

# ETSI GS CDM 005 V2.1.1 (2024-08)



## **Common information sharing environment service and Data Model (CDM); Data Model; Release 2**

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# Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) european Common information sharing environment service and Data Model (CDM).

The present document covers the Common information sharing environment service and Data Model (CDM) data model.

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# Introduction

On October 2009 the European Commission adopted a Communication "Towards the integration of maritime surveillance: A common information sharing environment for the EU maritime domain", promoting to integrate maritime surveillance activities of all public maritime sectors across Europe [i.4].

This Communication introduced the first general guiding principles of the Common Information Sharing Environment (CISE) and initiated the CISE development process (Figure 1).



**Figure 1: CISE development process**

The Communication stated among other things, that the aim of the integrated maritime surveillance is to generate a situational awareness of activities at sea, impacting on the denominated seven maritime sectors: Maritime Safety and Security, Border Control, Maritime Pollution and Marine Environment Protection, Fisheries Control, Customs, General Law Enforcement and Defence, as well as the economic interests of the EU, so as to facilitate sound decision making.

Hybrid and complementary cross-sectoral and cross-border information exchange requires a common "data language" within the common network architecture as well as a common set of IT- services to handle the data transfer.

The technical standardization proposal for CISE implementation was therefore initiated by EUCISE 2020 project and directed towards a standardization process within the framework of a professional European standardization environment in order to elaborate universal and sustainable technical specifications for the implementation and development of CISE, as well as offering a technical solution for other, similar information exchange regimes. In April 2019, the Industry Specifications Group "CISE Service and Data Model" (ISG CDM) was founded at ETSI identified as the most appropriate European standardization institution with the scope of standardizing the CISE Service and Data Model to enable User Communities, Member States, Public Authorities and EU Agencies to facilitate information exchange between all parties.

The goal of ISG CDM is therefore to provide a data and a service model that may serve as reference for cross-sectorial and cross-border information exchange within the framework of the CISE network.

The results of this initiative brought to the definition of the first release of the standard, published in July 2024.

In parallel to the CISE Transitional Phase and to the ETSI standardization process, other EU-funded CISE related projects like the project ANDROMEDA and AI-ARC demonstrated that the CISE solution is perfectly adaptable to being used in other public information sharing user communities like the land border control domain.

In 2021, the ISG CDM therefore decided to include the land border domain as a reference for the more universal capabilities of the CISE solution by using the land border domain as an example, and incorporating the land border domain into the specifications.

This decision required the update of the CISE Data Model to incorporate all necessary changes arising from the land border domain extension and, in particular, the specification of a second release of the CISE Data Model, using the ANDROMEDA project results as reference.

The requirements in the present document respect the operational and technical requirements defined during the CISE development process (Figure 1) and the general principles of CISE as originally defined in [i.4], [i.5] and later elaborated in the most recent version of the CISE Architecture [i.6], [i.7] as follows:

- CISE connects public authorities in the EU and EEA responsible for maritime surveillance: civil and military, regional/sectorial organizations and EU agencies;
- CISE connects existing maritime surveillance ICT systems. However, CISE is not a new surveillance system, nor a new screen in the surveillance centres;
- CISE promotes a sector-neutral solution: all sectors and systems are important;
- CISE follows a decentralized approach: point-to-point exchange of information;
- Information exchange is voluntary, i.e. not enforced by legislation.

---

# 1 Scope

The present document provides terms and definitions of the CDM Data Model release 2 to extend the CISE Data Model release 1 adding, to the original data model, the payload (content) of the Service Model (envelope) used for land information exchange among participants of a CISE network.

---

## 2 References

### 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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The following referenced documents are necessary for the application of the present document.

- [1] [IETF RFC 6351](#): "xCard: vCard XML Representation".
- [2] [ISO 3166-1:2020](#): "Codes for the representation of names of countries and their subdivisions - Part 1: Country code".

### 2.2 Informative references

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI GS CDM 002: "Common information sharing environment service and Data Model (CDM); System Requirements Definition; Release 2".
- [i.2] ETSI GS CDM 003: "Common information sharing environment service and Data Model (CDM); CDM Architecture; Release 2".
- [i.3] ETSI GS CDM 004: "Common information sharing environment service and Data Model (CDM); Service Model; Release 2".
- [i.4] [Communication from the Commission COM\(2009\)538 final](#): "Towards the integration of maritime surveillance: A common information sharing environment for the EU maritime domain".
- [i.5] [CISE Architecture Visions Document V3.0, 06/11/2013](#).
- [i.6] [CISE Architecture, Version 2.0, 04/03/2022](#).
- [i.7] [CISE Core Vocabulary Specification, Version 1.5.3, 23/11/2017](#).
- [i.8] ETSI GS CDM 005 (V1.6.1): "Common information sharing environment service and Data Model (CDM); Data Model; Release 1".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the terms given in ETSI GS CDM 005 Release 1 [i.8] and the following apply:

**adaptor:** component connecting a CISE Participant to CISE network via standardized interface

NOTE 1: The Adaptor is the bridge between the Legacy System and the Gateway translating LS data to the CISE Data Model. The Adaptor uses available Gateway Services depending on the strategy chosen for message exchange patterns and Data Model.

NOTE 2: The Adaptor could be either software or software/hardware component.

NOTE 3: In case of a new legacy system connected to CISE, the Adaptor functionality may be part of the new legacy system.

**AI-ARC:** H2020 "Artificial Intelligence based Virtual Control Room for the Arctic" project

NOTE: More information on the project can be found at <https://cordis.europa.eu/project/id/101021271>.

**ANDROMEDA:** H2020 ANDROMEDA project

NOTE 1: The scope of Andromeda project was to extend the CISE paradigm to the Land Border Sector and to improve the Maritime CISE data model.

NOTE 2: More information on the project can be found at <https://www.andromeda-project.eu/>.

**consumer:** participant requesting Services over CISE network, only consuming but not providing information

**CoopP:** test project on cooperation in execution of various maritime functionalities at sub-regional or sea-basin level in the field of integrated maritime surveillance

NOTE: Project financed by the European Commission in 2013 defining the CISE use cases and the first version of the CISE data and service model.

**cross-border:** exchange of information between EU or EFTA countries

**cross-sector:** exchange of information between two or more EU maritime sectors

**EUCISE2020:** EUropean test bed for the maritime Common Information Sharing Environment in the 2020 perspective

NOTE 1: This FP7 project developed the existing CISE Network and software (2014-2019).

NOTE 2: More information on the project can be found at <https://cordis.europa.eu/project/id/608385>.

**legacy system:** software designed to perform specific tasks and that exposes certain functionalities through interfaces in the domain of the maritime surveillance

NOTE: In the present document, Public Authorities maintain Legacy Systems. Legacy Systems are the originator and final destinations of messages exchange in CISE.

**maritime sector:** one of the following seven sectors performing maritime activities:

- Maritime Safety, Security and Prevention of Pollution by Ships;
- Fisheries Control;
- Marine Pollution Preparedness and Response, Marine Environment;
- Customs;
- Border Control;



- General Law Enforcement;
- Defence.

**message:** one of the structured sentences exchanged between Participants to discover, request and provide Services

**node:** components that provide CISE infrastructure and access point to CISE network

**OASIS CAP:** OASIS Common Alerting Protocol

NOTE 1: OASIS CAP is a format for sharing emergency alerts and public warnings.

NOTE 2: More information on the project can be found at <https://www.oasis-open.org/standard/cap/>.

**participant:** legacy system connected to the CISE network for exchanging maritime data

**provider:** participant that provides Services over CISE network

**public authority:** any organization or legal entity that has an interest in maritime surveillance information

NOTE 1: An authority can be local, regional, national or European.

NOTE 2: This organization may have responsibilities linked to one of the seven sectors of maritime surveillance.

**service:** self-describing, high-level abstraction of coarse-grained business capability. In CISE, services hide the complexity of the LS's infrastructure and functionalities and the heterogeneity of platforms behind standards-based interfaces

NOTE 1: The type of a service indicates the main data entity exchanged using this service, e.g. VesselService.

NOTE 2: Service providers can offer several services of the same type handling different subsets of data. For instance, providers could define one service (type VesselService) to exchange information from a vessel database and a second one (type VesselService) to exchange vessel information with their location obtained from a sensor.

NOTE 3: Providers will decide which attributes and related entities of the main entity will be exchanged using the service. For instance, a service of type VesselService will enable the exchange of Vessel data entities and could also handle information of the Cargo, Incident, Location data entities (and the corresponding relationships), depending on the service provider and the capabilities of the legacy systems.

**user:** person appointed by the Public Authorities, interacting directly with CISE or with a Legacy System connected to CISE

## 3.2 Symbols

Void.

## 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply.

AGE	Agent
AII	Area of Intelligence Interest
AIR	Area of Intelligence Responsibility
AIS	Automatic Identification System
AMSL	Above Mean Sea Level
AOI	Area Of Interest
AOR	Area Of Responsibility
ATON	Aids to Navigation
C2	Command and Control system
CAP	Common Alerting Protocol
CBRN	Activities related to chemical, Bacteriological, Radioactive and Nuclear substances
CDM	CISE Data Model

CHEM	Chemical
CISE	Common Information Sharing Environment
CMB	Combat-related area
COG	Course Over Ground
COMINT	Communications Intelligence
CSO	Company Security Officer
DGR	Dangerous area
DOC	Document
DPG	Dangerous and Polluting Goods
DRZLE	Drizzle
EEA	European External Areas
ELA	Enhanced Land Vocabulary
ELINT	Electronic signals intelligence
EMA	Enhanced Maritime vocabulary
EOIR	Electro-Optical InfraRed
EST	Estimated
EU	European Union
EUCISE2020	European Union Common Information Sharing Environment
EVE	Event
FAO	Food and Agriculture Organization
FF	Fire Fighting
FP7	7 <sup>th</sup> Framework Programme
FSTT	Fire Services Technical Intervention
GEN	Generic activities
GS	Group Specification
HAZMAT	Hazardous Material
HUM	Humidity
ICT	Information & Communication Technology
ID	IDentifier
ILO	International Labour Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INF	Irradiated Nuclear Fuel
INT	Intelligence
INW	Inland Waterway
IR	InfraRed
ISM	International Safety Management
ISO	International Organization for Standardization
ISPS	International Ship and Port facility Security code
ISS	International Ship Security
IT	Information Technology
ITF	International Transport workers Federation
KML	Keyhole Markup Language
LOA	Length OverAll
LOC	Location
LS	Legacy System
MAC	Multi-Agency Cooperation
MHB	Materials Hazardous only in Bulk
MIL	Military activities
MMSI	Maritime Mobile Service Identity
MPEG	Moving Picture Experts Group
NAT	National
NET	Network and telecommunication activities
NLS	Noxious Liquid Substances
OASIS	Organization for the Advancement of Structured Information Standards
OBJ	Object
OPR	Use Operational Resources
OTH	Other
PER	Period
POL	Police activities
PSS	Passenger Ship Safety
QMED	Qualified Member of the Engine Department

REC	Reconstruction/rehabilitation activities
ROV	Remotely Operated Vehicle
RSC	Rescue activities
RSK	Risk
SART	Search And Rescue Transponder
SAV	Save and rescue endangered life
SCS	Support Community Safety
SOC	Social and media/communication activities
SOG	Speed Over Ground
SSO	Special Security Officer
STPSS	Special Trade Passenger Ship Safety
TDS	Thunderstorm
TLC	Telecommunication
UAV	Unmanned Air Vehicle
UGV	Unmanned Ground Vehicle
UID	Unique Identifier
UML	Unified Modelling Language
UNDG	United Nations Dangerous Goods
UNK	Unknown
URI	Uniform Resource Identifier
USV	Unmanned Surface Vehicle
UTC	Coordinated Universal Time
UUID	Universally Unique Identifier
UUV	Unmanned Underwater Vehicle
UVI	Unique Vessel Identifier defined by the FAO
VDR	Voyage Data Recorder
VEG	Vegetable oil or waste
VHF	Very High Frequency
VTS	Vessel Traffic Services
VULN	Vulnerability area
WGH	Weight
WIN	Windy
WKT	Well Known Text
WMS	Web Map Service
XML	eXtensible Markup Language
XSD	XML Schema Definition

---

## 4 Overview

The present document describes the CISE Data Model to support the requirements defined in ETSI GS CDM 002 [i.1], ETSI GS CDM 003 [i.2] and ETSI GS CDM 004 [i.3] for the implementation of the European Common Information Sharing Environment, improving specifications set in ETSI GS CDM 005 Release 1 [i.8].

Clause 5 informs on how the CISE Data Model can be used to exchange messages between CISE participants, describing the CISE entities and their information.

Clause 6 provides the specifications of the common CISE Data Model.

Clause 7 provides the specifications of the Enhanced Maritime Vocabulary.

Clause 8 provides the specifications of the Enhanced Land Vocabulary.

Clause 9 provides the specifications for the new entities related to the Operation Core Entity used to describe surveillance activities at sea and on land.

Clause 10 defines the new list of available service types that improves the list provided in ETSI GS CDM 005 Release 1 [i.8] to take into account the additional entities specified in the previous clauses 7, 8 and 9.

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## 5 The CISE Information Model

### 5.1 The common information model

The CISE Information Model consists of seven (7) core entities:

- Agent.
- Document.
- Event.
- Location.
- Object.
- Period.
- Risk.

**Agent** is an operative entity that provides information about individual persons or organizations which are involved as actors or targets in the events and activities subject to information exchange through the CISE network.

**Document** entity allows tracing and exchanging information in a persistent manner in almost any possible electronic format.

**Event** is an entity that provides information about movements, anomalies, incidents or actions which occur in the events and activities subject to information exchange through the CISE network.

**Location** entity provides information about the localization of objects, events and activities shared through the CISE network. Locations can be described using a place name, a geometry or an address.

**Object** is an abstract entity that handles information about physical entities like vehicles (vessels, aircrafts and land vehicles) and cargo.

**Period** is an entity used to define a time interval relevant to the object, event or activity shared through the CISE network. It can be expressed by any combination of a duration, a start date, a start time, an end date and an end time.

**Risk** entity represents a situation at sea that can lead to a potential dangerous event.

The seven core entities encapsulate relation entities that support the full description of the CISE Information Model.

The relation entities of the Agent entity are:

- Organization.
- Person.

The relation entities of the Document entity are:

- Metadata.
- UID.

The relation entities of the Event entity are:

- Action.
- Anomaly.
- Incident.
- Movement.

The relation entity of the Location entity is:

- Meteo Oceanographic Condition.

The relation entities of the Object entity are:

- Cargo.
- Operational Assets.
- Vessel.

Each core entity can be associated with another core entity to create complex descriptions.

Figure 5.1-1 depicts the CISE Information Model presenting in a graphical way the relationships between the core entities and the associated relation entities.



Figure 5.1-1: The CISE Information Model [i.7]

## 5.2 Enhanced Maritime Vocabulary

The vocabulary of the CDM Common Data Model has been enriched to take into account additional attributes and values that support enhanced maritime border capabilities, sensors and assets.

With reference to the CDM Common Data Model description provided in clause 5, the following classes are included:

- Sub-class of Object core entity:
  - Sensor.



**Figure 5.2-1: Enhancement of the CISE Information Model based on the maritime vocabulary extension**

The list of CISE Service Types is enhanced thanks to the introduction of the following service type: SensorService.

The adopted changes are reported in clause 7.

### 5.3 Enhanced Land Vocabulary

The Enhanced Land Vocabulary extends the CDM Common Data Model, by enriching the CISE vocabulary with new add-ons to describe land domain entities involved in the information exchange process.

With reference to the CDM Data Model description provided in clause 5, the following classes are included: Land Anomaly and Animal.

The following diagram depicts the Enhanced Land Vocabulary Data Model.



**Figure 5.3-1: Enhancement of the CISE Information Model based on the land vocabulary extension**

The list of CISE Service Types is enhanced thanks to the introduction of the following service types: LandAnomalyService and AnimalService.

In addition, the land vocabulary extension enriches the CDM Data Model adding attributes and enumeration values to the following existing classes: Agent, Document, Incident, Risk, Object and Organization. The adopted changes are reported in clause 8.

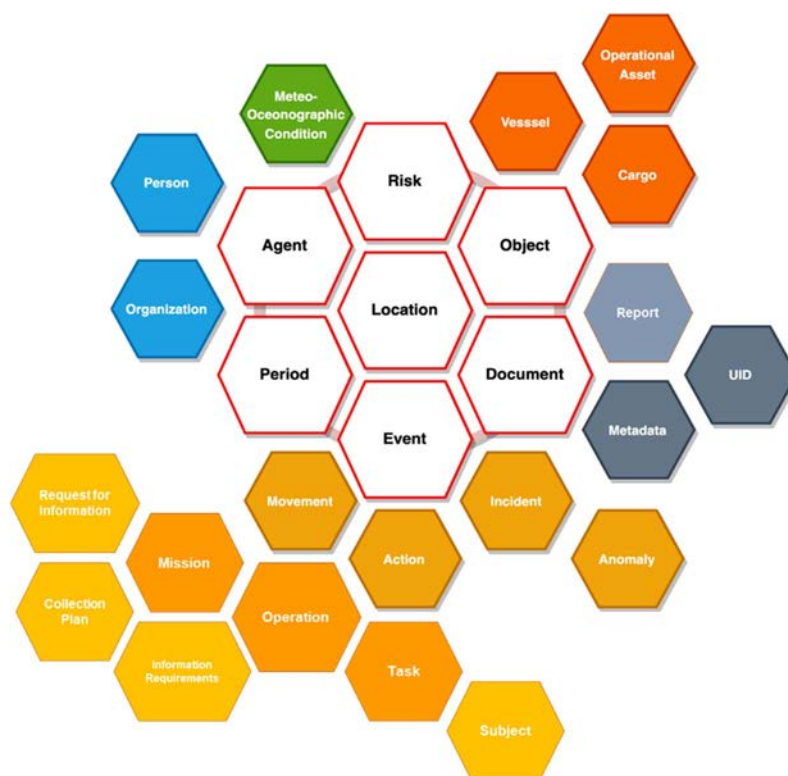
## 5.4 New entities related to operations at sea and on land

The Common Data Model has been enriched with new add-ons to describe operations at sea and on land involved during the information exchange process.

With reference to the Common Data Model description provided in clause 5, the following classes are included:

- Sub-class of Document core entity:
  - Report.
- Sub-classes of Event core entity:
  - Operation.
- Sub-class of Operation entity:
  - Mission.
  - Task.
- Sub-classes of Mission entity:
  - Collection Plan.
  - Information Requirements.
  - Request for Information.
- Sub-class of Task entity:
  - Subject.

The following diagram illustrates the enhancement of the CISE Information Model, thanks to the introduction of the entities describing operations at sea and on land.



**Figure 5.4-1: Enhancement of the CISE Information Model based on operations at sea and on land**

Accordingly, the list of CISE Service Types is enhanced thanks to the introduction of the following service types:

- ReportService.
- OperationService.
- MissionService.
- TaskService.
- CollectionPlanService.
- InformationRequirementsService.
- RequestForInformationService.
- SubjectService.

The adopted changes are reported in clause 9.

---

## 6 Common data model

### 6.1 Introduction

This clause defines the requirements of the CISE Data Model.



## 6.2 CISE Entity Specifications

### 6.2.1 Agent Core Entity

#### 6.2.1.1 Agent Core Entity General Requirements

[Cdm-AGE-001] The Agent core entity shall be described by means of:

- Agent Class Attributes.
- Agent Relation Entities:
  - Organization Entity.
  - Person Entity.
- Agent Associated Entities:
  - Agent Core Entity.
  - Location Core Entity.
  - Object Core Entity.
  - Risk Core Entity.

Figure 6.2.1.1-1 illustrates the Agent Core Entity model.

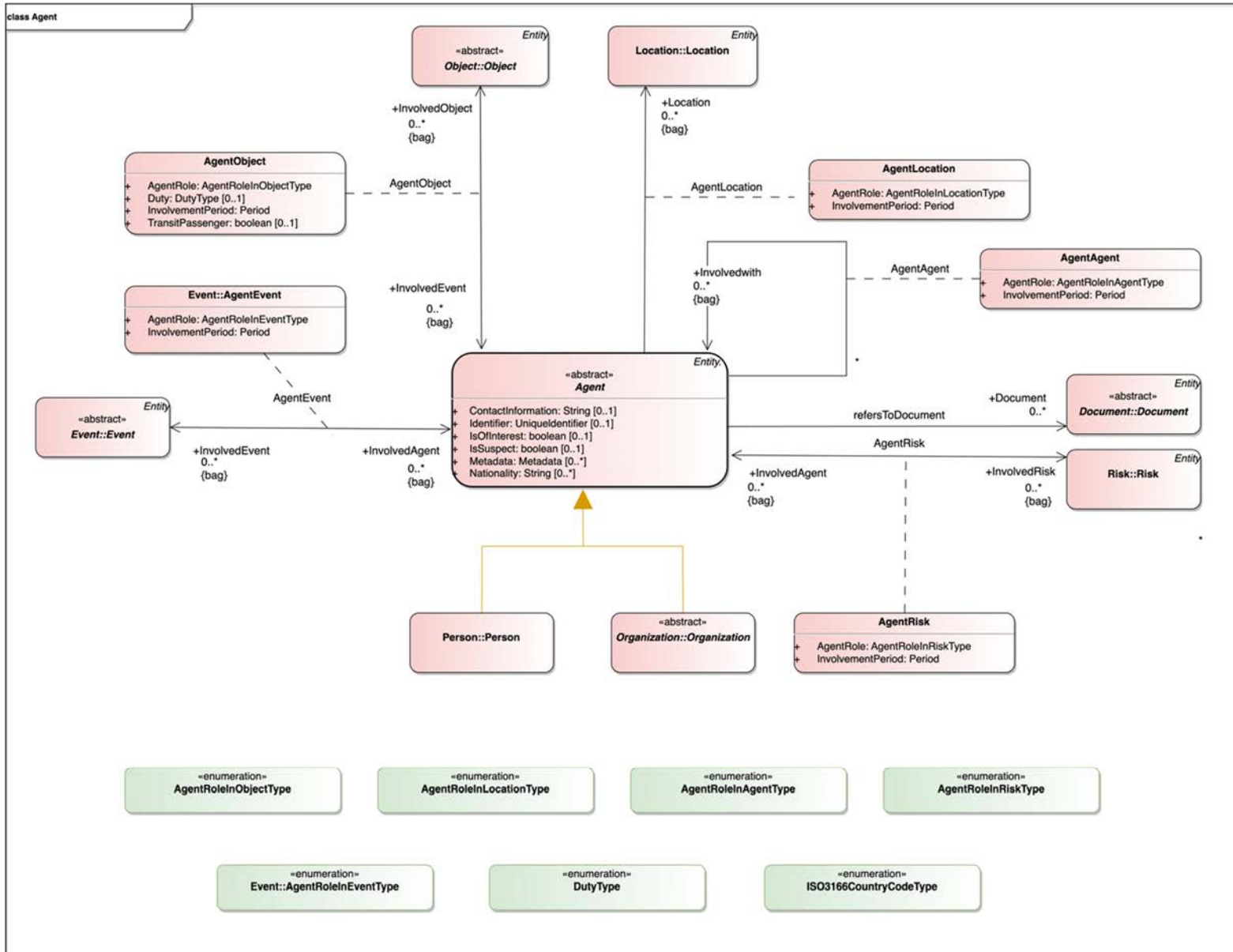


Figure 6.2.1.1-1: CISE Agent UML conceptual model [i.7]

[Cdm-AGE-002] The Agent entity shall be described by the following attributes:

- ContactInformation.
- Identifier.
- IsOfInterest.
- IsSuspect.
- Metadata.
- Nationality.

