrounding) being roofed or illuminated. | D2Class | no |
| Facility | Facility | Provides information about a facility, which may represent any kind of site, building, or structure, and may be a composite facility that includes supplemental facilities. | D2Class | yes |
| FacilityObject | Facility object | Provides information about a facility object, which may represent any kind of site, building, or structure, including those which supplement a main facility. | D2VersionedIdentifiable | yes |
| Image | Image | An image, with encoded data and identification of format | D2Class | no |

A.1.6.3 Specializations of the "Facility" package

Table A.18— Specializations of the "Facility" package

| Class name | Parent Class Name |
|------------|---------------------------|
| Facility | Facilities.FacilityObject |

A.1.6.4 Associations of the "Facility" package

Table A.19— Associations of the "Facility" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|------------|------------------------|--------------------------|--|--------------|---|
| Facility | dedicatedParkingSpaces | Dedicated parking spaces | Dedicated parking spaces for the associated Facility | 0..* | EnergyInfrastructure.DedicatedParkingSpaces |

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|----------------|-----------------------|-------------------------|--|--------------|---------------------------------------|
| | supplementalFacility | Supplemental facility | Supplemental facility for the associated Facility | 0..* | Facilities.SupplementalFacility |
| FacilityObject | amenities | Amenities | Amenities for the associated FacilityObject | 0..1 | Facilities.Amenities |
| | applicableForVehicles | Applicable for vehicles | A set of vehicles, for which this facility is appropriate, specified by its characteristics. | 0..* | Common.VehicleCharacteristics |
| | dimension | Dimension | Dimension for the associated FacilityObject | 0..1 | Facilities.Dimension |
| | helpdesk | Helpdesk | A helpdesk service for the facility. | 0..1 | Facilities.Organisation |
| | informationWebsite | Information website | URL of some internet site with additional information. | 0..* | Common.UrlLink |
| | locationReference | Location reference | Location reference for the associated FacilityObject | 0..1 | LocationReferencing.LocationReference |
| | operatingHours | Operating hours | Operating hours for the associated FacilityObject | 0..1 | Facilities.OperatingHours |
| | operator | Operator | The operator of this facility. | 0..1 | Facilities.Organisation |
| | owner | Owner | The owner of this facility. | 0..1 | Facilities.Organisation |
| | photo | Photo | A binary photo of the facility or its surrounding. | 0..* | Facilities.Image |
| | photoUrl | Photo URL | Specifies a URL at which a photo of the facility or its surrounding can be found. | 0..* | Common.UrlLink |

A.1.6.5 Attributes of the "Facility" package

Table A.20— Attributes of the "Facility" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------|----------------|-------------|--|--------------|----------------|
| Amenities | illuminated | Illuminated | The facility is illuminated during darkness. | 0..1 | Common.Boolean |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|----------------|------------------------------------|---------------------------------------|--|--------------|------------------------------|
| | illuminatedRechargingParkingNearby | Illuminated recharging parking nearby | There is a illuminated recharging or refuelling parking location in the immediate surrounding of the facility. | 0..1 | Common.Boolean |
| | roofed | Roofed | The facility has got a roof. | 0..1 | Common.Boolean |
| | roofedRechargingParkingNearby | Roofed recharging parking nearby | There is a roofed recharging or refuelling parking location in the immediate surrounding of the facility. | 0..1 | Common.Boolean |
| FacilityObject | accessibility | Accessibility | Information on accessibility and facilities for persons with disabilities. | 0..* | Facilities.AccessibilityEnum |
| | additionalInformation | Additional information | Some additional information. | 0..* | Common.MultilingualString |
| | alias | Alias | An alternative name for this facility. | 0..* | Common.MultilingualString |
| | description | Description | A description for this facility. | 0..1 | Common.MultilingualString |
| | externalIdentifier | External identifier | An external identifier for this facility. | 0..1 | Common.String |
| | lastUpdated | Last updated | Information on the time when the information has been updated the last time | 0..1 | Common.DateTIme |
| | name | Name | The name of this facility. | 0..1 | Common.MultilingualString |
| Image | imageData | Image data | Encoded image data | 1..1 | Common.Base64Binary |
| | imageFormat | Image format | Identifies the image format of the associated image data | 1..1 | Facilities.ImageFormatEnum |

A.1.7 "Final" package

A.1.7.1 Location of "Final" package

The location of "Final" package is:

— D2Payload/Extension/LocationExtension/Final

A.1.7.2 Classes of the "Final" package

Table A.21— Classes of the "Final" package

| Class name | Designation | Definition | Stereotype | Abstract |
|-------------------|---------------------|--|------------|----------|
| Address | Address | A street oriented addressing structure supporting delivery | D2Class | no |
| AddressLine | Address line | A class defining information concerning one line of a postal address. | D2Class | no |
| FacilityLocation | Facility location | A location for which a time zone and an address can be specified | D2Class | no |
| NamedAreaExtended | Named area extended | A named area with an additional code (that is not an ISO subdivision code) | D2Class | no |

A.1.7.3 Specializations of the "Final" package

Table A.22— Specializations of the "Final" package

| Class name | Parent Class Name |
|-------------------|-------------------------------|
| NamedAreaExtended | LocationReferencing.NamedArea |

A.1.7.4 Associations of the "Final" package

Table A.23— Associations of the "Final" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|------------------|-----------------|--------------|---|--------------|-------------------------------|
| Address | addressLine | Address line | Address line for the associated Address | 0..* | LocationExtension.AddressLine |
| FacilityLocation | address | Address | An address specification following ISO 19160-4. | 0..1 | LocationExtension.Address |
| | nutsArea | Nuts area | Nuts area for the associated FacilityLocation | 0..* | LocationExtension.NutsArea |

A.1.7.5 Attributes of the "Final" package

Table A.24— Attributes of the "Final" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------|----------------|-------------|----------------------------------|--------------|---------------------------|
| Address | city | City | Postal city name of the address. | 0..1 | Common.MultilingualString |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-------------------|----------------|-----------------|--|--------------|---------------------------------------|
| | countryCode | Country code | EN ISO 3166-1 two-character country code. | 0..1 | Common.Country Code |
| | postcode | Postcode | Postcode or postal code for the address. | 0..1 | Common.String |
| AddressLine | order | Order | The sequence order that the address line element should be displayed in | 1..1 | Common.NonNegativeInteger |
| | text | Text | Free-text description for the address line element | 1..1 | Common.MultilingualString |
| | type | Type | The type for the address line element | 1..1 | LocationExtension.AddressLineTypeEnum |
| FacilityLocation | timeZone | Time zone | The time zone the facility is located in. | 0..1 | Facilities.TimeZone |
| NamedAreaExtended | namedAreaCode | Named area code | Code for the named area, such a postal code or other code assigned for administration. | 1..1 | LocationExtension.NamedAreaCode |

A.1.8 "Final" package

A.1.8.1 Location of "Final" package

The location of "Final" package is:

— D2Payload/Extension/CommonExtension/Final

A.1.8.2 Classes of the "Final" package

Table A.25— Classes of the "Final" package

| Class name | Designation | Definition | Stereotype | Abstract |
|--------------------|---------------------|--|------------|----------|
| EmissionsExtension | Emissions extension | An extension for the Emissions class to provide a comparison operator. | D2Class | no |

A.1.8.3 Specializations of the "Final" package

Table A.26— Specializations of the "Final" package

| Class name | Parent Class Name |
|--------------------|-------------------|
| EmissionsExtension | Common.Emissions |

A.1.8.4 Associations of the "Final" package

There are no defined associations in the "Final" package.

A.1.8.5 Attributes of the "Final" package**Table A.27— Attributes of the "Final" package**

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|--------------------|--------------------|---------------------|--|--------------|-------------------------------|
| EmissionsExtension | comparisonOperator | Comparison operator | A comparison operator for the applicable emission classifications in correspondence to the specified value. The comparison applies to the Roman- or Arabic-numbered portion (e.g. euro6 > euro5b), but not crosswise (e.g. euro6 cannot be compared to euroV). | 1..1 | Common.ComparisonOperatorEnum |

A.1.9 "Gml" package**A.1.9.1 Location of "Gml" package**

The location of "Gml" package is:

— D2Payload/LocationReferencing/LocationReference/Gml

A.1.9.2 Classes of the "Gml" package**Table A.28— Classes of the "Gml" package**

| Class name | Designation | Definition | Stereotype | Abstract |
|---------------|-----------------|--|------------|----------|
| GmlLinearRing | Gml linear ring | Closed line string not self-intersecting (i.e. having as last point the first point) | D2Class | no |
| GmlLineString | Gml line string | Line string based on GML (EN ISO 19136) definition: a curve defined by a series of two or more coordinate tuples. Unlike GML may be self-intersecting. If srsName attribute is not present, posList is assumed to use "ETRS89-LatLonh" reference system. | D2Class | no |

| Class name | Designation | Definition | Stereotype | Abstract |
|-----------------|-------------------|---|------------|----------|
| GmlMultiPolygon | Gml multi polygon | An area defined by a set of polygons according to GML (EN ISO 19136). | D2Class | no |
| GmlPolygon | Gml polygon | Planar surface defined by 1 exterior boundary and 0 or more interior boundaries | D2Class | no |

A.1.9.3 Specializations of the "Gml" package

Table A.29— Specializations of the "Gml" package

| Class name | Parent Class Name |
|---------------|-----------------------------------|
| GmlLinearRing | LocationReferencing.GmlLineString |

A.1.9.4 Associations of the "Gml" package

Table A.30— Associations of the "Gml" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|-----------------|-----------------|-------------|---|--------------|-----------------------------------|
| GmlMultiPolygon | gmlPolygon | Gml polygon | Gml polygon for the associated GmlMultiPolygon | 1..* | LocationReferencing.GmlPolygon |
| GmlPolygon | exterior | Exterior | A boundary of a polygonal surface consisting of a ring i.e. in the normal 2D case, a closed polygonal line distinguished as exterior. Such a polygonal line has at least 4 pairs of coordinates | 1..1 | LocationReferencing.GmlLinearRing |
| | interior | Interior | A boundary of internal patches of a polygonal surface consisting of a ring feature | 0..* | LocationReferencing.GmlLinearRing |

A.1.9.5 Attributes of the "Gml" package

Table A.31— Attributes of the "Gml" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------|----------------|-------------|--|--------------|--------------------------------|
| GmlLineString | posList | Pos list | List of coordinate tuples define the geometry of this GmlLineString. There must be at least 2 tuples of coordinates. Form depends on coordinate reference system; typical form is space-separated pairs of latitude and longitude. | 1..1 | LocationReferencing.GmlPosList |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-----------------|----------------|---------------|--|--------------|---------------------------|
| | srsDimension | Srs dimension | Provides the size of the tuple of coordinates of each point. This number is 2 or 3. By default when omitted the dimension shall be interpreted as 2. | 0..1 | Common.NonNegativeInteger |
| | srsName | Srs name | Specifies the Coordinate Reference System (CRS) used to interpret the coordinates in this GmlLineString | 0..1 | Common.String |
| GmlMultiPolygon | gmlAreaName | Gml area name | Name of the multi-polygon area | 0..1 | Common.MultilingualString |

A.1.10 "LocationExtension" package

A.1.10.1 Location of "LocationExtension" package

The location of "LocationExtension" package is:

— D2Payload/Extension/LocationExtension

A.1.10.2 Classes of the "LocationExtension" package

Table A.32— Classes of the "LocationExtension" package

| Class name | Designation | Definition | Stereotype | Abstract |
|------------|-------------|--|------------|----------|
| NutsArea | Nuts area | The NUTS-Code representation for the area (Nomenclature of territorial units for statistics) or its LAU code representation (Local Administrative Unit). | D2Class | no |

A.1.10.3 Specializations of the "LocationExtension" package

There are no defined specializations in the "LocationExtension" package.

A.1.10.4 Associations of the "LocationExtension" package

There are no defined associations in the "LocationExtension" package.

A.1.10.5 Attributes of the "LocationExtension" package

Table A.33— Attributes of the "LocationExtension" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------|----------------|----------------|--|--------------|--------------------------------------|
| NutsArea | nutsCode | Nuts code | The NUTS code for the named area. | 1..1 | LocationReferencing.NutsCode |
| | nutsCodeType | Nuts code type | The NUTS code type for the named area. | 1..1 | LocationReferencing.NutsCodeTypeEnum |

A.1.11 "LocationReference" package**A.1.11.1 Location of "LocationReference" package**

The location of "LocationReference" package is:

— D2Payload/LocationReferencing/LocationReference

A.1.11.2 Classes of the "LocationReference" package**Table A.34— Classes of the "LocationReference" package**

| Class name | Designation | Definition | Stereotype | Abstract |
|---------------------|------------------------|---|------------|----------|
| AreaLocation | Area location | Location representing a geographic or geometric defined area which may be qualified by height information to provide additional geospatial discrimination (e.g. for snow in an area but only above a certain altitude). | D2Class | no |
| ExternalReferencing | External referencing | A location defined by reference to an external/other referencing system. | D2Class | no |
| Location | Location | The specification of a location either on a network (as a point or a linear location) or as an area. This may be provided in one or more referencing systems. | D2Class | yes |
| LocationByReference | Location by reference | A location defined by reference to a predefined location. | D2Class | no |
| LocationGroup | Location group | Multiple (i.e. more than one) physically separate locations which have no specific order. | D2Class | yes |
| LocationGroupByList | Location group by list | A group of (i.e. more than one) physically separate locations which have no specific order and where each location is explicitly listed. | D2Class | no |

| Class name | Designation | Definition | Stereotype | Abstract |
|--------------------------|-----------------------------|--|------------|----------|
| LocationGroupByReference | Location group by reference | A group of (i.e. more than one) physically separate locations which have no specific order that are defined by reference to a predefined non ordered location group. | D2Class | no |
| LocationReference | Location reference | Represents one or more physically separate locations. Multiple locations may be related, as in an itinerary or route, or may be unrelated. One LocationReference should not use multiple Location objects to represent the same physical location. | D2Class | yes |
| NetworkLocation | Network location | The specification of a location on a network (as a point or a linear location). | D2Class | yes |
| PointLocation | Point location | Location representing a single geospatial point. | D2Class | no |

A.1.11.3 Specializations of the "LocationReference" package

Table A.35— Specializations of the "LocationReference" package

| Class name | Parent Class Name |
|--------------------------|---------------------------------------|
| AreaLocation | LocationReferencing.Location |
| Location | LocationReferencing.LocationReference |
| LocationByReference | LocationReferencing.Location |
| LocationGroup | LocationReferencing.LocationReference |
| LocationGroupByList | LocationReferencing.LocationGroup |
| LocationGroupByReference | LocationReferencing.LocationGroup |
| NetworkLocation | LocationReferencing.Location |
| PointLocation | LocationReferencing.NetworkLocation |

A.1.11.4 Associations of the "LocationReference" package

Table A.36— Associations of the "LocationReference" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|---------------------|------------------------------------|--------------------------------------|--|--------------|--|
| AreaLocation | gmlMultiPolygon | Gml multi polygon | Gml multi polygon for the associated AreaLocation | 0..1 | LocationReferencing.GmlMultiPolygon |
| | namedArea | Named area | Named area for the associated AreaLocation | 0..1 | LocationReferencing.NamedArea |
| | openlrAreaLocationReference | Openlr area location reference | Openlr area location reference for the associated AreaLocation | 0..1 | LocationReferencing.OpenlrAreaLocationReference |
| Location | coordinatesForDisplay | Coordinates for display | Coordinates that may be used by clients for visual display on user interfaces. | 0..1 | LocationReferencing.PointCoordinates |
| | externalReferencing | External referencing | External referencing for the associated Location | 0..* | LocationReferencing.ExternalReferencing |
| | facilityLocation | Facility location | Facility location for the associated Location | 0..1 | LocationExtension.FacilityLocation |
| LocationGroupByList | locationContainedInGroup | Location contained in group | A location contained in a non-ordered group of locations. | 2..* | LocationReferencing.Location |
| NetworkLocation | supplementaryPositionalDescription | Supplementary positional description | Supplementary positional description for the associated NetworkLocation | 0..1 | LocationReferencing.SupplementaryPositionalDescription |
| PointLocation | openlrPointLocationReference | Openlr point location reference | Openlr point location reference for the associated PointLocation | 0..1 | LocationReferencing.OpenlrPointLocationReference |
| | pointByCoordinates | Point by coordinates | Point by coordinates for the associated PointLocation | 0..1 | LocationReferencing.PointByCoordinates |

A.1.11.5 Attributes of the "LocationReference" package

Table A.37— Attributes of the "LocationReference" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|--------------------------|----------------------------------|-------------------------------------|--|--------------|---|
| AreaLocation | areasAtWhichApplicable | Areas at which applicable | Places, in generic terms, at which the corresponding information applies. | 0..1 | LocationReferencing.AreaPlacesEnum |
| ExternalReferencing | externalLocationCode | External location code | A code in the external referencing system which defines the location. | 1..1 | Common.String |
| | externalReferencingSystem | External referencing system | Identification of the external/other location referencing system. | 1..1 | Common.String |
| LocationByReference | predefinedLocationReference | Predefined location reference | A reference to a versioned predefined location. | 1..1 | Common.VersionedReference (loc:PredefinedLocation) |
| LocationGroupByReference | predefinedLocationGroupReference | Predefined location group reference | A reference to a versioned instance of a predefined location group as specified in a PredefinedLocationsPublication. | 1..1 | Common.VersionedReference (loc:PredefinedLocationGroup) |

A.1.12 "NamedArea" package**A.1.12.1 Location of "NamedArea" package**

The location of "NamedArea" package is:

— D2Payload/LocationReferencing/LocationReference/NamedArea

A.1.12.2 Classes of the "NamedArea" package**Table A.38— Classes of the "NamedArea" package**

| Class name | Designation | Definition | Stereotype | Abstract |
|--------------|----------------|---|------------|----------|
| IsoNamedArea | Iso named area | The ISO 3166-2 representation for the named area. | D2Class | no |

| Class name | Designation | Definition | Stereotype | Abstract |
|---------------|-----------------|---|------------|----------|
| NamedArea | Named area | An area defined by a name and/or in terms of known boundaries, such as country or county boundaries or allocated control area of particular authority. The attributes do not form a union; instead, the smallest intersection forms the resulting area. | D2Class | no |
| NutsNamedArea | Nuts named area | The NUTS-Code representation for the named area (Nomenclature of territorial units for statistics) or its LAU code representation (Local Administrative Unit). | D2Class | no |

A.1.12.3 Specializations of the "NamedArea" package

Table A.39— Specializations of the "NamedArea" package

| Class name | Parent Class Name |
|---------------|-------------------------------|
| IsoNamedArea | LocationReferencing.NamedArea |
| NamedArea | Common.NamedArea |
| NutsNamedArea | LocationReferencing.NamedArea |

A.1.12.4 Associations of the "NamedArea" package

There are no defined associations in the "NamedArea" package.

