CISE Data Model

Version 1.5

This document describes the CISE Data model and all the data entities.

Please contact, ***jrc-cise-dev@jrc.ec.europa.eu*** for the XSD files and the HTML version of the documentation (if needed).

1 CISE Core Data Specifications

1.1 Document Metadata

Document title	CISE Data Model
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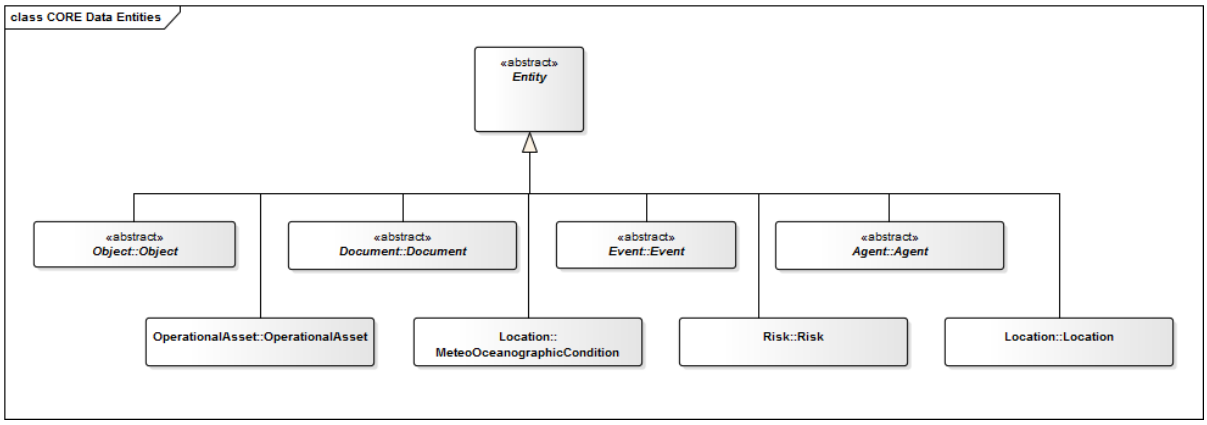
2 Entity Core Entity

2.1 UML models



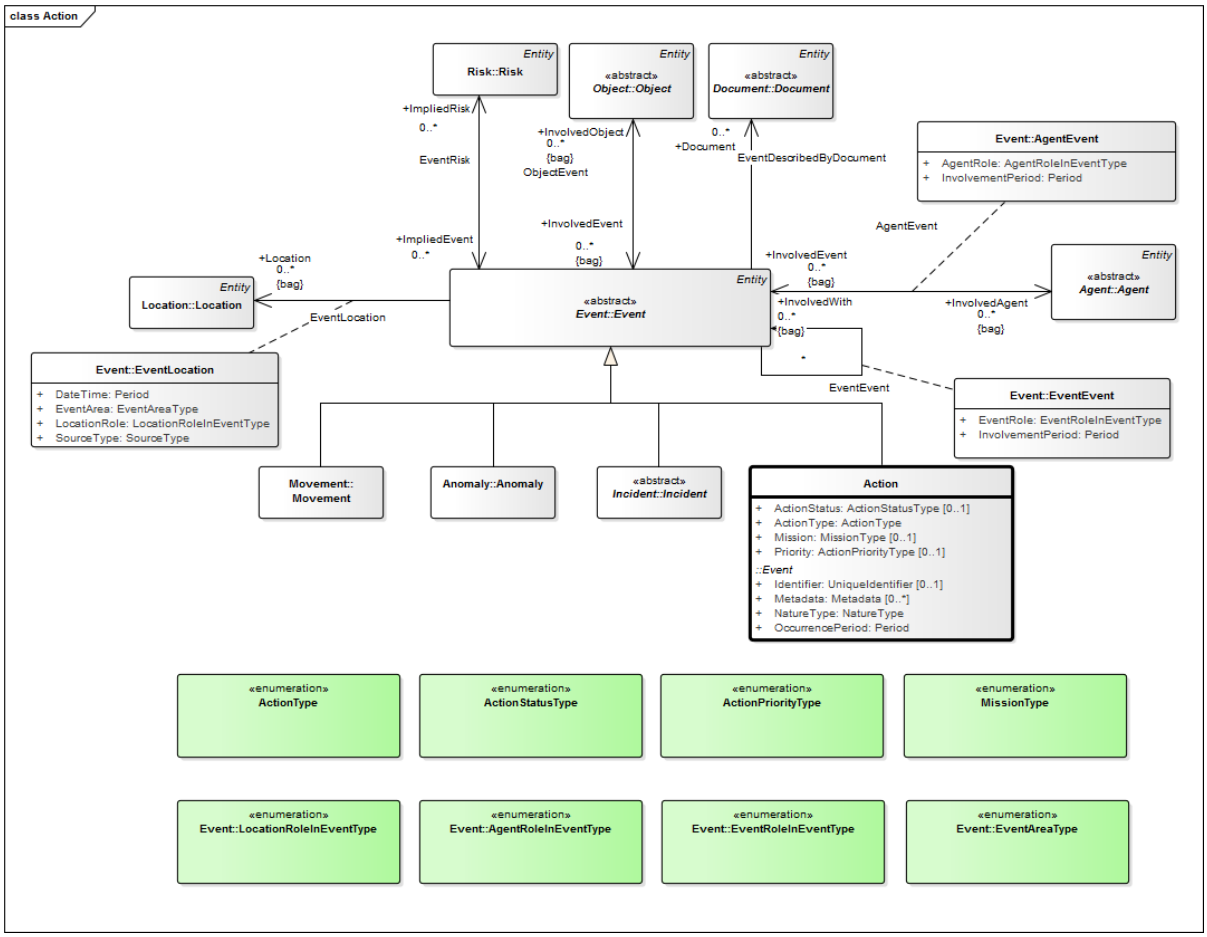
2.2 Elements defined in the Core Vocabulary

2.2.1 Entity Class

Abtract class representing an entity of the CISE data model.

3 Action Core Entity

3.1 UML models



3.2 Elements defined in the Core Vocabulary

3.2.1 Action Class (subclass of Event)

It is a subclass of Event. The Action entity may be linked to Incident, Anomaly and can also be expressed taking into account other entities as location, object, etc.

3.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
ActionStatus	ActionStatusType	Defines the current status of the action. An action can be Canceled, Completed, InProgress....	InProgress	CWA 15931-1:2009
ActionType	ActionType	Many different action types can be described	Rescue	EUROSUR
Mission	MissionType	The mission associated with the action.	MIL	CWA 15931-1:2009
Priority	ActionPriorityType	The Action priority	High	
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so		

UML Name	Data type	Description	Example	Source
		that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

3.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

3.2.2 ActionPriorityType Enumeration

This enumeration presents the different priorities which can be assigned to an Action.

3.2.2.1 Enumeration Values

Value	Label	Description	Source
01	high	Used to identify a high priority Action	
02	medium	Used to identify a medium priority Action	
03	low	Used to identify a low priority Action	
98	other	Action status not included above	
99	non-specified	Action status non-specified	

3.2.2.2 Enumeration Usage

The following attributes use this enumeration as data type:

1. Priority (Action)

3.2.3 ActionStatusType Enumeration

In order to define the statuses associated to an action, we suggest reusing the work already done during the "Tactical Situation Object" project. Among many artifacts, a list of action statuses has been defined. This enumeration presents the possible statuses of an Action.

Source: CWA 15931-1:2009

3.2.3.1 Enumeration Values

Value	Label	Description	Source
01	aborted	Action aborted	CWA 15931-1:2009
02	cancelled	Action canceled	CWA 15931-1:2009
03	completed	Action completed	CWA 15931-1:2009
04	in progress	Action InProgress (2 additional digits - such as IPR50 - may provide the percentage of completeness of the action)	CWA 15931-1:2009
05	not started	Action is not started	CWA 15931-1:2009
06	paused	Action is paused	CWA 15931-1:2009
98	other	Action status not included above	
99	non-specified	Action status non-specified	

3.2.3.2 Enumeration Usage

The following attributes use this enumeration as data type:

2. ActionStatus (Action)

3.2.4 ActionType Enumeration

This enumeration presents the possible types of Actions.

Source: EUROSUR

3.2.4.1 Enumeration Values

Value	Label	Description	Source
01	inspection	A inspection action as defined in the EUROSUR system	EUROSUR
02	confirmation	A confirmation action	
03	rescue	A rescue action as defined in the EUROSUR system	EUROSUR
04	deterrence	An action intended to dissuade an adversary from undertaking an action not yet started	
05	assistance	An assistance action.	EUROSUR
06	acknowledgment	An action resulting in an acknowledgement	
07	exercise	An action defined as an exercise	
08	search	A search action.	EUROSUR
09	detection	A detection action	EUROSUR
10	tracking	A tracking action	EUROSUR
11	interception	An interception action	EUROSUR
98	other	Action type not included above	
99	non-specified	Action type non-specified	

3.2.4.2 Enumeration Usage

The following attributes use this enumeration as data type:

3. ActionType (Action)

3.2.5 MissionType Enumeration

In order to define the type of mission associated to an action. We suggest reusing the work already done during the "tactical situation object" project. Among many artifacts, a list of mission type has been defined.||During the scope of the Cooperation project, we chose to limit the enumeration list to the first level defined by the tactical situation object project. Sub-levels are also defined and their adoption could be considered in future developments of the data model (see "Disaster and emergency management - Shared situation awareness - Part 2: Codes for the message structure.").