Table 6.2.1.1-1 illustrates the data structure supported by the CISE Agent entity.

**Table 6.2.1.1-1: Data Structure of CISE Agent entity**

Field Name	Data Type	Note
ContactInformation	String	XCard [1]
Identifier	UniqueIdentifierType	Ref. to [Cdm-DOC-003]
IsOfInterest	Boolean	
IsSuspect	Boolean	True if there is suspect related to the agent
Metadata	MetadataType	Ref. to [Cdm-DOC-006]
Nationality	String	Three-letter country code [2]

## 6.2.1.2 Agent Relation Entity

### 6.2.1.2.1 Organization Entity

Figure 6.2.1.2.1-1 illustrates the Organization Entity model.

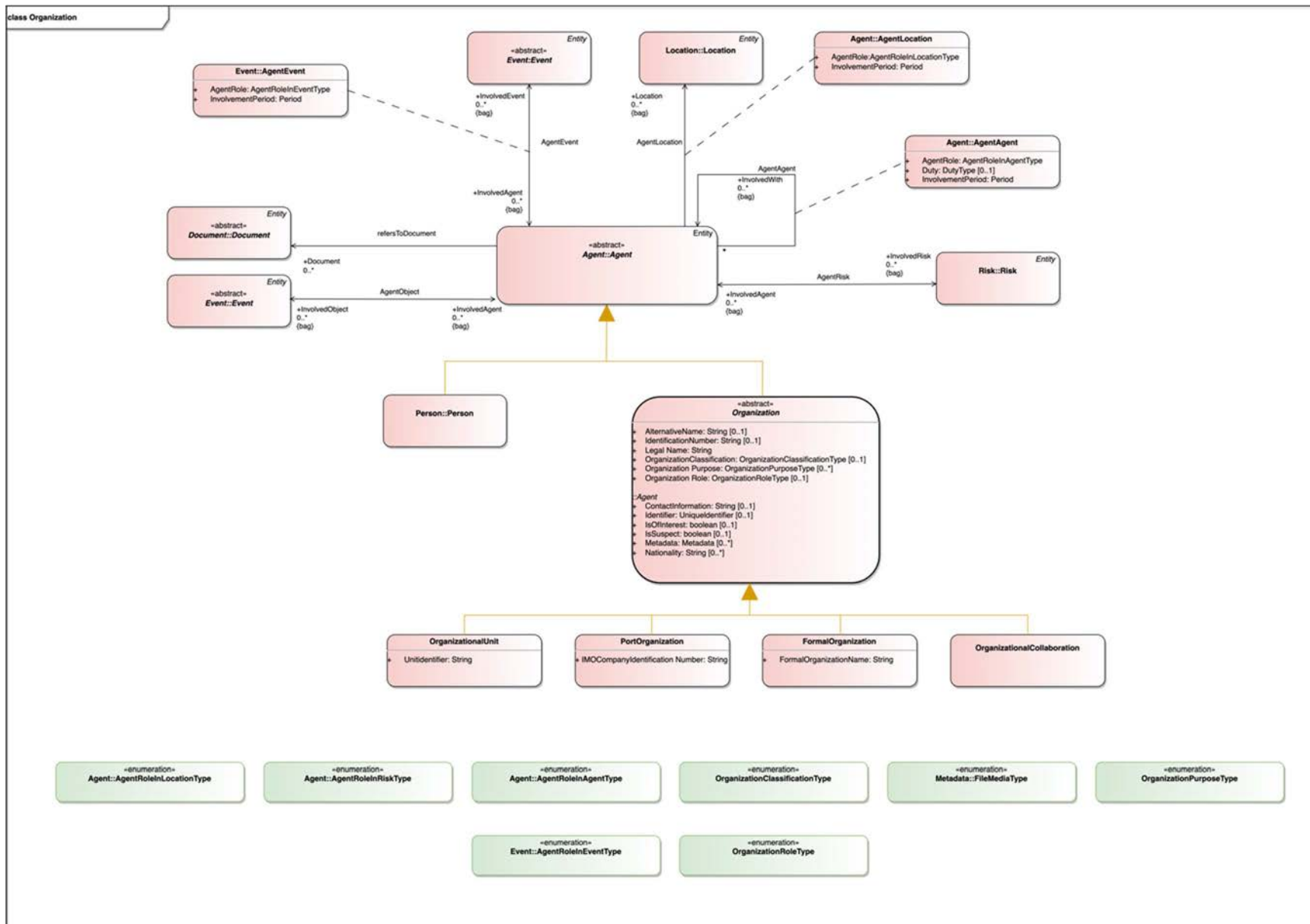


Figure 6.2.1.2.1-1: CISE Organization UML conceptual model [i.7]

[Cdm-AGE-003] The Organization entity shall be described by means of:

- Organization attributes:
- Organization sub-classes:
  - Organizational Unit.
  - Port Organization.
  - Formal Organization.
  - Organizational Collaboration.

[Cdm-AGE-004] The Agent entity shall be described by the following attributes:

- AlternativeName.
- IdentificationNumber.
- LegalName.
- OrganizationClassification.
- OrganizationPurpose.
- OrganizationRole.

Table 6.2.1.2.1-1 illustrates the data structure supported by the CISE Organization entity.

**Table 6.2.1.2.1-1: Data Structure of CISE Organization entity**

Field Name	Data Type	Note
AlternativeName	String	
IdentificationNumber	String	
LegalName	String	
OrganizationClassification	OrganizationClassificationType	
OrganizationPurpose	OrganizationPurposeType	
OrganizationRole	OrganizationRoleType	

[Cdm-AGE-005] The Organization Classification Type shall support the following values:

- Governmental.
- European.
- MemberState.
- NonGovernmental.
- Criminal.
- Private.
- InterGovernmental.
- Other.
- NonSpecified.

[Cdm-AGE-006] The Organization Purpose Type shall support the following values:

- GeneralLawEnforcement.
- Customs.

- MarineEnvironment.
- MaritimeSafetyAndSecurity.
- Defence.
- FisheriesControl.
- BorderControl.
- Profitable.
- NonProfitable.
- Other.
- NonSpecified.

[Cdm-AGE-007] The Organization Role Type shall support the following values:

- PortAuthority.
- CoastalStation.
- PortStateControl.
- NationalCompetentAuthority.
- InspectionAuthority.
- Other.
- NonSpecified.

[Cdm-AGE-008] The Formal Organizational sub-class shall be described by the following attributes:

- Formal Organization Name.

Table 6.2.1.2.1-2 illustrates the data structure supported by the CISE Formal Organization sub-class.

**Table 6.2.1.2.1-2: Data Structure of CISE Formal Organization sub-class**

Field Name	Data Type	Note
FormalOrganizationName	String	

[Cdm-AGE-009] The Organizational Unit sub-class shall be described by the following attributes:

- Unit Identifier.

Table 6.2.1.2.1-3 illustrates the data structure supported by the CISE Organization Unit sub-class.

**Table 6.2.1.2.1-3: Data Structure of CISE Organization Unit sub-class**

Field Name	Data Type	Note
UnitIdentifier	String	

[Cdm-AGE-010] The Port Organization sub-class shall be described by the following attributes:

- IMO Company Identification Number.

Table 6.2.1.2.1-4 illustrates the data structure supported by the CISE Port Organization sub-class.

**Table 6.2.1.2.1-4: Data Structure of CISE Port Organization sub-class**

Field Name	Data Type	Note
IMOCompanyIdentificationNumber	String	

#### 6.2.1.2.2 Person Entity

[Cdm-AGE-011] The Person entity shall be described by means of the following attributes:

- Alternative Name.
- Birth Date.
- Birth Name.
- Date of Death.
- Family Name.
- Full Name.
- Gender.
- Given Name.
- Patronymic Name.
- Person Identifier.

Figure 6.2.1.2.2-1 illustrates the Person entity model.

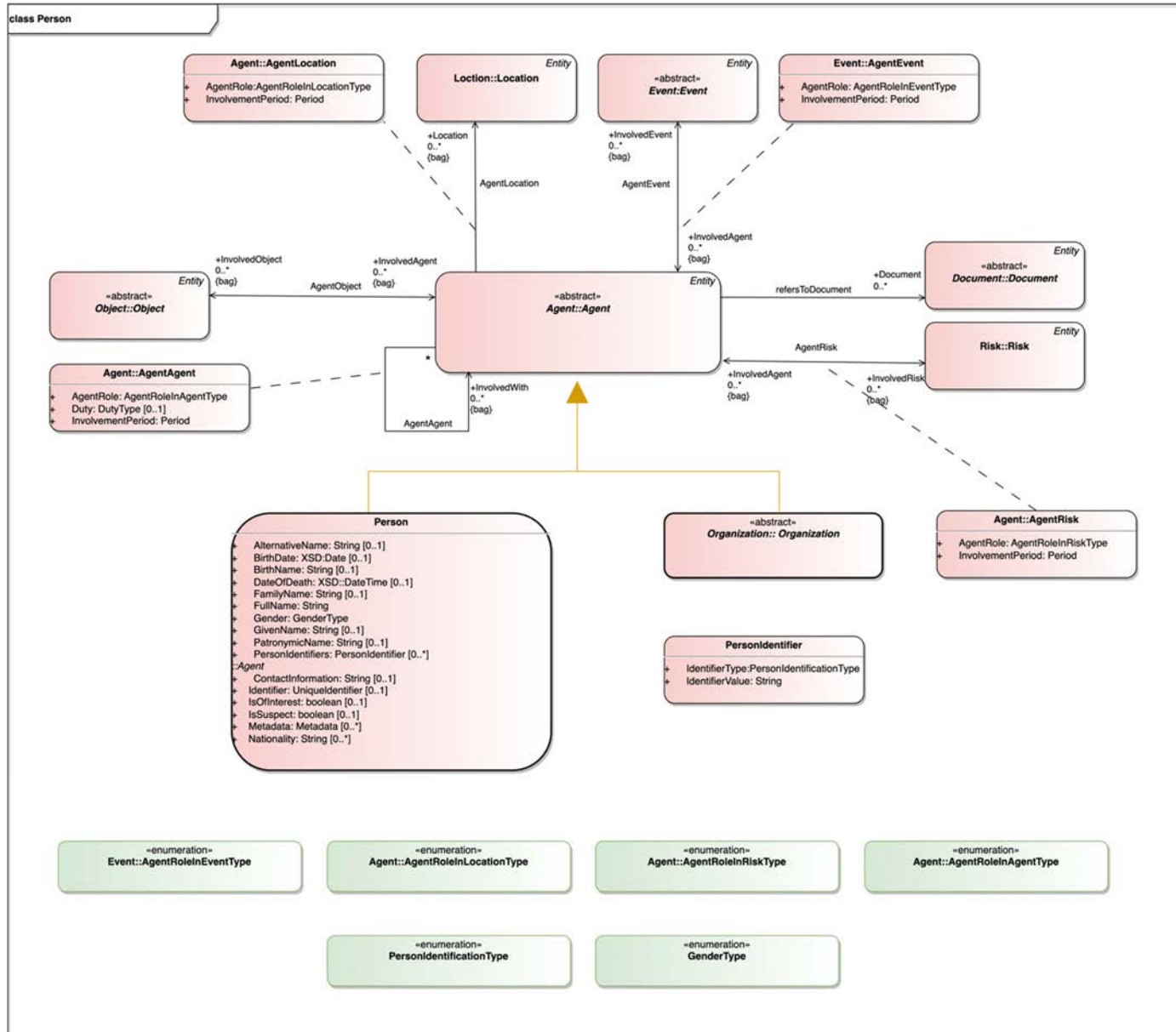


Figure 6.2.1.2.2-1: The CISE Person UML conceptual model [i.7]



Table 6.2.1.2.2-1 illustrated the data structure supported by the CISE Person entity.

**Table 6.2.1.2.2-1: Data Structure of CISE Person model**

Field Name	Data Type	Note
AlternativeName	String	
BirthDate	XSD::Date	
BirthName	String	
DateOfDeath	XSD::DateTime	
FamilyName	String	
FullName	String	
Gender	GenderType	
GivenName	String	
PatronymicName	String	
PersonIdentifiers	PersonIdentifierType	

[Cdm-AGE-012] The GenderType shall support the following values:

- Female.
- Male.
- Other.
- Unknown.
- NotApplicable.

[Cdm-AGE-013] The PersonIdentifier Type shall be described by the following attributes:

- Identifier Type.
- Identifier Value.

Table 6.2.1.2.2-2 illustrated the data structure supported by the CISE PersonIdentifier type.

**Table 6.2.1.2.2-2: Data Structure of CISE PersonIdentifier type**

Field Name	Data Type	Note
IdentifierType	PersonIdentificationType	
IdentifierValue	String	

[Cdm-AGE-014] The PersonIdentification Type shall support the following values:

- IdentityCard.
- SocialSecurityCard.
- Passport.
- FiscalDocument.
- VISA.
- CrewMasterBook.
- Other.
- NonSpecified.

### 6.2.1.3 Agent Associated Entity

#### 6.2.1.3.1 Agent Entity

[Cdm-AGE-014] The association with an Agent entity shall be described by the following attributes:

- Agent Role.
- Duty.
- Involvement Period.

Table 6.2.1.3.1-1 illustrated the data structure supported by the Agent associated entity.

**Table 6.2.1.3.1-1: Data Structure of CISE Agent associated model**

Field Name	Data Type	Note
AgentRole	AgentRoleInAgentType	
Duty	DutyType	
InvolvementPeriod	Period Entity	Ref. to [Cdm-PER-001]

[Cdm-AGE-015] TheAgentRoleInAgentType shall support the following values:

- Leads.
- WorksFor.
- ManagesSecurityCSO.
- Encompasses.
- Owns.
- Other.
- NonSpecified.

[Cdm-AGE-016] The DutyType shall support the following values:

- AbleSeaman.
- Agent.
- AsstFoodBevMngr.
- BarManager.
- BarService.
- Bosun.
- Cadet.
- Captain.
- CargoTechnician.
- CasinoStaff.
- ChiefCook.
- ChiefElectrician.
- ChiefHousekeeper.

- ChiefEngineer.
- ChiefMaster.
- ChiefMate.
- ChiefOfficer.
- ChiefPurser.
- ChiefSteward.
- ClassSurveyor.
- CSO.
- Cook.
- CraneOperator.
- CrewMember.
- CruiseDirector.
- CruiseStaff.
- DeckApprentice.
- DeckFitter.
- DeckOfficer.
- Deckhand.
- Doctor.
- Donkeyman.
- ElectricalEngineer.
- ElectricalOfficer.
- Electrician.
- EngineerCadet.
- EngineeringCrew.
- EngineFitter.
- Entertainment.
- FacilitiesCrew.
- FacilitiesManager.
- FirstAsstEngineer.
- FirstEngineer.
- FirstMate.
- FirstOfficer.
- Fitter.
- FourthOfficer.

- FoodBevMngr.
- FoodService.
- FourthAsstEngineer.
- Greaser.
- Hospitality.
- HotelDirector.
- HotelStaff.
- HousekeepingStaff.
- InformationTechnology.
- JuniorEngineer.
- LaundryMaster.
- Lifeboatman.
- Maitred.
- MarineCrew.
- MarketingRevenueMngr.
- Master.
- MasterFirstClassPilot.
- MateFirstClassPilot.
- Mechanic.
- MedicalStaff.
- Messman.
- Motorman.
- Oiler.
- Operator.
- OrdinarySeaman.
- Owner.
- Painter.
- Porter.
- Provision.
- ProvisionMaster.
- Pumpman.
- QMED.
- RadioOfficer.
- Reeferman.

- RepairMan.
- RiddingCrew.
- SafetyAndSecurity.
- SecondAsstEngineer.
- SecondMate.
- SecondOfficer.
- SSO.
- StaffCaptain.
- Steward.
- Superintendent.
- Tankerman.
- ThirdAsstEngineer.
- ThirdMate.
- ThirdOfficer.
- ThirdParty.
- TruckMechanic.
- Tunnelman.
- UtilityPerson.
- VettingInspector.
- Welder.
- Wiper.
- YardPersonel.
- Other.
- NonSpecified.

#### 6.2.1.3.2 Location Entity

[Cdm-AGE-017] The association with a Location entity shall be described by the following attributes:

- Agent Role.
- Involvement Period.

Table 6.2.1.3.2-1 illustrated the data structure supported by the Location associated entity.

**Table 6.2.1.3.2-1: Data Structure of CISE Location associated model**

Field Name	Data Type	Note
AgentRole	AgentRoleInLocationType	
InvolvementPeriod	Period Entity	Ref. to [Cdm-PER-001]

[Cdm-AGE-018] The AgentRoleInLocation type shall support the following values:

- Owns.
- IsLocatedIn.
- CountryOfBirth.
- PlaceOfBirth.
- CountryOfDeath.
- PlaceOfDeath.
- EmbarkationPort.
- DisembarkationPort.
- CountryOfResidence.
- Other.
- NonSpecified.

#### 6.2.1.3.3 Object Entity

[Cdm-AGE-019] The association with an Object entity shall be described by the following attributes:

- Agent Role.
- Duty.
- Involvement Period.
- Transit Passenger.

Table 6.2.1.3.3-1 illustrated the data structure supported by the Object associated entity.

**Table 6.2.1.3.3-1: Data Structure of CISE Object associated model**

Field Name	Data Type	Note
AgentRole	AgentRoleInObjectType	
Duty	DutyType	Ref. to [Cdm-AGE-016]
InvolvementPeriod	Period Entity	Ref. to [Cdm-PER-001]
TransitPassenger	Boolean	

[Cdm-AGE-020] The AgentRoleInObject type shall support the following values:

- Owner.
- ShipAgent.
- Passenger.
- CrewMember.
- CaptainMaster.
- ShipOperatingCompany.
- CompanySecurityOfficer.
- Employee.
- VesselBuilder.

- VesselCharterer.
- VesselRegisteredOwner.
- VesselCompany.
- ShippingAgent.
- Declarant.
- CarrierAgent.
- ShippingLine.
- CustomsBroker.
- DPGContactPoint.
- Other.
- NonSpecified.

#### 6.2.1.3.4 Risk Entity

[Cdm-AGE-021] The association with a Risk entity shall be described by the following attributes:

- Agent Role.
- Involvement Period.

Table 6.2.1.3.4-1 illustrates the data structure supported by the Risk associated entity.

**Table 6.2.1.3.4-1: Data Structure of CISE Risk associated model**

Field Name	Data Type	Note
AgentRole	AgentRoleInRiskType	
InvolvementPeriod	Period Entity	Ref. to [Cdm-PER-001]

[Cdm-AGE-022] The AgentRoleInRisk type shall support the following values:

- Cause.
- Involved.
- Reports.
- Other.
- NonSpecified.

## 6.2.2 Document Core Entity

### 6.2.2.1 Document Core Entity General Requirements

Figure 6.2.2.1-1 illustrates the Document Core Entity model.