A.1.12.5 Attributes of the "NamedArea" package

Table A.40— Attributes of the "NamedArea" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|--------------|-----------------|------------------|--|--------------|---|
| IsoNamedArea | subdivisionCode | Subdivision code | The second part of an ISO 3166-2 subdivision code for the named area, which may be used along with the country attribute from the parent class to make a full ISO 3166-2 subdivision code. | 1..1 | LocationReferencing.SubdivisionCode |
| | subdivisionType | Subdivision type | The ISO 3166-2 subdivison type for the named area. | 1..1 | LocationReferencing.SubdivisionTypeEnum |
| NamedArea | areaName | Area name | The name of the area. | 1..1 | Common.MultilingualString |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------|----------------|-----------------|---|--------------|---------------------------------------|
| | country | Country | EN ISO 3166-1 two-character country code. | 0..1 | Common.Country Code |
| | namedAreaType | Named area type | The type of the area. | 0..1 | LocationReferencing.NamedAreaTypeEnum |
| NutsNamedArea | nutsCode | Nuts code | The NUTS code for the named area. | 1..1 | LocationReferencing.NutsCode |
| | nutsCodeType | Nuts code type | The NUTS code type for the named area. | 1..1 | LocationReferencing.NutsCodeTypeEnum |

A.1.13 "NewElements" package

A.1.13.1 Location of "NewElements" package

The location of "NewElements" package is:

— D2Payload/PayloadPublication/EnergyInfrastructure/NewElements

A.1.13.2 Classes of the "NewElements" package

Table A.41— Classes of the "NewElements" package

| Class name | Designation | Definition | Stereotype | Abstract |
|------------------------|--------------------------|---|------------|----------|
| DedicatedParkingSpaces | Dedicated parking spaces | Dedicated parking spaces directly belonging to a facility (which is usually not a parking site itself). | D2Class | no |

A.1.13.3 Specializations of the "NewElements" package

Table A.42— Specializations of the "NewElements" package

| Class name | Parent Class Name |
|------------------------|---------------------------|
| DedicatedParkingSpaces | Facilities.FacilityObject |

A.1.13.4 Associations of the "NewElements" package

There are no defined associations in the "NewElements" package.

A.1.13.5 Attributes of the "NewElements" package

Table A.43— Attributes of the "NewElements" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------------------|----------------|------------------|---|--------------|---------------------------|
| DedicatedParkingSpaces | numberOfSpaces | Number of spaces | The number of parking spaces. | 1..1 | Common.NonNegativeInteger |
| | userSpecific | User specific | The indicated parking spaces are specifically for the given set of users. | 0..* | Facilities.UserTypeEnum |

A.1.14 "OpenLR" package

A.1.14.1 Location of "OpenLR" package

The location of "OpenLR" package is:

— D2Payload/LocationReferencing/LocationReference/OpenLR

A.1.14.2 Classes of the "OpenLR" package

Table A.44— Classes of the "OpenLR" package

| Class name | Designation | Definition | Stereotype | Abstract |
|--------------------------|-----------------------------|---|------------|----------|
| OpenlrBaseReferencePoint | Openlr base reference point | Base class used to hold data about a reference point. | D2Class | yes |
| OpenlrLineAttributes | Openlr line attributes | Line attributes are part of a location reference point and consists of functional road class (FRC), form of way (FOW) and bearing (BEAR) data. | D2Class | no |
| OpenlrOffsets | Openlr offsets | Offsets are used to locate the start and end of a location more precisely than bounding to the nodes in a network. | D2Class | no |
| OpenlrPathAttributes | Openlr path attributes | Properties of the path from the associated location reference point to the next location reference point, which are specified to assist correct identification of the point in an external map data source. | D2Class | no |

A.1.14.3 Specializations of the "OpenLR" package

There are no defined specializations in the "OpenLR" package.

A.1.14.4 Associations of the "OpenLR" package

Table A.45— Associations of the "OpenLR" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|--------------------------|----------------------|------------------------|--|--------------|--|
| OpenlrBaseReferencePoint | openlrCoordinates | Openlr coordinates | Provides coordinates for the base point of the OpenLR path | 1..1 | LocationReferencing.PointCoordinates |
| | openlrLineAttributes | Openlr line attributes | Properties of the line towards the topologically adjacent OpenLR location referencing point, on the shortest path to that point. | 1..1 | LocationReferencing.OpenlrLineAttributes |

A.1.14.5 Attributes of the "OpenLR" package

Table A.46— Attributes of the "OpenLR" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|----------------------|---------------------------|------------------------------|---|--------------|---|
| OpenlrLineAttributes | openlrBearing | Openlr bearing | defines the bearing field as an integer value between 0 and 359 | 1..1 | Common.AngleInDegrees |
| | openlrFormOfWay | Openlr form of way | A classification based on the importance of the role that the Road Element (or Ferry Connection) performs in the connectivity of the total road network. (EN ISO 14825 § 7.2.88) | 1..1 | LocationReferencing.OpenlrFormOfWayEnum |
| | openlrFunctionalRoadClass | Openlr functional road class | Certain aspects of the physical form that a Road Element takes. It is based on a number of certain physical and traffic properties. (EN ISO 14825 § 7.2.85) | 1..1 | LocationReferencing.OpenlrFunctionalRoadClassEnum |
| OpenlrOffsets | openlrNegativeOffset | Openlr negative offset | The negative offset along the line of the location measured along the line reference path between the end point of the location reference and the ending node of the line reference path. | 0..1 | Common.MetresAsNonNegativeInteger |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|----------------------|------------------------------|-------------------------------------|---|--------------|---|
| | openlrPositiveOffset | Openlr positive offset | The positive offset along the line of the location measured along the line reference path between the start point of the location reference and the starting node of the line reference path. | 0..1 | Common.MetresAsNonNegativeInteger |
| OpenlrPathAttributes | openlrDistanceToNextLRPoint | Openlr distance to next l r point | The DNP attribute measures the distance in meters between two consecutive location reference-points along the location reference path described in the corresponding enumeration | 1..1 | Common.NonNegativeInteger |
| | openlrLowestFrcToNextLRPoint | Openlr lowest frc to next l r point | The lowest FRC to the next point indicates the lowest functional road class used in the location reference path to the next LR-point. | 1..1 | LocationReferencing.OpenlrFunctionalRoadClassEnum |

A.1.15 "OpenlrArea" package

A.1.15.1 Location of "OpenlrArea" package

The location of "OpenlrArea" package is:

— D2Payload/LocationReferencing/LocationReference/OpenLR/OpenlrArea

A.1.15.2 Classes of the "OpenlrArea" package

Table A.47— Classes of the "OpenlrArea" package

| Class name | Designation | Definition | Stereotype | Abstract |
|-------------------------------|----------------------------------|---|------------|----------|
| OpenlrAreaLocationReference | Openlr area location reference | A two-dimensional part of the surface of the earth which is bounded by a closed curve. An area location may cover parts of the road network but does not necessarily need to. It is represented according to the OpenLR standard for Area Locations | D2Class | yes |
| OpenlrCircleLocationReference | Openlr circle location reference | The OpenLR method of area definition by providing a center position and a radius | D2Class | no |

| Class name | Designation | Definition | Stereotype | Abstract |
|-----------------------------------|---------------------------------------|--|------------|----------|
| OpenlrClosedLineLocationReference | Openlr closed line location reference | The OpenLR method of area definition by providing a closed path (i.e. a circuit) in the road network. The boundary always consists of road segments | D2Class | no |
| OpenlrGridLocationReference | Openlr grid location reference | Area defined using an OpenLR™ method consisting in defining it by a tessellation of rectangles | D2Class | no |
| OpenlrPolygonCorners | Openlr polygon corners | A geodetic coordinate Tuple that defines the vertices of the underlying geometrical polygon. | D2Class | no |
| OpenlrPolygonLocationReference | Openlr polygon location reference | The OpenLR method of area definition by providing points that bound the area | D2Class | no |
| OpenlrRectangle | Openlr rectangle | Area delimited by a rectangle defined by the geodetic co-ordinates of the two ends of its diagonal from south-west to north-east (the rectangle having two sides that are parallel to lines of latitude) | D2Class | no |
| OpenlrRectangleLocationReference | Openlr rectangle location reference | The openLR method of area definition by providing a rectangular shape defined by two geo-coordinate pairs | D2Class | no |

A.1.15.3 Specializations of the "OpenlrArea" package

Table A.48— Specializations of the "OpenlrArea" package

| Class name | Parent Class Name |
|-----------------------------------|---|
| OpenlrCircleLocationReference | LocationReferencing.OpenlrAreaLocationReference |
| OpenlrClosedLineLocationReference | LocationReferencing.OpenlrAreaLocationReference |
| OpenlrGridLocationReference | LocationReferencing.OpenlrAreaLocationReference |
| OpenlrPolygonLocationReference | LocationReferencing.OpenlrAreaLocationReference |
| OpenlrRectangleLocationReference | LocationReferencing.OpenlrAreaLocationReference |

A.1.15.4 Associations of the "OpenlrArea" package

Table A.49— Associations of the "OpenlrArea" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|-----------------------------------|------------------------------|---------------------------------|--|---------------------|--|
| OpenlrCircleLocationReference | openlrGeoCoordinate | Openlr geo coordinate | Openlr geo coordinate for the associated OpenlrCircleLocationReference | 1..1 | LocationReferencing.OpenlrGeoCoordinate |
| OpenlrClosedLineLocationReference | openlrLastLine | Openlr last line | Provides the line attributes for the last line section closing the polygon. | 1..1 | LocationReferencing.OpenlrLastLocationReferencePoint |
| | openlrLocationReferencePoint | Openlr location reference point | Openlr location reference point for the associated OpenlrClosedLineLocationReference | 1..* | LocationReferencing.OpenlrLocationReferencePoint |
| OpenlrGridLocationReference | openlrRectangle | Openlr rectangle | Openlr rectangle for the associated OpenlrGridLocationReference | 1..1 | LocationReferencing.OpenlrRectangle |
| OpenlrPolygonCorners | openlrCoordinates | Openlr coordinates | Corresponding coordinates of vertices that define a polygon. | 3..* | LocationReferencing.PointCoordinates |
| OpenlrPolygonLocationReference | openlrPolygonCorners | Openlr polygon corners | Openlr polygon corners for the associated OpenlrPolygonLocationReference | 1..1 | LocationReferencing.OpenlrPolygonCorners |
| OpenlrRectangle | openlrLowerLeft | Openlr lower left | The lower left corner of the rectangle. | 1..1 | LocationReferencing.PointCoordinates |
| | openlrUpperRight | Openlr upper right | The upper right corner of the rectangle. | 1..1 | LocationReferencing.PointCoordinates |
| OpenlrRectangleLocationReference | openlrRectangle | Openlr rectangle | Openlr rectangle for the associated OpenlrRectangleLocationReference | 1..1 | LocationReferencing.OpenlrRectangle |

A.1.15.5 Attributes of the "OpenlrArea" package

Table A.50— Attributes of the "OpenlrArea" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-------------------------------|------------------|--------------------|--|--------------|-----------------------------------|
| OpenlrCircleLocationReference | openlrRadius | Openlr radius | The radius of the corresponding circular area. | 1..1 | Common.MetresAsNonNegativeInteger |
| OpenlrGridLocationReference | openlrNumColumns | Openlr num columns | The number that the base rectangle should be multiplied in the east direction | 1..1 | Common.NonNegativeInteger |
| | openlrNumRows | Openlr num rows | The number that the base rectangle should be multiplied in the north direction | 1..1 | Common.NonNegativeInteger |

A.1.16 "OpenlrPoint" package**A.1.16.1 Location of "OpenlrPoint" package**

The location of "OpenlrPoint" package is:

— D2Payload/LocationReferencing/LocationReference/OpenLR/OpenlrPoint

A.1.16.2 Classes of the "OpenlrPoint" package**Table A.51— Classes of the "OpenlrPoint" package**

| Class name | Designation | Definition | Stereotype | Abstract |
|----------------------------------|--------------------------------------|---|------------|----------|
| OpenlrBasePointLocation | Openlr base point location | Holds common data that are used both in OpenlrPointAccessPoint and OpenlrPointAlongLine. | D2Class | yes |
| OpenlrGeoCoordinate | Openlr geo coordinate | A geo-coordinate pair is a position in a map defined by its longitude and latitude coordinate values. | D2Class | no |
| OpenlrLastLocationReferencePoint | Openlr last location reference point | The sequence of location reference points is terminated by a last location reference point. | D2Class | no |
| OpenlrLocationReferencePoint | Openlr location reference point | The basis of a location reference is a sequence of location reference points (LRPs). | D2Class | no |
| OpenlrPointAlongLine | Openlr point along line | Point along a line | D2Class | no |
| OpenlrPointLocationReference | Openlr point location reference | A point location is a zero-dimensional element in a map that specifies a geometric location. | D2Class | yes |

| Class name | Designation | Definition | Stereotype | Abstract |
|--------------------------|------------------------------|--|------------|----------|
| OpenlrPoiWithAccessPoint | Openlr poi with access point | A point of interest (POI) along a line with access is a point location which is defined by a linear reference path, an offset value (defining the access point) from the starting node of this path and a coordinate pair that defines the POI itself. | D2Class | no |

A.1.16.3 Specializations of the "OpenlrPoint" package

Table A.52— Specializations of the "OpenlrPoint" package

| Class name | Parent Class Name |
|----------------------------------|--|
| OpenlrBasePointLocation | LocationReferencing.OpenlrPointLocationReference |
| OpenlrGeoCoordinate | LocationReferencing.OpenlrPointLocationReference |
| OpenlrLastLocationReferencePoint | LocationReferencing.OpenlrBaseReferencePoint |
| OpenlrLocationReferencePoint | LocationReferencing.OpenlrBaseReferencePoint |
| OpenlrPointAlongLine | LocationReferencing.OpenlrBasePointLocation |
| OpenlrPoiWithAccessPoint | LocationReferencing.OpenlrBasePointLocation |

A.1.16.4 Associations of the "OpenlrPoint" package

Table A.53— Associations of the "OpenlrPoint" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|-------------------------|----------------------------------|--------------------------------------|--|--------------|--|
| OpenlrBasePointLocation | openlrLastLocationReferencePoint | Openlr last location reference point | Allows defining the last point of the OpenLR path | 1..1 | LocationReferencing.OpenlrLastLocationReferencePoint |
| | openlrLocationReferencePoint | Openlr location reference point | Allows defining the first point of the OpenLR path | 1..1 | LocationReferencing.OpenlrLocationReferencePoint |

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|--------------------------------|----------------------|------------------------|---|--------------|--|
| | openlrOffsets | Openlr offsets | Provides optional offsets relative to the path | 0..1 | LocationReferencing.OpenlrOffsets |
| OpenlrGeoCoordinate | openlrCoordinates | Openlr coordinates | Corresponding coordinates of an OpenLR point defined by its only coordinates. | 1..1 | LocationReferencing.PointCoordinates |
| OpenlrLocationReferencingPoint | openlrPathAttributes | Openlr path attributes | Additional path attributes relative to the next point | 1..1 | LocationReferencing.OpenlrPathAttributes |
| OpenlrPoiWithAccessPoint | openlrCoordinates | Openlr coordinates | The coordinate of the actual point of interest | 1..1 | LocationReferencing.PointCoordinates |

A.1.16.5 Attributes of the "OpenlrPoint" package

Table A.54— Attributes of the "OpenlrPoint" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-------------------------|-------------------|---------------------|--|--------------|---|
| OpenlrBasePointLocation | openlrOrientation | Openlr orientation | Orientation of the driving direction in relation with the direction of the underlying linear | 1..1 | LocationReferencing.OpenlrOrientationEnum |
| | openlrSideOfRoad | Openlr side of road | Provides the of road where the corresponding point lies. | 1..1 | LocationReferencing.OpenlrSideOfRoadEnum |

A.1.17 "OperatingHoursPublication" package

A.1.17.1 Location of "OperatingHoursPublication" package

The location of "OperatingHoursPublication" package is:

— D2Payload/PayloadPublication/Facilities/OperatingHoursPublication

A.1.17.2 Classes of the "OperatingHoursPublication" package

Table A.55— Classes of the "OperatingHoursPublication" package

| Class name | Designation | Definition | Stereotype | Abstract |
|-----------------------------|-------------------------------|--|-------------------------|----------|
| ClosureInformation | Closure information | Information about temporary or permanent closure. | D2Class | no |
| OpenAllHours | Open all hours | Open or available all the time (24/7) | D2Class | no |
| OperatingHours | Operating hours | Operating hours, either by reference or by specification. | D2Class | yes |
| OperatingHoursByReference | Operating hours by reference | Operating hours information that is addressed via a reference. | D2Class | no |
| OperatingHoursSpecification | Operating hours specification | A specification of operating hours (e.g. for a parking site, a service facility, an access or the availability for equipment). | D2VersionedIdentifiable | no |
| UndefinedOperatingHours | Undefined operating hours | There are no operating hours specified. | D2Class | no |
| UnknownOperatingHours | Unknown operating hours | The operating hours are not known. | D2Class | no |

A.1.17.3 Specializations of the "OperatingHoursPublication" package**Table A.56— Specializations of the "OperatingHoursPublication" package**

| Class name | Parent Class Name |
|-----------------------------|---------------------------|
| OpenAllHours | Facilities.OperatingHours |
| OperatingHoursByReference | Facilities.OperatingHours |
| OperatingHoursSpecification | Facilities.OperatingHours |
| UndefinedOperatingHours | Facilities.OperatingHours |
| UnknownOperatingHours | Facilities.OperatingHours |