Source: CWA 15931-1:2009

3.2.5.1 Enumeration Values

Value	Label	Description	Source
C2		Command & Control	CWA 15931-1:2009
CBRN		Activities related to chemical, bacteriological, radioactive and nuclear substances	CWA 15931-1:2009
FF		Fire Fighting missions	CWA 15931-1:2009
FSTT		Fire Services Technical Intervention	CWA 15931-1:2009
GEN		Generic activities	CWA 15931-1:2009
INT		Intelligence	CWA 15931-1:2009

Value	Label	Description	Source
MAC		Multi-agency Cooperation	CWA 15931-1:2009
MIL		Military activities	CWA 15931-1:2009
NET		Network and telecommunication activities	CWA 15931-1:2009
OPR		Use Operational Resources	CWA 15931-1:2009
POL		Police activities	CWA 15931-1:2009
REC		Reconstruction/rehabilitation activities	CWA 15931-1:2009
RSC		Rescue activities	CWA 15931-1:2009
SAV		Save and Rescue Endangered Life	CWA 15931-1:2009
SCS		Support Community Safety	CWA 15931-1:2009
SOC		Social and media/communication activities	CWA 15931-1:2009
Other	other	Mission type not included above	
NonSpecified	non-specified	Mission type non-specified	

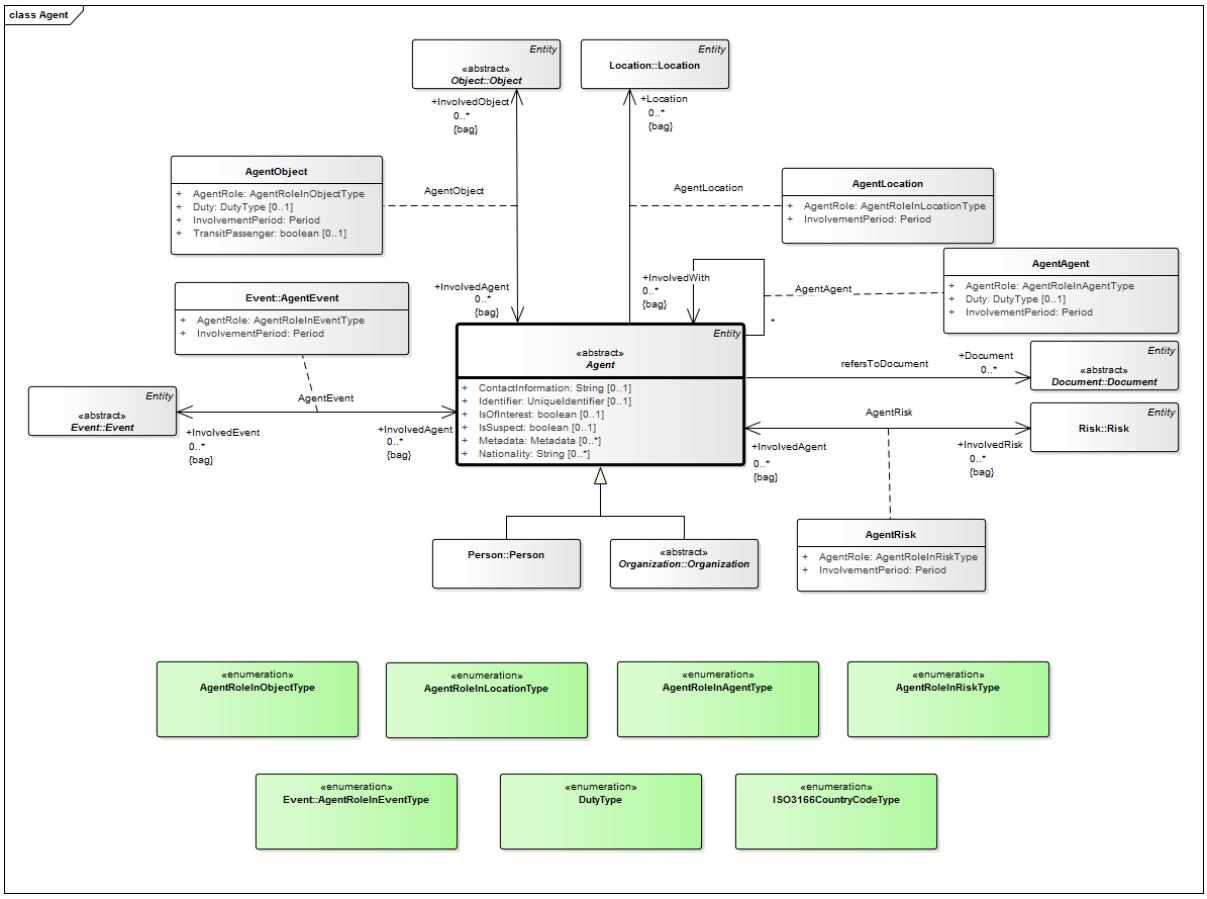
3.2.5.2 Enumeration Usage

The following attributes use this enumeration as data type:

4. Mission (Action)

4 Agent Core Entity

4.1 UML models



4.2 Elements defined in the Core Vocabulary

4.2.1 Agent Class (subclass of Entity)

The Agent is one of the core entities of the overall data model of the information sharing environment. By definition, an Agent is an operative entity that plays a role in any Event, owns, handles or operates Objects such as Cargo or Assets, creates and exploits Documents etc. It is an entity which holds information about individual persons or organizations which are involved as actors or targets in the various events and activities. Agent can have relationship with other agents, objects and locations. Agent can also be related to risks in different roles. Agent is an abstract entity which has two sub-entities Person and Organization.

4.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
ContactInformation	String	vCard [IETF RFC6350] is a data format for representing and exchanging information about individuals and other entities. It is a text-based format (as opposed to a binary format). xCard [IETF RFC6351] is an XML representation for vCard. All available attributes are described in the vCard document [IETF RFC6350] and listed bellow:	Name of a person called Mr John Brown, M.Sc.: <fn><text>Mr John Brown, M.Sc.</text></fn> <n> <surname>Brown</surname> <given>John</given> <additional/> <prefix>Mr<prefix/>	IETF RFC 6351

UML Name	Data type	Description	Example	Source
		• General Properties (BEGIN, END, SOURCE, KIND, XML) • Identification Properties (FN, N, NICKNAME, PHOTO, BDAY, ANNIVERSARY, GENDER) • Delivery Addressing Properties (ADR) • Communications Properties (TEL, EMAIL, IMPP, LANG) • Geographical Properties (TZ, GEO) • Organizational Properties (TITLE, ROLE, LOGO, ORG, MEMBER, RELATED) • Explanatory Properties (CATEGORIES, NOTE, PRODID, REV, SOUND, UID, CLIENTPIDMAP, URL, VERSION) • Security Properties (KEY) • Calendar Properties (FBURL, CALADRURI, CALURI)	<suffix>M.Sc.<suffix/> </n> more examples found in: [IETF RFC6351]	
Identifier	UniqueIdentifier	Identifier of the agent. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
IsOfInterest	boolean	Attribute is flagging an interest to follow more closely any activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	0	
IsSuspect	boolean	Attribute is flagging a possible suspicion of illegal activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	There is some suspect related to the agent: 1	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	DCMI	
Nationality	String	Three-letter country codes to represent countries, dependent territories, and special areas of geographical interest	Portugal: PT	ISO 3166-1 (alpha-2)

4.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Agents (persons, organizations) can be associated to zero to multiple documents.	0..*
InvolvedEvent	Event	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedRisk	Risk	Agents (persons, organizations) can be associated to zero to multiple risks in different roles. The association has additional attributes. Please check association class AgentRisk.	0..* (allow duplicates)
InvolvedWith	Agent	Agents (persons, organizations) can be associated to zero to multiple agents (persons, organizations) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInAgent). The association has additional attributes. Please check association class AgentAgent.	0..* (allow duplicates)
Location	Location	Agents (persons, organizations) can be associated to zero to multiple location in different roles. The lenght of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInLocation). The association has additional attributes. Please check association class AgentLocation.	0..* (allow duplicates)

4.2.2 AgentAgent Association Class

This class allows the association between two Agents (or one of their sub-classes: person, organization). It is not mandatory to associate an Agent with another Agent but one Agent can be associated to multiple other Agents. The association further describes the role of the Agent in relation to the other Agent. Crew members have also a special relationship with the Organization inside the vessel company which is described by attribute Duty. This attribute carries information about the responsibilities and position of the person in the vessel. The duration of the relationship between the Agents is described by an association with class Period.

4.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
AgentRole	AgentRoleInAgentType	Enumerated - Describes the relationship between Agents. Person who leads an organization: AgentRole	01	

UML Name	Data type	Description	Example	Source
Duty	DutyType	Attribute carries information about the positions and responsibilities of individual crew members.	31	NSW
InvolvementPeriod	Period	Defines the duration of the relationship between the Agents.		

4.2.3 AgentLocation Association Class

This class allows the association between Agent (or one of its sub-classes: person, organization) and Location. It is not mandatory to associate an Agent with a Location but one Agent can be associated to multiple different Locations. The association further describes the role of the Agent in relation to the Location. The duration of the relationship between the Agent and the Location is described by an association with class Period.

4.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
AgentRole	AgentRoleInLocationType	Enumerated. Describes the relationship between Agent and Location; Place where the person was born or	04	
InvolvementPeriod	Period	Defines the duration of the relationship between the Agent and the Location.		

4.2.4 AgentObject Association Class

This class allows the association between Agent (or one of its sub-classes: person, organization) and Object (or one of its sub-classes: Vehicle (Vessel, Aircraft, Landvehicle, CargoPackage). It is not mandatory to associate an Agent with an Object but one Agent can be associated to multiple different Objects. The association further describes the role of the Agent in relation to the Object. The special relationship between Passengers and Craft is described by Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not) and by two associations with class Location. Crew members have also a special relationship to Craft which is described by attribute Duty. This attribute carries information about the responsibilities and position of the person in the vessel. The duration of the relationship between the Agent and the Object is described by an association with class Period.

4.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
AgentRole	AgentRoleInObjectType	Enumerated - Describes the relationship between the Agent and the Object.	03	
Duty	DutyType	Attribute carries information about the positions and responsibilities of individual crew members.	31	NSW
InvolvementPeriod	Period	The period of involvement		
TransitPassenger	boolean	Attribute is carrying information about the voyage details of an individual passenger. Is he/her a transit passenger or not. Value of the attribute can be either true or false (true = 1 and false = 0)	In question of a transit passenger: 1	NSW

4.2.5 AgentRisk Association Class

This class allows the association between Agent (or one of its sub-classes) and Risk. It is not mandatory to associate an Agent with a Risk but one Agent can be associated to multiple different Risks. The association further describes the role of the Agent in relation to the Risk.

4.2.5.1 Attributes

UML Name	Data type	Description	Example	Source
AgentRole	AgentRoleInRiskType	Enumerated - Describes the relationship between Agent and Risk.	Person who is the cause of the risk: 01	
InvolvementPeriod	Period	The period of Involvement		

4.2.6 AgentRoleInAgentType Enumeration

This enumeration presents the relationship between two Agents.

4.2.6.1 Enumeration Values

Value	Label	Description	Source
01	leads	Agent who leads the other Agent(s)	
02	works for	Agent who works for the other Agent(s)	
03	manages security CSO	Person who manages the security of an organization	
04	encompasses	Agent who encompasses the other Agent(s)	
05	owns	Person who owns the organization.	
98	other	Any other role/relationship not mentioned above	
99	non-specified	Role not specified	

4.2.6.2 Enumeration Usage

The following attributes use this enumeration as data type:

5. AgentRole (AgentAgent)

4.2.7 AgentRoleInLocationType Enumeration

This enumeration presents the relationship between Agent and Location.

4.2.7.1 Enumeration Values

Value	Label	Description	Source
01	owns	Owns the location	
02	is located in	Is the (permanent) location of the agent	
03	country of birth	Is the country where the agent was birth	
04	place of birth	Is the place where the agent was birth	
05	country of death	Is the country where the agent died	
06	place of death	Is the place where the agent died	
07	embarkation port	Port in which the agent embarked	
08	disembarkation port	Port in which the agent disembarked	
09	country of residence	The country in which the agent normally resides	
98	other	Any other relationship not mentioned above	

Value	Label	Description	Source
99	non-specified	Relationship not specified	

4.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

6. AgentRole (AgentLocation)

4.2.8 AgentRoleInObjectType Enumeration

This enumeration presents the relationship between Agent and Object.