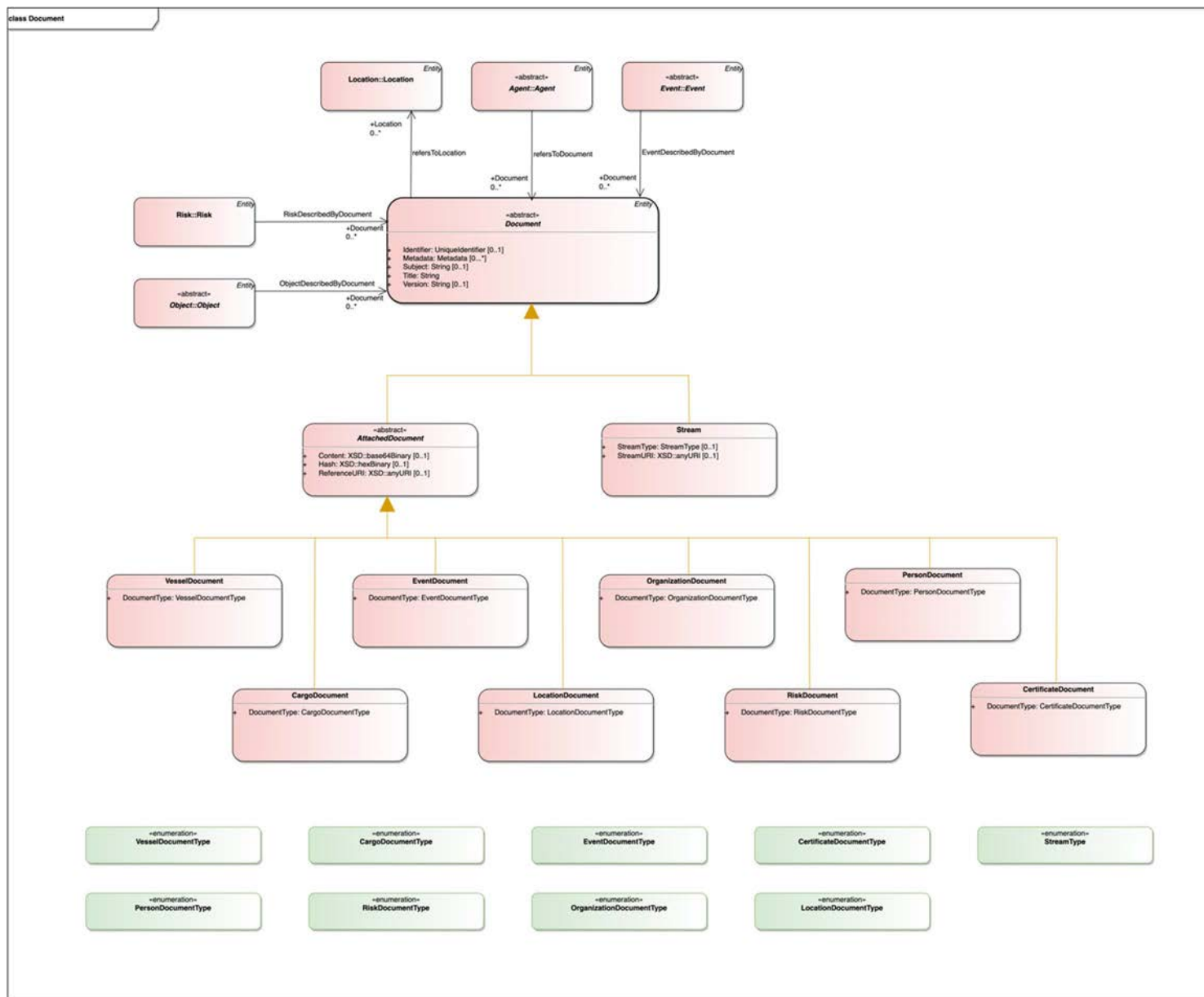


Figure 6.2.2.1-1: CISE Document UML conceptual model [i.7]



[Cdm-DOC-001] The Document core entity shall be described by means of:

- Document Attributes.
- Document Relation Entities:
  - Attached Document.
  - Stream.
- Document Associated Entities:
  - Agent Core Entity.
  - Event Core Entity.
  - Location Core Entity.
  - Object Core Entity.
  - Risk Core Entity.

[Cdm-DOC-002] The Document entity shall be described by the following attributes:

- Identifier.
- Metadata.
- Subject.
- Title.
- Version.

Table 6.2.2.1-1 illustrates the data structure supported by the CISE Document entity.

**Table 6.2.2.1-1: Data Structure of CISE Document entity**

Field Name	Data Type	Note
Identifier	UniqueIdentifierType	Ref. to [Cdm-DOC-003]
Metadata	MetadataType	Ref. to [Cdm-DOC-006]
Subject	String	
Title	String	
Version	String	

[Cdm-DOC-003] The UniqueIdentifierType shall be described by the following attributes:

- GeneratedBy.
- GeneratedIn.
- UUID.

Table 6.2.2.1-2 illustrates the data structure supported by the UniqueIdentifierType.

**Table 6.2.2.1-2: Data Structure of CISE UniqueIdentifierType**

Field Name	Data Type	Note
GeneratedBy	OrganizationType	
GeneratedIn	XSD::DateTime	
UUID	String	
CorrelatedWith	CorrelatedWithType	

[Cdm-DOC-004] The CorrelatedWithType shall be described by the following attributes:

- CorrelatedBy.
- CorrelatedIn.
- CorrelationType.

Table 6.2.2.1-3 illustrates the data structure supported by the CorrelatedWithType.

**Table 6.2.2.1-3: Data Structure of CISE CorrelatedWithType**

Field Name	Data Type	Note
CorrelatedBy	OrganizationType	
CorrelatedIn	XSD::DateTime	
CorrelationType	CorrelationType	

[Cdm-DOC-005] The CorrelationType shall support the following values:

- Manual.
- Automatic.
- Other.
- NonSpecified.

[Cdm-DOC-006] The MetadataType shall be described by the following attributes:

- Abstract.
- Comments.
- CreationDate.
- Creator.
- Description.
- Designation.
- FileMediaType.
- FileSchema.
- FileURI.
- InformationReliabilityLevel.
- InformationSecurityClassification.
- InformationSensitivityDegree.
- Language.
- PublicationDate.
- Publisher.
- ValidityPeriod.

Table 6.2.2.1-4 illustrates the data structure supported by the MetadataType.

Table 6.2.2.1-4: Data Structure of CISE MetadataType

Field Name	Data Type	Note
Abstract	String	
Comments	String	
CreationDate	XSD::DateTime	
Creator	AgentType	
Description	String	
Designation	String	
FileMediaType	FileMediaType	
FileSchema	XSD::anyURI	
FileURI	XSD::anyURI	
InformationReliabilityLevel	InformationReliabilityLevelType	
InformationSecurityClassification	InformationSecurityClassificationType	
InformationSensitivityDegree	InformationSensitivityDegreeType	
Language	String	
PublicationDate	XSD::DateTime	
ValidityPeriod	Period Entity	Ref. to [Cdm-PER-001]
CorrelatedWith	CorrelatedWithType	

[Cdm-DOC-007] The FileMediaType shall support the following values:

- x-world/x-3dmf.
- video/avi.
- image/jpeg.

[Cdm-DOC-008] The InformationReliabilityLevelType shall support the following values:

- VeryHighConfidence.
- HighConfidence.
- Confident.
- LowConfidence.
- VeryLowConfidence.
- NonSpecified.

[Cdm-DOC-009] The InformationSecurityClassificationType shall support the following values:

- EUTopSecret.
- EUSecret.
- EUConfidential.
- EURestricted.
- NonClassified.
- NonSpecified.

[Cdm-DOC-010] The InformationSensitivityDegreeType shall support the following values:

- Red.
- Amber.
- Green.
- White.

- NonSpecified.

## 6.2.2.2 Document Relation Entity

### 6.2.2.2.1 AttachedDocument Entity

[Cdm-DOC-011] The AttachedDocument entity shall be described by means of:

- AttachedDocument attributes.
- AttachedDocument sub-classes:
  - CargoDocument.
  - CertificateDocument.
  - EventDocument.
  - LocationDocument.
  - OrganizationDocument.
  - PersonDocument.
  - RiskDocument.
  - VesselDocument.

[Cdm-DOC-012] The AttachedDocument entity shall be described by the following attributes:

- Content.
- Hash.
- ReferenceURI.

Table 6.2.2.2.1-1 illustrates the data structure supported by the CISE AttachedDocument entity.

**Table 6.2.2.2.1-1: Data Structure of CISE AttachedDocument entity**

Field Name	Data Type	Note
Content	XSD::base64Binary	
Hash	hexBinary	
ReferenceURI	XSD::anyURI	

[Cdm-DOC-013] The CargoDocument sub-class shall be described by the following attributes:

- DocumentType.

Table 6.2.2.2.1-2 illustrates the data structure supported by the CISE CargoDocument sub-class.

**Table 6.2.2.2.1-2: Data Structure of CISE CargoDocument sub-class**

Field Name	Data Type	Note
DocumentType	CargoDocumentType	

[Cdm-DOC-014] The CargoDocumentType class shall support the following values:

- CargoManifest.
- VATException.
- EntrySummaryDeclaration.

- IMOFALForm2CargoDeclaration.
- IMOFALForm3ShipsStoresDeclaration.
- IMOFALForm4CrewsEffectsDeclaration.
- NotificationOfDangerousGoods.
- IMOFALForm7DangerousGoods.
- SingleAdministrativeDocument.
- CatchCertificate.
- FishingLogbook.
- Other.
- NonSpecified.

[Cdm-DOC-015] The CertificateDocument sub-class shall be described by the following attributes:

- DocumentType.

Table 6.2.2.2.1-3 illustrates the data structure supported by the CISE CertificateDocument sub-class.

**Table 6.2.2.2.1-3: Data Structure of CISE CertificateDocument sub-class**

Field Name	Data Type	Note
DocumentType	CertificateDocumentType	

[Cdm-DOC-016] The CertificateDocumentType class shall support the following values:

- TonnageCertificate.
- LoadLineCertificate.
- MinimumSafeManningDocument.
- OilPollutionPreventionCertificate.
- SewagePollutionPreventionCertificate.
- VDRComplianceCertificate.
- ISMComplianceDocument.
- SafetyManagementCertificate.
- ISSCertificate.
- PSSCertificate.
- STPSSaCertificate.
- STPSSpCertificate.
- CSSConstructionCertificate.
- CSSEquipmentCertificate.
- CSSRadioCertificate.
- CSSCertificate.
- GrainAuthorizationDocument.

- CivilLiabilityCertificate.
- EnhancedSurveyDocument.
- NLSCertificate.
- BulkChemicalsCarriageCertificate.
- IntBulkChemicalsCarriageCertificate.
- BulkLiquidGasCertificate.
- IntBulkLiquidGasCertificate.
- HSCSafetyCertificate.
- HSCOperationPermit.
- IMDGCertificate.
- INFCertificate.
- RegistryCertificate.
- HullClassCertificate.
- EngineClassCertificate.
- PandICertificate.
- ILO133Certificate.
- ILO92Certificate.
- ITFBlueCard.
- DeclarationOfHealth.
- GasFreeCertificate.
- DeRatCertificate.
- Certificate.
- Other.
- NonSpecified.

[Cdm-DOC-017] The EventDocument sub-class shall be described by the following attribute:

- DocumentType.

Table 6.2.2.2.1-4 illustrates the data structure supported by the CISE EventDocument sub-class.

**Table 6.2.2.2.1-4: Data Structure of CISE EventDocument sub-class**

Field Name	Data Type	Note
DocumentType	EventDocumentType	

[Cdm-DOC-018] The EventDocumentType class shall support the following values:

- RegionalMonitors.
- IncidentReport.
- EnvironmentalIncidentDocument.

- EvacuationOrders.
- AccidentReport.
- HazardsMappingAndTrackingHumanitarianAssistance.
- OrganizedCrimeDocuments.
- TerroristThreadDocuments.
- ShipHijackingSuspicionReport.
- CrewHostagingSuspicionReport.
- WeaponsOnboardSuspicionReport.
- InitialPiracyAttackReport.
- FollowUpPiracyAttackReport.
- Other.
- NonSpecified.

[Cdm-DOC-019] The LocationDocument sub-class shall be described by the following attribute:

- DocumentType.

Table 6.2.2.2.1-5 illustrates the data structure supported by the CISE LocationDocument sub-class.

**Table 6.2.2.2.1-5: Data Structure of CISE LocationDocument sub-class**

Field Name	Data Type	Note
DocumentType	LocationDocumentType	

[Cdm-DOC-021] The OrganizationDocument sub-class shall be described by the following attribute:

- DocumentType.

Table 6.2.2.2.1-6 illustrates the data structure supported by the CISE OrganizationDocument sub-class.

**Table 6.2.2.2.1-6: Data Structure of CISE OrganizationDocument sub-class**

Field Name	Data Type	Note
DocumentType	OrganizationDocumentType	

[Cdm-DOC-022] The OrganizationDocumentType class shall support the following values:

- HarbourSecurityDocument.
- ISPSCode.
- Map.
- Other.
- NonSpecified.

[Cdm-DOC-023] The PersonDocument sub-class shall be described by the following attribute:

- DocumentType.

Table 6.2.2.2.1-7 illustrates the data structure supported by the CISE PersonDocument sub-class.

**Table 6.2.2.2.1-7: Data Structure of CISE PersonDocument sub-class**

Field Name	Data Type	Note
DocumentType	PersonDocumentType	

[Cdm-DOC-024] The PersonDocumentType class shall support the following values:

- TravelDocument.
- NationalID.
- DriversLicense.
- SeafarersIDDocument.
- CrewCertificates.
- ResidencePermit.
- WorkPermit.
- WorkCertificate.
- HealthCertificate.
- BirthCertificate.
- DeathCertificate.
- CriminalRecord.
- Photograph.
- Other.
- NonSpecified.

[Cdm-DOC-025] The RiskDocument sub-class shall be described by the following attribute:

- DocumentType.

Table 6.2.2.2.1-8 illustrates the data structure supported by the CISE RiskDocument sub-class.

**Table 6.2.2.2.1-8: Data Structure of CISE RiskDocument sub-class**

Field Name	Data Type	Note
DocumentType	RiskDocumentType	

[Cdm-DOC-026] The RiskDocumentType class shall support the following values:

- BriefingNotes.
- RouteDescription.
- Facilitationanalysis.
- MigrantProfile.
- KeyDevelopments.
- RiskRatings.
- HAZMATNotification.
- RiskAssessment.



- OrganizedCrimeDocuments.
- TerroristThreatDocuments.
- ShipHijackingSuspicionReport.
- CrewHostagingSuspicionReport.
- WeaponsOnBoardSuspicionReport.
- Other.
- NonSpecified.

[Cdm-DOC-027] The VesselDocument sub-class shall be described by the following attribute:

- DocumentType.

Table 6.2.2.2.1-9 illustrates the data structure supported by the CISE VesselDocument sub-class.

**Table 6.2.2.2.1-9: Data Structure of CISE VesselDocument sub-class**

Field Name	Data Type	Note
DocumentType	VesselDocumentType	

#### 6.2.2.2.2 Stream Entity

[Cdm-DOC-029] The Stream entity shall be described by means of:

- Stream attributes:
  - StreamType.
  - StreamURI.

Table 6.2.2.2.2-1 illustrates the data structure supported by the CISE Stream entity.

**Table 6.2.2.2.2-1: Data Structure of CISE Stream entity**

Field Name	Data Type	Note
StreamType	StreamType	
StreamURI	XSD:anyURI	

[Cdm-DOC-030] The StreamType shall support the following values:

- Video.
- ImageMap.
- VectorialMap.
- Radar.
- AIS.

### 6.2.3 Event Core Entity

#### 6.2.3.1 Event Core Entity General Requirements

[Cdm-EVE-001] The Event core entity shall be described by means of:

- Event Attributes.

- Event Relation Entities:
  - Action.
  - Anomaly.
  - Incident.
  - Movement.
- Event Associated Entities:
  - Agent Core Entity.
  - Document Core Entity.
  - Event Core Entity.
  - Location Core Entity.
  - Object Core Entity.
  - Risk Core Entity.

Figure 6.2.3.1-1 illustrates the Event Core Entity model.

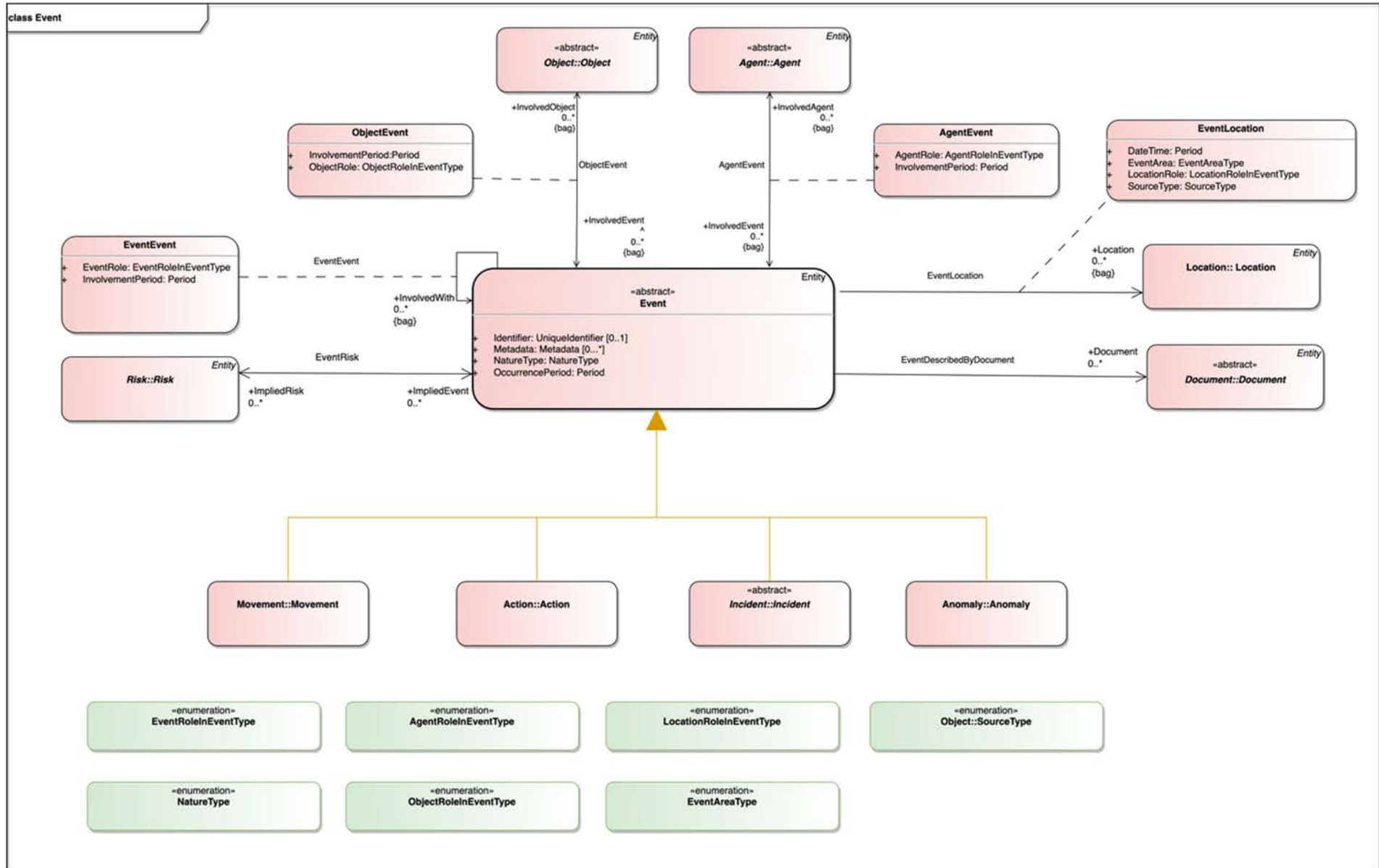


Figure 6.2.3.1-1: CISE Event UML conceptual model [i.7]

[Cdm-EVE-002] The Event entity shall be described by the following attributes:

- Identifier.
- Metadata.
- NatureType.
- OccurrencePeriod.

Table 6.2.3.1-1 illustrates the data structure supported by the CISE Event entity.

**Table 6.2.3.1-1: Data Structure of CISE Event entity**

Field Name	Data Type	Note
Identifier	UniquelIdentifierType	Ref. to [Cdm-DOC-003]
Metadata	MetadataType	Ref. to [Cdm-DOC-006]
NatureType	NatureType	
OccurrencePeriod	Period Entity	Ref. to [Cdm-PER-001]

[Cdm-EVE-003] The NatureType shall support the following values:

- Observed.
- Declared.
- Estimated.
- Simulated.
- Other.
- NonSpecified.

## 6.2.3.2 Event Relation Entity

### 6.2.3.2.1 Action Entity

[Cdm-EVE-004] The Action entity shall be described by the following attributes:

- ActionsStatus.
- ActionType.
- Mission.
- Priority.

Table 6.2.3.2.1-1 illustrates the data structure supported by the CISE Action entity.

**Table 6.2.3.2.1-1: Data Structure of CISE Action entity**

Field Name	Data Type	Note
ActionStatus	ActionStatusType	
ActionType	ActionType	
Mission	MissionType	
Priority	PriorityType	

[Cdm-EVE-005] The ActionStatusType shall support the following values:

- Aborted.
- Cancelled.

- Completed.
- InProgress.
- NotStarted.
- Paused.
- Other.
- NonSpecified.

[Cdm-EVE-006] The ActionType shall support the following values:

- Inspection.
- Confirmation.
- Rescue.
- Deterrence.
- Assistance.
- Acknowledgment.
- Exercise.
- Search.
- Detection.
- Tracking.
- Interception.
- Other.
- NonSpecified.

[Cdm-EVE-007] The MissionType shall support the following values:

- C2.
- CBRN.
- FF.
- FSTT.
- GEN.
- INT.
- MAC.
- MIL.
- NET.
- OPR.
- POL.
- REC.
- RSC.

- SAV.
- SCS.
- SOC.
- Other.
- NonSpecified.

[Cdm-EVE-008] The PriorityType shall support the following values:

- High.
- Medium.
- Low.
- Other.
- NonSpecified.

#### 6.2.3.2.2 Anomaly Entity

[Cdm-EVE-009] The Anomaly entity shall be described by the following attributes:

- AnomalyType.

[Cdm-EVE-010] The AnomalyType shall support the following values:

- UnexpectedMovement.
- CargoLeaking.
- ShiftingOfCargo.
- VesselOutOfTrafficLanes.
- VesselWithErraticMovements.
- StainOfOilSighted.
- DetecionOfChangesInAISParameters.
- PerformingAISSpoofing.
- WithoutAISTransmission.
- DoNotAnswerOnVHFCh16.
- Other.
- NonSpecified.