A.1.17.4 Associations of the "OperatingHoursPublication" package

Table A.57— Associations of the "OperatingHoursPublication" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|-----------------------------|--------------------|---------------------|---|--------------|-------------------------------|
| OperatingHours | closureInformation | Closure information | Closure information for the associated OperatingHours | 0..1 | Facilities.ClosureInformation |
| OperatingHoursSpecification | overallPeriod | Overall period | The specification of operating hours by an overall period combined with valid or exceptional periods. | 1..1 | Common.OverallPeriod |

A.1.17.5 Attributes of the "OperatingHoursPublication" package**Table A.58— Attributes of the "OperatingHoursPublication" package**

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-----------------------------|------------------------------|---------------------------------|---|--------------|--|
| ClosureInformation | closedFrom | Closed from | Permanently or temporarily closed from the given date on. May lie in the future - in this case the scene is not closed now. | 0..1 | Common.DateTime |
| | permananentlyClosed | Permananently closed | Permanently closed, i.e. it is not intended to open again. | 0..1 | Common.Boolean |
| | temporarilyClosed | Temporarily closed | Temporarily closed for an unspecified period. | 0..1 | Common.Boolean |
| | temporarilyClosedUntil | Temporarily closed until | Temporarily closed until the given date (i.e. closure still includes this date). | 0..1 | Common.DateTime |
| OperatingHoursByReference | operatingHoursReference | Operating hours reference | The reference to an operating hours specification. | 1..1 | Common.VersionedReference (fac:OperatingHoursSpecification) |
| | operatingHoursTableReference | Operating hours table reference | Operation hours table in question defined by a reference. | 0..1 | Common.VersionedReference (fac:OperatingHoursTable) |
| OperatingHoursSpecification | label | Label | A label, name or identifier for this operating hours specification. | 0..1 | Common.String |
| | lastUpdated | Last updated | The date/time at which this information was last updated. | 0..1 | Common.DateTime |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------|------------------|--------------------|--|--------------|----------------|
| | operatingAllYear | Operating all year | The facility or organisation is not closed on a seasonal base. | 0..1 | Common.Boolean |
| | urlLinkAddress | URL link address | A Uniform Resource Locator (URL) address pointing to a resource available on the Internet from where further relevant information may be obtained. | 0..1 | Common.Url |

A.1.18 "OrganisationPublication" package

Location of "OrganisationPublication" package

The location of "OrganisationPublication" package is:

— D2Payload/PayloadPublication/Facilities/OrganisationPublication

A.1.18.1 Classes of the "OrganisationPublication" package

Table A.59— Classes of the "OrganisationPublication" package

| Class name | Designation | Definition | Stereotype | Abstract |
|---------------------------|----------------------------|--|-------------------------|----------|
| ContactInformation | Contact information | Contact information | D2Class | no |
| ContactPerson | Contact person | A specific contact person | D2Class | no |
| Organisation | Organisation | Information about an organisation including its units and contact information. | D2Class | yes |
| OrganisationByReference | Organisation by reference | Organisation information that is based on a reference | D2Class | no |
| OrganisationSpecification | Organisation specification | Specification of an organisation. It must contain at least one unit. | D2VersionedIdentifiable | no |
| OrganisationUnit | Organisation unit | A unit within the organisation, which has got separate location, operating hours, address and/or contacts. | D2Class | no |
| UndefinedOrganisation | Undefined organisation | The organisation for the specified association end (within the specified validity if applicable) is not defined. | D2Class | no |
| UnknownOrganisation | Unknown organisation | The organisation for the specified association end (within the specified validity if applicable) is unknown. | D2Class | no |

A.1.18.2 Specializations of the "OrganisationPublication" package

Table A.60— Specializations of the "OrganisationPublication" package

| Class name | Parent Class Name |
|---------------------------|-------------------------------|
| ContactPerson | Facilities.ContactInformation |
| OrganisationByReference | Facilities.Organisation |
| OrganisationSpecification | Facilities.Organisation |
| UndefinedOrganisation | Facilities.Organisation |
| UnknownOrganisation | Facilities.Organisation |

A.1.18.3 Associations of the "OrganisationPublication" package

Table A.61— Associations of the "OrganisationPublication" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|---------------------------|---------------------|-----------------------|--|--------------|---------------------------------------|
| Organisation | generalTimeValidity | General time validity | Specification of a time validity, for which this organisation information is valid in general. This is not a specification of the operating hours as such. | 0..1 | Common.OverallPeriod |
| OrganisationSpecification | organisationUnit | Organisation unit | Organisation unit for the associated OrganisationSpecification | 0..* | Facilities.OrganisationUnit |
| | subOrganisation | Sub organisation | A sub organisation that could substitute its role | 0..* | Facilities.Organisation |
| OrganisationUnit | contactInformation | Contact information | Contact information for the associated OrganisationUnit | 0..* | Facilities.ContactInformation |
| | locationReference | Location reference | Location reference for the associated OrganisationUnit | 0..1 | LocationReferencing.LocationReference |
| | operatingHours | Operating hours | Operating hours for the associated OrganisationUnit | 0..1 | Facilities.OperatingHours |

A.1.18.4 Attributes of the "OrganisationPublication" package

Table A.62— Attributes of the "OrganisationPublication" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------------------|----------------------------|------------------------------|--|---------------------|---|
| ContactInformation | eMail | E mail | E-Mail address, which can be a general mail address or the mail address of a specific contact person. | 0..1 | Common.String |
| | faxNumber | Fax number | Fax number, which can be a general number or the number of a specific contact person. | 0..1 | Common.String |
| | language | Language | Language(s) that are supported via telephone or mail. | 0..* | Common.Language |
| | telephoneNumber | Telephone number | Telephone number, which can be a general number or the number of a specific contact person. | 0..1 | Common.String |
| ContactPerson | firstName | First name | The first name of the contact person | 0..1 | Common.String |
| | name | Name | The (last) name of the contact person | 1..1 | Common.String |
| | position | Position | The position of the contact person | 0..1 | Common.MultilingualString |
| | title | Title | Title information of the contact person. | 0..1 | Common.MultilingualString |
| OrganisationByReference | organisationReference | Organisation reference | Organisation information provided by a reference. | 1..1 | Common.VersionedReference (fac:Organisation Specification) |
| | organisationTableReference | Organisation table reference | Organisation table in question defined by a reference. | 0..1 | Common.VersionedReference (fac:Organisation Table) |
| OrganisationSpecification | available24hours | Available24hours | Specifies if the availability is 24 hours a day. If omitted, this information is unknown or heterogeneous. | 0..1 | Common.Boolean |
| | description | Description | A description of the organisation. | 0..1 | Common.MultilingualString |
| | externalCode | External code | An external code to identify the organisation. | 0..1 | Common.String |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------|----------------------------|------------------------------|---|--------------|---------------------------|
| | lastUpdated | Last updated | The date/time at which this information was last updated. | 0..1 | Common.DateTime |
| | legalName | Legal name | The legal name of the organisation. | 0..1 | Common.MultilingualString |
| | linkToGeneralInformation | Link to general information | An internet address from where further relevant information about this organisation may be obtained. | 0..1 | Common.Url |
| | linkToLogo | Link to logo | An internet address from where the logo of this organisation may be obtained. | 0..1 | Common.Url |
| | linkToWebform | Link to webform | An internet address pointing to a webform, which people can use to send messages to this organisation. | 0..1 | Common.Url |
| | name | Name | Name of the organisation. | 1..1 | Common.MultilingualString |
| | nationalOrganisationNumber | National organisation number | The national organisation number in the specified national register, if applicable. | 0..1 | Common.String |
| | nationalRegister | National register | A national register where the organisation is registered. | 0..1 | Common.String |
| | operatorId | Operator id | Only in case of energy related operator: Operator-ID (see https://bdew-codes.de/Codenumbers/EMobilityId) | 0..1 | Common.String |
| | operatorIdBnetzA | Operator id bnetz a | Only in case of energy-related operator: Betreiber ID der Bundesnetzagentur (siehe https://www.bundesnetzagentur.de/DE/Fachthemen/ElektrizitaetundGas/EMobilitaet/start.html). | 0..1 | Common.String |
| | providerId | Provider id | Only in case of mobility service provider: Provider ID (see https://bdew-codes.de/Codenumbers/EMobilityId) | 0..1 | Common.String |
| | publishingAgreement | Publishing agreement | Indication whether the organisation accepted publishing its information. | 0..1 | Common.Boolean |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------------|-------------------------|---------------------------|---|--------------|---------------------------------|
| | responsibility | Responsibility | Specification of services or other duties the organisation is responsible for, | 0..* | Common.MultilingualString |
| | type | Type | Information whether the organisation in question belongs to the public or private sector. | 0..1 | Facilities.OrganisationTypeEnum |
| | vatIdentificationNumber | Vat identification number | The VAT identification number of the organisation. | 0..1 | Common.String |
| OrganisationUnit | function | Function | Functions this unit is responsible for or a specific type, e.g. headquarter or sales | 0..* | Common.MultilingualString |
| | name | Name | A name for this organisation unit | 0..1 | Common.MultilingualString |

A.1.19 "PaymentMethod" package

A.1.19.1 Location of "PaymentMethod" package

The location of "PaymentMethod" package is:

— D2Payload/PayloadPublication/Facilities/RatesPublication/PaymentMethod

A.1.19.2 Classes of the "PaymentMethod" package

Table A.63— Classes of the "PaymentMethod" package

| Class name | Designation | Definition | Stereotype | Abstract |
|------------------------|---------------------------|---|------------|----------|
| BrandsAcceptedCodeList | Brands accepted code list | Use this class to describe details of the brands that are accepted. | D2Class | no |
| BrandsAcceptedText | Brands accepted text | Use this class to describe details of the brands that are accepted. | D2Class | no |
| PaymentMethod | Payment method | Provides information on the means of payment available | D2Class | no |

A.1.19.3 Specializations of the "PaymentMethod" package

There are no defined specializations in the "PaymentMethod" package.

A.1.19.4 Associations of the "PaymentMethod" package

Table A.64— Associations of the "PaymentMethod" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|---------------|------------------------|---------------------------|--|--------------|-----------------------------------|
| PaymentMethod | brandsAcceptedCodeList | Brands accepted code list | Brands accepted code list for the associated PaymentMethod | 0..* | Facilities.BrandsAcceptedCodeList |
| | brandsAcceptedText | Brands accepted text | Brands accepted text for the associated PaymentMethod | 0..* | Facilities.BrandsAcceptedText |

A.1.19.5 Attributes of the "PaymentMethod" package**Table A.65— Attributes of the "PaymentMethod" package**

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------------------|--------------------|----------------------|---|--------------|-------------------------------|
| BrandsAcceptedCodeList | brandsAcceptedList | Brands accepted list | List of accepted brands for payment cards. | 1..1 | Facilities.PaymentBrandsEnum |
| BrandsAcceptedText | brandsAccepted | Brands accepted | List of accepted brands for payment cards. | 1..1 | Common.String |
| PaymentMethod | otherPaymentMeans | Other payment means | Other means of payment that are available. | 0..* | Common.MultilingualString |
| | paymentMeans | Payment means | The means of payment available | 0..* | Facilities.MeansOfPaymentEnum |
| | paymentMode | Payment mode | Defines the timing of the parking or other mobility related payment | 0..* | Facilities.PaymentTimingEnum |

A.1.20 "PointCoordinates" package**A.1.20.1 Location of "PointCoordinates" package**

The location of "PointCoordinates" package is:

— D2Payload/LocationReferencing/LocationReference/PointCoordinates

A.1.20.2 Classes of the "PointCoordinates" package

Table A.66— Classes of the "PointCoordinates" package

| Class name | Designation | Definition | Stereotype | Abstract |
|---------------------------|-----------------------------|---|------------|----------|
| AltitudeConfidence | Altitude confidence | Evaluation of the altitude confidence assessed according to ETSI ISO 102894-2 | D2Class | no |
| HeightCoordinate | Height coordinate | Third coordinate for points defined geodetically | D2Class | no |
| PointByCoordinates | Point by coordinates | A single point defined only by a coordinate set with an optional bearing direction. | D2Class | no |
| PointCoordinates | Point coordinates | A pair of planar coordinates defining the geodetic position of a single point using the European Terrestrial Reference System 1989 (ETRS89). | D2Class | no |
| PositionAccuracy | Position accuracy | Horizontal position accuracy parameters defined according to EN 16803-1 | D2Class | no |
| PositionConfidenceEllipse | Position confidence ellipse | Confidence ellipse position defined in a shape of ellipse with a predefined confidence level (e.g. 95 %). The centre of the ellipse shape corresponds to the reference position point for which the position accuracy is evaluated. | D2Class | no |

A.1.20.3 Specializations of the "PointCoordinates" package

There are no defined specializations in the "PointCoordinates" package.

A.1.20.4 Associations of the "PointCoordinates" package**Table A.67— Associations of the "PointCoordinates" package**

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|--------------------|--------------------------|----------------------------|---|--------------|--|
| HeightCoordinate | altitudeConfidence | Altitude confidence | Altitude confidence for the associated HeightCoordinate | 0..1 | LocationReferencing.AltitudeConfidence |
| | verticalPositionAccuracy | Vertical position accuracy | Defines the vertical position accuracy according to EN16803-1 | 0..1 | LocationReferencing.PositionAccuracy |
| PointByCoordinates | pointCoordinates | Point coordinates | Point coordinates for the associated PointByCoordinates | 1..1 | LocationReferencing.PointCoordinates |

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|------------------|----------------------------|------------------------------|---|--------------|---|
| PointCoordinates | heightCoordinate | Height coordinate | Height coordinate for the associated PointCoordinates | 0..3 | LocationReferencing.HeightCoordinate |
| | horizontalPositionAccuracy | Horizontal position accuracy | Defines the horizontal position accuracy according EN 16803-1 | 0..1 | LocationReferencing.PositionAccuracy |
| | positionConfidenceEllipse | Position confidence ellipse | Position confidence ellipse for the associated PointCoordinates | 0..1 | LocationReferencing.PositionConfidenceEllipse |

A.1.20.5 Attributes of the "PointCoordinates" package

Table A.68— Attributes of the "PointCoordinates" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|--------------------|----------------------------|-------------------------------|---|--------------|--|
| AltitudeConfidence | altitudeAccuracyCodedError | Altitude accuracy coded error | Error code in case the altitude confidence is out of range or cannot be determined | 0..1 | LocationReferencing.PositionConfidenceCodedErrorEnum |
| | altitudeAccuracyCodedValue | Altitude accuracy coded value | Absolute accuracy of reported value of a geographical point for a confidence level expressed by a coded scale. | 0..1 | LocationReferencing.AltitudeAccuracyEnum |
| HeightCoordinate | heightType | Height type | Type of measured height. When it is omitted it is supposed to be the ellipsoidal height. | 0..1 | LocationReferencing.HeightTypeEnum |
| | heightValue | Height value | Value in metres for the height measured vertically at to the planar coordinates the point corresponding. | 1..1 | Common.MetresAsFloat |
| PointByCoordinates | bearing | Bearing | A bearing at the point measured in degrees (0 - 359). Unless otherwise specified the reference direction corresponding to 0 degrees is North. Values increase in the clockwise direction. | 0..1 | Common.AngleInDegrees |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------------------|-------------------------------|------------------------------------|---|--------------|--|
| PointCoordinates | latitude | Latitude | Latitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89). | 1..1 | Common.Float |
| | longitude | Longitude | Longitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89). | 1..1 | Common.Float |
| PositionAccuracy | accuracyPercentile50 | Accuracy percentile50 | Accuracy defined by the 50th percentile of the cumulative distribution of position errors. | 0..1 | Common.MetresAsFloat |
| | accuracyPercentile75 | Accuracy percentile75 | Accuracy defined by the 75th percentile of the cumulative distribution of position errors | 0..1 | Common.MetresAsFloat |
| | accuracyPercentile95 | Accuracy percentile95 | Accuracy defined by the 95th percentile of the cumulative distribution of position errors | 0..1 | Common.MetresAsFloat |
| PositionConfidenceEllipse | semiMajorAxisLength | Semi major axis length | Half of length of the major axis, i.e. distance between the centre point and major axis point of the position accuracy ellipse. | 0..1 | Common.MetresAsFloat |
| | semiMajorAxisLengthCodedError | Semi major axis length coded error | Provides a coded error in case the semi-major axis length is not defined | 0..1 | LocationReferencing.PositionConfidenceCodedErrorEnum |
| | semiMajorAxisOrientation | Semi major axis orientation | Orientation direction of the ellipse major axis of the position accuracy ellipse with regards to the geographic north. | 0..1 | Common.AngleInDegrees |
| | semiMajorAxisOrientationError | Semi major axis orientation error | Indicates whether the ellipse orientation is unavailable (True) or not (False) | 0..1 | Common.Boolean |
| | semiMinorAxisLength | Semi minor axis length | Half of length of the minor axis, i.e. distance between the centre point and minor axis point of the position accuracy ellipse | 0..1 | Common.MetresAsFloat |
| | semiMinorAxisLengthCodedError | Semi minor axis length coded error | Provides a coded error in case the semi-minor axis length is not defined | 0..1 | LocationReferencing.PositionConfidenceCodedErrorEnum |

A.1.21 "SupplementalFacility" package

A.1.21.1 Location of "SupplementalFacility" package

The location of "SupplementalFacility" package is:

— D2Payload/PayloadPublication/Facilities/SupplementalFacility

A.1.21.2 Classes of the "SupplementalFacility" package

Table A.69— Classes of the "SupplementalFacility" package

| Class name | Designation | Definition | Stereotype | Abstract |
|-----------------------------|-------------------------------|--|------------|----------|
| SupplementalEquipment | Supplemental equipment | One type of supplemental equipment, which is available on some site, for example on a rest area. | D2Class | no |
| SupplementalFacility | Supplemental facility | One type of supplemental facility which can be supplemental equipment or a supplemental service facility. | D2Class | yes |
| SupplementalServiceFacility | Supplemental service facility | One type of supplemental service facility. You can specify the number of this service facility type (e.g. 5 restaurants) as well as the number of subitems (e.g. 200 restaurant places). | D2Class | no |

A.1.21.3 Specializations of the "SupplementalFacility" package

Table A.70— Specializations of the "SupplementalFacility" package

| Class name | Parent Class Name |
|-----------------------------|---------------------------------|
| SupplementalEquipment | Facilities.SupplementalFacility |
| SupplementalFacility | Facilities.FacilityObject |
| SupplementalServiceFacility | Facilities.SupplementalFacility |

A.1.21.4 Associations of the "SupplementalFacility" package

There are no defined associations in the "SupplementalFacility" package.