Source: NSW

4.2.8.1 Enumeration Values

Value	Label	Description	Source
01	owner	Owns the object	
02	ship agent	Is the agent of the object	NSW
03	passenger	Is a passenger of the object	
04	crew member	Is a member of the crew of the object	
05	captain master	Is the master of the object	
06	ship operating company	Is the master of the object	NSW
07	company security officer	Is the security officer of the company	NSW
08	employee	Is an employee of the object	
09	vessel builder	The Vessel Builder	
10	vessel charterer	The Vessel Charterer	
11	vessel registered owner	The Vessel Registered Owner	
12	vessel company	The Vessel Company	
13	shipping agent	Shipping agent of the goods	WCO
14	declarant	Declarant of the goods	WCO
15	carrier agent	Carrier agent of the goods	WCO
16	shipping line	Shipping line for the goods	WCO
17	customs broker	Customs broker of the goods	WCO
18	DPG contact point	DGP (dangerous and polluting goods) contact point	NSW
98	other	Any other role not mentioned above	
99	non-specified	Role not specified	

4.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

7. AgentRole (AgentObject)

4.2.9 AgentRoleInRiskType Enumeration

This enumeration presents the role of Agent in relation to Risk.

4.2.9.1 Enumeration Values

Value	Label	Description	Source
01	cause	Agent is the cause of the risk	
02	involved	Agent is somehow involved in the risk	
03	reports	Agent is reporting of the risk	
98	other	Any other relation not mentioned above	
99	non-specified	Relation not specified	

4.2.9.2 Enumeration Usage

The following attributes use this enumeration as data type:

8. AgentRole (AgentRisk)

4.2.10 DutyType Enumeration

This enumeration presents the role of Agent in relation to Risk.

Source: NSW

4.2.10.1 Enumeration Values

Value	Label	Description	Source
001	able seaman	Able Seaman	NSW
002	agent	Agent	NSW
003	asst food bev mngr	Assistant Food and Beverage Manager	NSW
004	bar manager	Bar Manager	NSW
005	bar service	Bar Service	NSW

WARNING: The current enumeration contains 105 values. The rest of the values can be found in the CISE Data model.

4.2.10.2 Enumeration Usage

The following attributes use this enumeration as data type:

9. Duty (AgentObject)
10. Duty (AgentAgent)

4.2.11 ISO3166CountryCodeType Enumeration

contains the Codes Of Nationality according to ISO3166 Standard

Source: ISO 3166-1

4.2.11.1 Enumeration Values

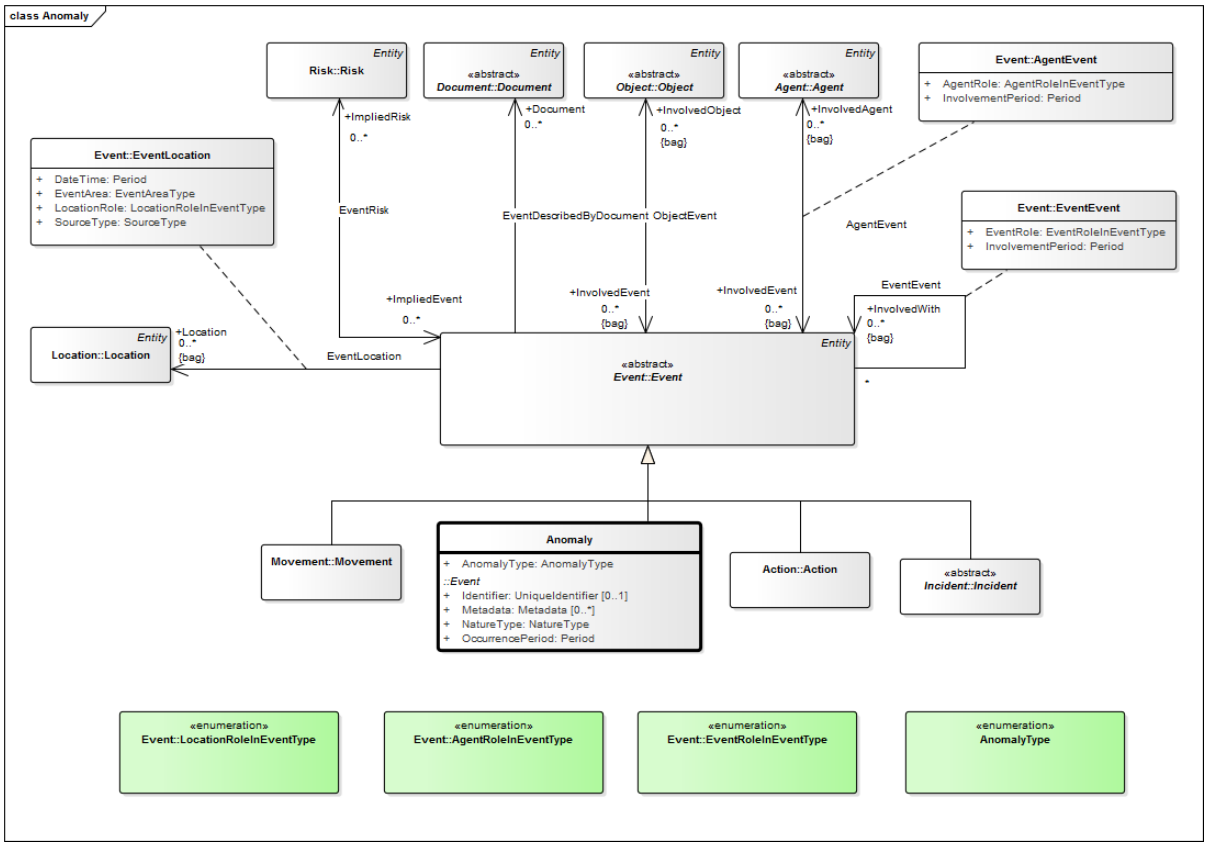
Value	Label	Description	Source
AC		Ascension Island	ISO 3166-1
AD		Andorra	ISO 3166-1

Value	Label	Description	Source
AE		United Arab Emirates	ISO 3166-1
AF		Afghanistan	ISO 3166-1
AG		Antigua and Barbuda	ISO 3166-1

WARNING: The current enumeration contains 260 values. The rest of the values can be found in the CISE Data model.

5 Anomaly Core Entity

5.1 UML models



5.2 Elements defined in the Core Vocabulary

5.2.1 Anomaly Class (subclass of Event)

The class Anomaly is a sub-class of the class Event. An anomaly is used to characterize an unusual event which deserves to be noted or reported. Anomaly has the same associations and relationships than its parent-class Event. Thus it can have relationship with Document, Risk, Event, Object, Period, Location, and Agent.

5.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
AnomalyType	AnomalyType	The type of the reported anomaly	Cargo leaking	SSN IRG
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	

UML Name	Data type	Description	Example	Source
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

5.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

5.2.2 AnomalyType Enumeration

This enumeration presents the different types of anomalies.

Source: SSN IRG

5.2.2.1 Enumeration Values

Value	Label	Description	Source
01	unexpected movement	Unexpected movement	
02	cargo leaking	Cargo leaking	
03	shifting of cargo	Shifting of cargo	SSN IRG

Value	Label	Description	Source
04	vessel out of traffic lanes	Vessel out of traffic lanes	
05	vessel with erratic movements	Vessel with erratic movements	
06	stain of oil sighted	Stain of oil sighted	
07	detecion of changes in AIS parameters	Detection of changes in AIS parameters	
08	performing AIS spoofing	Performing AIS spoofing	
09	without AIS transmission	Without AIS transmission	
10	do not answer on VHF ch16	Do not answer on VHF Ch 16	
98	other	Any other anomaly type not mentioned above	
99	non-specified	Anomaly type not specified	

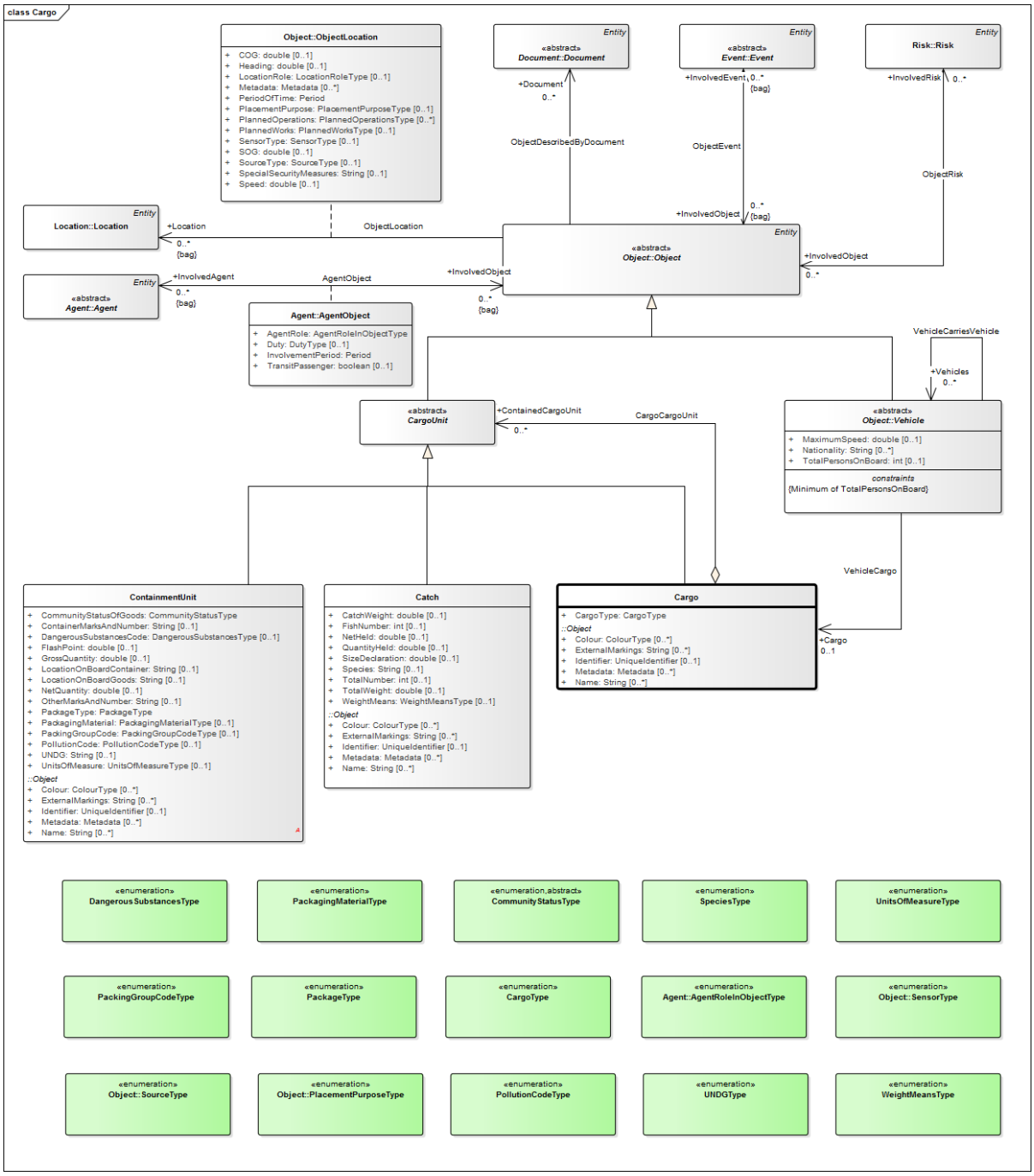
5.2.2.2 Enumeration Usage

The following attributes use this enumeration as data type:

11. AnomalyType (Anomaly)

6 Cargo Core Entity

6.1 UML models



6.2 Elements defined in the Core Vocabulary

6.2.1 Cargo Class (subclass of CargoUnit)

A Cargo refers to a set of goods transported by a ship between two ports.