#### 6.2.3.2.3 Incident Entity

[Cdm-EVE-011] The Incident entity shall be described by:

- Incident attributes.
- Incident sub-classes:
  - MaritimeSafetyIncident.
  - IrregularMigrationIncident.

- LawInfringementIncident.
- CrisisIncident.

[Cdm-EVE-012] The Incident attributes shall support the following values:

- Certainty.
- DeathsOnBoard.
- DiseasesOnBoard.
- Instructions.
- NumberOfIllPersons.
- ResponseType.
- ResponseUrgency.
- Severity.
- SickAnimalOnBoard.

Table 6.2.3.2.3-1 illustrates the data structure supported by the CISE Incident entity.

**Table 6.2.3.2.3-1: Data Structure of CISE Incident entity**

Field Name	Data Type	Note
Certainty	CertaintyType	
DeathsOnBoard	Integer	
DiseasesOnBoard	Boolean	
InfectionOnBoard	Boolean	
Instructions	String	
NumberOfIllPersons	Integer	
ResponseType	ResponseType	
ResponseUrgency	UrgencyType	
Severity	SeverityType	
SickAnimalOnBoard	Boolean	

[Cdm-EVE-013] The CertaintyType shall support the following values:

- Observed.
- Likely.
- Possible.
- Unlikely.
- Unknown.
- Other.
- NonSpecified.

[Cdm-EVE-014] The ResponseType shall support the following values:

- Shelter.
- Evacuate.
- Prepare.
- Execute.

- Avoid.
- Monitor.
- Assess.
- AllClear.
- None.
- Other.
- NonSpecified.

[Cdm-EVE-015] The SeverityType shall support the following values:

- Extreme.
- Severe.
- Moderate.
- Minor.
- Unknown.
- Other.
- NonSpecified.

[Cdm-EVE-016] The UrgencyType shall support the following values:

- Immediate.
- Expected.
- Future.
- Past.
- Unknown.
- Other.
- NonSpecified.

[Cdm-EVE-017] The CrisisIncident sub-class shall be described by the following attribute:

- CrisisIncidentType.

[Cdm-EVE-018] The CrisisIncidentType shall support the following values:

- NaturalDisasterTsunami.
- NaturalDisasterEarthquake.
- NaturalDisasterHeatWave.
- NaturalDisasterWildFire.
- NaturalDisasterFlood.
- NaturalDisasterVolcanicEruption.
- NaturalDisasterStorm.
- NaturalDisasterSnowStorm.



- NaturalDisasterTropicalStorm.
- NaturalDisasterLightningStrike.
- NaturalDisasterLandslide.
- NaturalDisasterAvalanche.
- NaturalDisasterOutbreakOfInfectiousDiseaseAndOtherBioHazard.
- NaturalDisasterOther.
- ManMadeDisasterManMadeFire.
- ManMadeDisasterManMadeExplosion.
- ManMadeDisasterMaritimeAccident.
- ManMadeDisasterAircraftAccident.
- ManMadeDisasterRadiation.
- ManMadeDisasterOilPollution.
- ManMadeDisasterWastePollution.
- ManMadeDisasterAnyOtherManMadeDisaster.
- ViolenceAssassination.
- ManMadeDisasterTerroristAttack.
- ViolenceBombing.
- ViolenceDisorderProtestMutiny.
- ViolenceAirMissileAttack.
- ViolenceBioChemicalAttack.
- ViolenceHeavyWeaponsFire.
- ViolenceShooting.
- ViolenceStabbing.
- ViolencePhysicalAttack.
- ViolenceExecution.
- ViolenceVandalism.
- ViolenceRobbery.
- ViolenceKidnappingHostageTaking.
- MinesExplosives.
- ArmedConflict.
- HumanitarianCrisis.
- Other.
- NonSpecified.

[Cdm-EVE-019] The IrregularMigrationIncident sub-class shall be described by the following attribute:

- IrregularMigrationIncidentType.

[Cdm-EVE-020] The IrregularMigrationIncidentType shall support the following values:

- IrregularBorderEntry.
- EventRefusedBorderEntry.
- IrregularEntryAttempt.
- IrregularBorderExit.
- RefusedBorderEntry.
- IrregularExitAttempt.
- IrregularStay.
- FacilitatorInterception.
- FacilitatorDisclosure.
- InterceptionInThirdCountryTerritory.
- Other.
- NonSpecified.

[Cdm-EVE-020] The LawInfringementIncident sub-class shall be described by the following attribute:

- LawInfringementIncidentType.

[Cdm-EVE-021] The LawInfringementIncidentType shall support the following values:

- HumanTraffickingExploitationOfProstitutionOfOthers.
- HumanTraffickingOtherFormsOfSexualExploitation.
- HumanTraffickingForcedLabourOrServices.
- HumanTraffickingSlaveryOrPracticesSimilarToSlavery.
- HumanTraffickingServitude.
- HumanTraffickingExploitationOfActivitiesAssociatedWithBeggingOrOfUnlawfulActivities.
- HumanTraffickingRemovalOfOrgans.
- HumanTraffickingOther.
- DrugSmugglingMarihuana.
- DrugSmugglingCocaine.
- DrugSmugglingHashish.
- DrugSmugglingCannabis.
- DrugSmugglingHeroin.
- DrugSmugglingAmphetamine.
- DrugSmugglingMetamphetamine.
- DrugSmugglingEcstasy.

- DrugSmugglingOpium.
- DrugSmugglingHallucinogens.
- DrugSmugglingOtherDrugs.
- GoodsSmugglingGoodsCarriedWithNoRequiredPermits.
- GoodsSmugglingExciseGoods.
- GoodsSmugglingCounterfeitedProducts.
- GoodsSmugglingNaturalResourcesMinerals.
- GoodsSmugglingThreatenedSpecies.
- GoodsSmugglingCulturalHeritageGoods.
- SmugglingInWasteAndOtherHazardousMaterialWaste.
- SmugglingInWasteAndOtherHazardousMaterialChemical.
- SmugglingInWasteAndOtherHazardousMaterialBiohazard.
- SmugglingInWasteAndOtherHazardousMaterialRadioActive.
- SmugglingInWasteAndOtherHazardousMaterialNuclear.
- SmugglingInWasteAndOtherHazardousMaterialOtherDangerousSubstances.
- SmugglingInWeaponAndRelatedAccessoriesArmsWeapons.
- SmugglingInWeaponAndRelatedAccessoriesWeaponsOfMassDestruction.
- SmugglingInWeaponAndRelatedAccessoriesAmmunition.
- SmugglingInWeaponAndRelatedAccessoriesExplosives.
- SmugglingInOtherMaterial.
- OtherRelatedCrossBorderCriminalActivityStolenVehicle.
- OtherRelatedCrossBorderCriminalActivityDocumentFalsificationFraud.
- OtherRelatedCrossBorderCriminalActivityOther.
- LawInfringementByVessels.
- IllegalFlightOfAnAircraft.
- LawInfringementByVehicles.
- OtherAdministrativeOffense.
- Other.
- NonSpecified.

[Cdm-EVE-022] The MaritimeSafetyIncident sub-class shall be described by the following attribute:

- MaritimeSafetyIncidentType.

[Cdm-EVE-023] The MaritimeSafetyIncidentType shall support the following values:

- Pollution.
- Waste.

- LostFoundContainers.
- VTSRulesInfringement.
- BannedShip.
- InsuranceFailure.
- ResultInspection.
- PilotOrPortReport.
- Fire.
- Collision.
- Medico.
- Grounding.
- Flooding.
- List.
- Capsizing.
- EngineFailure.
- StructuralFailure.
- SteeringGearFailure.
- ElectricalGeneratingSystemFailure.
- NavigationEquipmentFailure.
- CommunicationEquipmentFailure.
- IncidentNatureAbandonShip.
- IncidentNatureSinking.
- DetainedShip.
- Other.
- NonSpecified.

**[Cdm-EVE-024]** The PollutionIncidentType shall support the following values:

- AreaCoverPercentage.
- Characteristics.
- DriftCourse.
- DriftSpeed.
- PollutionType.
- Quantity.

Table 6.2.3.2.3-2 illustrates the data structure supported by the CISE PollutionIncidentType.

**Table 6.2.3.2.3-2: Data Structure of CISE PollutionIncidentType**

Field Name	Data Type	Note
AreaCoverPercentage	String	
Characteristics	String	
DriftCourse	integer	
DriftSpeed	double	
PollutionType	PollutionType	
Quantity	double	

[Cdm-EVE-025] The PollutionType shall support the following values:

- OIL.
- CHEM.
- FISH.
- VEG.
- OTH.
- UNK.

#### 6.2.3.2.4 Movement Entity

[Cdm-EVE-026] The Movement entity shall be described by the following attributes:

- MovementType.
- Purpose.
- VoyageNumber.

Table 6.2.3.2.4-1 illustrates the data structure supported by the CISE Movement entity.

**Table 6.2.3.2.4-1: Data Structure of CISE Movement entity**

Field Name	Data Type	Note
MovementType	MovementType	
Purpose	String	
VoyageNumber	String	

[Cdm-EVE-027] The MovementType shall support the following values:

- RoutePlan.
- Voyage.
- Voyage leg.
- Search pattern.
- Patrol route plan.
- Other.
- NonSpecified.

### 6.2.3.3 Event Associated Entity

#### 6.2.3.3.1 Agent Entity

[Cdm-EVE-028] The association with an Agent entity shall be described by the following attributes:

- Agent Role.
- Involvement Period.

Table 6.2.3.3.1-1 illustrated the data structure supported by the Agent associated entity.

**Table 6.2.3.3.1-1: Data Structure of CISE Agent associated model**

Field Name	Data Type	Note
AgentRole	AgentRoleInEventType	
InvolvementPeriod	Period Entity	Ref. to [Cdm-PER-001]

[Cdm-EVE-029] The AgentRoleInEventType shall support the following values:

- Coordinator.
- Participant.
- Observer.
- Cause.
- Reporter.
- Victim.
- Informed.
- Perpetrator.
- Other.
- NonSpecified.

#### 6.2.3.3.2 Event Entity

[Cdm-EVE-030] The association with an Event entity shall be described by the following attributes:

- Event Role.
- Involvement Period.

Table 6.2.3.3.2-1 illustrated the data structure supported by the Event associated entity.

**Table 6.2.3.3.2-1: Data Structure of CISE Event associated model**

Field Name	Data Type	Note
EventRole	EventRoleInEventType	
InvolvementPeriod	Period Entity	Ref. to [Cdm-PER-001]

[Cdm-EVE-031] The EventRoleInEventType shall support the following values:

- Causes.
- Responds.
- Prevents.

- Encompasses.
- Requires.
- Other.
- NonSpecified.

### 6.2.3.3.3 Location Entity

[Cdm-EVE-032] The association with a Location entity shall be described by the following attributes:

- DateTime.
- EventArea.
- LocationRole.
- SourceType.

Table 6.2.3.3.3-1 illustrated the data structure supported by the Location associated entity.

**Table 6.2.3.3.3-1: Data Structure of CISE Location associated model**

Field Name	Data Type	Note
DateTime	Period Entity	Ref. to [Cdm-PER-001]
EventArea	EventAreaType	
LocationRole	LocationRoleInEventType	
SourceType	SourceType	

[Cdm-EVE-033] The EventAreaType shall support the following values:

- AIR.
- CMB.
- DGR.
- FLAME.
- GEN.
- PLUME.
- SMOKE.
- VULN.
- Other.
- NonSpecified.

[Cdm-EVE-034] The LocationRoleInEventType shall support the following values:

- StartPlace.
- EndPlace.
- LastPlace.
- NextPlace.
- Other.
- NonSpecified.

### 6.2.3.3.4 Object Entity

[Cdm-EVE-035] The association with an Object entity shall be described by the following attributes:

- Object Role.
- Involvement Period.

Table 6.2.3.3.4-1 illustrated the data structure supported by the Object associated entity.

**Table 6.2.3.3.4-1: Data Structure of CISE Object associated model**

Field Name	Data Type	Note
ObjectRole	ObjectRoleInEventType	
InvolvementPeriod	Period Entity	Ref. to [Cdm-PER-001]

[Cdm-EVE-036] The ObjectRoleInEventType shall support the following values:

- Coordinator.
- Participant.
- Observer.
- Cause.
- Reporter.
- Victim.
- Mean.
- Other.
- NonSpecified.

## 6.2.4 Location Core Entity

### 6.2.4.1 Location Core Entity General Requirements

[Cdm-LOC-001] The Location core entity shall be described by means of:

- Location Class Attributes.
- Location Relation Entities:
  - MeteoOceanographicCondition.
  - NamedLocation.
  - PortLocation.
  - PortFacilityLocation.
- Location Associated Entities:
  - Agent Core Entity.
  - Document Core Entity.
  - Event Core Entity.
  - Object Core Entity.
  - Risk Core Entity.



Figure 6.2.4.1-1 illustrates the Location Core Entity model.

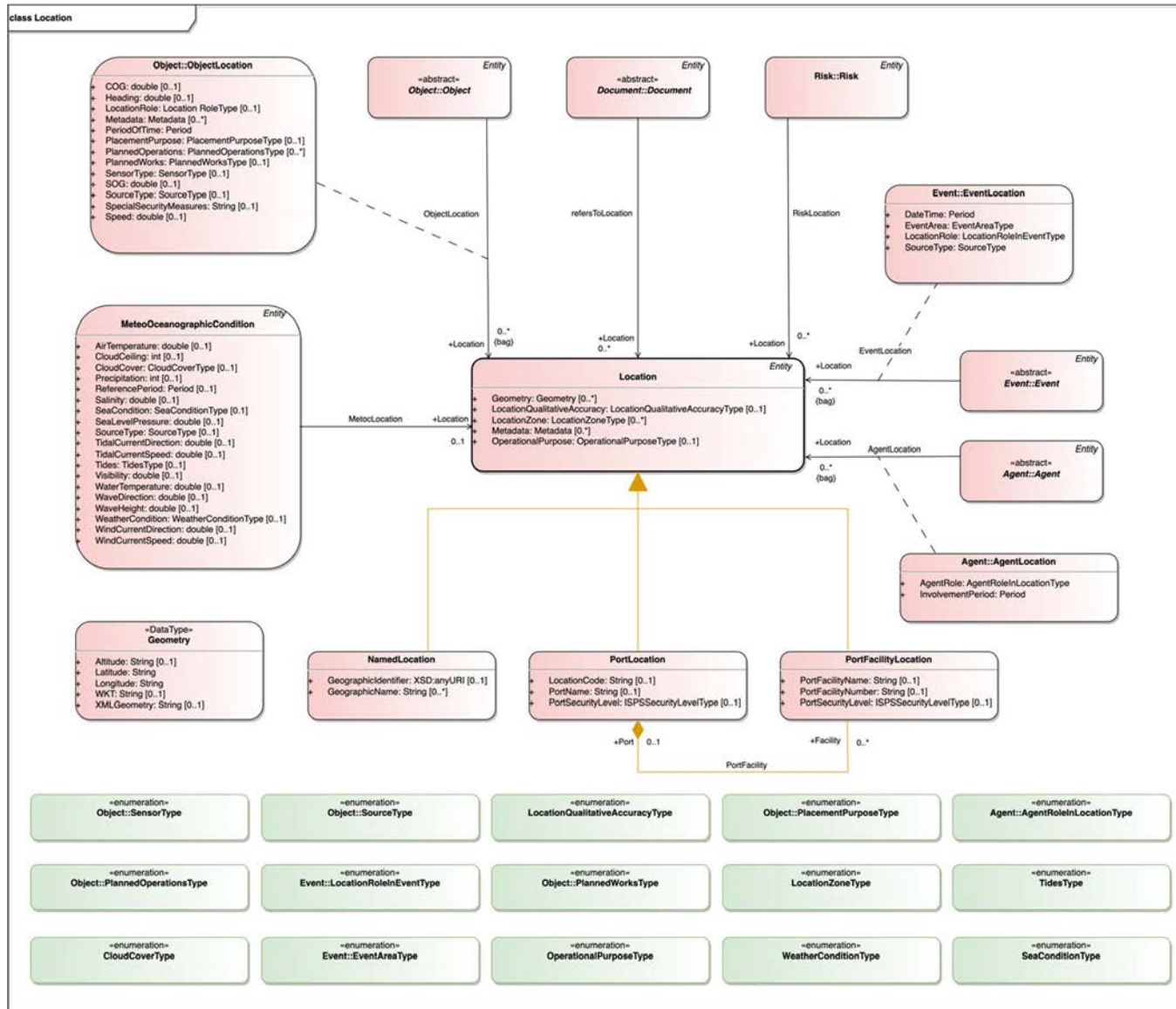


Figure 6.2.4.1-1: CISE Location UML conceptual model [i.7]

[Cdm-LOC-002] The Location entity shall be described by the following attributes:

- Geometry.
- LocationQualitativeAccuracy.
- LocationZone.
- Metadata.
- OperationalPurpose.

Table 6.2.4.1-1 illustrates the data structure supported by the CISE Location entity.

**Table 6.2.4.1-1: Data Structure of CISE Location entity**

Field Name	Data Type	Note
Geometry	Geometry Data Type	
LocationQualitativeAccuracy	LocationQualitativeAccuracyType	
LocationZone	LocationZoneType	
Metadata	Metadata Type	Ref. to [Cdm-DOC-006]
OperationalPurpose	OperationalPurposeType	

[Cdm-LOC-003] The Geometry Data Type shall support the following values:

- Altitude.
- Latitude.
- Longitude.
- WKT.
- XMLGeometry.

Table 6.2.4.1-2 illustrates the data structure supported by the Geometry data type.

**Table 6.2.4.1-2: Data Structure of CISE Geometry data type**

Field Name	Data Type	Note
Altitude	String	Geographic Altitude in meters AMSL
Latitude	String	Geographic Latitude, expressed using the WGS84 reference
Longitude	String	Geographic Longitude, expressed using the WGS84 reference
WKT	String	Well-known text (WKT) is a text markup language for representing vector geometry objects on a map
XMLGeometry	String	Geometry defined by an XML file such as KML

[Cdm-LOC-004] The LocationQualitativeAccuracyType shall support the following values:

- High.
- Medium.
- Low.
- Other.
- NonSpecified.

[Cdm-LOC-005] The LocationZoneType shall support the following values:

- HighSeas.
- TerritorialWaters.

- CoastLine.
- ContiguousZone.
- Port.
- ControlPoint.
- GreenBorder.
- Inland.
- ExclusiveEconomicArea.
- ThirdCountry.
- INW.
- NAT.
- Other.
- NonSpecified.

[Cdm-LOC-006] The OperationalPurposeType shall support the following values:

- Search area.
- Surveillance area.
- Other.
- NonSpecified.

## 6.2.4.2 Location Relation Entity

### 6.2.4.2.1 MeteoOceanographicCondition Entity

[Cdm-LOC-007] The MeteoOceanographicCondition entity shall be described by means of the following attributes:

- AirTemperature.
- CloudCeiling.
- CloudCover.
- Precipitation.
- ReferencePeriod.
- Salinity.
- SeaCondition.
- SeaLevelPressure.
- SourceType.
- TidalCurrentDirection.
- TidalCurrentSpeed.
- Tides.
- Visibility.

- WaterTemperature.
- WaveDirection.
- WaveHeight.
- WeatherCondition.
- WindCurrentDirection.
- WindCurrentSpeed.

Table 6.2.4.2.1-1 illustrates the data structure supported by the MeteoOceanographicCondition entity.

**Table 6.2.4.2.1-1: Data Structure of CISE MeteoOceanographicCondition entity**

Field Name	Data Type	Note
AirTemperature	Double	
CloudCeiling	Integer	Value in meters
CloudCover	CloudCoverType	
Precipitation	Integer	Value in millimetres
ReferencePeriod	Period Entity	Ref. to [Cdm-PER-001]
Salinity	Double	Value in g per Kg of water
SeaCondition	SeaConditionType	
SeaLevelPressure	Double	Value in Hpa
SourceType	SourceType	
TidalCurrentDirection	Double	Value in degrees
TidalCurrentSpeed	Double	Value in tenths of knots
Tides	TidesType	
Visibility	Double	Value in nautical miles
WaterTemperature	Double	
WaveDirection	Double	Value in degrees
WaveHeight	Double	Value in meters
WeatherCondition	WeatherConditionType	
WindCurrentDirection	Double	Value in degrees
WindCurrentSpeed	Double	Value in meters/seconds

[Cdm-LOC-008] The CloudCoverType shall support the following values:

- ClearSky.
- Okta1.
- Okta2.
- Okta3.
- Okta4.
- Okta5.
- Okta6.
- Okta7.
- Okta8.
- SkyObscured.

[Cdm-LOC-009] The SeaConditionType shall support the following values:

- Calm (glassy).
- Calm (rippled).

- Smooth (wavelets).
- Slight.
- Moderate.
- Rough.
- Very rough.
- High.
- Very high.
- Phenomenal.

[Cdm-LOC-010] The SourceType shall support the following values:

- Observed.
- Declared.
- Estimated.
- Simulated.
- Other.
- NonSpecified.

[Cdm-LOC-011] The Tides Type shall support the following values:

- Low.
- High.

[Cdm-LOC-012] The WeatherConditionType shall support the following values:

- HUM.
- ICY.
- TDS.
- WIN.
- DRZLE.
- FOG.
- Other.
- NonSpecified.

#### 6.2.4.2.2 NamedLocation Entity

[Cdm-LOC-013] The NamedLocation entity shall be described by means of the following attributes:

- GeographicIdentifier.
- GeographicName.

Table 6.2.4.2.2-1 illustrates the data structure supported by the NamedLocation entity.