A.1.21.5 Attributes of the "SupplementalFacility" package

Table A.71— Attributes of the "SupplementalFacility" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------------------------|--------------------------------|----------------------------------|---|--------------|--|
| SupplementalEquipment | equipmentType | Equipment type | One type of equipment. | 1..1 | Facilities.Equipm entTypeEnum |
| SupplementalFacility | applicableForUser | Applicable for user | Limitation to a set of special users. | 0..* | Facilities.UserTyp eEnum |
| | availability | Availability | Specifies whether the supplemental facility is available or not. Note that this is no dynamic information! | 0..1 | Facilities.Availabil ityEnum |
| | nearby | Nearby | If true, the Supplemental Facility is not located on the site of the original facility but nearby. They must not necessarily belong together. | 0..1 | Common.Boolean |
| | quantity | Quantity | Number of the supplemental facility (e.g. number of toilets, restaurants, park & ride places, etc.) with respect to given restrictions. Dynamic overridable. | 0..1 | Common.NonNeg ativeInteger |
| | regularlyCleaned | Regularly cleaned | Indicates whether the supplemental facility is cleaned on a regular basis. | 0..1 | Common.Boolean |
| SupplementalServiceFac ility | distanceFromOriginFac ility | Distance from origin facility | Approximate distance (given in metres) between this supplemental facility and some origin facility to which it is clearly related (typically a larger facility, e.g. a parking site). | 0..1 | Common.MetresAsNonNegativeInte ger |
| | numberOfSubitems | Number of subitems | The quantity of subitems to this service facility type, e.g. the total number of restaurant places or fuel dispensers etc. | 0..1 | Common.NonNeg ativeInteger |
| | serviceFacilityType | Service facility type | One type of service. | 1..1 | Facilities.ServiceF acilityTypeEnum |

A.1.22 "SupplementaryPositionalDescription" package**A.1.22.1 Location of "SupplementaryPositionalDescription" package**

The location of "SupplementaryPositionalDescription" package is:

— D2Payload/LocationReferencing/LocationReference/SupplementaryPositionalDescription

A.1.22.2 Classes of the "SupplementaryPositionalDescription" package

Table A.72— Classes of the "SupplementaryPositionalDescription" package

| Class name | Designation | Definition | Stereotype | Abstract |
|------------------------------------|--------------------------------------|--|------------|----------|
| SupplementaryPositionalDescription | Supplementary positional description | A collection of supplementary positional information which improves the precision of the location. | D2Class | no |

A.1.22.3 Specializations of the "SupplementaryPositionalDescription" package

There are no defined specializations in the "SupplementaryPositionalDescription" package.

A.1.22.4 Associations of the "SupplementaryPositionalDescription" package

There are no defined associations in the "SupplementaryPositionalDescription" package.

A.1.22.5 Attributes of the "SupplementaryPositionalDescription" package

Table A.73— Attributes of the "SupplementaryPositionalDescription" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|------------------------------------|---------------------|----------------------|--|--------------|-----------------------------------|
| SupplementaryPositionalDescription | locationDescription | Location description | Supplementary human-readable description of the location | 0..1 | Common.MultilingualString |
| | locationPrecision | Location precision | Indicates that the location is given with a precision which is better than the stated value in metres. | 0..1 | Common.MetresAsNonNegativeInteger |

A.1.23 "Validity" package

A.1.23.1 Location of "Validity" package

The location of "Validity" package is:

— D2Payload/Common/Classes/Validity

A.1.23.2 Classes of the "Validity" package

Table A.74— Classes of the "Validity" package

| Class name | Designation | Definition | Stereotype | Abstract |
|--------------------------|------------------------------|--|------------|----------|
| CalendarWeekWithinMonth | Calendar week within month | Specification of periods defined by relevant calendar weeks in a month, see ISO8601. Note: Calendar weeks start with Monday. First week is the week containing the first of the month. | D2Class | no |
| DayWeekMonth | Day week month | Specification of periods defined by the intersection of days or instances of them, calendar weeks and months. | D2Class | no |
| InstanceOfDayWithinMonth | Instance of day within month | Specification of periods defined by the instance of a specific weekday within a month (e.g. 3rd Tuesday in May) | D2Class | no |
| OverallPeriod | Overall period | A continuous or discontinuous period of validity defined by overall bounding start and end times and the possible intersection of valid periods (potentially recurring) with the complement of exception periods (also potentially recurring). | D2Class | no |
| Period | Period | A continuous time period or a set of discontinuous time periods defined by the intersection of a set of criteria all within an overall delimiting interval. | D2Class | no |
| PublicHoliday | Public holiday | Specification of a specific public holiday in case specialDayType is set to 'publicHoliday'. | D2Class | no |
| SpecialDay | Special day | Specification of a special type of day, possibly also a public holiday. Can be country or region specific. | D2Class | no |
| TimePeriodOfDay | Time period of day | Specification of a continuous period of time within a 24 hour period. | D2Class | no |

A.1.23.3 Specializations of the "Validity" package**Table A.75— Specializations of the "Validity" package**

| Class name | Parent Class Name |
|--------------------------|---------------------|
| CalendarWeekWithinMonth | Common.DayWeekMonth |
| InstanceOfDayWithinMonth | Common.DayWeekMonth |
| PublicHoliday | Common.SpecialDay |

A.1.23.4 Associations of the "Validity" package

Table A.76— Associations of the "Validity" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|---------------|-----------------------------|---------------------------------|--|--------------|------------------------|
| OverallPeriod | exceptionPeriod | Exception period | A single time period, a recurring time period or a set of different recurring time periods during which validity is false. | 0..* | Common.Period |
| | validPeriod | Valid period | A single time period, a recurring time period or a set of different recurring time periods during which validity is true. | 0..* | Common.Period |
| Period | recurringDayWeekMonthPeriod | Recurring day week month period | A recurring period defined in terms of days of the week, weeks of the month and months of the year. | 0..* | Common.DayWeekMonth |
| | recurringSpecialDay | Recurring special day | A recurring period in terms of special days. | 0..* | Common.SpecialDay |
| | recurringTimePeriodOfDay | Recurring time period of day | A recurring period of a day. | 0..* | Common.TimePeriodOfDay |
| SpecialDay | namedArea | Named area | Named area for the associated SpecialDay | 0..* | Common.NamedArea |

A.1.23.5 Attributes of the "Validity" package**Table A.77— Attributes of the "Validity" package**

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|-------------------------|-----------------------------------|---------------------------------------|--|--------------|------------------------------------|
| CalendarWeekWithinMonth | applicableCalendarWeekWithinMonth | Applicable calendar week within month | Calendar week in month. See ISO8601. "All weeks of the month" is expressed by not using the CalendarWeekOfMonth class. Note: Calendar weeks start with Monday. First week is the week containing the first of the month. | 1..6 | Common.CalendarWeekWithinMonthEnum |
| DayWeekMonth | applicableDay | Applicable day | Applicable day of the week. "All days of the week" is expressed by non-inclusion of this attribute. | 0..7 | Common.DayEnum |
| | applicableMonth | Applicable month | Applicable month of the year. "All months of the year" is expressed by non-inclusion of this attribute. | 0..12 | Common.MonthOfYearEnum |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|--------------------------|------------------------------------|---|---|--------------|----------------------------|
| InstanceOfDayWithinMonth | applicableInstanceOfDayWithinMonth | Applicable instance of day within month | The specified integer instance of the specified applicable day within a month. | 1..5 | Common.InstanceOfDayEnum |
| OverallPeriod | overallEndTime | Overall end time | End of bounding period of validity defined by date and time. | 0..1 | Common.DateTime |
| | overallStartTime | Overall start time | Start of bounding period of validity defined by date and time. | 1..1 | Common.DateTime |
| Period | endOfPeriod | End of period | End of a period. | 0..1 | Common.DateTime |
| | periodName | Period name | The name of the period. | 0..1 | Common.MultilingualString |
| | startOfPeriod | Start of period | Start of period. | 0..1 | Common.DateTime |
| PublicHoliday | publicHolidayName | Public holiday name | Specification of a specific public holiday by its name. | 1..1 | Common.MultilingualString |
| SpecialDay | intersectWithApplicableDays | Intersect with applicable days | When true, the period is the intersection of applicable days and this special day. When false, the period is the union of applicable days and this special day. | 1..1 | Common.Boolean |
| | publicEvent | Public event | Type of public event on this special day. | 0..1 | Common.PublicEventTypeEnum |
| | specialDayType | Special day type | Specification of a special day, for example schoolDay, publicHoliday, ... | 1..1 | Common.SpecialDayTypeEnum |
| TimePeriodOfDay | endTimeOfPeriod | End time of period | End of time period. | 1..1 | Common.Time |
| | startTimeOfPeriod | Start time of period | Start of time period. | 1..1 | Common.Time |

A.1.24 "VehicleCharacteristics" package

A.1.24.1 Location of "VehicleCharacteristics" package

The location of "VehicleCharacteristics" package is:

— D2Payload/Common/Classes/VehicleCharacteristics

A.1.24.2 Classes of the "VehicleCharacteristics" package

Table A.78— Classes of the "VehicleCharacteristics" package

| Class name | Designation | Definition | Stereotype | Abstract |
|----------------------------------|-------------------------------------|--|------------|----------|
| Emissions | Emissions | Emission characteristics of vehicles. | D2Class | no |
| GrossWeightCharacteristic | Gross weight characteristic | Gross weight characteristic of a vehicle. | D2Class | no |
| HeaviestAxleWeightCharacteristic | Heaviest axle weight characteristic | Weight characteristic of the heaviest axle on the vehicle. | D2Class | no |
| HeightCharacteristic | Height characteristic | Height characteristic of a vehicle. | D2Class | no |
| LengthCharacteristic | Length characteristic | Length characteristic of a vehicle. | D2Class | no |
| NumberOfAxlesCharacteristic | Number of axles characteristic | Number of axles characteristic of a vehicle. | D2Class | no |
| VehicleCharacteristics | Vehicle characteristics | The characteristics of a vehicle, e.g. lorry of gross weight greater than 30 tonnes. | D2Class | no |
| WidthCharacteristic | Width characteristic | Width characteristic of a vehicle. | D2Class | no |

A.1.24.3 Specializations of the "VehicleCharacteristics" package

There are no defined specializations in the "VehicleCharacteristics" package.

A.1.24.4 Associations of the "VehicleCharacteristics" package

Table A.79— Associations of the "VehicleCharacteristics" package

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|------------------------|----------------------------------|-------------------------------------|---|--------------|---|
| VehicleCharacteristics | emissions | Emissions | Emissions for the associated VehicleCharacteristics | 0..1 | Common.Emissions |
| | grossWeightCharacteristic | Gross weight characteristic | Gross weight characteristic for the associated VehicleCharacteristics | 0..2 | Common.GrossWeightCharacteristic |
| | heaviestAxleWeightCharacteristic | Heaviest axle weight characteristic | Heaviest axle weight characteristic for the associated VehicleCharacteristics | 0..2 | Common.HeaviestAxleWeightCharacteristic |

| Class name | Association end | Designation | Definition | Multiplicity | Target |
|------------|-----------------------------|--------------------------------|--|--------------|------------------------------------|
| | heightCharacteristic | Height characteristic | Height characteristic for the associated VehicleCharacteristics | 0..2 | Common.HeightCharacteristic |
| | lengthCharacteristic | Length characteristic | Length characteristic for the associated VehicleCharacteristics | 0..2 | Common.LengthCharacteristic |
| | numberOfAxlesCharacteristic | Number of axles characteristic | Number of axles characteristic for the associated VehicleCharacteristics | 0..2 | Common.NumberOfAxlesCharacteristic |
| | widthCharacteristic | Width characteristic | Width characteristic for the associated VehicleCharacteristics | 0..2 | Common.WidthCharacteristic |

A.1.24.5 Attributes of the "VehicleCharacteristics" package

Table A.80— Attributes of the "VehicleCharacteristics" package

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------------------|-----------------------------|-------------------------------|--|--------------|---------------------------------------|
| Emissions | emissionClassificationEuro | Emission classification euro | The minimum Euro emission classification the vehicle(s) have to comply with according to the 1970 Directive 70/220/EEC and its several amendments. Note that vehicleType and fuelType need to be provided in order to make this classification explicit. | 0..1 | Common.EmissionClassificationEuroEnum |
| | emissionClassificationOther | Emission classification other | Some other (probably locally defined) value(s) for emission classification. | 0..* | Common.String |
| | emissionLevel | Emission level | The low emission level of a vehicle. | 0..1 | Common.LowEmissionLevelEnum |
| GrossWeightCharacteristic | comparisonOperator | Comparison operator | The operator to be used in the vehicle characteristic comparison operation. | 1..1 | Common.ComparisonOperatorEnum |
| | grossVehicleWeight | Gross vehicle weight | The gross weight of the vehicle and its load, including any trailers. | 1..1 | Common.Tonnes |
| | typeOfWeight | Type of weight | The meaning of the weight value | 1..1 | Common.WeightTypeEnum |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|----------------------------------|--------------------|----------------------|---|--------------|--|
| HeaviestAxleWeightCharacteristic | comparisonOperator | Comparison operator | The operator to be used in the vehicle characteristic comparison operation. | 1..1 | Common.ComparisonOperatorEnum |
| | heaviestAxleWeight | Heaviest axle weight | The weight of the heaviest axle on the vehicle. | 1..1 | Common.Tonnes |
| HeightCharacteristic | comparisonOperator | Comparison operator | The operator to be used in the vehicle characteristic comparison operation. | 1..1 | Common.ComparisonOperatorEnum |
| | vehicleHeight | Vehicle height | The height of the highest part, excluding antennae, of an individual vehicle above the road surface, in metres. | 1..1 | Common.MetresAsFloat |
| LengthCharacteristic | comparisonOperator | Comparison operator | The operator to be used in the vehicle characteristic comparison operation. | 1..1 | Common.ComparisonOperatorEnum |
| | vehicleLength | Vehicle length | The overall distance between the front and back of an individual vehicle, including the length of any trailers, couplings, embedded features etc. | 1..1 | Common.MetresAsFloat |
| NumberOfAxlesCharacteristic | comparisonOperator | Comparison operator | The operator to be used in the vehicle characteristic comparison operation. | 1..1 | Common.ComparisonOperatorEnum |
| | numberOfAxles | Number of axles | The total number of axles of an individual vehicle. | 1..1 | Common.NonNegativeInteger |
| VehicleCharacteristics | euVehicleCategory | Eu vehicle category | Vehicle categories as defined in EU Directive 2007/46/EG and Regulation (EU) No 168/2013. | 0..* | EnergyInfrastructure.EuVehicleCategoryEnum |
| | fuelType | Fuel type | The type of fuel used by the vehicle. | 0..* | Common.FuelTypeEnum |
| | loadType | Load type | The type of load carried by the vehicle, especially in respect of hazardous loads. | 0..1 | Common.LoadTypeEnum |
| | vehicleEquipment | Vehicle equipment | The type of equipment in use or on board the vehicle. | 0..1 | Common.VehicleEquipmentEnum |

| Class name | Attribute name | Designation | Definition | Multiplicity | Type |
|---------------------|-------------------------|----------------------------|--|--------------|-------------------------------|
| | vehicleType | Vehicle type | Vehicle type. | 0..* | Common.VehicleTypeEnum |
| | vehicleUsage | Vehicle usage | The type of usage of the vehicle (i.e. for what purpose is the vehicle being used). | 0..1 | Common.VehicleUsageEnum |
| | yearOfFirstRegistration | Year of first registration | Year of first registration of the vehicle | 0..1 | Common.Year |
| WidthCharacteristic | comparisonOperator | Comparison operator | The operator to be used in the vehicle characteristic comparison operation. | 1..1 | Common.ComparisonOperatorEnum |
| | vehicleWidth | Vehicle width | The maximum width of an individual vehicle, including any features embedded or fixed on it, in metres. | 1..1 | Common.MetresAsFloat |

A.2 Data Dictionary of <<D2Datatype>> for "EnergyInfrastructureTable"

A.2.1 Introduction

This clause contains the definitions of all data types which are used in the "EnergyInfrastructureTable".

A.2.2 The <<D2Datatype>> "AmountOfMoney"

A monetary value expressed to two decimal places.

A.2.3 The <<D2Datatype>> "Ampere"

Ampere.

A.2.4 The <<D2Datatype>> "AngleInDegrees"

An integer number representing an angle in whole degrees between 0 and 359.

A.2.5 The <<D2Datatype>> "Base64Binary"

Binary data in base 64 encoding, for example for image data.

A.2.6 The <<D2Datatype>> "Boolean"

Boolean has the value space required to support the mathematical concept of binary-valued logic: {true, false}.

A.2.7 The <<D2Datatype>> "CountryCode"

EN ISO 3166-1 alpha-2 two-letter country code

A.2.8 The <<D2Datatype>> "CurrencyCode"

Three letter code defining the currency according to ISO 4217:2015 (e.g. EUR for Euro).

A.2.9 The <<D2Datatype>> "DateTime"

A combination of integer-valued year, month, day, hour, minute properties, a decimal-valued second property and a time zone property from which it is possible to determine the local time, the equivalent UTC time and the time zone offset from UTC.

A.2.10 The <<D2Datatype>> "Decimal"

A decimal number whose value space is the set of numbers that can be obtained by multiplying an integer by a non-positive power of ten, i.e., expressible as $i \times 10^{-n}$ where i and n are integers and $n \geq 0$.

A.2.11 The <<D2Datatype>> "Float"

A floating point number whose value space consists of the values $m \times 2^e$, where m is an integer whose absolute value is less than 2^{24} , and e is an integer between -149 and 104, inclusive.

A.2.12 The <<D2Datatype>> "GmlPosList"

List of coordinates, space-separated, within the same coordinate reference system, defining a geometric entity. Modelled on `DirectPositionListType` in GML (EN ISO 19136), but constrained to represent a 2D or 3D polyline.