6.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
CargoType	CargoType	This enumeration is used to described the type of cargo associated with the entity	4 (Palletized)	UNECE Recommendation 21 - annex II
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

6.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
ContainedCargoUnit	CargoUnit	Each cargo might have many cargo items, depending on the number of different goods.	0..*
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

6.2.1.3 Constraints

Name	Description	OCL Constraint
At least one CargoUnit	There must be at least one CargoUnit or, alternatively, one type of Catch to have a Cargo.	

6.2.2 CargoUnit Class (subclass of Object)

CargoUnit is an entity which holds information about units of goods when transported by ships. The subclasses of CargoUnit can represent either the whole cargo in a vehicle or a part of it.

6.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

6.2.2.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

6.2.3 Catch Class (subclass of CargoUnit)

A Catch refers to a set of distinct species catch in the see/ocean by a fishing vessel. Catch has the same associations and relationships than its parent-class Object. Thus it can have relationship with Document, Risk, Event, Location, and Agent.

6.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
CatchWeight	double	Depending on context this item to be either 1. Total weight of fish (in kilograms) in catch period 2. Total weight of fish (in kilograms) on board (aggregate) or 3. Total weight of fish (in kilograms) landed 4. Total weight of fish discarded or used as a live bait		ERS
FishNumber	int	Number of fish (when catch have to be registered in numbers of fish i.e. salmon, tuna)		ERS
NetHeld	double	Estimate of number of live fish held in nets i.e. not in hold		ERS
QuantityHeld	double	Estimate of quantity of live fish held in nets i.e. not in hold		ERS
SizeDeclaration	double	ERS/SizeDeclaration		ERS
Species	String	This attribute specifies the species that were in the catch using a three-letter code, according to "the Commission Implementing Regulation (EU) No 404/2011 of 8 April 2011 laying down detailed rules for the implementation of Council Regulation (EC) No 1224/2009 establishing a Community control system for ensuring compliance with the rules of the Common Fisheries Policy". http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32011R0404	"YFT" for the "Yellowfin tuna"	FLUX
TotalNumber	int	see ERS::TotalNumber		ERS
TotalWeight	double	see ERS::TotalWeight		ERS
WeightMeans	WeightMeansType	Means of weight measuring	EST (estimation)	ERS
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

6.2.3.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

6.2.4 ContainmentUnit Class (subclass of CargoUnit)

Containment unit is an entity which holds information about units of goods when transported by ships contained in containers or bulk.

6.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
CommunityStatusOfGoods	CommunityStatusType	This enumeration reflects the different customs status of cargo units on board a ship	C (community goods)	
ContainerMarksAndNumber	String	Marks and number of the containers, this shall be the identification code as defined in ISO 6346	CSQU3054383	NSW
DangerousSubstancesCode	DangerousSubstancesType	This enumeration defines the general categories of Hazardous cargo, according to the International Maritime Dangerous Goods (IMDG) code	class2.2 (toxic gases)	IMO IMDG

UML Name	Data type	Description	Example	Source
FlashPoint	double	Flash point in degrees centigrade. The temperature in degrees Celsius at which a liquid will give off enough flammable vapour to be ignited. according IMDG Code DG Class 3		NSW
GrossQuantity	double	Gross quantity of the cargo unit (includes package)		NSW
LocationOnBoardContainer	String	Location of container on board. Represented with one upper case letter (type of location code), a colon (:) and the location code (numerical or other depending of the type of cargo). See representation of CargoLocationType in ISO 28005	C:010212	SSN MRG
LocationOnBoardGoods	String	Location of goods on board		SSN IRG
NetQuantity	double	Net quantity of the cargo unit (excludes package)		NSW
OtherMarksAndNumber	String	Marks and number of the cargo item if not covered by ISO 6346		NSW
PackageType	PackageType	This enumeration is used to described the type of package used to carry the cargo unit	2 (rigid box type prismatic)	UNECE Recommendation 21
PackagingMaterial	PackagingMaterialType	This enumeration is used to described the type of material of the package used to carry the cargo unit	5 (metal)	UNECE Recommendation 21
PackingGroupCode	PackingGroupCodeType	This enumeration defines the danger code, according to the level of danger	I (Great danger)	IMO IMDG
PollutionCode	PollutionCodeType	This enumeration defines the pollution code, according to the MARPOL	X (Noxious Liquid Substances)	IMO MARPOL - annex II
UNDG	String	Attribute describing the content of the ContainmentUnit with a four-letter code conformant to the Enumeration for	"0004" (AMMONIUM PICRATE)	UNDG

UML Name	Data type	Description	Example	Source
		the United Nations Dangerous Goods.		
UnitsOfMeasure	UnitsOfMeasureType	This enumeration defines the units of measurement for both GrossQuantity and NetQuantity	KGM (Kilogram)	UNECE Recommendation 20
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

6.2.4.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*

UML Name	Data type	Description	Multiplicity
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

6.2.5 CargoType Enumeration

This enumeration presents the possible types of cargo.

Source: UNECE Recommendation 21 - annex II

6.2.5.1 Enumeration Values

Value	Label	Description	Source
0	no cargo unit liquid bulk goods	includes i) liquids ii) liquified gases iii) molten or slurried solids, suitable for continuous mechanical handling for transport by pipeline or loose in a hold, tank or other compartment integral to a means of transport	UNECE Recommendation 21 - annex II
1	no cargo unit solid bulk goods	includes i) fine powders ii) granular particles iii) large, lumpy, dry solids, suitable for continuous mechanical handling, for transport by fixed installations (other than pipeline) or loose in a hold or other compartment integral to a means of transport	UNECE Recommendation 21 - annex II
2	large freight containers	Goods loaded in/on a freight container 20ft. (6m) or more in external length; includes lift van, swap/swop body, flat, moveable tank or similar articles of transport equipment	UNECE Recommendation 21 - annex II
3	other freight containers	Goods loaded in/on a freight container less than 20 ft.(6m) in external length; includes i) rigid Intermediate Bulk Containers (IBCs) ii) aircraft Unit Load Devices (ULDs); excludes i) air mode pallets ii) sea or land mode box-, tank-, post, rack-pallets not exceeding 1.25 m2 deck area	UNECE Recommendation 21 - annex II
4	palletized	Goods loaded on a deck; includes i) disposable one-way pallets ii) sea or land mode box-, tank-, post-, rack-pallets not exceeding 1.25 m2 deck area iii) slip-sheets iv) air mode pallets v) bricks, ingots, etc. suitably assembled for fork-lift truck handling	UNECE Recommendation 21 - annex II
5	pre slung	Goods (one or more items) supplied with a sling (or slings) or various materials (natural/artificial fibre, steel wire, etc.) and of various designs (loop, ring, cloverleaf, etc.); includes i) “packaged” timber ii) Flexible Intermediate Bulk Containers (FIBCs)	UNECE Recommendation 21 - annex II
6	mobile self-propelled units	includes i) road motor vehicles (lorries, buses, cars) and accompanying trailers, semi-trailers, caravans engaged in goods/passenger transport ii) motorised road, agricultural, industrial, etc. vehicles moving in trade iii) live animals “on the hoof”	UNECE Recommendation 21 - annex II
7	other mobile units	non-self-propelled vehicles and equipment on wheels; includes i) unaccompanied trailers, semi-trailers railwagons, ship-borne barges engaged in goods transport ii) caravans and other road, agricultural, industrial, etc. vehicles iii) ship-borne port-to-port trailers	UNECE Recommendation 21 - annex II
8	reserved		
9	other cargo types	all cargo not elsewhere enumerated (i.e. the residual types of cargo carried in transport: “break-bulk” or “general” cargo, e.g. boxes, drums, bags, etc. and loose, unpacked items such as pipes, rods, etc.)	UNECE Recommendation 21 - annex II
98	other		
99	non-specified		

6.2.5.2 Enumeration Usage

The following attributes use this enumeration as data type:

12. CargoType (Cargo)

6.2.6 CommunityStatusType Enumeration

This enumeration reflects the different customs status of cargo units on board a ship.

6.2.6.1 Enumeration Values

Value	Label	Description	Source
C	community goods	(equivalent to 'T2L') for goods whose community status can be demonstrated	
F	comunity goods from non-fiscal territories	(equivalent to 'T2LF') for goods whose community status can be demonstrated, consigned to or originating in a part of the Community customs territory where the provisions of Directive 77/388/EEC do not apply	
X	community goods being exported	For goods under the export procedure	
N	other goods	For all other goods	
NonSpecified	non-specified		

6.2.6.2 Enumeration Usage

The following attributes use this enumeration as data type:

13. CommunityStatusOfGoods (ContainmentUnit)

6.2.7 DangerousSubstancesType Enumeration

This enumeration presents the general categories of Hazardous cargo, according to the International Maritime Dangerous Goods (IMDG) code. For additional information about IBC, IGC and INF (IBC - Intermediate Bulk Container, IGC - International Gas Carrier and INF - Irradiated Nuclear Fuel) contact the International Maritime Organization (IMO).