**Table 6.2.4.2-1: Data Structure of CISE NamedLocation entity**

Field Name	Data Type	Note
GeographicIdentifier	XSD::anyURI	
GeographicName	String	

### 6.2.4.2.3 PortFacilityLocation Entity

[Cdm-LOC-014] The PortFacilityLocation entity shall be described by means of the following attributes:

- PortFacilityName.
- PortFacilityNumber.
- PortSecurityLevel.

Table 6.2.4.2.3-1 illustrates the data structure supported by the PortFacilityLocation entity.

**Table 6.2.4.2.3-1: Data Structure of CISE PortFacilityLocation entity**

Field Name	Data Type	Note
PortFacilityName	String	
PortFacilityNumber	String	
PortSecurityLevel	ISPSSecurityLevelType	

[Cdm-LOC-015] The ISPSSecurityLevel Type shall support the following values:

- High.
- Medium.
- Low.
- Other.
- NonSpecified.

### 6.2.4.2.4 PortLocation Entity

[Cdm-LOC-016] The PortLocation entity shall be described by means of the following attributes:

- Organization attributes.
- Organization sub-classes.

Table 6.2.4.2.4-1 illustrates the data structure supported by the PortLocation entity.

**Table 6.2.4.2.4-1: Data Structure of CISE PortLocation entity**

Field Name	Data Type	Note
LocationCode	String	
PortName	String	
PortSecurityLevel	ISPSSecurityLevelType	Ref. to [Cdm-LOC-014]

## 6.2.5 Object Core Entity

### 6.2.5.1 Object Core Entity General Requirements

Figure 6.2.5.1-1 illustrates the Object Core Entity model.

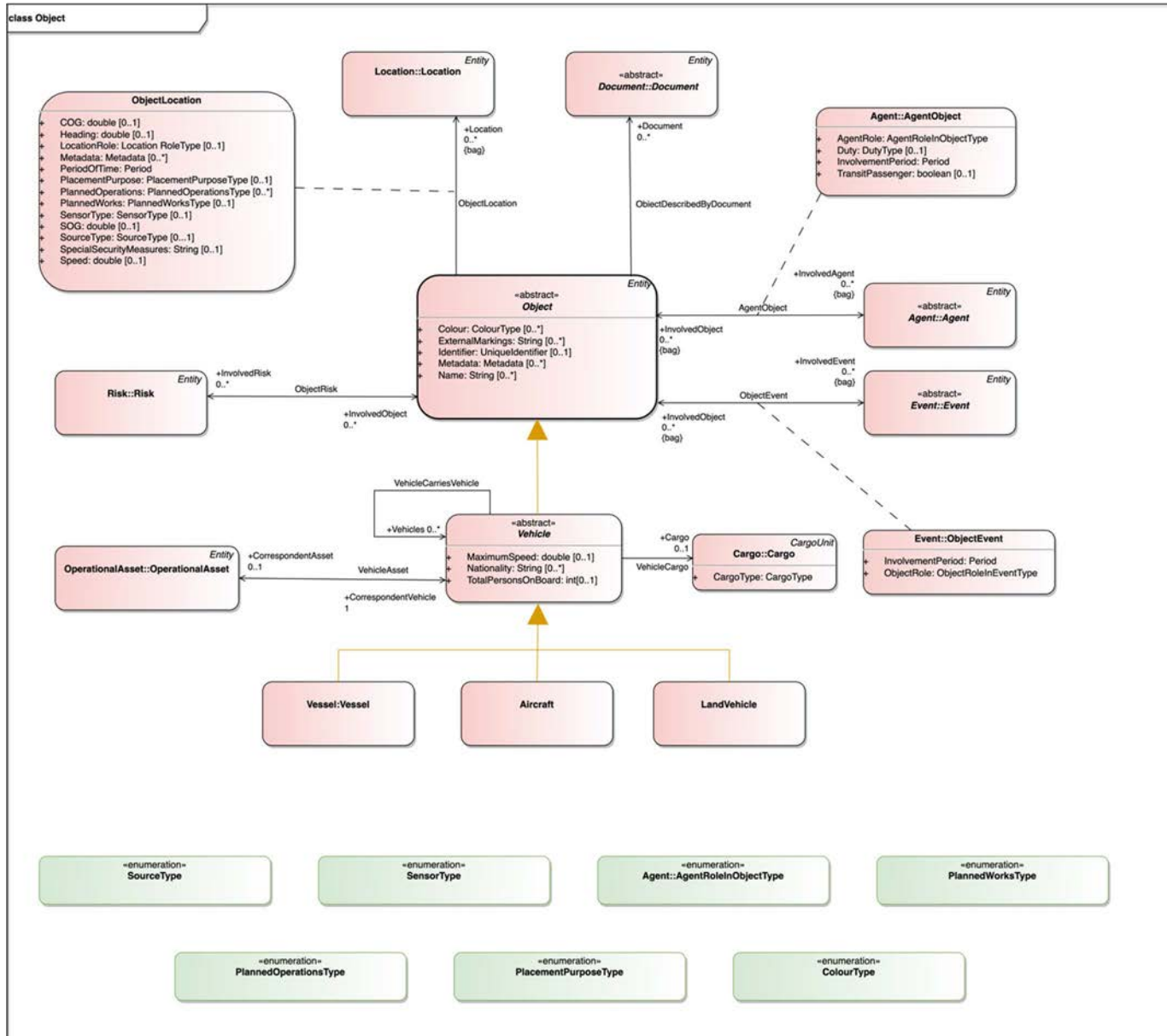


Figure 6.2.5.1-1: CISE Object UML conceptual model [i.7]

[Cdm-OBJ-001] The Object core entity shall be described by means of:

- Object Class Attributes.
- Object Relation Entities:
  - CargoUnit Entity.
  - Operational Asset Entity.
  - Vehicle Entity.
- Object Associated Entities:
  - Agent Core Entity.
  - Document Core Entity.
  - Event Core Entity.
  - Location Core Entity.
  - Object Core Entity.
  - Risk Core Entity.

[Cdm-OBJ-002] The Object entity shall be described by the following attributes:

- Colour.
- External Markings.
- Identifier.
- Metadata.
- Name.

Table 6.2.5.1-1 illustrates the data structure supported by the CISE Object entity.

**Table 6.2.5.1-1: Data Structure of CISE Object entity**

Field Name	Data Type	Note
Colour	ColourType	
ExternalMarkings	String	
Identifier	UniqueIdentifierType	Ref. to [Cdm-DOC-003]
Metadata	Metadata Type	Ref. to [Cdm-DOC-006]
Name	String	

[Cdm-OBJ-003] The ColourType shall support the following values:

- Cyan.
- Grey.
- Yellow.
- White.
- Black.
- Pink.
- Green.
- Blue.



- Brown.
- Orange.
- Violet.
- Red.

## 6.2.5.2 Object Relation Entity

### 6.2.5.2.1 CargoUnit Entity

[Cdm-OBJ-004] The CargoUnit entity shall be described by means of:

- CargoUnit sub-classes:
  - Cargo.
  - Catch.
  - ContainmentUnit.

Figure 6.2.5.2.1-1 illustrates the CargoUnit entity model.

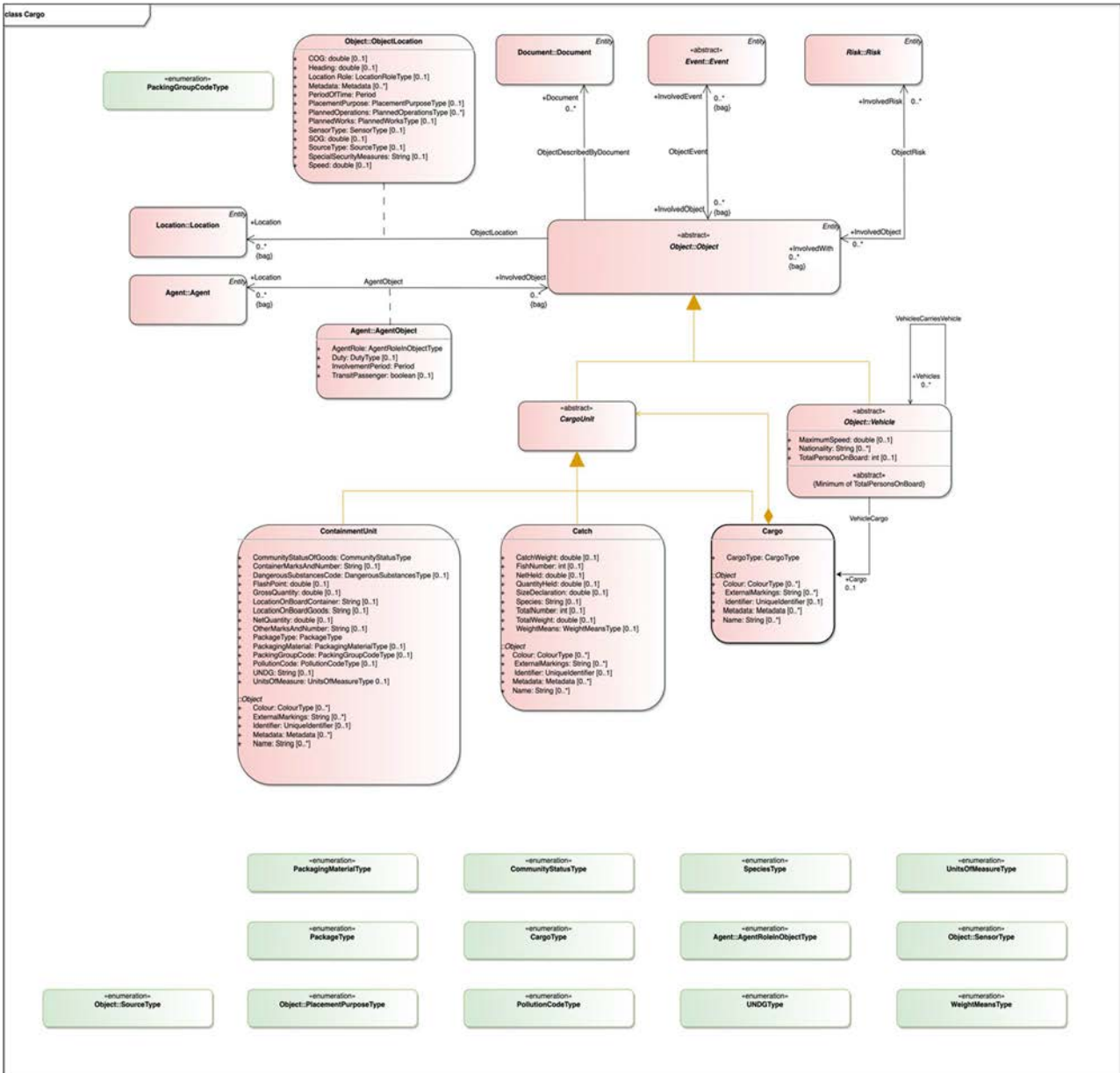


Figure 6.2.5.2.1-1: CISE CargoUnit UML conceptual model [i.7]

[Cdm-OBJ-005] The Cargo sub-class shall be described by the following attribute:

- CargoType.

Table 6.2.5.2.1-1 illustrates the data structure supported by the CISE Cargo sub-class.

Table 6.2.5.2.1-1: Data Structure of CISE Cargo sub-class

Field Name	Data Type	Note
CargoType	CargoType	

[Cdm-OBJ-006] The CargoType shall support the following values:

- NoCargoUnitLiquidBulkGoods.
- NoCargoUnitSolidBulkGoods.
- LargeFreightContainers.

- OtherFreightContainers.
- Palletized.
- PreSlung.
- MobileSelfPropelledUnits.
- OtherMobileUnits.
- Reserved.
- OtherCargoTypes.
- Other.
- NonSpecified.

[Cdm-OBJ-007] The Catch sub-class shall be described by the following attributes:

- CatchWeight.
- FishNumber.
- NetHeld.
- QuantityHeld.
- SizeDeclaration.
- Species.
- TotalNumber.
- TotalWeight.
- UniqueIdentifier.
- WeightMeans.

Table 6.2.5.2.1-2 illustrates the data structure supported by the CISE Catch sub-class.

**Table 6.2.5.2.1-2: Data Structure of CISE Catch sub-class**

Field Name	Data Type	Note
CatchWeight	double	
FishNumber	integer	
NetHeld	double	
QuantityHeld	double	
SizeDeclaration	double	
Species	string	
TotalNumber	integer	
TotalWeight	double	
UniqueIdentifier	UniqueIdentifierType	Ref. to [Cdm-DOC-003]
WeightMeans	WeightMeansType	

[Cdm-OBJ-008] The WeightMeansType shall support the following values:

- EST.
- WGH.

[Cdm-OBJ-009] The ContainmentUnit sub-class shall be described by the following attributes:

- CommunityStatusOfGoods.

- ContainerMarksAndNumber.
- DangerousSubstancesCode.
- FlashPoint.
- GrossQuantity.
- LocationOnBoardContainer.
- LocationOnBoardGoods.
- NetQuantity.
- OtherMarksAndNumber.
- PackageType.
- PackagingMaterial.
- PackingGroupCode.
- PollutionCode.
- UNDG.
- UniqueIdentifier.
- UnitsOfMeasure.

Table 6.2.5.2.1-3 illustrates the data structure supported by the CISE ContainmentUnit sub-class.

**Table 6.2.5.2.1-3: Data Structure of CISE ContainmentUnit sub-class**

Field Name	Data Type	Note
CommunityStatusOfGoods	CommunityStatusType	
ContainerMarksAndNumber	String	
DangerousSubstancesCode	DangerousSubstancesType	
FlashPoint	double	
GrossQuantity	double	
LocationOnBoardContainer	String	
LocationOnBoardGoods	String	
NetQuantity	double	
OtherMarksAndNumber	String	
PackageType	PackageType	
PackagingMaterial	PackagingMaterialType	
PackingGroupCode	PackingGroupCodeType	
PollutionCode	PollutionCodeType	
UNDG	String	
UniqueIdentifier	UniqueIdentifier	Ref. to [Cdm-DOC-003]
UnitsOfMeasure	UnitsOfMeasureType	

[Cdm-OBJ-010] The CommunityStatusType shall support the following values:

- CommunityGoods.
- CommunityGoodsFromNonFiscalTerritories.
- CommunityGoodsBeingExported.
- OtherGoods.
- NonSpecified.

[Cdm-OBJ-011] The DangerousSubstancesType shall support the following values:

- Class1Explosives.
- Class21FlammableGases.
- Class22ToxicGases.
- Class23NonFlammableCompressedGases.
- Class31Petrol.
- Class32FuelOil.
- Class33FuelOil.
- Class41FlammableSolid.
- Class42SpontaneouslyCombustible.
- Class43DangerousWhenWet.
- Class51OxidizingAgent.
- Class52OrganixPeroxide.
- Class61ToxicSubstances.
- Class62InfectiousBiologicalSubstances.
- Class7RadioactiveMaterials.
- Class8Corrosives.
- Class9MiscellaneousDangerousSubstances.
- MHBMaterialsHazardousOnlyInBulk.
- Other.
- NonSpecified.

[Cdm-OBJ-012] The PackageType shall support the following values:

- Bulk.
- LoosedUnpackedExcludingBulk.
- RigidBoxTypePrismatic.
- RigidDrumTypeCylindrical.
- RigidBulbTypeSpherical.
- RigidOther.
- FlexibleBagType.
- ForFutureUse.
- Reserved.
- OtherSpecialPackages.
- Other.
- NonSpecified.

**[Cdm-OBJ-013]** The PackagingMaterialType shall support the following values:

- None.
- Plastics.
- PaperAndFibreboard.
- Wood.
- ForFutureUse.
- Metal.
- GlassPorcelainCeramicStoneware.
- Textile.
- Reserved.
- UnknownOrNotOtherwiseEnumerated.
- Other.
- NonSpecified.

**[Cdm-OBJ-014]** The PackingGroupCodeType shall support the following values:

- GroupIGreatDanger.
- GroupIIMediumDanger.
- GroupIIIMinorDanger.
- None.
- Other.
- NonSpecified.

**[Cdm-OBJ-015]** The PollutionCodeType shall support the following values:

- CategoryX.
- CategoryY.
- CategoryZ.
- OtherSubstances.
- NonSpecified.

**[Cdm-OBJ-016]** The UnitsOfMeasureType shall support the following values:

- Kilogram.
- MetricTonne.
- Other.
- NonSpecified.

### 6.2.5.2.2 Operational Asset Entity

[Cdm-OBJ-017] The OperationalAsset entity shall be described by the following attributes:

- AvailabilityPeriod.
- Identifier.
- MaxPassengers.
- MaxSpeed.
- Metadata.
- OperationalAssetType.
- OperationalCapability.
- Range.
- ReadinessState.

Table 6.2.5.2.2-1 illustrates the data structure supported by the CISE OperationalAsset entity.

**Table 6.2.5.2.2-1: Data Structure of CISE OperationalAsset entity**

Field Name	Data Type	Note
AvailabilityPeriod	Period Entity	Ref. to [Cdm-PER-001]
Identifier	UniquelIdentifierType	Ref. to [Cdm-DOC-003]
MaxPassengers	integer	
MaxSpeed	double	Values in knots
Metadata	MetadataType	Ref. to [Cdm-DOC-006]
OperationalAssetType	OperationalAssetType	
OperationalCapability	OperationalCapabilityType	
Range	double	Values in miles
ReadinessState	XSD::Time	

[Cdm-OBJ-018] The OperationalAssetType shall support the following values:

- Aircraft.
- Helicopter.
- PatrolBoat.
- UAV.
- Submarine.
- Frigate.
- SpeedBoat.
- Drone.
- Tank.
- Truck.
- FourWheelDrive.
- Carrier.
- Ambulance.

- Motorcycle.
- ArtilleryVehicle.
- DesertPatrolVehicle.
- Tractor.
- Wrecker.
- Trailer.
- Humvee.
- Firetrack.
- Van.
- UUV.
- ROV.
- USV.
- SeaPlatform.
- Aeroplane.
- Destroyer.
- Cruiser.
- AircraftCarrier.
- Corvette.
- AuxiliaryShips.
- LandingShips.
- AssaultShips.
- MineWarfareShips.
- StrategicFixedAssets.
- Ballons.
- Other.
- NonSpecified.

[Cdm-OBJ-019] The OperationalCapabilityType shall support the following values:

- SearchAndRescue.
- OilPollution.
- TelecommunicationsTLC.
- Patrolling.
- PiracyAttack.
- IllegalMigration.
- CounterDrugSmuggling.



- CounterIllegalFishing.
- Firefighting.
- Coordination.
- Simulation.
- Mobility.
- Training.
- Maintenance.
- Sustainability.
- IntelligenceSurveillanceReconnaissance.
- C2WcommandAndControlWarfare.
- Other.
- NonSpecified.

#### 6.2.5.2.3 Vehicle Entity

[Cdm-OBJ-020] The Vehicle entity shall be described by means of:

- Vehicle attributes.
- Vehicle sub-classes:
  - Vessel.
  - Aircraft.
  - Land Vehicle.

[Cdm-OBJ-021] The Vehicle entity shall be described by the following attributes:

- MaximumSpeed.
- Nationality.
- TotalPersonsOnBoard.

Table 6.2.5.2.3-1 illustrates the data structure supported by the CISE Vehicle entity.

**Table 6.2.5.2.3-1: Data Structure of CISE Vehicle entity**

Field Name	Data Type	Note
MaximumSpeed	Double	Values in knots
Nationality	String	Two-letter country codes
TotalPersonsOnBoard	Integer	

[Cdm-OBJ-022] The Vessel sub-class shall be described by means of the following attributes:

- Arrangement.
- Beam.
- Breadth.
- CallSign.

- ConditionOfTheCargoAndBallast.
- ContainerCapacity.
- Deadweight.
- Depth.
- DesignSpeed.
- Draught.
- FishingGear.
- GrossTonnage.
- HullMaterial.
- IMONumber.
- INFShipClass.
- INMARSATNumber.
- IRNumber.
- IsBanned.
- IsFishing.
- ISPSSSecurityLevel.
- Length.
- LengthenedYear.
- LOA.
- MMSI.
- NavigationalStatus.
- NetTonnage.
- RegionalIdentification.
- RegistryDate.
- RegistryNumber.
- SegregatedBallastVolume.
- ShipConfiguration.
- ShipType.
- UnderSanitaryMeasure.
- UVI.
- YearBuilt.

Table 6.2.5.2.3-2 illustrates the data structure supported by the Vessel sub-class.

Table 6.2.5.2.3-2: Data Structure of CISE Vessel sub-class

Field Name	Data Type	Note
Arrangement	String	
Beam	integer	Values in meters
Breadth	integer	Values in meters
CallSign	String	
ConditionOfTheCargoAndBallast	ConditionOfTheCargoAndBallastType	
ContainerCapacity	integer	Values in feet
Deadweight	integer	Values in tonnes
Depth	double	
DesignSpeed	double	Values in knots
Draught	double	Values in meters
FishingGear	FishingGearType	
GrossTonnage	double	
HullMaterial	HullMaterialType	
IMONumber	long	
INFShipClass	INFClassType	
INMARSATNumber	String	
IRNumber	String	
IsBanned	boolean	
IsFishing	boolean	
ISPSSSecurityLevel	ISPSSSecurityLevelType	
Length	double	Values in meters
LengthenedYear	integer	
LOA	double	Values in meters
MMSI	long	
NavigationalStatus	NavigationalStatusType	
NetTonnage	double	
RegionalIdentification	String	
RegistryDate	XSD::Date	
RegistryNumber	String	
SegregatedBallastVolume	double	
ShipConfiguration	ShipConfigurationType	
ShipType	VesselType	
UnderSanitaryMeasure	SanitaryMeasureType	
UVI	String	
YearBuilt	integer	

[Cdm-OBJ-023] The ConditionOfTheCargoAndBallastType shall support the following values:

- Full.
- Empty.
- Inerted.
- Other.
- NonSpecified.