A.2.13 The <<D2Datatype>> "Integer"

An integer number whose value space is the set $\{-2147483648, -2147483647, -2147483646, \dots, -2, -1, 0, 1, 2, \dots, 2147483645, 2147483646, 2147483647\}$.

A.2.14 The <<D2Datatype>> "Language"

A language datatype, identifies a specified language by an ISO 639-1 2-alpha code.

A.2.15 The <<D2Datatype>> "LongString"

A character string with no specified length limit, whose value space is the set of finite-length sequences of characters. Every character has a corresponding Universal Character Set code point (as defined in ISO/IEC 10646), which is an integer.

A.2.16 The <<D2Datatype>> "MetresAsFloat"

A measure of distance defined in metres in a floating point format.

A.2.17 The <<D2Datatype>> "MetresAsNonNegativeInteger"

A measure of distance defined in metres in a non negative integer format.

A.2.18 The <<D2Datatype>> "MultilingualString"

A multilingual string, whereby the same text may be expressed in more than one language.

A.2.19 The <<D2Datatype>> "NamedAreaCode"

Type for a short numeric or alphanumeric code identifying an area.

A.2.20 The <<D2Datatype>> "NonNegativeInteger"

An integer number whose value space is the set $\{0, 1, 2, \dots, 2147483645, 2147483646, 2147483647\}$.

A.2.21 The <<D2Datatype>> "NutsCode"

A NUTS code (Nomenclature of territorial units for statistics).

A.2.22 The <<D2Datatype>> "Percentage"

A ratio expressed as an amount per hundred, such that for example the value 100 represents the case where a quantity is equal to the reference value it is compared with, while the value 50 represents a ratio of one half.

A.2.23 The <<D2Datatype>> "Reference"

A reference to an identifiable managed object where the identifier is unique. It comprises an identifier (e.g. UUID) and a string identifying the class of the referenced object.

A.2.24 The <<D2Datatype>> "SquareMetres"

A value of area expressed in units of square metres.

A.2.25 The <<D2Datatype>> "String"

A character string whose value space is the set of finite-length sequences of characters. Every character has a corresponding Universal Character Set code point (as defined in ISO/IEC 10646), which is an integer.

A.2.26 The <<D2Datatype>> "SubdivisionCode"

The second part of an ISO 3166-2 country sub-division code (up to 3 characters) which may be used along with a CountryCode to make a full ISO 3166-2 subdivision code.

A.2.27 The <<D2Datatype>> "Time"

An instant of time that recurs every day. The value space of time is the space of time of day values as defined in § 5.3 of [ISO 8601]. Specifically, it is a set of zero-duration daily time instances.

A.2.28 The <<D2Datatype>> "TimeZone"

Identifies a time zone by specifying the difference to UTC in hours and minutes, as defined in ISO 8601.

A.2.29 The <<D2Datatype>> "Tonnes"

A measure of weight defined in metric tonnes.

A.2.30 The <<D2Datatype>> "Units"

Amount in units, which are specified by unitTypeEnum.

A.2.31 The <<D2Datatype>> "Url"

A Uniform Resource Locator (URL) address comprising a compact string of characters for a resource available on the Internet.

A.2.32 The <<D2Datatype>> "VersionedReference"

A reference to an identifiable version managed object where the combination of the identifier and version is unique. It comprises an identifier (e.g. UUID), a version (NonNegativeInteger) and a string identifying the class of the referenced object.

A.2.33 The <<D2Datatype>> "Volt"

Volt.

A.2.34 The <<D2Datatype>> "Watt"

Watt.

A.2.35 The <<D2Datatype>> "Year"

A year.

A.3 Data Dictionary of <<D2Enumeration>> for "EnergyInfrastructureTable"

A.3.1 Introduction

This clause contains the definitions of all enumerations which are used in the "EnergyInfrastructureTable".

A.3.2 The <<D2Enumeration>> "AccessibilityEnum"

Information on accessibility and facilities for persons with disabilities.

Table A.81— Values contained in the enumeration "AccessibilityEnum"

| Enumerated value name | Designation | Definition |
|---------------------------------|-------------------------------------|--|
| barrierFreeAccessible | Barrier free accessible | Accessible without any steps or other barriers. |
| disabilityAccessible | Disability accessible | Accessible for persons with disabilities. Wheelchair accessible is a special form of it. |
| disabilityFacilities | Disability facilities | There are special facilities for persons with disabilities, like handrails or special furniture. |
| marking | Marking | There is a visible mark for the privilege of persons with disabilities (e.g. a wheelchair symbol). |
| none | None | No form of special accessibility, i.e. usually not convenient for persons with disabilities, e.g. because of steps or barriers. |
| orientationSystemForBlindPeople | Orientation system for blind people | There is some orientation system, which helps blind or visually impaired people. Examples might be some acoustic system or tactile paving. |
| other | Other | Other. |
| unknown | Unknown | It is unknown whether there is a special form of accessibility. |
| wheelChairAccessible | Wheel chair accessible | Accessible by people in a wheelchair. |

A.3.3 The <<D2Enumeration>> "AddressLineTypeEnum"

A list of supported address line types.

Table A.82— Values contained in the enumeration "AddressLineTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|---|
| apartment | Apartment | Element indicating a discrete element of a building forming the address |

| Enumerated value name | Designation | Definition |
|-----------------------|--------------------|---|
| building | Building | Element identifying the number or name and type of the edifice or construction relevant for the address [derived from ISO19160-4] |
| districtTerritory | District territory | Element specifying the geographic or administrative area of the country for the address [Source: 19160-4] |
| floor | Floor | Element indicating the floor or level on which a delivery point is located in a multi-storey building [Source:ISO19160-4] |
| generalTextLine | General text line | A non-predefined text line for general purpose. |
| houseNumber | House number | Element indicating a house number |
| poBox | Po box | A postal delivery location identifier, not necessarily a physical location. |
| region | Region | Element indicating the name of the area within or adjacent to the town in which delivery address is. |
| street | Street | Element indicating road or street identifier or name |
| town | Town | Element indicating the name of the populated place in which a delivery point is located, or near to or via which the delivery point is accessed. [Source: ISO19160-4] |
| unit | Unit | An element representing a section of a building or organisation. |

A.3.4 The <<D2Enumeration>> "AltitudeAccuracyEnum"

Coded level of vertical accuracy

Table A.83— Values contained in the enumeration "AltitudeAccuracyEnum"

| Enumerated value name | Designation | Definition |
|--------------------------------|-------------------------------------|--|
| equalToOrLessThan100Metres | Equal to or less than100 metres | Indicates if the altitude accuracy is equal to or less than 100 metres |
| equalToOrLessThan10Centimetres | Equal to or less than10 centimetres | Indicates if the altitude accuracy is equal to or less than 10 centimetres |
| equalToOrLessThan10Metres | Equal to or less than10 metres | Indicates if the altitude accuracy is equal to or less than 10 metres |
| equalToOrLessThan1Centimetre | Equal to or less than1 centimetre | Indicates if the altitude accuracy is equal to or less than 1 centimetre |

| Enumerated value name | Designation | Definition |
|--------------------------------|-------------------------------------|--|
| equalToOrLessThan1Metre | Equal to or less than1 metre | Indicates if the altitude accuracy is equal to or less than 1 metre |
| equalToOrLessThan200Metres | Equal to or less than200 metres | Indicates if the altitude accuracy is equal to or less than 200 metres |
| equalToOrLessThan20Centimetres | Equal to or less than20 centimetres | Indicates if the altitude accuracy is equal to or less than 20 centimetres |
| equalToOrLessThan20Metres | Equal to or less than20 metres | Indicates if the altitude accuracy is equal to or less than 20 metres |
| equalToOrLessThan2Centimetres | Equal to or less than2 centimetres | Indicates if the altitude accuracy is equal to or less than 2 centimetres |
| equalToOrLessThan2Metres | Equal to or less than2 metres | Indicates if the altitude accuracy is equal to or less than 2 metres |
| equalToOrLessThan50Centimetres | Equal to or less than50 centimetres | Indicates if the altitude accuracy is equal to or less than 50 centimetres |
| equalToOrLessThan50Metres | Equal to or less than50 metres | Indicates if the altitude accuracy is equal to or less than 50 metres |
| equalToOrLessThan5Centimetres | Equal to or less than5 centimetres | Indicates if the altitude accuracy is equal to or less than 5 centimetres |
| equalToOrLessThan5Metres | Equal to or less than5 metres | Indicates if the altitude accuracy is equal to or less than 5 metres |

A.3.5 The <<D2Enumeration>> "AreaPlacesEnum"

Type of area place(s)

Table A.84— Values contained in the enumeration "AreaPlacesEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------------------|---|
| atBorders | At borders | At national borders |
| atHighAltitudes | At high altitudes | At high altitudes |
| inBuiltUpAreas | In built up areas | In built up areas, i.e. villages, towns and cities |
| inForestedAreas | In forested areas | On sections of the road where it runs through or adjacent to forested areas |
| inGalleries | In galleries | In galleries |
| inLowLyingAreas | In low lying areas | In low-lying areas |
| inRuralAreas | In rural areas | In rural areas, i.e. outside villages, towns and cities |
| inShadedAreas | In shaded areas | In shaded areas |
| inTheInnerCityAreas | In the inner city areas | In the city centre areas |
| inTunnels | In tunnels | In tunnels |

| Enumerated value name | Designation | Definition |
|----------------------------|--------------------------------|---|
| onBridges | On bridges | On bridges |
| onDownhillSections | On downhill sections | On downhill sections of the road |
| onElevatedSections | On elevated sections | On elevated sections of the road |
| onEnteringOrLeavingTunnels | On entering or leaving tunnels | On entering or leaving tunnels |
| onFlyovers | On flyovers | On flyover sections of the road, i.e. sections of the road which pass over another road |
| onPasses | On passes | On mountain passes |
| onUndergroundSections | On underground sections | On underground sections of the road |
| onUnderpasses | On underpasses | On underpasses, i.e. sections of the road which pass under another road |

A.3.6 The <<D2Enumeration>> "AuthenticationAndIdentificationEnum"

A table of authentication and/or identification methods

Table A.85— Values contained in the enumeration "AuthenticationAndIdentificationEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|---------------------|--|
| activeRFIDChip | Active r f i d chip | Phone (active RFID chip) |
| apps | Apps | Apps |
| calypso | Calypso | RFID Calypso |
| cashPayment | Cash payment | No specific authentication by using cash |
| creditCard | Credit card | Credit card |
| debitCard | Debit card | Debit card |
| mifareClassic | Mifare classic | RFID Card / Phone NFC - Mifare Classic |
| mifareDesfire | Mifare desfire | RFID Card / Phone NFC - Mifare Desfire |
| nfc | Nfc | Nearfield communication |
| noAccess | No access | No access granted |
| overTheAir | Over the air | Over the air according to ISO 15118 |
| phoneDialog | Phone dialog | phone (dialog with platform) |
| phoneSMS | Phone s m s | Phone (SMS) |
| pinpad | Pinpad | PINPAD |
| plc | Plc | PLC according to ISO 15118 |
| prepaidCard | Prepaid card | Pre-Paid card |
| rfid | Rfid | RFID |

| Enumerated value name | Designation | Definition |
|-----------------------|------------------|--|
| unlimitedAccess | Unlimited access | No authentication/identification required. |
| website | Website | Using a website |

A.3.7 The <<D2Enumeration>> "AvailabilityEnum"

An enumeration which states if something is available or not.

Table A.86— Values contained in the enumeration "AvailabilityEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|---------------|--|
| available | Available | The element in question is available. |
| notAvailable | Not available | The element in question is not available. |
| unknown | Unknown | There is no information about whether the element in question is available or not. |

A.3.8 The <<D2Enumeration>> "CalendarWeekWithinMonthEnum"

Calendar week within month (see ISO8601).

Table A.87— Values contained in the enumeration "CalendarWeekWithinMonthEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|--|
| fifthWeek | Fifth week | Fifth week of the month. |
| firstWeek | First week | Calendar week containing the first of the month. Several days of the first week of the month may occur in the previous calendar month. By construction, the last week of a preceding month can also be the first week of a subsequent month. |
| fourthWeek | Fourth week | Fourth week of the month. |
| lastWeek | Last week | Last calendar week within month, regardless of its actual number. The last calendar week is the week beginning with Monday and containing the last of the month. |
| secondWeek | Second week | Second week of the month. |
| sixthWeek | Sixth week | Sixth week of the month. |
| thirdWeek | Third week | Third week of the month. |

A.3.9 The <<D2Enumeration>> "ChargingModeEnum"

Charging mode according to IEC 61851-1 terminology

Table A.88— Values contained in the enumeration "ChargingModeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|------------------|--|
| ccs | Ccs | Charging with a combined charging solution (CCS). AC and DC are used simultaneously. |
| legacyInductive | Legacy inductive | Legacy-Inductive |
| mode1AC1p | Mode1 a c1p | Mode 1, AC 1 phase |
| mode1AC3p | Mode1 a c3p | Mode 1, AC 3 phases |
| mode2AC1p | Mode2 a c1p | Mode 2, AC 1 phase |
| mode2AC3p | Mode2 a c3p | Mode 2, AC 3 phases |
| mode3AC3p | Mode3 a c3p | Mode 3, AC 3 phases |
| mode4DC | Mode4 d c | Mode 4, DC |
| other | Other | Some other charging mode |
| unknown | Unknown | The type of the charging mode is unknown |

A.3.10 The <<D2Enumeration>> "ChargingPointUsageTypeEnum"

Type of usage for an electric charging point..

Table A.89— Values contained in the enumeration "ChargingPointUsageTypeEnum"

| Enumerated value name | Designation | Definition |
|----------------------------|-------------------------------|--|
| electricalDevices | Electrical devices | Provides a plug for electrical devices (e.g. shaver, mobile phones, hair dryer, ...) |
| electricBike | Electric bike | Charging of E-Bikes |
| electricBoat | Electric boat | Charging of electric boats |
| electricMotorcycle | Electric motorcycle | Charging of E-Motorcycles |
| electricVehicle | Electric vehicle | Charging of electric vehicles |
| lorryPowerConsumption | Lorry power consumption | Supply for lorries with power consumption, e.g. for refrigerated goods transports. |
| motorhomeOrCaravanSupply | Motorhome or caravan supply | Supply for motorhomes or caravans |
| other | Other | Other usage for the electric charging stations. |
| overheadLineDrivenVehicles | Overhead line driven vehicles | The charging point supplies a overhead line, usually connected via pantographs |

A.3.11 The <<D2Enumeration>> "ComparisonOperatorEnum"

Logical comparison operations.

Table A.90— Values contained in the enumeration "ComparisonOperatorEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|--------------------------|--|
| equalTo | Equal to | Logical comparison operator of "equal to". |
| greaterThan | Greater than | Logical comparison operator of "greater than". |
| greaterThanOrEqualTo | Greater than or equal to | Logical comparison operator of "greater than or equal to". |
| lessThan | Less than | Logical comparison operator of "less than". |
| lessThanOrEqualTo | Less than or equal to | Logical comparison operator of "less than or equal to". |

A.3.12 The <<D2Enumeration>> "ConfidentialityValueEnum"

Values of confidentiality.

Table A.91— Values contained in the enumeration "ConfidentialityValueEnum"

| Enumerated value name | Designation | Definition |
|--|---|---|
| internalUse | Internal use | For internal use only of the recipient organisation. |
| noRestriction | No restriction | No restriction on usage. |
| restrictedToAuthorities | Restricted to authorities | Restricted for use only by authorities. |
| restrictedToAuthoritiesAndTrafficOperators | Restricted to authorities and traffic operators | Restricted for use only by authorities and traffic operators. |

A.3.13 The <<D2Enumeration>> "ConnectorFormatTypeEnum"

A list of cable types used during the charging process.