Source: IMO IMDG

6.2.7.1 Enumeration Values

Value	Label	Description	Source
Class1	class 1 explosives	Should be stored away from the crew's quarters and the ship's boats and immediately under the hold's hatches	IMO IMDG
Class21	class 2.1 flammable gases	Should be stored away from crew's quarters and any source of heat.	IMO IMDG
Class22	class 2.2 toxic gases	Should be stored away from any source of heat, the crew's quarters and foodstuffs.	IMO IMDG
Class23	class 2.3 non-flammable compressed gases	Store on or under the deck in a cool, well-ventilated place. Containers filled with this kind of gas will expand if heated and there is a high risk of an explosion.	IMO IMDG
Class31	class 3.1 petrol	Combustion at less than 18ºC. Should always be stored above the deck.	IMO IMDG

Value	Label	Description	Source
Class32	class 3.2 fuel oil	Combustion at between 18ºC and 23ºC. Should be stored above or below the deck.	IMO IMDG
Class33	class 3.3 fuel oil	Combustion at between 23ºC and 61ºC. Should be stored below the deck.	IMO IMDG
Class41	class 4.1 flammable solid	Should be stored on top or below the deck. Should be kept away from living quarters.	IMO IMDG
Class42	class 4.2 spontaneously combustible	Should be stored in well ventilated areas and air should be able to circulate between the stored materials.	IMO IMDG
Class43	class 4.3 dangerous when wet	Solids which are inflammable when wet or when in contact with water. Should be stored in well ventilated, dry areas and always away from any contact with water.	IMO IMDG
Class51	class 5.1 oxidizing agent	The substances in this category can create an inflammable environment when brought into contact with oxygen. For this reason they should not be stored next to combustible materials.	IMO IMDG
Class52	class 5.2 organix peroxide	The substances in this class can be inflammable or explosive. They should be stored above deck, covered and in a dry, cool areas.	IMO IMDG
Class61	class 6.1 toxic substances	Toxic substances are those which can enter the human body through the mouth and cause death. For this reasons they should be stored away from foodstuffs, drinks, living quarters and materials which increase humidity, such as tobacco.	IMO IMDG
Class62	class 6.2 infectious biological substances	These substances contain microbes which can cause illness. They should be stored away from foodstuffs, drinks and living quarters. In case of danger the nearest health authority should be notified.	IMO IMDG
Class7	class 7 radioactive materials	Radioactive Materials - These materials should be transported in specially sealed containers. The seals must always be completely undamaged. They should preferably be stored above deck and away from living quarters, foodstuffs, unprocessed films, pharmaceuticals and chemical substances. They are divided into three groups according to their level of radioactivity.	IMO IMDG
Class8	class 8 corrosives	The substances in this class are solids or liquids possessing, in their original state, the common property of being able, more or less severely to damage living tissue. The escape of such a substance from its packaging may also cause damage to other cargo or the ship.	IMO IMDG
Class9	class 9 miscellaneous dangerous substances	Substances and articles not covered by other classes which experience has shown, or may show, to be of such a dangerous character that the provisions of SOLAS should apply. These include substances that are transported or offered for transport at temperatures equal to or exceeding 1000 C and in a liquid state, and solids that are transported at temperatures equal or exceeding 2400 C;	IMO IMDG
MHB	MHB materials hazardous only in bulk	MHB (materials hazardous only in bulk) cargoes are materials which possess chemical hazards when transported in bulk that do not meet the criteria for inclusion in the IMDG classes. They are Combustible solids, Self-heating solids, Solids that evolve into flammable gas when wet, Solids that evolve toxic gas when wet, Toxic solids, Corrosive solids. See also IMSBC code.	IMO IMDG
Other	other	Any other dangerous substance type not mentioned above	
NonSpecified	non-specified	Type not specified	

6.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

14. DangerousSubstancesCode (ContainmentUnit)

6.2.8 PackageType Enumeration

This enumeration presents the possible types of package used in CargoUnit.

Source: UNECE Recommendation 21 - annex IV

6.2.8.1 Enumeration Values

Value	Label	Description	Source
0	bulk	bulk	UNECE Recommendation 21 - annex IV
1	loosed unpacked excluding bulk	loosed unpacked excluding bulk	UNECE Recommendation 21 - annex IV
2	rigid box type prismatic	rigid box type prismatic	UNECE Recommendation 21 - annex IV
3	rigid drum type cylindrical	rigid drum type cylindrical	UNECE Recommendation 21 - annex IV
4	rigid bulb type spherical	rigid bulb type spherical	UNECE Recommendation 21 - annex IV
5	rigid other	rigid other	UNECE Recommendation 21 - annex IV
6	flexible bag type	flexible bag type	UNECE Recommendation 21 - annex IV
7	for future use	for future use	UNECE Recommendation 21 - annex IV
8	reserved	reserved	UNECE Recommendation 21 - annex IV
9	other special packages	other special packages	UNECE Recommendation 21 - annex IV
98	other	Any other package type not mentioned above	
99	non-specified	Package type not specified	

6.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

15. PackageType (ContainmentUnit)

6.2.9 PackagingMaterialType Enumeration

This enumeration presents the possible types of packaging material used in CargoUnits.

Source: UNECE Recommendation 21 - annex I

6.2.9.1 Enumeration Values

Value	Label	Description	Source
0	none	none	UNECE Recommendation 21 - annex I

Value	Label	Description	Source
1	plastics	plastics	UNECE Recommendation 21 - annex I
2	paper and fibreboard	paper and fibreboard	UNECE Recommendation 21 - annex I
3	wood	wood	UNECE Recommendation 21 - annex I
4	for future use	for future use	UNECE Recommendation 21 - annex I
5	metal	metal	UNECE Recommendation 21 - annex I
6	glass porcelain ceramic stoneware	glass porcelain ceramic stoneware	UNECE Recommendation 21 - annex I
7	textile	textile	UNECE Recommendation 21 - annex I
8	reserved	reserved	UNECE Recommendation 21 - annex I
9	unknown or not otherwise enumerated	unknown or not otherwise enumerated	UNECE Recommendation 21 - annex I
98	other	Any other package material not mentioned above.	
99	non-specified	Material type not specified.	

6.2.9.2 Enumeration Usage

The following attributes use this enumeration as data type:

16. PackagingMaterial (ContainmentUnit)

6.2.10 PackingGroupCodeType Enumeration

This enumeration defines the danger code, according to the level of danger from the IMDG (International Maritime Dangerous Goods).

Source: IMO IMDG

6.2.10.1 Enumeration Values

Value	Label	Description	Source
I	Group I: great danger	Great danger	IMO IMDG
II	Group II: medium danger	Medium danger	IMO IMDG
III	Group III: minor danger	Minor danger	IMO IMDG
None	None	No danger	IMO IMDG
98	other	Any other code not mentioned above	
99	non-specified	Code not specified	

6.2.10.2 Enumeration Usage

The following attributes use this enumeration as data type:

17. PackingGroupCode (ContainmentUnit)

6.2.11 PollutionCodeType Enumeration

This enumeration defines the pollution code, according to the MARPOL.

Source: IMO MARPOL - annex II

6.2.11.1 Enumeration Values

Value	Label	Description	Source
X	category X	Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a major hazard to either marine resources or human health and, therefore, justify the prohibition of the discharge into the marine environment	IMO MARPOL - annex II
Y	category Y	Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment	IMO MARPOL - annex II
Z	category Z	Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a minor hazard to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment	IMO MARPOL - annex II
OS	other substances	substances which have been evaluated and found to fall outside Category X, Y or Z because they are considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning of deballasting operations. The discharge of bilge or ballast water or other residues or mixtures containing these substances are not subject to any requirements of MARPOL Annex II	IMO MARPOL - annex II
NonSpecified	non-specified		

6.2.11.2 Enumeration Usage

The following attributes use this enumeration as data type:

18. PollutionCode (ContainmentUnit)

6.2.12 SpeciesType Enumeration

This enumeration presents the possible types of species.

Source: ERS

6.2.12.1 Enumeration Values

Value	Label	Description	Source
AAA	Acipenser naccarii	Adriatic sturgeon	ERS
AAB	Acanthopagrus bifasciatus	Twobar seabream	ERS
AAC	Amia calva	Bowfin	ERS
AAD	Acipenser dabryanus	Yangtze sturgeon	ERS
AAE	Antennarius analis	Tailjet frogfish	ERS

WARNING: The current enumeration contains 12423 values. The rest of the values can be found in the CISE Data model.

6.2.13 UNDGType Enumeration

This enumeration defines United Nations Dangerous Goods list.

6.2.13.1 Enumeration Values

Value	Label	Description	Source
0004	AMMONIUM PICRATE dry or wetted with less than 10% water, by mass	AMMONIUM PICRATE dry or wetted with less than 10% water, by mass (Class 1.1D)	UNDG
0005	CARTRIDGES FOR WEAPONS with bursting charge	CARTRIDGES FOR WEAPONS with bursting charge (Class 1.1F)	UNDG
0006	CARTRIDGES FOR WEAPONS with bursting charge	CARTRIDGES FOR WEAPONS with bursting charge (Class 1.1E)	UNDG
0007	CARTRIDGES FOR WEAPONS with bursting charge	CARTRIDGES FOR WEAPONS with bursting charge (Class 1.2F)	UNDG
0009	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge	AMMUNITION, INCENDIARY with or without burster, expelling charge or propelling charge (Class 1.2G)	UNDG

WARNING: The current enumeration contains 2164 values. The rest of the values can be found in the CISE Data model.

6.2.14 UnitsOfMeasureType Enumeration

This enumeration presents the considered units of measure for CargoUnits, according to the United Nations codes for units of measure used in international trade.