[Cdm-OBJ-024] The FishingGearType shall support the following values:

- SurroundingNets.
- SeineNets.
- TrawlNets.
- Dredges.
- LiftNets.
- FallingNets.

- GillnetsAndEntanglingNets.
- Traps.
- HooksAndLines.
- GrapplingAndWoundingGears.
- StupefyingDevices.
- Other.
- NonSpecified.

[Cdm-OBJ-025] The HullMaterialType shall support the following values:

- HighStrengthSteel.
- Other.
- NonSpecified.

[Cdm-OBJ-026] The INFClassType shall support the following values:

- INF1.
- INF2.
- INF3.
- Other.
- NonSpecified.

[Cdm-OBJ-027] The ISPPSecurityLevelType shall support the following values:

- SecurityLevel1.
- SecurityLevel2.
- SecurityLevel3.
- Other.
- NonSpecified.

[Cdm-OBJ-028] The NavigationalStatusType shall support the following values:

- UnderWayUsingEngine.
- AtAnchor.
- NotUnderCommand.
- RestrictedManoeuvrability.
- ConstrainedByHerDraught.
- Moored.
- Aground.
- EngagedInFishing.
- UnderWaySailing.
- EngagedInFishingOtherThanTrawling.

- AirCushionVesselInNonDisplamenetModeOrWIGCraftTakingOffLandingOrInFlight.
- PowerDrivenVesselTowingAstern.
- PowerDrivenVesselTowigAheadOrPushingAlongside.
- InDistressOrRequiringAssistance.
- AISSARTSeekingToAttractAttention.
- UndefinedDefault.
- Other.
- NonSpecified.

[Cdm-OBJ-029] The SanitaryMeasureType shall support the following values:

- Quarantine.
- Isolation.
- Disinfection.
- Decontamination.
- Other.
- NonSpecified.

[Cdm-OBJ-030] The ShipConfigurationType shall support the following values:

- SingleHullTanker.
- SingleHullWithSegregatedBallastTanks.
- DoubleHullTanker.
- Other.
- NonSpecified.

[Cdm-OBJ-031] The VesselType shall support the following values:

- PassengerShip.
- FishingVessel.
- NuclearShip.
- BulkCarrier.
- OilTanker.
- GeneralCargoShip.
- HighSpeedCraft.
- MobileOffShoreDrillingUnit.
- SpecialPurposeShip.
- Other.
- NonSpecified.

### 6.2.5.3 Object Associated Entity

#### 6.2.5.3.1 Location Entity

[Cdm-OBJ-032] The association with a Location entity shall be described by the following attributes:

- COG.
- Heading.
- LocationRole.
- Metadata.
- PeriodOfTime.
- PlacementPurpose.
- PlannedOperations.
- PlannedWorks.
- SensorType.
- SOG.
- SourceType.
- SpecialSecurityMeasures.
- Speed.

Table 6.2.5.3.1-1 illustrated the data structure supported by the Location associated entity.

**Table 6.2.5.3.1-1: Data Structure of CISE Location associated model**

Field Name	Data Type	Note
COG	double	Values in degrees
Heading	double	Values in degrees
LocationRole	LocationRoleType	
Metadata	MetadataType	Ref. to [Cdm-DOC-006]
PeriodOfTime	Period Entity	Ref. to [Cdm-PER-001]
PlacementPurpose	PlacementPurposeType	
PlannedOperations	PlannedOperationsType	
PlannedWorks	PlannedWorksType	
SensorType	SensorType	
SOG	double	Values in knots
SourceType	SourceType	
SpecialSecurityMeasures	String	
Speed	double	Values in knots

[Cdm-OBJ-033] The LocationRoleType shall support the following values:

- PortOfEmbarkation.
- PortOfDisembarkation.
- PortOfRegistry.
- LengthenedPlace.
- PortOfLoading.
- PortOfDischarge.

- NonSpecified.

[Cdm-OBJ-034] The PlacementPurposeType shall support the following values:

- InTransit.
- Assigned.
- Other.
- NonSpecified.

[Cdm-OBJ-035] The PlannedOperationsType shall support the following values:

- Loading.
- Unloading.
- Other.
- NonSpecified.

[Cdm-OBJ-036] The PlannedWorksType shall support the following values:

- Inspection.
- MaintenanceAndRepair.
- Other.
- NonSpecified.

[Cdm-OBJ-037] The SensorType shall support the following values:

- Sighting.
- UnderwaterSensor.
- MaritimeRadar.
- SyntheticApertureRadar.
- EOIROptronicSystem.
- MaritimeMovingTargetIdentification.
- SignalInterceptionSystemsCOMINT.
- SignalInterceptionSystemsELINT.
- EnvironmentalSensingSystems.
- AutomaticIdentificationSystem.
- VesselMonitoringSystem.
- LongRangeIdentificationTracking.
- AutomaticVehicleLocation.
- AcousticSystems.
- NonTraditionalSources.
- Other.
- NonSpecified.

[Cdm-OBJ-038] The SourceType shall support the following values:

- Observation.
- Declaration.
- Estimation.
- Simulation.
- Correlation.
- Other.
- NonSpecified.

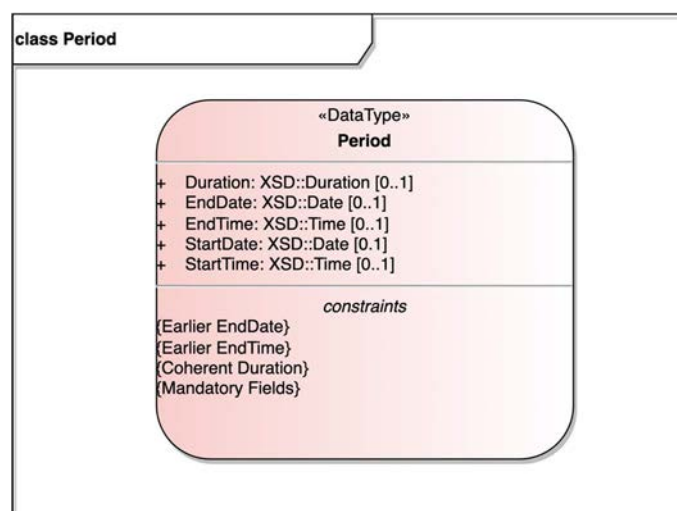
## 6.2.6 Period Core Entity

### 6.2.6.1 Period Core Entity General Requirements

[Cdm-PER-001] The Period core entity shall be described by means of the following attributes:

- Duration.
- EndDate.
- EndTime.
- StartDate.
- StartTime.

Figure 6.2.6.1-1 illustrates the Period Core Entity model.



**Figure 6.2.6.1-1: CISE Period UML conceptual model [i.7]**

Table 6.2.6.1-1 illustrates the data structure supported by the CISE Period entity.



Table 6.2.6.1-1: Data Structure of CISE Period entity

Field Name	Data Type	Note
Duration	XSD::Duration	The time interval is specified in the following form "PnYnMnDTnHnMnS" where: <ul style="list-style-type: none"> <li>• P indicates the period (required).</li> <li>• nY indicates the number of years.</li> <li>• nM indicates the number of months.</li> <li>• nD indicates the number of days.</li> <li>• T indicates the start of a time section (required to specify hours, minutes, or seconds).</li> <li>• nH indicates the number of hours.</li> <li>• nM indicates the number of minutes.</li> <li>• nS indicates the number of seconds.</li> </ul>
EndDate	XSD::Date	Values in "YYYY-MM-DD"
EndTime	XSD::Time	
StartDate	XSD::Date	Values in "YYYY-MM-DD"
StartTime	XSD::Time	

## 6.2.7 Risk Core Entity

### 6.2.7.1 Risk Core Entity General Requirements

[Cdm-RSK-001] The Risk core entity shall be described by means of:

- Risk Class Attributes.
- Risk Associated Entities:
  - Agent Core Entity.
  - Document Core Entity.
  - Event Core Entity.
  - Location Core Entity.
  - Object Core Entity.

Figure 6.2.7.1-1 illustrates the Risk Core Entity model.

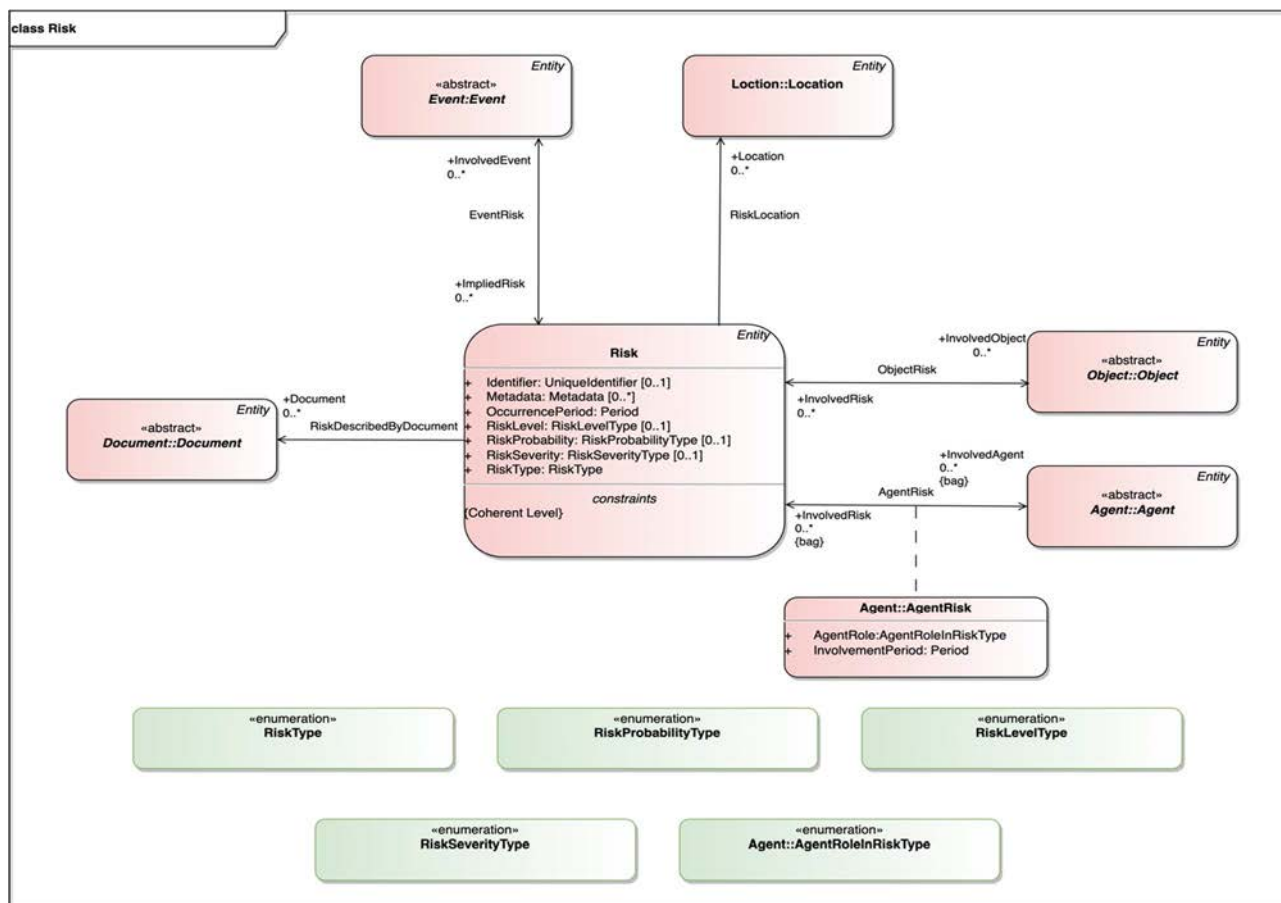


Figure 6.2.7.1-1: CISE Risk UML conceptual model [i.7]

[Cdm-RSK-002] The Risk entity shall be described by the following attributes:

- Identifier.
- Metadata.
- OccurrencePeriod.
- RiskLevel.
- RiskProbability.
- RiskSeverity.
- RiskType.

Table 6.2.7.1-1 illustrates the data structure supported by the CISE Risk entity.

Table 6.2.7.1-1: Data Structure of CISE Risk entity

Field Name	Data Type	Note
Identifier	UniqueIdentifierType	Ref. to [Cdm-DOC-003]
Metadata	MetadataType	Ref. to [Cdm-DOC-006]
OccurrencePeriod	Period Entity	Ref. to [Cdm-PER-001]
RiskLevel	RiskLevelType	
RiskProbability	RiskProbabilityType	
RiskSeverity	RiskSeverityType	
RiskType	RiskType	

[Cdm-RSK-003] The RiskLevelType shall support the following values:

- High.
- Medium.
- Low.
- Other.
- NonSpecified.

[Cdm-RSK-004] The RiskProbabilityType shall support the following values:

- Frequent.
- Probable.
- Occasional.
- Rare.
- Improbable.
- Other.
- NonSpecified.

[Cdm-RSK-005] The RiskSeverityType shall support the following values:

- Catastrophic.
- Critical.
- Marginal.
- Negligible.
- Other.
- NonSpecified.

[Cdm-RSK-006] The RiskType shall support the following values:

- Accident.
- IllegalImmigration.
- DrugTrafficking.
- Collision.
- HumanTrafficking.
- Smuggling.
- IllegalFishing.
- WeaponsTrafficking.
- Fire.
- Pollution.
- Other.
- NonSpecified.

## 7 Data model for Enhanced Maritime Vocabulary

### 7.1 Introduction

This clause defines the requirements of the CISE Data Model for Enhanced Maritime Vocabulary that shall be added to the Common Data Model specified in clause 6.

### 7.2 CISE Entity Additional Specifications

#### 7.2.1 Agent Core Entity

**[Ema-AGE-001]** The Agent Core Entity stated in **[Cdm-AGE-001]** shall be described by the following additional attribute:

- ConfirmationStatus.

Table 7.2.1-1 illustrates the data structure of the ConfirmationStatus attribute.

**Table 7.2.1-1: Data Structure of the additional attribute for the ConfirmationStatus attribute**

Field Name	Data Type	Note
ConfirmationStatus	ConfirmationStatusType	

**[Ema-AGE-002]** The ConfirmationStatusType shall support the following values:

- Pending.
- Failed.
- Confirmed.
- VisuallyConfirmed.
- Unconfirmed.
- Other.
- NonSpecified.

#### 7.2.2 Document Core Entity

**[Ema-DOC-001]** The MetadataType stated in **[Cdm-DOC-006]** shall support the following additional attribute:

- LastUpdateDate.

Table 7.2.2-1 illustrates the data structure of the LastUpdateDate attribute.

**Table 7.2.2-1: Data Structure of the additional attribute for the Metadata type**

Field Name	Data Type	Note
LastUpdateDate	XSD:DateTime	

**[Ema-DOC-002]** The AttachedDocument sub-class stated in **[Cdm-DOC-011]** shall support the following additional attribute:

- MediaType.

Table 7.2.2-2 illustrates the data structure of the MediaType attribute.

**Table 7.2.2-2: Data Structure of the additional attribute for the AttachedDocument sub-class**

Field Name	Data Type	Note
MediaType	MediaType	

**[Ema-DOC-003]** The MediaType shall support the following values:

- x-world/x-3dmf.
- video/avi.
- video/mpeg.
- video/x-mpeg.
- video/ogg.
- video/webm.
- video/msvideo.
- video/quicktime.
- image/jpeg.
- image/png.
- image/bmp.
- audio/mpeg3.
- audio/mpeg.
- audio/aiff.
- OtherVideoFormat.
- OtherAudioFormat.
- OtherImageFormat.

### 7.2.3 Event Core Entity

**[Ema-EVE-001]** The Event Core Entity stated in **[Cdm-EVE-001]** shall be described by the following additional attribute:

- isAcknowledged.
- RequireAssistance.

Table 7.2.3-1 illustrates the data structure of the additional attributes of Event core entity.

**Table 7.2.3-1: Data Structure of the additional attributes for the Event core entity**

Field Name	Data Type	Note
isAcknowledged	boolean	
RequireAssistance	boolean	

**[Ema-EVE-002]** The Anomaly entity stated in **[Cdm-EVE-009]** shall be described by the following additional attributes and an additional sub-class:

- Additional attributes:
  - AnomalyConfidence.

- AnomalyPriority.
- Priority.
- Explanation.
- Confirmationstatus.
- Additional sub-class:
  - MaritimeAnomalyType.

Table 7.2.3-2 illustrates the data structure of the additional attributes of Anomaly entity.

**Table 7.2.3-2: Data Structure of the additional attribute for the Anomaly entity**

Field Name	Data Type	Note
AnomalyConfidence	InformationReliabilityLevelType	Ref. to [Cdm-DOC-008]
Priority	PriorityType	Ref. to [Cdm-EVE-008]
Explanation	String	
ConfirmationStatus	ConfirmationStatusType	Ref. to [Ema-AGE-002]

**[Ema-EVE-003]** The MaritimeAnomalyType sub-class shall support the following values:

- UnexpectedMovement.
- MovementsBetweenAreas.
- VesselWithErraticMovements.
- AisLowFrequency.
- AisHighFrequency.
- WithoutAisTransmission.
- AlongsideMovement.
- VesselsApproaching.
- VesselsMovingAway.
- VesselsCrossing.
- VesselApproachinglocation.
- VesselMovingAwayLocation.
- VesselMovingAwayLine.
- VesselCrossingLine.
- VesselApproachingLine.
- VesselCrossingArea.
- VesselMovingAwayArea.
- VesselEnteringArea.
- VesselRevisitingArea.
- VesselExitingArea.
- VesselApproachingArea.

- VesselAppeared.
- VesselDisappeared.
- LostRadarContact.
- LostCameraObject.
- LostAisSignal.
- HighSpeed.
- LowSpeed.
- Loitering.
- Drifting.
- VesselAbnormalManeuvering.
- VesselStopped.
- AbnormalSpeedChange.
- AbnormalCourseChange.
- VesselVelocityNotConsistent.
- VesselCourseNotConsistent.
- NavigationalStatusNotConsistent.
- VesselPositionNotConsistent.
- TimeIncompatibility.
- SpaceIncompatibility.
- Smuggling.
- VesselImminentCollision.
- Splitting.
- Merging.
- DoNotAnswerOnVhfCh16.
- UnauthorizedCountry.
- VesselDynamicVsStaticAttributesInconsistency.
- VesselStaticAttributesInconsistency.
- ShiftingOfCargo.
- VesselEnteringRoute.
- VesselDeviationFromRoute.
- DomainViolation.
- IllegalDiving.
- ComplexAlert.
- SuspiciousVesselIdentity.

- AisParameterCloned.
- AisParameterChanged.
- StainOfOilSighted.
- ObjectsInAreaAboveThreshold.
- IncongruousVesselBehaviour.
- DivergentVesselBehaviour.
- AbnormalVesselBehaviour.
- UnstableVesselBehaviour.
- Other.
- NonSpecified.

**[Ema-EVE-004]** The Incident entity stated in **[Cdm-EVE-011]** shall be described by the following additional attributes:

- Additional attributes:
  - NumberOfInjuredPersons.
  - BorderFlowPath.
  - IsSuspiciousIncident.
  - IsSARInvolved.
  - IncidentStatus.
  - ConfirmationStatus.

Table 7.2.3-3 illustrates the data structure of the additional attributes of Incident entity.

**Table 7.2.3-3: Data Structure of the additional attribute for the Incident entity**

Field Name	Data Type	Note
NumberOfInjuredPersons	Integer	
BorderFlowPath	BorderFlowPathType	
IsSuspiciousIncident	Boolean	
IsSARInvolved	Boolean	
IncidentStatus	IncidentStatusType	
ConfirmationStatus	ConfirmationStatusType	Ref. to [Ema-AGE-002]

**[Ema-EVE-005]** The BorderFlowPathType sub-class shall support the following values:

- AtEntry.
- AtExit.
- Internal.
- Unknown.
- NonSpecified.

**[Ema-EVE-006]** The IncidentStatusType sub-class shall support the following values:

- Pending.
- ActiveWithoutResources.



- Active.
- UnderControl.
- Cancelled.
- Ended.
- NonSpecified.

**[Ema-EVE-006]** The PollutionIncidentType stated in **[Cdm-EVE-024]** shall support the following additional value:

- PollutingSubstance.

**[Ema-EVE-007]** The LawInfringementIncident sub-class stated in **[Cdm-EVE-020]** shall be described by the following additional attributes and an additional sub-class:

- Additional Attributes:
  - BorderGuardsInvolved.
  - ModusOperandi.
  - NumberOfPerpetrators.
  - NumberOfFacilitators.
  - AreWeaponsInvolved.
- Additional sub-class:
  - SmugglingIncident Class.

Table 7.2.3-4 illustrates the data structure of the additional attributes of LawInfringementIncident sub-class.

**Table 7.2.3-4: Data Structure of the additional attribute for the LawInfringementIncident sub-class**

Field Name	Data Type	Note
BorderGuardsInvolved	Boolean	
ModusOperandi	String	
NumberOfPerpetrators	Integer	
NumberOfFacilitators	Integer	
AreWeaponsInvolved	Boolean	

**[Ema-EVE-008]** The SmugglingIncident stated in **[Cdm-EVE-020]** shall support the following additional attribute:

- SmuggledObject.

Table 7.2.3-5 illustrates the data structure of the additional attribute of SmugglingIncident sub-class.

**Table 7.2.3-5: Data Structure of the additional attribute for the SmugglingIncident sub-class**

Field Name	Data Type	Note
SmuggledObject	SmuggledObjectType	

**[Ema-EVE-009]** The SmuggledObjectType shall support the following values:

- ObjectName.
- ObjectQuantity.
- ObjectWeight.
- ObjectValue.