Table A.92— Values contained in the enumeration "ConnectorFormatTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|---|
| cableMode2 | Cable mode2 | The connector is an attached cable; the EV users car needs to have a fitting inlet for a mode 2 cable, common for most domestic sockets |
| cableMode3 | Cable mode3 | The connector is an attached cable; the EV users car needs to have a fitting inlet for a mode 3 cable, can be used for Type 1 and Type 2 sockets. |

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|---|
| otherCable | Other cable | The connector is an attached cable; the EV users car needs to have a fitting inlet. |
| socket | Socket | The connector is a socket; the EV user needs to bring a fitting plug |

A.3.14 The <<D2Enumeration>> "ConnectorTypeEnum"

A table of commonly used connectors / charging interfaces

Table A.93— Values contained in the enumeration "ConnectorTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|---|
| cee3 | Cee3 | CEE3, 230 V, 16 A |
| cee5 | Cee5 | CEE5, 400 V, 16-63 A |
| chademo | Chademo | CHAdEMO, 600 V DC. Used mostly in Japan. |
| domestic | Domestic | A domestic socket of unspecified type. Applicable countries should be specified in separate attribute. |
| domesticA | Domestic a | Domestic socket type A (mainly used in the USA, Canada, Mexico & Japan) |
| domesticB | Domestic b | Domestic socket type B (mainly used in the USA, Canada & Mexico) |
| domesticC | Domestic c | Domestic socket type C (commonly used in Europe, South America & Asia) |
| domesticD | Domestic d | Domestic socket type D (mainly used in India) |
| domesticE | Domestic e | Domestic socket type E (primarily used in France, Belgium, Poland, Slovakia & Czechia) |
| domesticF | Domestic f | Domestic socket type F (used almost everywhere in Europe & Russia, except for the UK & Ireland) |
| domesticG | Domestic g | Domestic socket type G (mainly used in the United Kingdom, Ireland, Malta, Malaysia, Singapore & the Arabian Peninsula) |
| domesticH | Domestic h | Domestic socket type H (used exclusively in Israel, the West Bank & the Gaza Strip) |
| domesticI | Domestic i | Domestic socket type I (mainly used in Australia, New Zealand, China & Argentina) |

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------------|--|
| domesticJ | Domestic j | Domestic socket type J (used almost exclusively in Switzerland & Liechtenstein) |
| domesticK | Domestic k | Domestic socket type K (used almost exclusively in Denmark & Greenland) |
| domesticL | Domestic l | Domestic socket type L (used almost exclusively in Italy & Chile) |
| domesticM | Domestic m | Domestic socket type M (mainly used in South Africa) |
| domesticN | Domestic n | Domestic socket type N (used in Brazil and South Africa) |
| domesticO | Domestic o | Domestic socket type O (used exclusively in Thailand) |
| iec60309x2single16 | iec60309x2single16 | IEC 60309-2 Industrial Connector single phase 16 amperes (usually blue) |
| iec60309x2three16 | iec60309x2three16 | IEC 60309-2 Industrial Connector three phase 16 amperes (usually red) |
| iec60309x2three32 | iec60309x2three32 | IEC 60309-2 Industrial Connector three phase 32 amperes (usually red) |
| iec60309x2three64 | iec60309x2three64 | IEC 60309-2 Industrial Connector three phase 64 amperes (usually red) |
| iec62196T1 | iec62196 t1 | IEC 62196 Type 1 "SAE J1772". Mostly used in USA and Asia. |
| iec62196T1COMBO | iec62196 t1 c o m b o | Combo Type 1 based, DC |
| iec62196T2 | iec62196 t2 | IEC 62196 Type 2 "Mennekes" - 400 V, 16-63 A. Mandatory in Europe; EN 17186 identifier "C" |
| iec62196T2COMBO | iec62196 t2 c o m b o | Combo Type 2 based, DC, Type 2 connector with extension for simultaneous DC-charging |
| iec62196T3A | iec62196 t3 a | IEC 62196 Type 3A; EN 17186 identifier "D" |
| iec62196T3C | iec62196 t3 c | IEC 62196 Type 3C "Scame"; EN 17186 identifier "E" |
| mcs | Mcs | MCS |
| other | Other | Other charging interface. |
| pantographBottomUp | Pantograph bottom up | On-board Bottom-up-Pantograph typically for bus charging |

| Enumerated value name | Designation | Definition |
|-----------------------|-------------------------|---|
| pantographTopDown | Pantograph top down | Off-board Top-down-Pantograph typically for bus charging |
| teslaConnectorAmerica | Tesla connector america | Tesla connector used in America (Tesla specific) |
| teslaConnectorEurope | Tesla connector europe | Tesla Connector EU (modification of the Type 2 connector) |
| teslaR | Tesla r | Tesla Connector "Roadster"-type (round, 4 pin) |
| teslaS | Tesla s | Tesla Connector "Model-S"-type (oval, 5 pin) |
| yazaki | Yazaki | Yazaki, 400 VDC, 125 A, Asian standard. |

A.3.15 The <<D2Enumeration>> "DayEnum"

Days of the week.

Table A.94— Values contained in the enumeration "DayEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|------------|
| friday | Friday | Friday. |
| monday | Monday | Monday. |
| saturday | Saturday | Saturday. |
| sunday | Sunday | Sunday. |
| thursday | Thursday | Thursday. |
| tuesday | Tuesday | Tuesday. |
| wednesday | Wednesday | Wednesday. |

A.3.16 The <<D2Enumeration>> "DeliveryUnitEnum"

Table with different units in which the delivery is measured.

Table A.95— Values contained in the enumeration "DeliveryUnitEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|---------------|
| kWh | K wh | kilowatt hour |

A.3.17 The <<D2Enumeration>> "ElectricEnergySourceTypeEnum"

Electric energy sources

Table A.96— Values contained in the enumeration "ElectricEnergySourceTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|----------------------|
| biogas | Biogas | Biogas energy source |

| Enumerated value name | Designation | Definition |
|-----------------------|----------------|------------------------------------|
| coal | Coal | Coal energy source |
| gas | Gas | Gas energy source |
| generalFossil | General fossil | All kinds of fossil power sources |
| generalGreen | General green | All kinds of green energy sources. |
| nuclear | Nuclear | Nuclear power sources |
| other | Other | Any other energy source |
| solar | Solar | Solar energy source |
| water | Water | Water energy source |
| wind | Wind | Wind energy source |

A.3.18 The <<D2Enumeration>> "EmissionClassificationEuroEnum"

Classification of emission according to the Euro emission classification (based on serveral amendments on 1970 Directive 70/220/EEC). Note htat vehicleType as well as fuelType are mandatory to provide to make this classification explicit.

Table A.97— Values contained in the enumeration "EmissionClassificationEuroEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|------------------|
| euro5 | Euro5 | Euro 5. |
| euro5a | Euro5a | Euro 5a. |
| euro5b | Euro5b | Euro 5b. |
| euro6 | Euro6 | Euro 6. |
| euro6a | Euro6a | Euro 6a. |
| euro6b | Euro6b | Euro 6b. |
| euro6c | Euro6c | Euro 6c. |
| euroV | Euro v | Euro V. |
| euroVI | Euro v i | Euro VI. |
| other | Other | Any other level. |

A.3.19 The <<D2Enumeration>> "EmissionClassificationEuroEnumExtended"

extension of the EmissionClassificationEuroEnum

Table A.98— Values contained in the enumeration "EmissionClassificationEuroEnumExtended"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|------------|
| euro0 | Euro0 | Euro 0. |
| euro1 | Euro1 | Euro1. |
| euro2 | Euro2 | Euro2. |
| euro3 | Euro3 | Euro3. |

| Enumerated value name | Designation | Definition |
|-----------------------|--------------|--------------------------------------|
| euro4 | Euro4 | Euro 4. |
| euro6d | Euro6d | Euro 6d. |
| euro6dTemp | Euro6d temp | Euro 6d-TEMP. |
| euroI | Euro i | euro 1 |
| euroII | Euro i i | euro 2 |
| euroIII | Euro i i i | euro 3 |
| euroIV | Euro i v | Euro IV. |
| euroUnknown | Euro unknown | euro qualification of engine unknown |

A.3.20 The <<D2Enumeration>> "EnergyInfrastructureSiteTypeEnum"

The type of an energy infrastructure site.

Table A.99— Values contained in the enumeration "EnergyInfrastructureSiteTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------|--|
| inBuilding | In building | The energy infrastructure site is located inside some building for example in a car park. |
| onCompanySite | On company site | The energy infrastructure site is located on a company site. |
| onstreet | Onstreet | The energy infrastructure site is located alongside a street, for example some singular charging stations. |
| openSpace | Open space | The energy infrastructure site is an open space, for example a parking site. |
| other | Other | Other types of energy infrastructure sites. |

A.3.21 The <<D2Enumeration>> "EquipmentTypeEnum"

Types of equipment.

Table A.100— Values contained in the enumeration "EquipmentTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------------------|--|
| bathRoom | Bath room | Bike parking. |
| bikeParking | Bike parking | Bike parking. |
| cashMachine | Cash machine | Cash machine. |
| copyMachineOrService | Copy machine or service | A possibility to create copies of documents. |

| Enumerated value name | Designation | Definition |
|-------------------------|---------------------------|---|
| defibrillator | Defibrillator | Medical equipment to provide first aid after heart attacks. |
| dsrReceiver | Dsrc receiver | A system to manage digital short range communication (radio beacon transceivers), e.g. for tolling roadside equipment. |
| dumpingStation | Dumping station | Possibility to get rid of sewage (especially for motorhomes). |
| electricChargingStation | Electric charging station | For charging vehicles, motorhome supply etc. The quantity attribute specifies the number of charging stations. |
| elevator | Elevator | Indication of the availability of elevators. |
| faxMachineOrService | Fax machine or service | A possibility to send and/or receive faxes. |
| fireExtinguisher | Fire extinguisher | Fire extinguisher |
| fireHose | Fire hose | A hose for water transport in case of fire. |
| fireHydrant | Fire hydrant | Fire hydrant |
| firstAidEquipment | First aid equipment | Equipment to support first aid on injured people. Note that 'defibrillator' is a separate literal. |
| iceFreeScaffold | Ice free scaffold | A technical equipment to remove ice and snow from the roof of lorries. |
| informationPoint | Information point | An information point with employees. |
| informationStele | Information stele | An unmanned information point. |
| internetTerminal | Internet terminal | Public internet terminal. Charges may be specified using the TariffsAndPayment section. |
| internetWireless | Internet wireless | Public wireless internet. Specifying an amount would be the number of hotspots/access points. Charges may be specified using the TariffsAndPayment section. |
| luggageLocker | Luggage locker | Possibility to deposit luggage in a safe way. |
| none | None | None. |
| other | Other | Some other equipment. Use the description attribute to specify it. |
| paymentMachine | Payment machine | A payment machine, for example a parking ticket machine. |

| Enumerated value name | Designation | Definition |
|----------------------------|--------------------------------|---|
| picnicFacilities | Picnic facilities | Indication of whether any picnicking facilities, such as tables, chairs and shaded areas, are available. |
| playground | Playground | A playground for children. |
| publicCardPhone | Public card phone | Indicates whether there is a public telephone available that can be used with a card. |
| publicCoinPhone | Public coin phone | Indicates whether there is a public telephone available that can be used with coins. |
| publicPhone | Public phone | Indicates whether there is a public telephone available. |
| refuseBin | Refuse bin | Refuse bins for small amounts of garbage (see also 'wasteDisposal'). |
| restingFacilities | Resting facilities | Resting facilities |
| safeDeposit | Safe deposit | A possibility to store valuable possession in a safe way. |
| shelter | Shelter | A shelter (against wind, sun,). |
| shower | Shower | Indicates whether there are shower facilities available. |
| snowAndIceRemovalEquipment | Snow and ice removal equipment | Equipment to remove snow and ice. |
| toilet | Toilet | Indicates whether there are toilets available. |
| tollTerminal | Toll terminal | A terminal, where toll charges can be paid manually (this does not mean a toll gate on the road) |
| tyreAirPressureEquipment | Tyre air pressure equipment | Equipment to measure and refill tyre air pressure. |
| unknown | Unknown | Unknown. |
| vendingMachine | Vending machine | A vending machine for snacks, coffee etc. (without manpower). |
| wasteDisposal | Waste disposal | Possibility to get rid of waste in a legal way (e.g. for truckers or motorhomes). Normal refuse bins are not intended here. |
| waterBasin | Water basin | A water basin to wash hands, clothes or dishes. |
| waterSupply | Water supply | Supply of fresh water, e.g. for motorhomes. |
| waterTap | Water tap | Fresh water out of a tap. |

A.3.22 The <<D2Enumeration>> "EuVehicleCategoryEnum"

Vehicle categories according to EU legislation

Table A.101— Values contained in the enumeration "EuVehicleCategoryEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|--------------|--|
| l | L | Mopeds, Motorcycles, Motor Tricycles and Quadricycles. |
| l1 | L1 | Light two-wheel powered vehicle. |
| l2 | L2 | Three-wheel moped. |
| l3 | L3 | Two-wheel motorcycle. |
| l4 | L4 | Two-wheel motorcycle with side-car. |
| l5 | L5 | Powered tricycle. |
| l6 | L6 | Light quadricycle. |
| l7 | L7 | Heavy quadricycle. |
| m | M | Motor vehicles with at least four wheels designed and constructed for the carriage of passengers. |
| m1 | M1 | Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat. |
| m2 | M2 | Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes. |
| m3 | M3 | Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding 5 tonnes. |
| n | N | Motor vehicles with at least four wheels designed and constructed for the carriage of goods. |
| n1 | N1 | Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3,5 tonnes |
| n1ClassI | N1 class i | Light commercial vehicles with ≤ 1,305 kg reference mass. |
| n1ClassII | N1 class i i | Light commercial vehicles with 1,305–1,760 kg reference mass. |

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------------|---|
| n1ClassIII | N1 class i i i | N1 Class III. |
| n1ClassIIIAndN2 | N1 class i i i and n2 | Light commercial vehicles > 1,760 kg reference mass and max 3,500 kg. |
| n2 | N2 | Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 3,5 tonnes but not exceeding 12 tonnes. |
| n3 | N3 | Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 12 tonnes. |
| o | O | Trailers (including semi-trailers). |
| o1 | O1 | Trailers with a maximum mass not exceeding 0,75 tonnes |
| o2 | O2 | Trailers with a maximum mass exceeding 0,75 tonnes but not exceeding 3,5 tonnes. |
| o3 | O3 | Trailers with a maximum mass exceeding 3,5 tonnes but not exceeding 10 tonnes. |
| o4 | O4 | Trailers with a maximum mass exceeding 10 tonnes. |
| other | Other | Some other vehicle category. |
| r1 | R1 | Trailers, the sum of the technically permissible masses per axle of which does not exceed 1,500 kg. |
| r2 | R2 | Trailers, the sum of the technically permissible masses per axle of which exceeds 1,500 kg but does not exceed 3,500 kg. |
| r3 | R3 | Trailers, the sum of the technically permissible masses per axle of which exceeds 3,500 kg but does not exceed 21,000 kg. |
| r4 | R4 | Trailers, the sum of the technically permissible masses per axle of which exceeds 21,000 kg. |
| t1 | T1 | Wheeled tractors with the closest axle to the driver having a minimum track width of not less than 1,500 mm; with an unladen mass in running order of more than 600 kg and with a ground clearance of not more than 1,000 mm. |

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|--|
| t2 | T2 | Vehicle category t2 according to Regulation(EU) No 167/2013. |
| t3 | T3 | Wheeled tractors with unladen mass in running order of not more than 600 kg. |
| t4 | T4 | Special purpose wheeled tractors with a maximum design speed of not more than 40 km/h. |
| t41 | T41 | Category T4.1: High clearance tractors. |
| t42 | T42 | Category T4.2: Extra-wide tractors. |
| t43 | T43 | Category T4.3: Low clearance tractors. |

A.3.23 The <<D2Enumeration>> "FuelTypeEnum"

Type of fuel used by a vehicle.

Table A.102— Values contained in the enumeration "FuelTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------------|--|
| all | All | All sort of fuel is accepted. |
| battery | Battery | Battery. |
| biodiesel | Biodiesel | Biodiesel. |
| diesel | Diesel | Fuel used for compression-ignition (CI) engines. |
| dieselBatteryHybrid | Diesel battery hybrid | Diesel and battery hybrid. |
| ethanol | Ethanol | Ethanol. |
| hydrogen | Hydrogen | Hydrogen. |
| liquidGas | Liquid gas | Liquid gas of any type including LPG. |
| lpg | LPG | Liquid petroleum gas. |
| methane | Methane | Methane gas. |
| other | Other | Other. |
| petrol | Petrol | Fuel used for positive-ignition (PI) engines. |
| petrol95Octane | Petrol95 octane | Petrol with 95 octane. |
| petrol98Octane | Petrol98 octane | Petrol with 98 octane. |
| petrolBatteryHybrid | Petrol battery hybrid | Petrol and battery hybrid. |
| petrolLeaded | Petrol leaded | Leaded petrol. |
| petrolUnleaded | Petrol unleaded | Unleaded petrol. |

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|--------------------------------|
| unknown | Unknown | The sort of fuel is not known. |

A.3.24 The <<D2Enumeration>> "HeightTypeEnum"

Coded value for type of height

Table A.103— Values contained in the enumeration "HeightTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|------------------------|---|
| ellipsoidalHeight | Ellipsoidal height | Value measured vertically above the reference ellipsoid |
| gravityRelatedHeight | Gravity related height | Height type corresponding a value measured along direction of gravity above the reference geoid i.e. equipotential surface of the Earth's gravity field which globally approximates mean sea level. |
| relativeHeight | Relative height | Height type corresponding to value masured vertically above the ground level at this point. |

A.3.25 The <<D2Enumeration>> "ImageFormatEnum"

Identifies an image format

Table A.104— Values contained in the enumeration "ImageFormatEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|-----------------------|
| bmp | Bmp | The bmp image format |
| gif | Gif | The gif image format |
| jpeg | Jpeg | The jpeg image format |
| png | Png | The png image format |

A.3.26 The <<D2Enumeration>> "InformationDeliveryServicesEnum"

List of service channels or devices on which information or data exchanged can be delivered.

Table A.105— Values contained in the enumeration "InformationDeliveryServicesEnum"

| Enumerated value name | Designation | Definition |
|---------------------------|------------------------------|---|
| anyGeneralDeliveryService | Any general delivery service | Includes any general delivery channel such as broadcast channels (e.g. radio, tv, RDS-TMC, TPEG services, etc.) or web publishing available to public or to specific users, depending on Service Provider policies. |

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------|--|
| safetyServices | Safety services | Specific services which deliver warning alerts to end users to enhance safety via any specific application available to drivers, including C-ITS services. |
| vms | Vms | Variable Message Signs or any other visual roadside devices which information are accessible to drivers which aim to affect driving style improving safety and road network LoS. |

A.3.27 The <<D2Enumeration>> "InformationStatusEnum"

Status of the related information (i.e. real, test or exercise).

Table A.106— Values contained in the enumeration "InformationStatusEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|--------------------|---|
| real | Real | The information is real. It is not a test or exercise. |
| securityExercise | Security exercise | The information is part of an exercise which is for testing security. |
| technicalExercise | Technical exercise | The information is part of an exercise which includes tests of associated technical subsystems. |
| test | Test | The information is part of a test for checking the exchange of this type of information. |

A.3.28 The <<D2Enumeration>> "InstanceOfDayEnum"

Instances of a day of the week in a month

Table A.107— Values contained in the enumeration "InstanceOfDayEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------|--|
| fifthInstance | Fifth instance | Fifth instance of specified day of week in month. |
| firstInstance | First instance | First instance of specified day of week in month. |
| fourthInstance | Fourth instance | Fourth instance of specified day of week in month. |
| lastInstance | Last instance | Last instance of specified day of week in month (regardless its actual instance number). |

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------|--|
| secondInstance | Second instance | Second instance of specified day of week in month. |
| thirdInstance | Third instance | Third instance of specified day of week in month. |

A.3.29 The <<D2Enumeration>> "LoadTypeEnum"

Types of load carried by a vehicle.