Source: UNECE Recommendation 20

6.2.14.1 Enumeration Values

Value	Label	Description	Source
KGM	kilogram	kilogram	UNECE Recommendation 20
TNE	Metric tonne	Metric tonne	UNECE Recommendation 20
Other	other	Any other unit not mentioned above	
99	non-specified	Unit not specified	

6.2.14.2 Enumeration Usage

The following attributes use this enumeration as data type:

19. UnitsOfMeasure (ContainmentUnit)

6.2.15 WeightMeansType Enumeration

This enumeration presents the different means of weight for fisheries

Source: ERS

6.2.15.1 Enumeration Values

Value	Label	Description	Source
EST	Estimation	Estimation	ERS
WGH	weighing on board	weighing on board	ERS

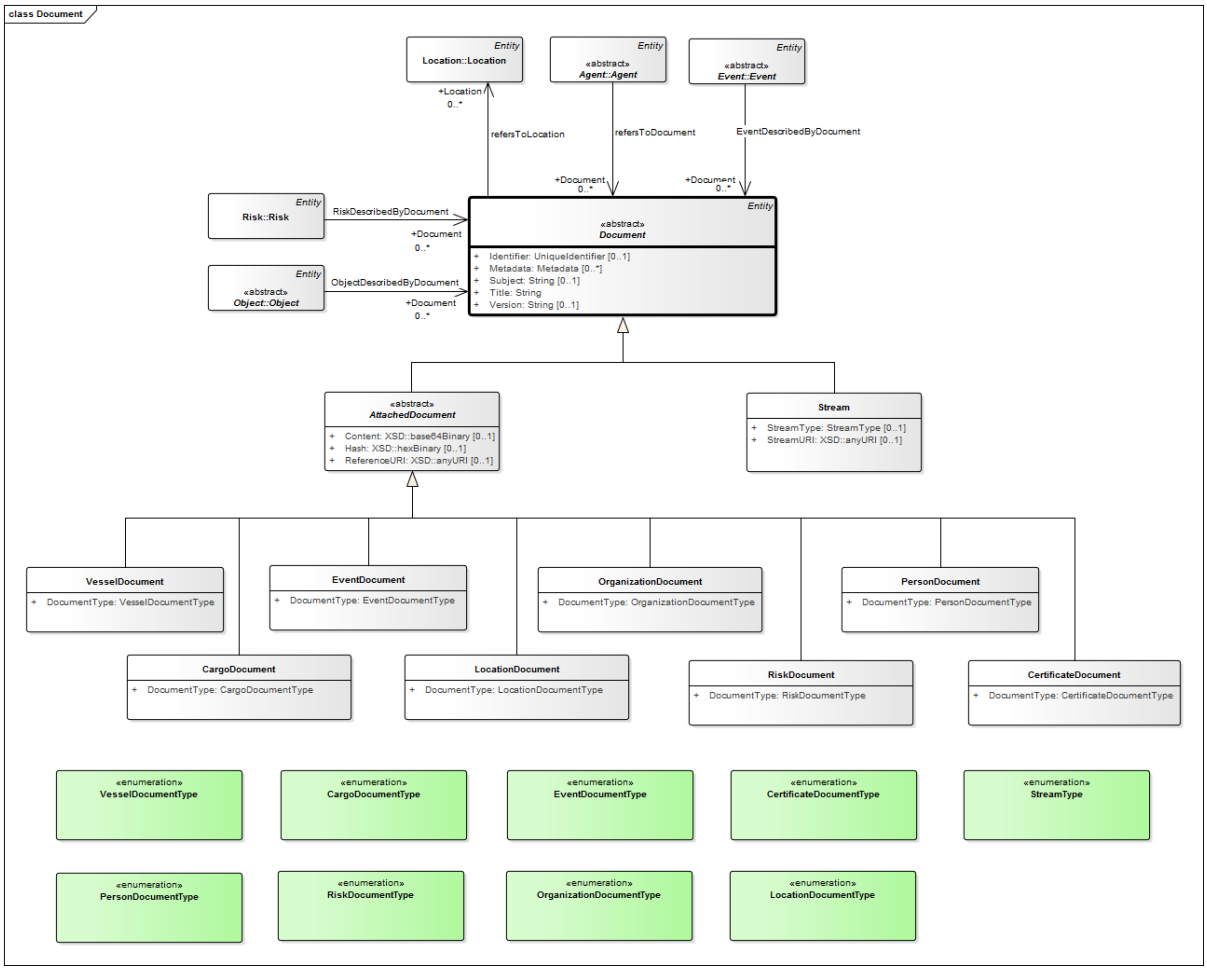
6.2.15.2 Enumeration Usage

The following attributes use this enumeration as data type:

20. WeightMeans (Catch)

7 Document Core Entity

7.1 UML models



7.2 Elements defined in the Core Vocabulary

7.2.1 AttachedDocument Class (subclass of Document)

7.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to identify a	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	

UML Name	Data type	Description	Example	Source
		name of a web resource.		
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI

UML Name	Data type	Description	Example	Source
		or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme		
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DCMI
Version	String	Indicates the version number of the document/ resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.2 CargoDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Cargo related documents and material in electronic format.

7.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	CargoDocumentType	Electronic material related to vessels cargo or individual cargo items.	Cargo manifest: 01	
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to identify a name of a web resource.	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the informatio		

UML Name	Data type	Description	Example	Source
		n being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DC MI
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DC MI
Version	String	Indicates the version number of the	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

UML Name	Data type	Description	Example	Source
		document /resource.		

(*) Inherited attributes are coloured in grey.

7.2.2.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.3 CertificateDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Certificate related documents and material in electronic format.

Subclass of Document.

7.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	CertificateDocumentType	Documents related to Certificate		
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to identify a name of a web resource.	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers,		

UML Name	Data type	Description	Example	Source
		either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI

UML Name	Data type	Description	Example	Source
		to select a value from a controlled vocabulary or formal classification scheme		
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DCMI
Version	String	Indicates the version number of the document /resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.3.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.4 Document Class (subclass of Entity)

The Document is one of the fundamental entities of the overall data model of the information sharing environment. A Document allows tracing and exchanging information in a persistent manner in almost any possible electronic format; this information is expected to provide details on and express specific associations between other Entity Classes such as Agents, Objects, Events, Risks, Locations etc.

7.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be		

UML Name	Data type	Description	Example	Source
		identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DCMI
Version	String	Indicates the version number of the document/resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

7.2.4.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

7.2.5 EventDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Event related documents and material in electronic format.

7.2.5.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	EventDocumentType	Electronic material related to individual events (or more specifically one of its sub-classes: movement, anomaly, incident or action).	e.g. an incident report from SafeSeaNet: <DocumentType>02</DocumentType>	

UML Name	Data type	Description	Example	Source
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to identify a name of a web resource.	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about		

UML Name	Data type	Description	Example	Source
		documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DC MI
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DC MI
Version	String	Indicates the version number of the document /resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.5.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.6 LocationDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Location related documents and material in electronic format.

7.2.6.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	LocationDocumentType	Electronic material related to specified Location.	meteorological maps from specified area 14	
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to identify a name of a web resource.	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate		

UML Name	Data type	Description	Example	Source
		objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI
Title	String	A name given to the resource, e.g. the	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DCMI

UML Name	Data type	Description	Example	Source
		official name of the publication in English language		
Version	String	Indicates the version number of the document /resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.6.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.7 OrganizationDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Organization related documents and material in electronic format.

7.2.7.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	OrganizationDocumentType	Electronic material related to individual identified Organization or one of its sub-classes.	Documents describing harbour security plans: 01	
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	

UML Name	Data type	Description	Example	Source
		identify a name of a web resource.		
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI

UML Name	Data type	Description	Example	Source
		will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme		
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DCMI
Version	String	Indicates the version number of the document /resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.7.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.8 PersonDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Person related documents and material in electronic format.

7.2.8.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	PersonDocumentType	Electronic material related to individual Persons.		
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to identify a name of a web resource.	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understan		

UML Name	Data type	Description	Example	Source
		ding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DC MI
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DC MI
Version	String	Indicates the version	e.g. version 2.1 of the document	

UML Name	Data type	Description	Example	Source
		number of the document /resource.	<Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.8.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.9 RiskDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Risk related documents and material in electronic format.

7.2.9.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	RiskDocumentType	Electronic material related to individual risks.	SafeSeaNet HAZMAT Notifications: 07	
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to identify a name of a web resource.	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIde		

UML Name	Data type	Description	Example	Source
		ntifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI

UML Name	Data type	Description	Example	Source
		a controlled vocabulary or formal classification scheme		
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DC MI
Version	String	Indicates the version number of the document/ resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.9.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.10 Stream Class (subclass of Document)

Stream of information.

7.2.10.1 Attributes

UML Name	Data type	Description	Example	Source
StreamType	StreamType	Type of the stream. Each stream type is linked to a specific standard.	Video	
StreamURI	XSD::anyURI	Endpoint of the stream, from which the information can be downloaded.		
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		

UML Name	Data type	Description	Example	Source
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DCMI
Version	String	Indicates the version number of the document/resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.10.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.11 VesselDocument Class (subclass of AttachedDocument)

This sub-class allows the identification and exchange of Vessel related documents and material in electronic format.

7.2.11.1 Attributes

UML Name	Data type	Description	Example	Source
DocumentType	VesselDocumentType	Electronic material related to individual vessels.	Vessel's Certificate of registry: 95	
Content	XSD::base64Binary	Content of the document		
Hash	XSD::hexBinary	Integrity check		
ReferenceURI	XSD::anyURI	Uniform resource identifier (URI) is a string of characters used to	e.g.web address of the document "Helsinki VTS Master's Guide" <ReferenceURI>http://portal.liikennevirasto.fi/portal/page/portal/e/professionals/vts/HKI_MG%2028052012_en.pdf</ReferenceURI>	

UML Name	Data type	Description	Example	Source
		identify a name of a web resource.		
Identifier	UniqueIdentifier	Identifier of the document. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Class Metadata will be used to carry more specific information about documents.		
Subject	String	The topic of the content of the resource. Typically, a Subject will be expressed as	e.g. the document in the previous example would be one of the many documents belonging to subject VTS or Vessel Traffic Services: <Subject>Vessel Traffic Services</Subject>	DCMI

UML Name	Data type	Description	Example	Source
		keywords or key phrases or classification codes that describe the topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme		
Title	String	A name given to the resource, e.g. the official name of the publication in English language	e.g. documents which official english name is "Helsinki VTS Master's Guide": <Title>Helsinki VTS Master's Guide</Title>	DC MI
Version	String	Indicates the version number of the document /resource.	e.g. version 2.1 of the document <Name>Version 2.1</Name>	

(*) Inherited attributes are coloured in grey.

7.2.11.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	It is not mandatory for a document to refer to any location but it is allowed to refer to multiple different locations if required.	0..*

(*) Inherited association roles are coloured in grey.

7.2.12 CargoDocumentType Enumeration

This enumeration presents the possible types of documents related to cargo.

7.2.12.1 Enumeration Values

Value	Label	Description	Source
01	cargo manifest	Basic information about the cargo. Would include also links to further information: bill of lading, cargo bill, liner way bill	
02	VAT exception		
03	entry summary declaration		
04	IMOFAL form2 cargo declaration		
05	IMOFAL form3 ships stores declaration		
06	IMOFAL form4 crews effects declaration		
07	notification of dangerous goods		
08	IMOFAL form7 dangerous goods		
09	single administrative document		
10	catch certificate		
11	fishing logbook		
98	other		
99	non-specified		

7.2.12.2 Enumeration Usage

The following attributes use this enumeration as data type:

21. DocumentType (CargoDocument)

7.2.13 CertificateDocumentType Enumeration

7.2.13.1 Enumeration Values

Value	Label	Description	Source
01	tonnage certificate		
02	load line certificate		
03	minimum safe manning document		
04	oil pollution prevention certificate		
05	sewage pollution prevention certificate		
06	VDR compliance certificate		
07	ISM compliance document		
08	safety management certificate		
09	ISS certificate		
10	PSS certificate		
11	STPS sa certificate		

Value	Label	Description	Source
12	STPS sp certificate		
13	CSS construction certificate		
14	CSS equipment certificate		
15	CSS radio certificate		
16	CSS certificate		
17	grain authorization document		
18	civil liability certificate		
19	enhanced survey document		
20	NLS certificate		
21	bulk chemicals carriage certificate		
22	int bulk chemicals carriage certificate		
23	bulk liquid gas certificate		
24	int bulk liquid gas certificate		
25	HSC safety certificate		
26	HSC operation permit		
27	IMDG certificate		
28	INF certificate		
29	registry certificate		
30	hull class certificate		
31	engine class certificate		
32	pand I certificate		
33	ILO133 certificate		
34	ILO92 certificate		
35	ITF blue card		
36	declaration of health		
37	gas free certificate		
38	de rat certificate		
39	certificate		
98	other		
99	non-specified		

7.2.13.2 Enumeration Usage

The following attributes use this enumeration as data type:

22. DocumentType (CertificateDocument)

7.2.14 EventDocumentType Enumeration

This enumeration presents the possible types of documents related to different events (movements, actions, anomalies, incidents).