- ObjectDescription.

**[Ema-EVE-010]** The IrregularMigrationIncident sub-class stated in **[Cdm-EVE-019]** shall be described by the following additional attributes:

- BorderGuardsInvolved.
- ModusOperandi.
- NumberOfFacilitators.

Table 7.2.3-6 illustrates the data structure of the additional attribute of IrregularMigrationIncident sub-class.

**Table 7.2.3-6: Data Structure of the additional attribute for the IrregularMigrationIncident sub-class**

Field Name	Data Type	Note
BorderGuardsInvolved	Boolean	
ModusOperandi	String	
NumberOfFacilitators	Integer	

**[Ema-EVE-011]** The MovementType stated in **[Cdm-EVE-027]** shall support the following additional values:

- Placement.
- Disposition.

## 7.2.4 Location Core Entity

**[Ema-LOC-001]** The Location entity stated in **[Cdm-LOC-001]** shall support the following additional relation entity:

- StationLocation.
- BoundingBoxGemoetry.

**[Ema-LOC-002]** The StationLocation entity shall be described by the following attributes:

- LocationCode.
- StationName.
- StationType.

Table 7.2.4-1 illustrates the data structure supported by the StationLocation entity.

**Table 7.2.4-1: Data Structure of CISE StationLocation entity**

Field Name	Data Type	Note
LocationCode	String	
StationName	String	
StationType	StationType	

**[Ema-LOC-003]** The StationType shall support the following values:

- PatrollingStation.
- GroundStation.
- Other.
- NonSpecified.

**[Ema-LOC-004]** The BoundingBoxGeometry entity shall be described by the following attributes:

- TopLeftPoint.

- TopRightPoint.
- BottomLeftPoint.
- BottomRightPoint.

Table 7.2.4-2 illustrates the data structure supported by the BoundingBoxGeometry entity.

**Table 7.2.4-2: Data Structure of CISE BoundingBoxGeometry entity**

Field Name	Data Type	Note
TopLeftPoint	PointGeometryType	
TopRightPoint	PointGeometryType	
BottomLeftPoint	PointGeometryType	
BottomRightPoint	PointGeometryType	

[Ema-LOC-005] The PointGeometryType shall be described by the following attributes:

- Longitude.
- Latitude.
- Altitude.

Table 7.2.4-3 illustrates the data structure supported by the PointGeometryType.

**Table 7.2.4-3: Data Structure of CISE PointGeometryType**

Field Name	Data Type	Note
Altitude	String	Geographic Altitude in meters AMSL
Latitude	String	Geographic Latitude, expressed using the WGS84 reference
Longitude	String	Geographic Longitude, expressed using the WGS84 reference

[Ema-LOC-006] The LocationZoneType stated in [Cdm-LOC-005] shall support the following additional values:

- AOI.
- AOR.
- AIR.
- AII.
- ArchaeologicalSite.
- RegulatedZone.
- AirportControlPoint.
- BlueBorder.
- DangerousArea.
- ProhibitedArea.
- CoastalArea.
- Fences.
- Stations.
- CriticalInfrastructure.

[Ema-LOC-007] The OperationalPurposeType stated in [Cdm-LOC-006] shall support the following additional values:

- PatrollingArea.
- OperationArea.

[Ema-LOC-008] The MeteoOceanographicCondition entity stated in [Cdm-LOC-007] shall be described by the following additional attributes:

- WaterCurrentSpeed.
- WaterMeridionalComponent.
- WaterZonalComponent.
- WavePeriod.
- PeakWaveHeight.
- PeakWavePeriod.
- WindBeaufortScale.
- WindMeridionalComponent.
- WindZonalComponent.
- SeaSurfaceHeight.
- MixedLayer.
- CurrentDirection.
- CurrentVelocity.

Table 7.2.4-4 illustrates the data structure supported by the additional attributed of MeteoOceanographicCondition entity.

**Table 7.2.4-4: Data Structure of additional attributes of CISE MeteoOceanographicCondition entity**

Field Name	Data Type	Note
WaterCurrentSpeed	Double	Ocean speed (m/s)
WaterMeridionalComponent	Double	Ocean current along meridional direction (m/s)
WaterZonalComponent	Double	Ocean current along zonal direction (m/s)
WavePeriod	Double	Wave period in seconds
PeakWaveHeight	Double	Height in metres
PeakWavePeriod	Double	Period in seconds
WindBeaufortScale	Integer	
WindMeridionalComponent	Double	Meridional wind component at 10 m (m/s)
WindZonalComponent	Double	Zonal wind component at 10 m (m/s)
SeaSurfaceHeight	Double	Sea level over the geoid
MixedLayer	Double	It is the depth where the density increases of 0,01 kg/m <sup>3</sup> compared to density at 10 m depth
CurrentDirection	Double	Degrees from North
CurrentVelocity	Double	Values in m/s

## 7.2.5 Object Core Entity

[Ema-OBJ-001] Object entity stated in [Cdm-OBJ-001] shall support the following additional relation entity:

- Sensor.

[Ema-OBJ-002] The Sensor entity shall be described by the following attributes:

- SensorType.
- SensorStatus.
- IsPortable.
- Yaw.
- Pitch.
- Roll

Table 7.2.5-1 illustrated the data structure of the additional attributes of the Sensor entity.

**Table 7.2.5-1: Data Structure of additional attributes for the CISE Sensor entity**

Field Name	Data Type	Note
SensorType	SensorType	
SensorStatus	SensorStatusType	
IsPortable	Boolean	If the sensor is portable, the ground is defined as the horizontal plane of the host platform.
Yaw	Double	Value in degree. Angle between the sensor's current compass direction and magnetic north, rotating about the vertical axis.
Pitch	Double	Value in degree. Angle between the horizontal plane of the sensor and a plane parallel to the ground, rotating about the lateral axis.
Roll	Double	Value in degree. Angle between the horizontal plane of the sensor and a plane parallel to the ground, rotating about the longitudinal axis.

[Ema-OBJ-003] The SensorType shall support the following values:

- Camera.
- StillImagery.
- AerialImagery.
- VHRSatellite.
- Video.
- Thermal.
- RadioFrequencySensor.
- MetalDetectionSensor.
- ChemicalDetectionSensor.
- RadiationDetectionSensor.
- DrugTestSensor.
- SpeedSensor.
- GeophoneSensor.
- MeteoSensor.

- VibrationSensor.
- PhoneCatchers.
- Laser.
- PyroelectricSensor.

**[Ema-OBJ-004]** The SensorStatusType shall support the following values:

- Online.
- OnlineNotTransmitting.
- Offline.
- Maintenance.
- OutOfService.
- NonSpecified.

**[Ema-OBJ-005]** The Vehicle entity stated in **[Cdm-OBJ-021]** shall be described by the following additional attributes:

- ClassificationType.
- ClassificationConfidence.
- ConfirmationStatus.

Table 7.2.5-2 illustrates the data structure supported by the additional attributes of the vehicle entity.

**Table 7.2.5-2: Data Structure of additional attributes of the CISE vehicle entity**

Field Name	Data Type	Note
Classification	ClassificationType	
ClassificationConfidence	InformationReliabilityLevelType	Ref. to <b>[Cdm-DOC-008]</b>
ConfirmationStatus	ConfirmationStatusType	Ref. to <b>[Ema-AGE-002]</b>

**[Ema-OBJ-006]** The ClassificationType shall support the following values:

- Pending.
- OwnAsset.
- AssumedFriend.
- Hostile.
- Neutral.
- Stolen.
- Counterfeit.
- Suspect.
- Friend.
- Joker.
- Faker.
- Unknown.

- Other.
- NonSpecified.

[Ema-OBJ-007] The PlannedOperationsType stated in [Cdm-OBJ-035] shall support the following additional value:

- Patrolling.

[Ema-OBJ-008] The Vessel sub-class stated in [Cdm-OBJ-022] shall be described by the following additional attributes:

- AisTransponder.
- DesignPower.
- ObsRollPeriod.
- RateOfTurn.

Table 7.2.5-3 illustrated the data structure of the additional attributes of the Vessel sub-class.

**Table 7.2.5-3: Data Structure of additional attributes for the CISE Vessel sub-class**

Field Name	Data Type	Note
AisTransponder	AISType	
DesignPower	Double	
ObsRollPeriod	Period	See clause 6.2.6
RateOfTurn	Double	

[Ema-OBJ-009] The AISType shall support the following values:

- ClassA.
- ClassB.
- BaseStation.
- ATON.
- SART.
- NonSpecified.

[Ema-OBJ-010] The VesselType stated in [Cdm-OBJ-031] shall support the following additional values:

- PortTender.
- Law.
- SearchAndRescue.
- Barge.
- Tug.
- Medical.
- Ferry.
- RR\_18.
- Pilot.
- Diving.
- Wig.

- Sailing.
- Military.
- Underwater.
- AntiPollution.
- Towing.
- Pleasure.
- Spare.
- Tanker.
- OilTanker.
- ContainerCarrier.
- LNGCarrier.
- InflatableBoat.

[Ema-OBJ-011] The OperationalAsset entity stated in [Cdm-OBJ-017] shall be described by the following additional attribute:

- CorrespondentSensor.

Table 7.2.5-4 illustrated the data structure of the additional attributes of the OperationalAsset entity.

**Table 7.2.5-4: Data Structure of additional attributes for the CISE OperationalAsset entity**

Field Name	Data Type	Note
CorrespondentSensor	Sensor	

## 7.2.6 Risk Core Entity

[Ema-RSK-001] The Risk core entity stated in [Cdm-RSK-001] shall be described by the following additional attributes:

- RiskExplanation.
- RiskConfidence.

Table 7.2.6-1 illustrated the data structure of the additional attributes of Risk core entity.

**Table 7.2.6-1: Data Structure of additional attributes for the CISE Risk core entity**

Field Name	Data Type	Note
RiskExplanation	String	
RiskConfidence	InformationReliabilityLevelType	Ref. to [Cdm-DOC-008]

[Ema-RSK-002] The RiskLevelType stated in [Cdm-RSK-003] shall support the following additional values:

- VeryHigh.
- VeryLow.

[Ema-RSK-003] The RiskProbabilityType stated in [Cdm-RSK-004] shall support the following additional values:

- Typical.



[Ema-RSK-004] The RiskType stated in [Cdm-RSK-006] shall support the following additional values:

- Crisis.
- IllegalDiving.
- Military.
- Environmental.
- BorderCrossing.
- LawInfringement.
- GenericMaritimeSafety.
- GenericLandSafety.

## 8 Data model for Enhanced Land Vocabulary

### 8.1 Introduction

This clause defines the requirements of the CISE Data Model for Enhanced Land Vocabulary that shall be added to the Common Data Model specified in clause 6.

### 8.2 CISE Entity Additional Specifications

#### 8.2.1 Agent Core Entity

[Ela-AGE-001] The Agent entity stated in [Cdm-AGE-001] shall be described by the following additional relation entity:

- Animal.

[Ela-AGE-002] The Animal subclass shall be described by the following attribute:

- AnimalType.

Table 8.2.1-1 illustrates the data structure supported by the Animal sub-class.

**Table 8.2.1-1: Animal sub-class attributes**

Field Name	Data Type	Note
Animal	AnimalType	

[Ela-AGE-003] The AnimalType shall support the following values:

- CurrencyDetectionDog.
- DrugsDetectionDog.
- ExplosivesDetectionDog.
- FireAccelerantsDetectionDog.
- FireArmsDetectionDog.
- HumanRemainsDetectionDog.
- SnifferDog.

- Other.
- NonSpecified.

[Ela-AGE-004] The Organization Purpose Type stated in [Cdm-AGE-006] shall support the following additional values:

- LandEnvironment.
- LandSafetyAndSecurity.
- SearchAndRescue.

[Ela-AGE-005] The OrganizationRoleType stated in [Cdm-AGE-007] shall support the following additional values:

- BorderAuthority.
- LawEnforcementAuthority.
- FisheriesAuthority.
- LandSafetyAuthority.
- MaritimeSafetyAuthority.

## 8.2.2 Event Core Entity

[Ela-EVE-001] The Anomaly entity stated in [Cdm-EVE-009] shall be described also by the following additional subclass:

- LandAnomaly.

[Ela-EVE-002] The LandAnomaly subclass shall be described by the following attribute:

- LandAnomalyType.

Table 8.2.2-1 illustrates the data structure supported by the Land Anomaly sub-class.

**Table 8.2.2-1: Land Anomaly sub-class attributes**

Field Name	Data Type	Note
LandAnomaly	LandAnomalyType	

[Ela-EVE-003] The LandAnomalyType shall support the following values:

- CourseChange.
- SpeedChange.
- Collision.
- MovementsBetweenAreas.
- ObjectDisappeared.
- ObjectAppeared.
- ApproachingLine.
- MovingAwayLine.
- CrossingLine.
- ApproachingArea.

- MovingAwayArea.
- RevisitingArea.
- EnteringArea.
- ExitingArea.
- CrossingArea.
- Loitering.
- HighSpeed.
- LowSpeed.
- Splitting.
- Merging.
- DomainViolation.
- AlongsideMovement.
- CrossingRoutes.
- ObjectsApproaching.
- ObjectsMovingAway.
- ApproachingLocation.
- MovingAwayLocation.
- InconsistentInformation.
- TimeIncompatibility.
- SpaceIncompatibility.
- LostRadarContact.
- LostCameraObject.
- DeviationFromRoute.
- EnteringRoute.
- ObjectsInAreaAboveThreshold.
- DivergentBehaviour.
- AbnormalBehaviour.
- UnstableBehaviour.
- Other.
- NonSpecified.

[Ela-EVE-004] CrisisIncidentType stated in [Cdm-EVE-018] shall support the following additional values:

- ManMadeDisasterLandAccident.

### 8.2.3 Object Core Entity

[Ela-OBJ-001] The LandVehicle sub-class of the Vehicle entity shall be described by means of the following attributes:

- LicensePlate.
- LandVehicleType.
- Yaw.
- Pitch.
- Roll.

Table 8.2.3-1 illustrates the data structure supported by the LandVehicle sub-class.

**Table 8.2.3-1: Data Structure of CISE LandVehicle sub-class**

Field Name	Data Type	Note
LicensePlate	String	
LandVehicleType	LandVehicleType	
Yaw	Double	Value in degree. Angle between the vehicle's current compass direction and magnetic north, rotating about the vertical axis.
Pitch	Double	Value in degree. Angle between the horizontal plane of the vehicle and a plane parallel to the ground, rotating about the lateral axis.
Roll	Double	Value in degree. Angle between the horizontal plane of the vehicle and a plane parallel to the ground, rotating about the longitudinal axis.

[Ela-OBJ-002] The LandVehicleType shall support the following values:

- UGV.
- Car.
- Tank.
- Truck.
- FourWheelDrive.
- Ambulance.
- Motorcycle.
- ArtilleryVehicle.
- DesertPatrolVehicle.
- GenericPatrolVehicle.
- Tractor.
- Wrecker.
- Humvee.
- Firetruck.

- Van.
- PickUp.
- Other.
- NonSpecified.

**[Ela-Obj-003]** The Aircraft sub-class of the Vehicle entity shall be described by means of the following attributes:

- AircraftType.
- Yaw.
- Pitch.
- Roll.

Table 8.2.3-2 illustrates the data structure supported by the Aircraft sub-class.

**Table 8.2.3-2: Data Structure of CISE Aircraft sub-class**

Field Name	Data Type	Note
AircraftType	AircraftType	
Yaw	Double	Value in degree. Angle between the vehicle's current compass direction and magnetic north, rotating about the vertical axis.
Pitch	Double	Value in degree. Angle between the horizontal plane of the vehicle and a plane parallel to the ground, rotating about the lateral axis.
Roll	Double	Value in degree. Angle between the horizontal plane of the vehicle and a plane parallel to the ground, rotating about the longitudinal axis.

**[Ela-Obj-004]** The AircraftType shall support the following values:

- Aircraft.
- Helicopter.
- UAV.
- Drone.
- Aeroplane.
- Zeppelin.
- Balloon.
- Other.
- NonSpecified.

**[Ela-Obj-005]** The SourceType stated in **[Cdm-Obj-038]** shall support the following additional values:

- Radar.
- Camera.
- AIS.
- GroundSensor.

- AerialVehicle.
- SeaPatrol.
- LandPatrol.

## 9 Data model for Operation

### 9.1 Introduction

This clause defines the requirements for enhancing the CISE Data Model to take into account the exchange of information to support operations at sea and on land. This specification shall be added to the Common Data Model specified in clause 6.

### 9.2 CISE Entity Additional Specifications

#### 9.2.1 Document Core Entity

[Ope-DOC-001] The Attached Document class stated in [Cdm-DOC-011] shall be described by the following additional sub-class:

- Report.

[Ope-DOC-002] The Report subclass shall be described by the following attribute:

- DocumentType.
- Rating.
- Summary.
- Reliability.
- Credibility.
- ReportedEvent.
- ReportedSubject.
- DisseminationLevel.

Table 9.2.1-1 illustrates the data structure supported by the Report sub-class.

**Table 9.2.1-1: Report sub-class attributes**

Field Name	Data Type	Note
DocumentType	ReportType	
Rating	String	
Summary	String	
Reliability	ReliabilityType	
Credibility	CredibilityType	
ReportedEvent	EventType	See clause 6.2.3
ReportedSubject	SubjectType	
DisseminationLevel	ReportDisseminationLevelType	

[Ope-DOC-003] The ReportType shall support the following values:

- IntelligenceReport.

- Other.
- NonSpecified.

**[Ope-DOC-004]** The ReliabilityType shall support the following values:

- CompletelyReliable.
- UsuallyReliable.
- FairlyReliable.
- NotUsuallyReliable.
- Unreliable.
- ReliabilityCannotBeJudged.
- Other.
- NonSpecified.

**[Ope-DOC-005]** The CredibilityType shall support the following values:

- ConfirmedByOtherSources.
- ProbablyTrue.
- Doubtful.
- Improbable.
- TruthCannotBeJudged.
- Other.
- NonSpecified.

**[Ope-DOC-006]** The ReportDisseminationLevelType shall support the following values:

- Public.
- RestrictedToAndromedaNetwork
- RestrictedToEuciseNetwork.
- RestrictedToEU.
- Other.
- NonSpecified.

## 9.2.2 Event Core Entity

### 9.2.2.1 Event Core Entity General Requirements

**[Ope-EVE-001]** The Event core entity stated in **[Cdm-EVE-001]** shall be described by the following additional relation entity:

- Operation.

### 9.2.2.2 Operation Entity

[Ope-EVE-002] The Operation entity shall be described by means of:

- Operation Attributes.
- Operation sub-classes:
  - Mission.
  - Request for Information.
  - Task.

[Ope-EVE-003] The Operation entity shall be described by the following attributes:

- Name.
- Description.
- Type.
- IsJointOperation.
- Status.
- Priority.
- InvolvedMissionRel.
- InvolvedTaskRel.
- Duration.
- Objectives.
- Results.

Table 9.2.2.2-1 illustrates the data structure supported by the Operation entity.

**Table 9.2.2.2-1: Data Structure of Operation entity attributes**

Field Name	Data Type	Note
Name	String	
Description	String	
Type	OperationType	
IsJointOperation	Boolean	
Status	OperationStatusType	
Priority	PriorityType	
Duration	Period	See clause 6.2.6
Objectives	String	
Results	String	

[Ope-EVE-004] The OperationType shall support the following values:

- Security.
- Engaging.
- Protection.
- Training.
- EnvironmentProtection.
- Economical.



- Other.
- NonSpecified.

[Ope-EVE-005] The OperationStatusType shall support the following values:

- Paused.
- Removed.
- Created.
- Planned.
- InProgress.
- Ended.
- Pending.
- NonSpecified.

[Ope-EVE-006] The PriorityType shall support the following values:

- VeryHigh.
- High.
- Medium.
- Low.
- VeryLow.
- NonSpecified.

### 9.2.2.3 Mission sub-class

#### 9.2.2.3.1 Mission sub-class General Requirements

[Ope-EVE-007] The Mission sub-class shall be described by means of:

- Mission Attributes.
- Mission sub-classes:
  - Collection Plan.
  - Information Requirements.
  - Subject.

[Ope-EVE-008] The Mission sub-class shall be described by the following attributes:

- IsMissionTemplate.
- IsJointMission.
- Name.
- Type.
- Status.
- Priority.

- CreationDate.
- SentDate.
- LastUpdateDate.
- AllocationSlot.
- CompletionPercentage.
- RequiresReport.
- OriginatingMissionPlan.
- CollectionPlan.
- MeteoOceanographicCondition.

Table 9.2.2.3.1-1 illustrates the data structure supported by the Mission sub-class.

**Table 9.2.2.3.1-1: Data Structure of Mission sub-class attributes**

Field Name	Data Type	Note
IsMissionTemplate	Boolean	
IsJointMission	Boolean	
Name	String	
Type	MissionType	
Status	MissionStatusType	
Priority	PriorityType	Ref. to [Ope-EVE-006]
CreationDate	XSD:DateTime	Value in UTC
SentDate	XSD:DateTime	Value in UTC
LastUpdateDate	XSD:DateTime	Value in UTC
AllocationSlot	AllocationSlotType	
CompletionPercentage	PercentageType	
RequiresReport	Boolean	
OriginatingMissionPlan	Mission	
CollectionPlan	CollectionPlan	
MeteoOceanographicCondition	MeteoOceanographicCondition	See clause 6.2.4.1.1

**[Ope-EVE-009]** The MissionType shall support the following values:

- LandSurveillance.
- MaritimeSurveillance.
- AirSurveillance.
- LawEnforcement.
- SearchAndRescue.
- TransferPatrol.
- AirPatrols.
- Training.
- EnvironmentProtection.