Table A.108— Values contained in the enumeration "LoadTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------------|--------------------------------|--|
| abnormalLoad | Abnormal load | A load that exceeds normal vehicle dimensions in terms of height, length, width, gross vehicle weight or axle weight or any combination of these. Generally termed an "abnormal load". |
| ammunition | Ammunition | Ammunition. |
| chemicals | Chemicals | Chemicals of unspecified type. |
| combustibleMaterials | Combustible materials | Combustible materials of unspecified type. |
| corrosiveMaterials | Corrosive materials | Corrosive materials of unspecified type. |
| debris | Debris | Debris of unspecified type. |
| empty | Empty | No load. |
| explosiveMaterials | Explosive materials | Explosive materials of unspecified type. |
| extraHighLoad | Extra high load | A load of exceptional height. |
| extraLongLoad | Extra long load | A load of exceptional length. |
| extraWideLoad | Extra wide load | A load of exceptional width. |
| fuel | Fuel | Fuel of unspecified type. |
| glass | Glass | Glass. |
| goods | Goods | Any goods of a commercial nature. |
| hazardousMaterials | Hazardous materials | Materials classed as being of a hazardous nature. |
| liquid | Liquid | Liquid of an unspecified nature. |
| livestock | Livestock | Livestock. |
| materials | Materials | General materials of unspecified type. |
| materialsDangerousForPeople | Materials dangerous for people | Materials classed as being of a danger to people or animals. |

| Enumerated value name | Designation | Definition |
|-------------------------------------|---|---|
| materialsDangerousForTheEnvironment | Materials dangerous for the environment | Materials classed as being potentially dangerous to the environment. |
| materialsDangerousForWater | Materials dangerous for water | Materials classed as being dangerous when exposed to water (e.g. materials which may react exothermically with water). |
| oil | Oil | Oil. |
| ordinary | Ordinary | Materials that present limited environmental or health risk. Non-combustible, non-toxic, non-corrosive. |
| other | Other | Other than as defined in this enumeration. |
| perishableProducts | Perishable products | Products or produce that will significantly degrade in quality or freshness over a short period of time. |
| petrol | Petrol | Petrol or petroleum. |
| pharmaceuticalMaterials | Pharmaceutical materials | Pharmaceutical materials. |
| radioactiveMaterials | Radioactive materials | Materials that emit significant quantities of electro-magnetic radiation that may present a risk to people, animals or the environment. |
| refrigeratedGoods | Refrigerated goods | Refrigerated goods. |
| refuse | Refuse | Refuse. |
| toxicMaterials | Toxic materials | Materials of a toxic nature which may damage the environment or endanger public health. |
| vehicles | Vehicles | Vehicles of any type which are being transported. |

A.3.30 The <<D2Enumeration>> "LowEmissionLevelEnum"

The emission level of a vehicle.

Table A.109— Values contained in the enumeration "LowEmissionLevelEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|------------------|---|
| freeOfEmission | Free of emission | Only vehicles that do not produce emissions (e.g. electric driven). Hybrid driven cars are allowed, when they switch to emission free mode within the considered situation. |

| Enumerated value name | Designation | Definition |
|-----------------------|--------------------|-----------------------------------|
| lowLevelEmission | Low level emission | Vehicles with low level emission. |

A.3.31 The <<D2Enumeration>> "MeansOfPaymentEnum"

Means of payment

Table A.110— Values contained in the enumeration "MeansOfPaymentEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|----------------------|---|
| cashBillsOnly | Cash bills only | Cash payment using bills only. |
| cashCoinsAndBills | Cash coins and bills | Cash payment using bills and/or coins only. |
| cashCoinsOnly | Cash coins only | Cash payment with coins only. |
| emv | Emv | Payment by cards with EMC chip |
| mobileAccount | Mobile account | Payment method using an app or other functions typically via a smartphone to a linked bank or card account. |
| nfc | Nfc | Near field communication |
| paymentCreditCard | Payment credit card | Payment by electronic payment credit card which is a small plastic card issued by a bank, building society, or other financial institution (ISO/IEC 7813 and other related standards), allowing the holder to purchase goods or services on credit. |
| paymentDebitCard | Payment debit card | Payment by electronic payment debit card which is a small plastic card (ISO/IEC 7813 and other related standards), allowing the holder to transfer money electronically from their bank account when making a purchase. |
| paymentValueCard | Payment value card | Payment by electronic payment debit card which is a small plastic card (ISO/IEC 7813 and other related standards) with a monetary value stored on the card itself, that may not be linked to an external account maintained by a financial institution. |
| prepay | Prepay | Advanced payment for parking right. |
| qrCode | Qr code | Paymet with a given QR-code |
| tollTag | Toll tag | Toll tag (RFID) or similar, with associated account. |
| unknown | Unknown | Unknown |

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|--------------------|
| website | Website | Payment by website |

A.3.32 The <<D2Enumeration>> "MonthOfYearEnum"

A list of the months of the year.

Table A.111— Values contained in the enumeration "MonthOfYearEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|-------------------------|
| april | April | The month of April. |
| august | August | The month of August. |
| december | December | The month of December. |
| february | February | The month of February. |
| january | January | The month of January. |
| july | July | The month of July. |
| june | June | The month of June. |
| march | March | The month of March. |
| may | May | The month of May. |
| november | November | The month of November. |
| october | October | The month of October. |
| september | September | The month of September. |

A.3.33 The <<D2Enumeration>> "NamedAreaTypeEnum"

Types of areas.

Table A.112— Values contained in the enumeration "NamedAreaTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|---------------------|---------------------|
| applicationRegion | Application region | Application region |
| carParkArea | Car park area | Car park area |
| carpoolArea | Carpool area | Carpool area |
| continent | Continent | Continent |
| country | Country | Country |
| countryGroup | Country group | Group of countries. |
| fuzzyArea | Fuzzy area | Fuzzy area |
| industrialArea | Industrial area | Industrial area |
| lake | Lake | Lake |
| meteorologicalArea | Meteorological area | Meteorological area |
| metropolitanArea | Metropolitan area | Metropolitan area |

| Enumerated value name | Designation | Definition |
|--------------------------|----------------------------|-----------------------------|
| municipality | Municipality | Municipality |
| order1AdministrativeArea | Order1 administrative area | Order 1 administrative area |
| order2AdministrativeArea | Order2 administrative area | Order 2 administrative area |
| order3AdministrativeArea | Order3 administrative area | Order 3 administrative area |
| order4AdministrativeArea | Order4 administrative area | Order 4 administrative area |
| order5AdministrativeArea | Order5 administrative area | Order 5 administrative area |
| parkAndRideSite | Park and ride site | A park and ride site |
| policeForceControlArea | Police force control area | Police force control area |
| roadOperatorControlArea | Road operator control area | Road operator control area |
| ruralCounty | Rural county | Rural county |
| sea | Sea | Sea |
| touristArea | Tourist area | Tourist area |
| trafficArea | Traffic area | Traffic area |
| urbanCounty | Urban county | Urban county |
| waterArea | Water area | Water area |

A.3.34 The <<D2Enumeration>> "NutsCodeTypeEnum"

Types of NUTS codes (Nomenclature of territorial units for statistics) including LAU codes (Local Administrative Units).

Table A.113— Values contained in the enumeration "NutsCodeTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|-------------|
| lau1Code | Lau1 code | LAU 1 code |
| lau2Code | Lau2 code | LAU 2 code |
| nuts1Code | Nuts1 code | NUTS 1 code |
| nuts2Code | Nuts2 code | NUTS 2 code |
| nuts3Code | Nuts3 code | NUTS 3 code |

A.3.35 The <<D2Enumeration>> "OpenlrFormOfWayEnum"

Enumeration of for of way

Table A.114— Values contained in the enumeration "OpenlrFormOfWayEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|----------------------|----------------------|
| motorway | Motorway | Motorway |
| multipleCarriageway | Multiple carriageway | Multiple carriageway |
| other | Other | Other |

| Enumerated value name | Designation | Definition |
|-----------------------|--------------------|--------------------|
| roundabout | Roundabout | Roundabout |
| singleCarriageway | Single carriageway | Single carriageway |
| slipRoad | Slip road | Slip road |
| trafficSquare | Traffic square | Traffic square |
| undefined | Undefined | Undefined |

A.3.36 The <<D2Enumeration>> "OpenlrFunctionalRoadClassEnum"

Enumeration of functional road class

Table A.115— Values contained in the enumeration "OpenlrFunctionalRoadClassEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|-------------------------------------|
| frc0 | Frc0 | Main road, highest importance |
| frc1 | Frc1 | First class road |
| frc2 | Frc2 | Second class road |
| frc3 | Frc3 | Third class road |
| frc4 | Frc4 | Fourth class road |
| frc5 | Frc5 | Fifth class road |
| frc6 | Frc6 | Sixth class road |
| frc7 | Frc7 | Other class road, lowest importance |

A.3.37 The <<D2Enumeration>> "OpenlrOrientationEnum"

Enumeration of orientation

Table A.116— Values contained in the enumeration "OpenlrOrientationEnum"

| Enumerated value name | Designation | Definition |
|------------------------|---------------------------|---------------------------|
| againstLineDirection | Against line direction | Against line direction |
| both | Both | Both directions |
| noOrientationOrUnknown | No orientation or unknown | No orientation or unknown |
| withLineDirection | With line direction | With line direction |

A.3.38 The <<D2Enumeration>> "OpenlrSideOfRoadEnum"

Enumeration of side of road

Table A.117— Values contained in the enumeration "OpenlrSideOfRoadEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|-------------------------------|
| both | Both | On both sides of the road. |
| left | Left | On the left side of the road. |

| Enumerated value name | Designation | Definition |
|-----------------------|--------------------|--------------------------------|
| onRoadOrUnknown | On road or unknown | On road or unknown |
| right | Right | On the right side of the road. |

A.3.39 The <<D2Enumeration>> "OrganisationTypeEnum"

Type of organisation.

Table A.118— Values contained in the enumeration "OrganisationTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|----------------|------------------------------|
| privateSector | Private sector | Private sector organisation. |
| publicSector | Public sector | Public sector organisation. |

A.3.40 The <<D2Enumeration>> "PaymentBrandsEnum"

Brands for payment cards

Table A.119— Values contained in the enumeration "PaymentBrandsEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|------------------|------------------|
| americanExpress | American express | American Express |
| applePay | Apple pay | Apple pay |
| cirrus | Cirrus | Cirrus |
| dinersClub | Diners club | Diners Club |
| discoverCard | Discover card | Discover Card |
| giroCard | Giro card | Giro card |
| maestro | Maestro | Maestro |
| masterCard | Master card | Master Card |
| other | Other | Another brand |
| visa | Visa | Visa |
| vpay | Vpay | VPay |

A.3.41 The <<D2Enumeration>> "PaymentTimingEnum"

Details of when payment is required.

Table A.120— Values contained in the enumeration "PaymentTimingEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|----------------|--------------------|
| other | Other | Other. |
| payAfterExit | Pay after exit | Payment on account |

| Enumerated value name | Designation | Definition |
|-----------------------|-------------------|--|
| payAndExit | Pay and exit | Pay directly at the exit with a payment card or other means of payment (usually, this payment card must have been used when entering as well). |
| payOnEntry | Pay on entry | Pay at start of the parking session (e.g. for pay and display) |
| payPriorToExit | Pay prior to exit | Pay at machine on foot prior to returning to vehicle and use payment ticket to exit. |
| prepay | Prepay | Pay before entry |

A.3.42 The <<D2Enumeration>> "PositionConfidenceCodedErrorEnum"

Error code for horizontal or vertical position confidence

Table A.121— Values contained in the enumeration "PositionConfidenceCodedErrorEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|--------------|---|
| outOfRange | Out of range | Indicates the accuracy is out of range, i.e. greater than 4 093 cm for horizontal position. |
| unavailable | Unavailable | Indicates the accuracy information is unavailable. |

A.3.43 The <<D2Enumeration>> "PriceTypeEnum"

The type of price for energy.

Table A.122— Values contained in the enumeration "PriceTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|------------------|---|
| basePrice | Base price | The given price is a base price, which has to be added. |
| flatRate | Flat rate | The given price is a flatrate price, independent of the fueled amunt. |
| free | Free | Charging or refueling is free. |
| other | Other | Other method of pricing. |
| pricePerKWh | Price per k wh | The given price is per kWh of electric energy. |
| pricePerMinute | Price per minute | The given price is per minute of charging. |

A.3.44 The <<D2Enumeration>> "PublicEventTypeEnum"

Types of public events.

Table A.123— Values contained in the enumeration "PublicEventTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------------|---|
| agriculturalShow | Agricultural show | Agricultural show or event which could disrupt traffic. |
| airShow | Air show | Air show or other aeronautical event which could disrupt traffic. |
| artEvent | Art event | Art event |
| athleticsMeeting | Athletics meeting | Athletics event that could disrupt traffic. |
| ballGame | Ball game | Ball game event that could disrupt traffic. |
| baseballGame | Baseball game | Baseball game event that could disrupt traffic. |
| basketballGame | Basketball game | Basketball game event that could disrupt traffic. |
| beerFestival | Beer festival | Beer festival |
| bicycleRace | Bicycle race | Bicycle race that could disrupt traffic. |
| boatRace | Boat race | Regatta (boat race event of sailing, powerboat or rowing) that could disrupt traffic. |
| boatShow | Boat show | Boat show which could disrupt traffic. |
| boxingTournament | Boxing tournament | Boxing event that could disrupt traffic. |
| bullFight | Bull fight | Bull fighting event that could disrupt traffic. |
| ceremonialEvent | Ceremonial event | Formal or religious act, rite or ceremony that could disrupt traffic. |
| commercialEvent | Commercial event | Commercial event which could disrupt traffic. |
| concert | Concert | Concert event that could disrupt traffic. |
| cricketMatch | Cricket match | Cricket match that could disrupt traffic. |
| culturalEvent | Cultural event | Cultural event which could disrupt traffic. |
| exhibition | Exhibition | Major display or trade show which could disrupt traffic. |

| Enumerated value name | Designation | Definition |
|----------------------------|------------------------------|---|
| fair | Fair | Periodic (e.g. annual), often traditional, gathering for entertainment or trade promotion, which could disrupt traffic. |
| festival | Festival | Celebratory event or series of events which could disrupt traffic. |
| filmFestival | Film festival | Film festival |
| filmTVMaking | Film TV making | Film or TV making event which could disrupt traffic. |
| fireworkDisplay | Firework display | Firework display |
| flowerEvent | Flower event | Flower event |
| foodFestival | Food festival | Food festival |
| footballMatch | Football match | Football match that could disrupt traffic. |
| funfair | Funfair | Periodic (e.g. annual), often traditional, gathering for entertainment, which could disrupt traffic. |
| gardeningOrFlowerShow | Gardening or flower show | Gardening and/or flower show or event which could disrupt traffic. |
| golfTournament | Golf tournament | Golf tournament event that could disrupt traffic. |
| hockeyGame | Hockey game | Hockey game event that could disrupt traffic. |
| horseRaceMeeting | Horse race meeting | Horse race meeting that could disrupt traffic. |
| internationalSportsMeeting | International sports meeting | Large sporting event of an international nature that could disrupt traffic. |
| majorEvent | Major event | Significant organised event either on or near the roadway which could disrupt traffic. |
| marathon | Marathon | Marathon, cross-country or road running event that could disrupt traffic. |
| market | Market | Periodic (e.g. weekly) gathering for buying and selling, which could disrupt traffic. |
| match | Match | Sports match of unspecified type that could disrupt traffic. |
| motorShow | Motor show | Motor show which could disrupt traffic. |

| Enumerated value name | Designation | Definition |
|-----------------------|--------------------------|---|
| motorSportRaceMeeting | Motor sport race meeting | Motor sport race meeting that could disrupt traffic. |
| openAirConcert | Open air concert | Open air concert |
| other | Other | Other than as defined in this enumeration. |
| parade | Parade | Formal display or organised procession which could disrupt traffic. |
| procession | Procession | An organised procession which could disrupt traffic. |
| raceMeeting | Race meeting | Race meeting (other than horse or motor sport) that could disrupt traffic. |
| rugbyMatch | Rugby match | Rugby match that could disrupt traffic. |
| severalMajorEvents | Several major events | A series of significant organised events either on or near the roadway which could disrupt traffic. |
| show | Show | Entertainment event that could disrupt traffic. |
| showJumping | Show jumping | Horse showing jumping and tournament event that could disrupt traffic. |
| soundAndLightShow | Sound and light show | Sound and light show. |
| sportsMeeting | Sports meeting | Sports event of unspecified type that could disrupt traffic. |
| stateOccasion | State occasion | Public ceremony or visit of national or international significance which could disrupt traffic. |
| streetFestival | Street festival | Street festival |
| tennisTournament | Tennis tournament | Tennis tournament that could disrupt traffic. |
| theatricalEvent | Theatrical event | Theatrical event |
| tournament | Tournament | Sporting event or series of events of unspecified type lasting more than one day which could disrupt traffic. |
| tradeFair | Trade fair | A periodic (e.g. annual), often traditional, gathering for trade promotion, which could disrupt traffic. |
| unknown | Unknown | Service provider does not know at time of message generation. |

| Enumerated value name | Designation | Definition |
|-----------------------|-----------------------|--|
| waterSportsMeeting | Water sports meeting | Water sports meeting that could disrupt traffic. |
| wineFestival | Wine festival | Wine festival |
| winterSportsMeeting | Winter sports meeting | Winter sports meeting or event (e.g. skiing, ski jumping, skating) that could disrupt traffic. |

A.3.45 The <<D2Enumeration>> "RatePolicyEnum"

Contract based or ad hoc prices for energy

Table A.124— Values contained in the enumeration "RatePolicyEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|----------------------------------|
| adHoc | Ad hoc | Prices are for ad hoc refueling. |
| contract | Contract | A contract defines the pricing. |

A.3.46 The <<D2Enumeration>> "ReservationTypeEnum"

Different types of reservation.

Table A.125— Values contained in the enumeration "ReservationTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|---------------|---|
| mandatory | Mandatory | Reservation is mandatory. |
| notAvailable | Not available | Reservation is not possible. |
| optional | Optional | Reservation is optional. |
| partly | Partly | There is a specific contingent, that can be reserved. |
| unknown | Unknown | Possibility of reservation is unknown, |
| unspecified | Unspecified | Possibility of reservation is not specified. |

A.3.47 The <<D2Enumeration>> "ServiceFacilityTypeEnum"

A service facility. In distinction to equipment, a service is usually manned.