7.2.14.1 Enumeration Values

Value	Label	Description	Source
01	regional monitors	Observation reports from different EU regions related to issues reported via EUROSUR (e.g. irregular migration, related cross-border crime, crisis, other).	EUROSUR
02	incident report	Documents containing the detailed report of incidents reported via SSN (e.g. waste, situations , pollution, containers or packages drifting at sea, failed vessel notifications, VTS rules infringements, banned ships, insurance failures, anomaly reports by pilots or ports).	SSN
03	environmental incident document	Documents and reports that describe environmental icidents (e.g. oil pollution)	
04	evacuation orders	Detailed orders related to evacuation situations.	
05	accident report	Detailed reports of accidents in sea.	
06	hazards mapping and tracking humanitarian assistance		
07	organized crime documents		IMO MSC.1/Circ.1333
08	terrorist thread documents		
09	ship hijacking suspicion report		
10	crew hostaging suspicion report		
11	weapons onboard suspicion report		
12	initial piracy attack report	Initial report about piracy attack as defined in IMO MSC Circular 1333.	IMO MSC.1/Circ.1333
13	follow-up piracy attack report	Follow-up report about piracy attack as defined in IMO MSC Circular 1333.	IMO MSC.1/Circ.1333
98	other	Any other document related to events not mentioned above	
99	non-specified	Type of document not specified.	

7.2.14.2 Enumeration Usage

The following attributes use this enumeration as data type:

23. DocumentType (EventDocument)

7.2.15 LocationDocumentType Enumeration

This enumeration presents the possible types of documents related to a location.

Source: PPIAF

7.2.15.1 Enumeration Values

Value	Label	Description	Source
01	port law		PPIAF
02	port regulations		PPIAF

Value	Label	Description	Source
03	port services		PPIAF
04	port facilities		PPIAF
05	port dues		PPIAF

WARNING: The current enumeration contains 51 values. The rest of the values can be found in the CISE Data model.

7.2.15.2 Enumeration Usage

The following attributes use this enumeration as data type:

24. DocumentType (LocationDocument)

7.2.16 OrganizationDocumentType Enumeration

This enumeration presents the possible types of documents that can be related to organizations.

7.2.16.1 Enumeration Values

Value	Label	Description	Source
01	harbour security document	Documents that related to a specific harbour and deal with security issues.	
02	ISPS code	Documents that are related to an organization and deal with IMO ISPS Code.	
03	map	Any type of map related to the organization.	
98	other	Any other type of document not specified above.	
99	non-specified	Type of the document not specified.	

7.2.16.2 Enumeration Usage

The following attributes use this enumeration as data type:

25. DocumentType (OrganizationDocument)

7.2.17 PersonDocumentType Enumeration

This enumeration presents the possible types of documents that can be related to individual persons.

7.2.17.1 Enumeration Values

Value	Label	Description	Source
01	travel document	Document that enables the entry and exit from one country to another (e.g. Passport).	
02	national ID	National identification document.	
03	drivers license	Document proving the right to drive a car.	
04	seafarers ID document	Special identification document for seafarers (e.g. SeamansBook)	
05	crew certificates	Certificate of ability to hold a certain post in vessel.	
06	residence permit	Document proving that a person has right to stay in the country (e.g. MigrationCard, CruiseShipIDCard (passangers))	

Value	Label	Description	Source
07	work permit	Document proving that a person has right to work in the country (e.g.WorkCard, BlueCard)	
08	work certificate	Document proving the past employment of a person (e.g.EmploymentRecordBook)	
09	health certificate	Document stating the health status of the person.	
10	birth certificate	The official birth certificate of a person	
11	death certificate	The official death certificate of a person	
12	criminal record	Persons criminal record	
13	photograph	Photograph of a person.	
98	other	Any other document not mentioned above	
99	non-specified	Type of the document not specified	

7.2.17.2 Enumeration Usage

The following attributes use this enumeration as data type:

26. DocumentType (PersonDocument)

7.2.18 RiskDocumentType Enumeration

This enumeration presents the possible types of documents related to risks.

Source: EUROSUR

7.2.18.1 Enumeration Values

Value	Label	Description	Source
01	briefing notes		EUROSUR
02	route description		EUROSUR
03	facilitationanalysis		EUROSUR
04	migrant profile		EUROSUR
05	key developments		EUROSUR
06	risk ratings		EUROSUR
07	HAZMAT notification		SSN
08	risk assessment		TAG
09	organised crime documents		
10	terrorist threat documents		
11	ship hijacking suspicion report		
12	crew hostaging suspicion report		
13	weapons on board suspicion report		
98	other		
99	non-specified		

7.2.18.2 Enumeration Usage

The following attributes use this enumeration as data type:

27. DocumentType (RiskDocument)

7.2.19 StreamType Enumeration

Types of streams. Each type is associated to a specific standard.

7.2.19.1 Enumeration Values

Value	Label	Description	Source
Video	video	Video stream in format MPEG4 H264	
ImageMap	image map	Image map in format WMS	
VectorialMap	vectorial map	Vectorial map in format WFS	
Radar	radar	VTS exchange format IVEF	
AIS	AIS	Stream format in ITU-RM1371	

7.2.19.2 Enumeration Usage

The following attributes use this enumeration as data type:

28. StreamType (Stream)

7.2.20 VesselDocumentType Enumeration

This enumeration presents the possible types of electronic material that can be related to individual vessels.

7.2.20.1 Enumeration Values

Value	Label	Description	Source
001	international tonnage certificate	An International Tonnage Certificate (1969) shall be issued to every ship, the gross and net tonnage of which have been determined in accordance with the Convention (Tonnage Convention, article 7).	
002	international load line certificate	An International Load Line Certificate shall be issued under the provisions of the International Convention on Load Lines, 1966, to every ship which has been surveyed and marked in accordance with the Convention or the Convention as modified by the 1988 LL Protocol, as appropriate (LL Convention, article 16; 1988 LL Protocol, article 16).	
003	international load line exemption certificate	An International Load Line Exemption Certificate shall be issued to any ship to which an exemption has been granted under and in accordance with article 6 of the Load Line Convention or the Convention as modified by the 1988 LL Protocol, as appropriate (LL Convention, article 6; 1988 LL Protocol, article 16)	
004	coating technical file	A Coating Technical File, containing specifications of the coating system applied to dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers of 150 m in length and upwards, record of the shipyard's and shipowner's coating work, detailed criteria for coating sections, job specifications, inspection, maintenance and repair, shall be kept on board and maintained throughout the life of the ship (SOLAS 1974, regulation II-1/3-2; Performance standard for protective coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers (resolution MSC.215(82)))	

Value	Label	Description	Source
005	construction drawings	A set of as-built construction drawings and other plans showing any subsequent structural alterations shall be kept on board a ship constructed on or after 1 January 2007 (SOLAS 1974, regulation II-1/3-7; MSC/Circ.1135 on As-built construction drawings to be maintained on board the ship and ashore)	

WARNING: The current enumeration contains 151 values. The rest of the values can be found in the CISE Data model.

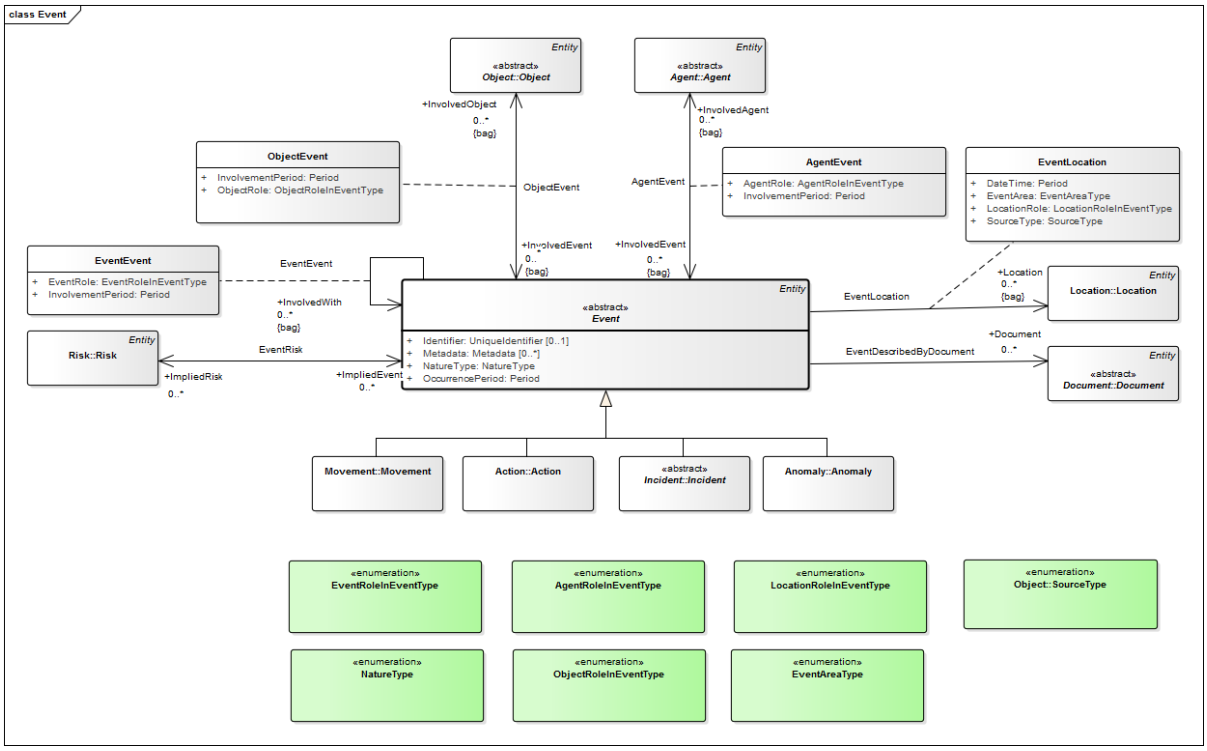
7.2.20.2 Enumeration Usage

The following attributes use this enumeration as data type:

29. DocumentType (VesselDocument)

8 Event Core Entity

8.1 UML models



8.2 Elements defined in the Core Vocabulary

8.2.1 Event Class (subclass of Entity)

The Event is one of the core entities of the overall data model of the information sharing environment. It is an entity which holds information about movements, anomalies, incidents or actions which occur in the maritime domain. Event can have relationships with other events, objects, agents, documents, periods and locations. Event can also be related to risks in different roles. Event is an abstract entity which has four sub-entities: Movement, Anomaly, Incident and Action.