**[Ope-EVE-010]** The MissionStatusType shall support the following values:

- Aborted.
- Accomplished.

- Acknowledged.
- Active.
- Inactive.
- Paused.
- Pending.
- Planned.
- Rejected.
- RejectedAskNew.
- Scheduled.
- NonSpecified.

[Ope-EVE-011] The AllocationSlotType shall be described by the following attributes:

- SlotReccurrenceType.
- Hours.
- DaysOfWeek.
- DaysOfMonth.
- WeeksOfYear.
- WeeksOfMonth.
- MonthsOfYear.

Table 9.2.2.3.1-2 illustrates the data structure supported by the AllocationSlot type.

**Table 9.2.2.3.1-2: Data Structure of AllocationSlot attributes**

Field Name	Data Type	Note
SlotReccurrence	SlotReccurrenceType	
Hours	Integer	
DaysOfWeek	Integer	
DaysOfMonth	Integer	
WeeksOfYear	Integer	
WeeksOfMonth	Integer	
MonthsOfYear	Integer	

[Ope-EVE-012] The SlotRecurrenceType shall support the following values:

- Monthly.
- Weekly.
- Daily.
- Hourly.

[Ope-EVE-013] The PercentageType shall be described by the following attribute:

- Value of Percentage.

Table 9.2.2.3.1-3 illustrates the data structure supported by the Percentage type.

**Table 9.2.2.3.1-3: Data Structure of PercentageType attributes**

Field Name	Data Type	Note
Value of Percentage	Integer	

### 9.2.2.3.2 Collection Plan sub-class

[Ope-EVE-014] The CollectionPlan sub-class shall be described by the following attributes:

- Status.
- CreationDate.
- Priority.
- InformationRequirement.
- InformationReliabilityLevel.
- InformationClassification.
- InformationSensitivityDegree.
- RequiresAssistance.
- PublishedStatus.
- ValidityPeriod.

Table 9.2.2.3.2-1 illustrates the data structure supported by the Collection Plan sub-class.

**Table 9.2.2.3.2-1: Data Structure of Collection Plan sub-class attributes**

Field Name	Data Type	Note
Status	CollectionPlanStatusType	
CreationDate	Boolean	
Priority	PriorityType	Ref. to [Ope-EVE-006]
InformationRequirement	InformationRequirement	
InformationReliabilityLevel	InformationReliabilityType	Ref. to [Cdm-DOC-008]
InformationClassification	InformationSecurityClassificationType	Ref. to [Cdm-DOC-009]
InformationSensitivityDegree	InformationSensitivityDegreeType	Ref. to [Cdm-DOC-010]
RequiresAssistance	Boolean	
PublishedStatus	CollectionPlanPublishedStatusType	
ValidityPeriod	Period	See clause 6.2.6

[Ope-EVE-015] The CollectionPlanStatusType sub-class shall support the following values:

- BeforeCollection.
- CollectionInProgress.
- Finished.
- Cancelled.
- Expired.
- NonSpecified.

[Ope-EVE-016] The CollectionPlanPublishedStatusType sub-class shall support the following values:

- Draft.
- Released.

- Current.
- Expired.
- Rejected.
- Other.
- NonSpecified.

### 9.2.2.3.3 Information Requirement sub-class

[Ope-EVE-017] The Information Requirements sub-class shall be described by the following attributes:

- ReconnaissanceRequirement.
- Originator.
- Subject.
- Background.
- Justification.
- CreationDate.
- Comments.
- RequiredInformation.
- Priority.

Table 9.2.2.3.3-1 illustrates the data structure supported by the Information Requirements sub-class.

**Table 9.2.2.3.3-1: Data Structure of InformationRequirements sub-class attributes**

Field Name	Data Type	Note
ReconnaissanceRequirement	ReconnaissanceRequirementType	
Originator	Agent	See clause 6.2.1
Subject	Subject	
Background	String	
Justification	String	
CreationDate	XSD:DateTime	Values in UTC
Comments	String	
RequiredInformation	String	
Priority	PriorityType	Ref. to [Ope-EVE-006]

[Ope-EVE-018] The ReconnaissanceRequirementType shall be described by the following attributes:

- VisualContactRequired.
- ImagesRequired.
- IRImagesRequired.
- VideoRequired.
- IRVideoRequired.
- ThermalOpticalRequired.
- RadarRequired.
- RFCommunicationRequired.

- ReportRequired.
- RevisitTime.
- Resolution.

Table 9.2.2.3.3-2 illustrates the data structure supported by the ReconnaissanceRequirementType attributes.

**Table 9.2.2.3.3-2: Data Structure of ReconnaissanceRequirementType attributes**

Field Name	Data Type	Note
VisualContactRequired	Boolean	
ImagesRequired	Boolean	
IRImagesRequired	Boolean	
VideoRequired	Boolean	
IRVideoRequired	Boolean	
ThermalOpticalRequired	Boolean	
RadarRequired	Boolean	
RFCommunicationRequired	Boolean	
ReportRequired	Boolean	
RevisitTime	XSD:DateTime	Values in UTC
Resolution	String	

#### 9.2.2.3.4 Subject sub-class

[Ope-EVE-019] The Subject sub-class shall be described by the following attributes:

- SubjectID.
- SubjectType.
- SubjectIdentificationStatus.
- SubjectName.
- IsThreat.
- IsInnocent.
- MonitoringPeriod.

Table 9.2.2.3.4-1 illustrates the data structure supported by the Subject sub-class.

**Table 9.2.2.3.4-1: Data Structure of Subject sub-class attributes**

Field Name	Data Type	Note
SubjectID	String	
SubjectType	SubjectType	
SubjectIdentificationStatus	SubjectIdentificationStatusType	
SubjectName	String	
IsThreat	boolean	
IsInnocent	boolean	
MonitoringPeriod	Period	See clause 6.2.6

[Ope-EVE-020] The SubjectType shall support the following values:

- Agent.
- Object.
- Location.
- Mixed.

- NonSpecified.

[Ope-EVE-021] The SubjectIdentificationStatusType shall support the following values:

- Identified.
- Pending.
- Aborted.
- Unidentified.
- Other.
- NonSpecified.

#### 9.2.2.4 Request for Information sub-class

[Ope-EVE-022] The Request for Information sub-class shall be described by:

- Request for Information Attributes.
- Request for Information sub-classes:
  - ReconnaissanceRequirement.

[Ope-EVE-023] The Request for Information sub-class shall be described by the following attributes:

- CreationDate.
- Requestor.
- Description.
- Subject.
- InformationRequirement.
- ValidityPeriod.
- Priority.

Table 9.2.2.4-1 illustrates the data structure supported by the Request for Information sub-class.

**Table 9.2.2.4-1: Data Structure of Request for Information sub-class attributes**

Field Name	Data Type	Note
CreationDate	XSD:DateTime	
Requestor	Agent	See clause 6.2.1
Description	String	
Subject	String	
InformationRequirement	InformationRequirementType	
ValidityPeriod	Period	See clause 6.2.6
Priority	PriorityType	Ref. to [Ope-EVE-006]
ReconnaissanceRequirement	ReconnaissanceRequirementType	Ref. to [Ope-EVE-018]

#### 9.2.2.5 Task sub-class

[Ope-EVE-024] The Task sub-class shall be described by the following attributes:

- CreationDate.
- IsTaskTemplate.

- IsJointTask.
- Type.
- Domain.
- Status.
- Description.
- SpecialInstructions.
- Priority.
- Response.
- AckStatus.
- OriginatingTaskPlan.
- OriginatingRequestForInformation.
- RequiredInformation.
- RequiresReport.
- Subject.

Table 9.2.2.5-1 illustrates the data structure supported by the Task sub-class.

**Table 9.2.2.5-1: Data Structure of Task sub-class attributes**

Field Name	Data Type	Note
CreationDate	XSD:DateTime	
IsTaskTemplate	Boolean	
IsJointTask	Boolean	
Type	TaskType	
Domain	TaskDomainType	
Status	TaskStatusType	
Description	String	
SpecialInstructions	String	
Priority	PriorityType	Ref. to [Ope-EVE-006]
Response	TaskResponseType	
AckStatus	TaskAcknowledgmentStatusType	
OriginatingTaskPlan	Task	
OriginatingRequestForInformation	InformationRequirementType	
RequiredInformation	String	
RequiresReport	Boolean	
Subject	Subject	

[Ope-EVE-025] The Task type shall support the following values:

- Locate.
- Transit.
- Transport.
- Transfer.
- Board.
- Inspect.
- TakeControl.



- RemainOnStation.
- ContainDamage.
- MedicalServices.
- Tow.
- Escort.
- Incapacitate.
- Mark.
- PositioningServices.
- Remove.
- IceBreak.
- Sense.
- Assess.
- Decide.
- Act.
- Patrol.
- Intercept.
- Arrest.
- Detain.
- Ambush.
- Training.
- Debrief.
- Other.
- NonSpecified.

**[Ope-EVE-026]** The TaskDomainType shall support the following values:

- Maritime.
- Land.
- Air.
- NonSpecified.

**[Ope-EVE-027]** The TaskStatusType shall support the following values:

- Created.
- Pending.
- Assigned.
- Executing.
- Accomplished.

- Deleted.
- Failed.
- Cancelled.
- Activated.
- Deactivated.
- NonSpecified.

[Ope-EVE-028] The TaskResponseType shall support the following values:

- Assess.
- Avoid.
- Evacuate.
- Execute.
- Monitor.
- Prepare.
- Shelter.
- Other.
- NonSpecified.

[Ope-EVE-029] The TaskAcknowledgmentStatusType shall support the following values:

- Acknowledged.
- AcknowledgedWithUpdates.
- Pending.
- Failed.
- FailedRequiresNew.
- Other.
- NonSpecified.

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## 10 CISE Service Type

### 10.1 Service Type supported by the CISE Common Data Model

[Cdm-SER-001] The ServiceType of the CISE Common Data Model shall support the following values:

- ActionService.
- AgentService.
- AircraftService.
- AnomalyService.
- CargoDocumentService.

- CargoService.
- CertificateDocumentService.
- CrisisIncidentService.
- DocumentService.
- EventDocumentService.
- IncidentService.
- IrregularMigrationIncidentService.
- LandVehicleService.
- LawInfringementIncidentService.
- LocationService.
- LocationDocumentService.
- MaritimeSafetyIncidentService.
- MeteoOceanographicConditionService.
- MovementService.
- OperationalAssetService.
- OrganizationService.
- OrganizationDocumentService.
- PersonService.
- PersonDocumentService.
- RiskDocumentService.
- RiskService.
- VesselDocumentService.
- VesselService.

Table 10.1-1 illustrates the CISE common model entities supported by CISE service types.

**Table 10.1-1: CISE common model entities supported by CISE service types**

Service Type	Supported CISE entities
ActionService	Action
AgentService	Agent, Person, Organization, OrganizationalUnit, PortOrganization, FormalOrganization, OrganizationalCollaboration
AircraftService	Aircraft
AnomalyService	Anomaly
CargoDocumentService	CargoDocument
CargoService	Cargo, Catch, ContainmentUnit
CertificateDocumentService	CertificateDocument
CrisisIncidentService	CrisisIncident
DocumentService	Document, VesselDocument, CargoDocument, EventDocument, LocationDocument, OrganizationDocument, RiskDocument, PersonDocument, CertificateDocument, Stream
EventDocumentService	EventDocument
IncidentService	Incident, MaritimeSafetyIncident, PollutionIncident, IrregularMigrationIncident, LawInfringementIncident, CrisisIncident

Service Type	Supported CISE entities
IrregularMigrationIncidentService	IrregularMigrationIncident
LandVehicleService	LandVehicle
LawInfringementIncidentService	LawInfringementIncident
LocationService	Location, PortLocation, PortFacilityLocation, NamedLocation
LocationDocumentService	LocationDocument
MaritimeSafetyIncidentService	MaritimeSafetyIncident, PollutionIncident
MeteoOceanographicConditionService	MeteoOceanographicCondition
MovementService	Movement
OperationalAssetService	OperationalAsset
OrganizationService	Organization, PortOrganization, OrganizationalUnit, OrganizationalCollaboration, FormalOrganization
OrganizationDocumentService	OrganizationDocument
PersonService	Person
PersonDocumentService	PersonDocument
RiskDocumentService	RiskDocument
RiskService	Risk
VesselDocumentService	VesselDocument
VesselService	Vessel

## 10.2 Service Type supported by the CISE Data Model for Enhanced Maritime Vocabulary

[Ema-SER-001] The ServiceType of the CISE Data Model for Enhanced Maritime Vocabulary shall support the following values:

- ActionService.
- AgentService.
- AircraftService.
- AnomalyService.
- CargoDocumentService.
- CargoService.
- CertificateDocumentService.
- CrisisIncidentService.
- DocumentService.
- EventDocumentService.
- IncidentService.
- IrregularMigrationIncidentService.
- LandVehicleService.
- LawInfringementIncidentService.
- LocationService.
- LocationDocumentService.
- MaritimeSafetyIncidentService.
- MeteoOceanographicConditionService.
- MovementService.

- OperationalAssetService.
- OrganizationService.
- OrganizationDocumentService.
- PersonService.
- PersonDocumentService.
- RiskDocumentService.
- RiskService.
- SensorService.
- VesselDocumentService.
- VesselService.

Table 10.2-1 illustrates the CISE entities for Enhanced Maritime Vocabulary supported by CISE service types.

**Table 10.2-1: CISE entities for enhanced maritime vocabulary supported by CISE service types**

Service Type	Supported CISE entities
ActionService	Action
AgentService	Agent, Person, Organization, OrganizationalUnit, PortOrganization, FormalOrganization, OrganizationalCollaboration
AircraftService	Aircraft
AnomalyService	Anomaly
CargoDocumentService	CargoDocument
CargoService	Cargo, Catch, ContainmentUnit
CertificateDocumentService	CertificateDocument
CrisisIncidentService	CrisisIncident
DocumentService	Document, VesselDocument, CargoDocument, EventDocument, LocationDocument, OrganizationDocument, RiskDocument, PersonDocument, CertificateDocument, Stream
EventDocumentService	EventDocument
IncidentService	Incident, MaritimeSafetyIncident, PollutionIncident, IrregularMigrationIncident, LawInfringementIncident, CrisisIncident
IrregularMigrationIncidentService	IrregularMigrationIncident
LandVehicleService	LandVehicle
LawInfringementIncidentService	LawInfringementIncident
LocationService	Location, PortLocation, PortFacilityLocation, NamedLocation
LocationDocumentService	LocationDocument
MaritimeSafetyIncidentService	MaritimeSafetyIncident, PollutionIncident
MeteoOceanographicConditionService	MeteoOceanographicCondition
MovementService	Movement
OperationalAssetService	OperationalAsset
OrganizationService	Organization, PortOrganization, OrganizationalUnit, OrganizationalCollaboration, FormalOrganization
OrganizationDocumentService	OrganizationDocument
PersonService	Person
PersonDocumentService	PersonDocument
RiskDocumentService	RiskDocument
RiskService	Risk
SensorService	Sensor
VesselDocumentService	VesselDocument
VesselService	Vessel

## 10.3 Service Type supported by the CISE Data Model for Enhanced Land Vocabulary

[Ela-SER-001] The ServiceType of the CISE Data Model for Enhanced Land Vocabulary shall support the following values:

- ActionService.
- AgentService.
- AircraftService.
- AnimalService.
- AnomalyService.
- CargoDocumentService.
- CargoService.
- CertificateDocumentService.
- CrisisIncidentService.
- DocumentService.
- EventDocumentService.
- IncidentService.
- IrregularMigrationIncidentService.
- LandAnomalyService.
- LandVehicleService.
- LawInfringementIncidentService.
- LocationService.
- LocationDocumentService.
- MaritimeAnomalyService.
- MaritimeSafetyIncidentService.
- MeteoOceanographicConditionService.
- MovementService.
- OperationalAssetService.
- OrganizationService.
- OrganizationDocumentService.
- PersonService.
- PersonDocumentService.
- RiskDocumentService.
- RiskService.
- VesselDocumentService.

- VesselService.

Table 10.3-1 illustrates the CISE entities for Enhanced Land Vocabulary supported by CISE service types.

**Table 10.3-1: CISE entities for enhanced land vocabulary supported by CISE service types**

Service Type	Supported CISE entities
ActionService	Action
AgentService	Agent, Person, Organization, OrganizationalUnit, PortOrganization, FormalOrganization, OrganizationalCollaboration
AircraftService	Aircraft
AnimalService	Animal
AnomalyService	Anomaly
CargoDocumentService	CargoDocument
CargoService	Cargo, Catch, ContainmentUnit
CertificateDocumentService	CertificateDocument
CrisisIncidentService	CrisisIncident
DocumentService	Document, VesselDocument, CargoDocument, EventDocument, LocationDocument, OrganizationDocument, RiskDocument, PersonDocument, CertificateDocument, Stream
EventDocumentService	EventDocument
IncidentService	Incident, MaritimeSafetyIncident, PollutionIncident, IrregularMigrationIncident, LawInfringementIncident, CrisisIncident
IrregularMigrationIncidentService	IrregularMigrationIncident
LandAnomalyService	LandAnomaly
LandVehicleService	LandVehicle
LawInfringementIncidentService	LawInfringementIncident
LocationService	Location, PortLocation, PortFacilityLocation, NamedLocation
LocationDocumentService	LocationDocument
MaritimeAnomalyService	MaritimeAnomaly
MaritimeSafetyIncidentService	MaritimeSafetyIncident, PollutionIncident
MeteoOceanographicConditionService	MeteoOceanographicCondition
MovementService	Movement
OperationalAssetService	OperationalAsset
OrganizationService	Organization, PortOrganization, OrganizationalUnit, OrganizationalCollaboration, FormalOrganization
OrganizationDocumentService	OrganizationDocument
PersonService	Person
PersonDocumentService	PersonDocument
RiskDocumentService	RiskDocument
RiskService	Risk
VesselDocumentService	VesselDocument
VesselService	Vessel

## 10.4 Service Type supported by the CISE Data Model for operation at sea and on land

[Ope-SER-001] The ServiceType of the CISE Data Model for operation at sea and on land shall support the following values:

- ActionService.
- AgentService.
- AircraftService.
- AnomalyService.
- CargoDocumentService.
- CargoService.
- CertificateDocumentService.

- CrisisIncidentService.
- DocumentService.
- EventDocumentService.
- IncidentService.
- IrregularMigrationIncidentService.
- LandVehicleService.
- LawInfringementIncidentService.
- LocationService.
- LocationDocumentService.
- MaritimeSafetyIncidentService.
- MeteoOceanographicConditionService.
- MissionService.
- MovementService.
- OperationalAssetService.
- OperationService.
- OrganizationService.
- OrganizationDocumentService.
- PersonService.
- PersonDocumentService.
- ReportService.
- RiskDocumentService.
- RiskService.
- VesselDocumentService.
- VesselService.

Table 10.4-1 illustrates the CISE entities for operation at sea and on land supported by CISE service types.

**Table 10.4-1: CISE entities for operation at sea and on land supported by CISE service types**

<b>Service Type</b>	<b>Supported CISE entities</b>
ActionService	Action
AgentService	Agent, Person, Organization, OrganizationalUnit, PortOrganization, FormalOrganization, OrganizationalCollaboration
AircraftService	Aircraft
AnomalyService	Anomaly
CargoDocumentService	CargoDocument
CargoService	Cargo, Catch, ContainmentUnit
CertificateDocumentService	CertificateDocument
CollectionPlanService	CollectionPlan
CrisisIncidentService	CrisisIncident
DocumentService	Document, VesselDocument, CargoDocument, EventDocument, LocationDocument, OrganizationDocument, RiskDocument, PersonDocument, CertificateDocument, Stream



<b>Service Type</b>	<b>Supported CISE entities</b>
EventDocumentService	EventDocument
IncidentService	Incident, MaritimeSafetyIncident, PollutionIncident, IrregularMigrationIncident, LawInfringementIncident, CrisisIncident
InformationRequirementsService	InformationRequirements
IrregularMigrationIncidentService	IrregularMigrationIncident
LandVehicleService	LandVehicle
LawInfringementIncidentService	LawInfringementIncident
LocationService	Location, PortLocation, PortFacilityLocation, NamedLocation
LocationDocumentService	LocationDocument
MaritimeSafetyIncidentService	MaritimeSafetyIncident, PollutionIncident
MeteoOceanographicConditionService	MeteoOceanographicCondition
MissionService	Mission
MovementService	Movement
OperationService	Operation
OperationalAssetService	OperationalAsset
OrganizationService	Organization, PortOrganization, OrganizationalUnit, OrganizationalCollaboration, FormalOrganization
OrganizationDocumentService	OrganizationDocument
PersonService	Person
PersonDocumentService	PersonDocument
ReportService	Report
RequestForInformationService	RequestForInformationService
RiskDocumentService	RiskDocument
RiskService	Risk
SubjectService	Subject
TaskService	Task
VesselDocumentService	VesselDocument
VesselService	Vessel

## Annex A (informative): Change history

Date	Version	Information about changes
September 2021	V1.5.3	First version.
June 2024	V1.6.1	<p>CISE entities and relevant attributes and values have been updated in order to ensure harmonization and removal of duplications and multiplicities.</p> <p>Pictures and tables have been revised accordingly.</p> <p>Formal methodology for requirements specification has been adopted.</p> <p>ETSI guidances and recommendations for data model specification have been followed.</p>
July 2024	V2.1.1	<p>Additional entities, attributes and values adopted to ensure CISE domain extension.</p> <p>New CISE service types are introduced to take into account the additional entities adopted in the CISE Data Model release 2.</p>

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# History

<b>Document history</b>		
V1.5.3	September 2021	Publication
V1.6.1	July 2024	Publication
V2.1.1	August 2024	Publication