Table A.126— Values contained in the enumeration "ServiceFacilityTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|--------------|-----------------------------------|
| bikeGarage | Bike garage | A place where bikes are repaired. |
| bikeSharing | Bike sharing | Bike Sharing. |
| cafe | Cafe | Cafe. |
| carWash | Car wash | Car wash. |

| Enumerated value name | Designation | Definition |
|-------------------------|---------------------------|---|
| cateringService | Catering service | Catering service |
| docstop | Docstop | The site is part of the Docstop project, http://www.docstoponline.eu , which means medical assistance for professional drivers. |
| foodShopping | Food shopping | Food shopping. |
| hotel | Hotel | A hotel. |
| kiosk | Kiosk | Kiosk. |
| laundry | Laundry | A possibility for washing clothes (might also be a laundromat with coins). |
| leisureActivities | Leisure activities | There are leisure activities offered on the site or in the very near surrounding. Use the additional description attribute to give details. |
| medicalFacility | Medical facility | Medical facility. |
| motel | Motel | Hotel located aside a motorway. |
| motorcycleGarage | Motorcycle garage | A place where motorcycles are repaired. |
| motorwayRestaurant | Motorway restaurant | Restaurant located on a motorway rest area. |
| motorwayRestaurantSmall | Motorway restaurant small | Smaller type of restaurant located on a motorway rest area. Might be with limited offers. |
| other | Other | Some other service facility. Use the description attribute to specify it. |
| overnightAccommodation | Overnight accommodation | An accommodation to stay overnight. |
| payDesk | Pay desk | A manned possibility to pay. |
| petrolStation | Petrol station | Indicates whether it is possible to get petrol. |
| pharmacy | Pharmacy | Pharmacy. |
| police | Police | Indicates whether a police station is on site or very close. |
| restaurant | Restaurant | Restaurant. |
| restaurantSelfService | Restaurant self service | A restaurant where people arrange and fetch their meal themselves, this might enclose a buffet. |
| shop | Shop | A shop of unspecified kind. |
| snackBar | Snack bar | A snack bar. |

| Enumerated value name | Designation | Definition |
|-----------------------|----------------------|-------------------------------------|
| sparePartsShopping | Spare parts shopping | Spare parts shopping. |
| touristInformation | Tourist information | Tourist information with employees. |
| truckRepair | Truck repair | Truck repair. |
| truckWash | Truck wash | Truck wash. |
| tyreRepair | Tyre repair | A tyre repair service. |
| unknown | Unknown | Unknown. |
| vehicleMaintenance | Vehicle maintenance | Garage repair service. |

A.3.48 The <<D2Enumeration>> "ServiceTypeEnum"

A table of different service levels to be expected for fuelling/charging and payment.

Table A.127— Values contained in the enumeration "ServiceTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|---------------------|--|
| pyhsicalAttendance | Pyhsical attendance | Presence of physical persons attending the recharging or refuelling station. |
| unattended | Unattended | Unattended station, fuelling and payment to be done without assistance. |

A.3.49 The <<D2Enumeration>> "SmartRechargingServicesEnum"

Smart recharging services

Table A.128— Values contained in the enumeration "SmartRechargingServicesEnum"

| Enumerated value name | Designation | Definition |
|-------------------------|----------------------------|--|
| bidirectionalRecharging | Bidirectional recharging | Bidirectional charging. |
| powerOptimisationByUser | Power optimisation by user | User preference configuration for recharging power optimization. |
| remoteMonitoring | Remote monitoring | Remote monitoring and control recharging (e.g. by app) |

A.3.50 The <<D2Enumeration>> "SpecialDayTypeEnum"

Collection of special types of days.

Table A.129— Values contained in the enumeration "SpecialDayTypeEnum"

| Enumerated value name | Designation | Definition |
|---------------------------|------------------------------|-------------------------------------|
| dayBeforePublicHoliday | Day before public holiday | The day preceding a public holiday. |
| dayFollowingPublicHoliday | Day following public holiday | A day following a public holiday. |

| Enumerated value name | Designation | Definition |
|-----------------------|---------------------------|---|
| inLieuOfPublicHoliday | In lieu of public holiday | A holiday in lieu of a public holiday that falls on a weekend. |
| longWeekendDay | Long weekend day | A day between a public holiday and the weekend. |
| other | Other | Some other special day. |
| publicEventDay | Public event day | A day of a public event. You may use the publicEvent attribute to specify the corresponding event. |
| publicHoliday | Public holiday | A public holiday in general. You may use the PublicHoliday class to refer on a specific public holiday. |
| schoolDay | School day | A school day. |
| schoolHolidays | School holidays | A day within the school holidays. |

A.3.51 The <<D2Enumeration>> "SubdivisionTypeEnum"

ISO 3166-2 subdivison types.

Table A.130— Values contained in the enumeration "SubdivisionTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------------|---------------------------------|---------------------------------|
| administrativeAtoll | Administrative atoll | Administrative atoll |
| administrativeRegion | Administrative region | Administrative region |
| administrativeTerritory | Administrative territory | Administrative territory |
| arcticRegion | Arctic region | Arctic region |
| autonomousCity | Autonomous city | Autonomous city |
| autonomousCityInNorthAfrica | Autonomous city in north africa | Autonomous city in North Africa |
| autonomousCommunity | Autonomous community | Autonomous community |
| autonomousDistrict | Autonomous district | Autonomous district |
| autonomousProvince | Autonomous province | Autonomous province |
| autonomousRegion | Autonomous region | Autonomous region |
| canton | Canton | Canton |
| capitalCity | Capital city | Capital city |
| city | City | City |
| cityMunicipality | City municipality | City municipality |
| cityOfCountyRight | City of county right | City of county right |
| commune | Commune | Commune |
| councilArea | Council area | Council area |
| country | Country | Country |

| Enumerated value name | Designation | Definition |
|---------------------------------|-----------------------------------|-----------------------------------|
| county | County | County |
| department | Department | Department |
| dependency | Dependency | Dependency |
| district | District | District |
| districtMunicipality | District municipality | District municipality |
| districtWithSpecialStatus | District with special status | District with special status |
| entity | Entity | Entity |
| geographicalEntity | Geographical entity | Geographical entity |
| governorate | Governorate | Governorate |
| laender | Laender | Länder |
| localCouncil | Local council | Local Council |
| londonBorough | London borough | London borough |
| metropolitanArea | Metropolitan area | Metropolitan area |
| metropolitanDepartment | Metropolitan department | Metropolitan department |
| metropolitanDistrict | Metropolitan district | Metropolitan district |
| metropolitanRegion | Metropolitan region | Metropolitan region |
| municipality | Municipality | Municipality |
| other | Other | Other |
| overseasDepartment | Overseas department | Overseas department |
| overseasRegion | Overseas region | Overseas region |
| overseasTerritorialCollectivity | Overseas territorial collectivity | Overseas territorial collectivity |
| parish | Parish | Parish |
| province | Province | Province |
| quarter | Quarter | Quarter |
| region | Region | Region |
| republic | Republic | Republic |
| republicanCity | Republican city | Republic city |
| selfGovernedPart | Self governed part | Self-governed part |
| specialMunicipality | Special municipality | Special Municipality |
| state | State | State |
| territorialUnit | Territorial unit | Territorial unit |
| territory | Territory | Territory |
| twoTierCounty | Two tier county | Two tier country |
| unitaryAuthority | Unitary authority | Unitary Authority |
| ward | Ward | Ward |

A.3.52 The <<D2Enumeration>> "UrlLinkTypeEnum"

Types of URL links.

Table A.131— Values contained in the enumeration "UrlLinkTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|--------------|--|
| documentPdf | Document PDF | URL link to a pdf document. |
| html | HTML | URL link to an html page. |
| image | Image | URL link to an image. |
| other | Other | Other than as defined in this enumeration. |
| rss | RSS | URL link to an RSS feed. |
| videoStream | Video stream | URL link to a video stream. |
| voiceStream | Voice stream | URL link to a voice stream. |

A.3.53 The <<D2Enumeration>> "UserTypeEnum"

Types of different users, for example used in the context of parking.

Table A.132— Values contained in the enumeration "UserTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|---------------------|---|
| allUsers | All users | All users. |
| commuters | Commuters | Commuters. |
| customers | Customers | Customers. |
| elderlyUsers | Elderly users | Elderly users. |
| employees | Employees | Employees. |
| families | Families | Families. |
| hearingImpaired | Hearing impaired | People with hearing loss |
| hotelGuests | Hotel guests | Hotel guests. |
| longTermParkers | Long term parkers | Long-term parker. |
| members | Members | Members. |
| men | Men | Men. |
| other | Other | Other. |
| overnightParkers | Overnight parkers | Overnight parker. |
| parkAndCycleUser | Park and cycle user | Park and cycle user. |
| parkAndRideUsers | Park and ride users | Users that are exchanging into public transport at a park and ride station. |
| parkAndWalkUser | Park and walk user | Park and walk user. |
| pensioners | Pensioners | Pensioners. |

| Enumerated value name | Designation | Definition |
|--------------------------|-----------------------------|---|
| personsWithDisabilities | Persons with disabilities | Persons with disabilities |
| pregnantWomen | Pregnant women | Pregnant women. |
| registeredDisabledUsers | Registered disabled users | Registered disabled persons. |
| reservationHolders | Reservation holders | Those who have a valid reservation, e.g. for the duration of parking. |
| residents | Residents | Local residents. |
| seasonTicketHolders | Season ticket holders | Season ticket holders. |
| shoppers | Shoppers | Shoppers. |
| shortTermParkers | Short term parkers | Short-term parker. |
| sportEventAwaySupporters | Sport event away supporters | Sport event away supporters. |
| sportEventHomeSupporters | Sport event home supporters | Sport event home supporters. |
| staff | Staff | Staff. |
| students | Students | Students. |
| subscribers | Subscribers | Subscribers. |
| unknown | Unknown | Unknown. |
| visitors | Visitors | Visitors. |
| visuallyImpaired | Visually impaired | People with vision impairment |
| wheelchairUsers | Wheelchair users | Wheelchair users. |
| women | Women | Women. |

A.3.54 The <<D2Enumeration>> "VehicleEquipmentEnum"

Types of vehicle equipment in use or on board.

Table A.133— Values contained in the enumeration "VehicleEquipmentEnum"

| Enumerated value name | Designation | Definition |
|----------------------------------|---------------------------------------|--|
| notUsingSnowChains | Not using snow chains | Vehicle not using snow chains. |
| notUsingSnowChainsOrTyres | Not using snow chains or tyres | Vehicle not using either snow tyres or snow chains. |
| snowChainsInUse | Snow chains in use | Vehicle using snow chains. |
| snowChainsOrTyresInUse | Snow chains or tyres in use | Vehicle using snow tyres or snow chains. |
| snowTyresInUse | Snow tyres in use | Vehicle using snow tyres. |
| withoutSnowTyresOrChainsOn Board | Without snow tyres or chains on board | Vehicle which is not carrying on board snow tyres or chains. |

A.3.55 The <<D2Enumeration>> "VehicleToGridCommunicationTypeEnum"

A list of communication types for communication between vehicles and the grid.

Table A.134— Values contained in the enumeration "VehicleToGridCommunicationTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------|---|
| iec619802 | Iec619802 | Communication according to IEC/TS 61980-2. |
| iso15118 | Iso15118 | Communication according to ISO15118. |
| none | None | No communication between vehicle and the grid. |
| other | Other | Communication according to other guidelines/specifications. |
| unknown | Unknown | The type of communication is unknown. |

A.3.56 The <<D2Enumeration>> "VehicleTypeEnum"

Types of vehicle.

Table A.135— Values contained in the enumeration "VehicleTypeEnum"

| Enumerated value name | Designation | Definition |
|-----------------------|-------------------------|--|
| agriculturalVehicle | Agricultural vehicle | Vehicle normally used for agricultural purposes, e.g. tractor, combined harvester etc. |
| anyVehicle | Any vehicle | Vehicle of any type. |
| articulatedBus | Articulated bus | Articulated bus |
| articulatedTrolleyBus | Articulated trolley bus | Articulated trolley bus |
| articulatedVehicle | Articulated vehicle | Articulated vehicle. |
| bicycle | Bicycle | Bicycle. |
| bus | Bus | Bus. |
| car | Car | Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat, and having a maximum mass ("technically permissible maximum laden mass") not exceeding 3.5 tons (M1). |
| caravan | Caravan | Caravan. |
| carOrLightVehicle | Car or light vehicle | Car or light vehicle. |
| carWithCaravan | Car with caravan | Car towing a caravan. |
| carWithTrailer | Car with trailer | Car towing a trailer. |

| Enumerated value name | Designation | Definition |
|-----------------------------------|---------------------------------------|---|
| constructionOrMaintenanceVehicle | Construction or maintenance vehicle | Vehicle normally used for construction or maintenance purposes, e.g. digger, excavator, bulldozer, lorry mounted crane etc. |
| fourWheelDrive | Four wheel drive | Four wheel drive vehicle. |
| heavyDutyTransporter | Heavy duty transporter | A transporter for heavy duty (usually with abnormal dimensions). |
| heavyGoodsVehicle | Heavy goods vehicle | Vehicles with a total weight above 3,500 kg (vehicle and load). |
| heavyGoodsVehicleWithTrailer | Heavy goods vehicle with trailer | Heavy goods vehicle with trailer |
| heavyVehicle | Heavy vehicle | Vehicle whose weight means it should be classed as a heavy vehicle |
| highSidedVehicle | High sided vehicle | High sided vehicle. |
| largeCar | Large car | Large car |
| largeGoodsVehicle | Large goods vehicle | Vehicles for the carriage of goods and having a maximum mass exceeding 3.5 tonnes (belonging to class N2 when not exceeding 12 tonnes, otherwise class N3). |
| lightCommercialVehicle | Light commercial vehicle | Vehicles for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes (class N1). |
| lightCommercialVehicleWithTrailer | Light commercial vehicle with trailer | Light goods vehicle with trailer |
| longHeavyLorry | Long heavy lorry | A heavy lorry that is longer than normal. |
| lorry | Lorry | Lorry of any type. |
| metro | Metro | Metro |
| minibus | Minibus | Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes (class M2). |
| moped | Moped | Moped (a two wheeled motor vehicle characterized by a small engine typically less than 50cc and by normally having pedals). |
| motorcycle | Motorcycle | Motorcycle. |
| motorcycleWithSideCar | Motorcycle with side car | Three wheeled vehicle comprising a motorcycle with an attached side car. |
| motorhome | Motorhome | Motorhome |

| Enumerated value name | Designation | Definition |
|------------------------------------|--|---|
| motorscooter | Motorscooter | Motorscooter (a two wheeled motor vehicle characterized by a step-through frame and small diameter wheels). |
| other | Other | Other than as defined in this enumeration. |
| passengerCar | Passenger car | Passenger car |
| smallCar | Small car | Small car |
| tanker | Tanker | Vehicle with large tank for carrying bulk liquids. |
| threeWheeledVehicle | Three wheeled vehicle | Three wheeled vehicle of unspecified type. |
| trailer | Trailer | Trailer. |
| tram | Tram | Tram. |
| trolleyBus | Trolley bus | Trolley bus |
| twoWheeledVehicle | Two wheeled vehicle | Two wheeled vehicle of unspecified type. |
| unknown | Unknown | Unknown. |
| van | Van | Van. |
| vehicleWithCaravan | Vehicle with caravan | Vehicle (of unspecified type) towing a caravan. |
| vehicleWithCatalyticConverter | Vehicle with catalytic converter | Vehicle with catalytic converter. |
| vehicleWithoutCatalyticConverter | Vehicle without catalytic converter | Vehicle without catalytic converter. |
| vehicleWithTrailer | Vehicle with trailer | Vehicle (of unspecified type) towing a trailer. |
| withEvenNumberedRegistrationPlates | With even numbered registration plates | Vehicle with even numbered registration plate. |
| withOddNumberedRegistrationPlates | With odd numbered registration plates | Vehicle with odd numbered registration plate. |

A.3.57 The <<D2Enumeration>> "VehicleTypeExtendedUrban"

Urban extension for vehicle types.

Table A.136— Values contained in the enumeration "VehicleTypeExtendedUrban"

| Enumerated value name | Designation | Definition |
|-----------------------|------------------|---|
| electricBike | Electric bike | A bicycle with electric motor support. |
| electricScooter | Electric scooter | A two-wheeled device with handlebars and a floorboard that is powered by a motor. |

| Enumerated value name | Designation | Definition |
|------------------------------|---------------------------------|---|
| personalLightElectricVehicle | Personal light electric vehicle | Small electronic vehicle where the rider stands on a base between the wheels and holds onto a bar at waist height. It also includes other personal light electric vehicles like kick scooters, self-balancing unicycles, self-balancing scooters. |

A.3.58 The <<D2Enumeration>> "VehicleUsageEnum"

Types of usage of a vehicle.

Table A.137— Values contained in the enumeration "VehicleUsageEnum"

| Enumerated value name | Designation | Definition |
|-------------------------------|----------------------------------|--|
| agricultural | Agricultural | Vehicle used for agricultural purposes. |
| carSharing | Car sharing | Vehicles operated by a car-sharing company. |
| cityLogistics | City logistics | Vehicles that are used to deliver goods in a city area. |
| commercial | Commercial | Vehicle which is limited to non-private usage or public transport usage. |
| emergencyServices | Emergency services | Vehicle used by the emergency services. |
| military | Military | Vehicle used by the military. |
| nonCommercial | Non commercial | Vehicle used for non-commercial or private purposes. |
| patrol | Patrol | Vehicle used as part of a patrol service, e.g. road operator or automobile association patrol vehicle. |
| recoveryServices | Recovery services | Vehicle used to provide a recovery service. |
| roadMaintenanceOrConstruction | Road maintenance or construction | Vehicle used for road maintenance or construction work purposes. |
| roadOperator | Road operator | Vehicle used by the road operator. |
| taxi | Taxi | Vehicle used to provide an authorised taxi service. |

A.3.59 The <<D2Enumeration>> "WeightTypeEnum"

Type of weight - describing the meaning of a vehicle weight value

Table A.138— Values contained in the enumeration "WeightTypeEnum"

| Enumerated value name | Designation | Definition |
|------------------------------|--------------------|--|
| actual | Actual | The weight is the actual weight of a specific vehicle |
| maximumPermitted | Maximum permitted | The weight is the maximum permitted weight for a vehicle |