8.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

8.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

8.2.2 AgentEvent Association Class

This class allows the association between Agent (or one of its sub-classes: person, organization) and Event (or one of its sub-classes: movement, incident, anomaly, action). It is not mandatory to associate an Agent with an Event but one Agent can be associated to multiple different Events. The association further describes the role of the Agent in the Event.

8.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
AgentRole	AgentRoleInEventType	Enumerated. Describes the role of Agent in the Event	the coordinator of planned action: 01	
InvolvementPeriod	Period	The Period of Involvement		CISE

8.2.3 EventEvent Association Class

Events (movements, incidents, anomalies, actions) can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles.

8.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
EventRole	EventRoleInEventType	Enumerated. Describes the relationship between two Events	an event causes another event : 01	
InvolvementPeriod	Period	The Period of Involvement		

8.2.4 EventLocation Association Class

This class allows the association between Location and Event (or one of its sub-classes: Movement, Anomaly, Incident and Action). It is not mandatory to associate a Location with an Event but one Location can be associated to multiple different Events. The association further describes the role of the Location in relation to the Event.

8.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
DateTime	Period	The date and time at which the Location starts to be associated to the Event.	for 9am UTC on May 30th, 2002 2002-05-30T09:00:00Z	
EventArea	EventAreaType		Combat-related area: 02	CWA 15931-1:2009
LocationRole	LocationRoleInEventType	Enumerated. Describes the relationship between the Event and the Location.	The Location is the start place of the event: 01	
SourceType	SourceType			

8.2.5 ObjectEvent Association Class

This class allows the association between Object (or one of its sub-classes: vehicle, cargo) and Event (or one of its sub-classes: Movement, Anomaly, Incident, Action). It is not mandatory to associate an Object with an Event but one Object can be associated to multiple different Events. The association further describes the role of the Object in relation to the Event.

8.2.5.1 Attributes

UML Name	Data type	Description	Example	Source
InvolvementPeriod	Period	The Period of Involvement		CISE
ObjectRole	ObjectRoleInEventType	Enumerated. Describes the relationship between the Event and the Object.	The object is the coordinator of the event: 01	

8.2.6 AgentRoleInEventType Enumeration

This enumeration presents the possible roles that an Agent can have in relation to Event

8.2.6.1 Enumeration Values

Value	Label	Description	Source
01	coordinator	Coordinates the Event	

Value	Label	Description	Source
02	participant	Participates the Event	
03	observer	Observes the Event	
04	cause	Causes/has caused the Event	
05	reporter	Reports about the Event	
06	victim	Victim of the Event	
07	informed	Is informed about the Event	
08	perpetrator	Is the perpetrator/actor of the Event	
98	other	Any other role not mentioned above	
99	non-specified	Role not specified	

8.2.6.2 Enumeration Usage

The following attributes use this enumeration as data type:

30. AgentRole (AgentEvent)

8.2.7 EventAreaType Enumeration

In order to define the possible types a Location can have when in relation to an Event; we suggest reusing the work already done during the "tactical situation object" project. Among many artifacts, a list of area type has been defined. During the scope of the Cooperation project, we chose to limit the enumeration list to the first level defined by the tactical situation object project. Sub-levels are also defined and their adoption could be considered in future developments of the data model (see "Disaster and emergency management - Shared situation awareness - Part 2: Codes for the message structure.").||--Source: ||CWA 15931-1:2009

8.2.7.1 Enumeration Values

Value	Label	Description	Source
AIR		Aerial area	CWA 15931-1:2009
CMB		Combat-related area	CWA 15931-1:2009
DGR		Polluted/dangerous area	CWA 15931-1:2009
FLAME		Area in combustion	CWA 15931-1:2009
GEN		General purpose area	CWA 15931-1:2009
PLUME		Trails of hazardous emissions from an incident influenced by the wind and other weather conditions that are laden with particulates and gaseous pollutants	CWA 15931-1:2009
SMOKE		Cloud of fine particles resulting from a combustion suspended in a gas of hot vapour which potentially can impact on people	CWA 15931-1:2009
VULN		Area where people will be at risk	CWA 15931-1:2009
Other	other	Any other role not mentioned above	
NonSpecified	non-specified	Role not specified	

8.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

31. EventArea (EventLocation)

8.2.8 EventRoleInEventType Enumeration

This enumeration presents the role an Event can have in respect to another Event.

8.2.8.1 Enumeration Values

Value	Label	Description	Source
01	causes	Event which is the cause of other Event(s)	
02	responds	Event which responds to other Event(s)	
03	prevents	Event which prevents other Event(s)	
04	encompasses	Event which encompasses the other Event(s)	
05	requires	Event which requires other Event(s)	
98	other	Any other role not mentioned above	
99	non-specified	Role not specified	

8.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

32. EventRole (EventEvent)

8.2.9 LocationRoleInEventType Enumeration

This enumeration presents the possible roles that a Location can have in relation to an Event.

8.2.9.1 Enumeration Values

Value	Label	Description	Source
01	start place	The Location is the start place of the Event	
02	end place	The Location is the end place of the Event	
03	last place	The Location is the last place known of the Event	
04	next place	The Location is the next place of the Event	
98	other	Any other role not mentioned above	
99	non-specified	Role not specified	

8.2.9.2 Enumeration Usage

The following attributes use this enumeration as data type:

33. LocationRole (EventLocation)

8.2.10 NatureType Enumeration

This enumeration presents the different natures of an Event.

8.2.10.1 Enumeration Values

Value	Label	Description	Source
01	observed	The Event is observed	
02	declared	The Event is declared	
03	estimated	This Event is estimated	
04	simulated	The Event is simulated	
98	other	Any other type not mentioned above	
99	non-specified	Type not specified	

8.2.10.2 Enumeration Usage

The following attributes use this enumeration as data type:

34. NatureType (Event)

8.2.11 ObjectRoleInEventType Enumeration

This enumeration presents the possible roles that an Object can have in relation to an Event

8.2.11.1 Enumeration Values

Value	Label	Description	Source
01	coordinator	Coordinates the Event	
02	participant	Participates the Event	
03	observer	Observes the Event	
04	cause	Causes/has caused the Event	
05	reporter	Reports about the Event	
06	victim	Victim of the Event	
07	mean	A mean used during the Event	
98	other	Any other role not mentioned above	
99	non-specified	Role not specified	

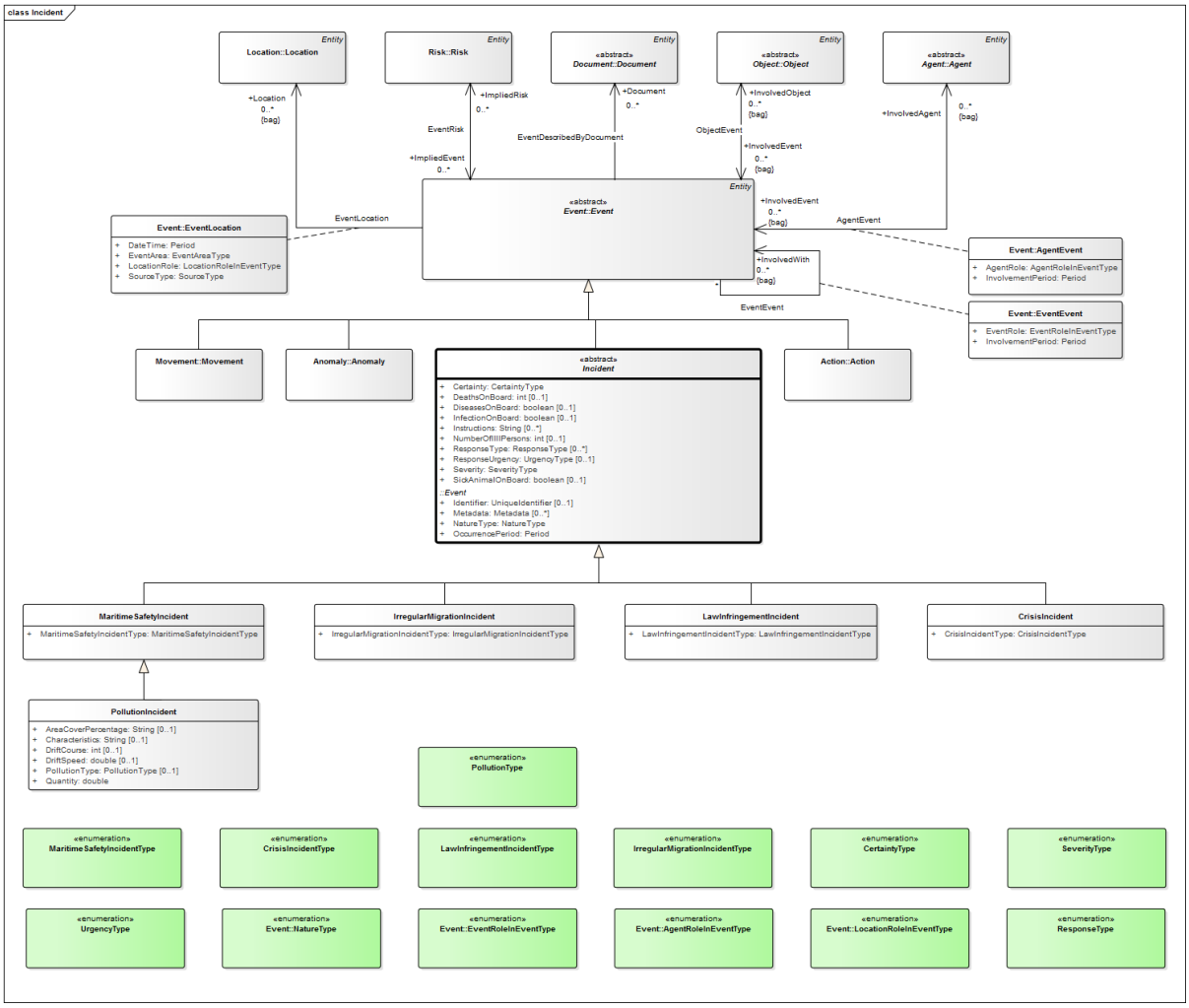
8.2.11.2 Enumeration Usage

The following attributes use this enumeration as data type:

35. ObjectRole (ObjectEvent)

9 Incident Core Entity

9.1 UML models



9.2 Elements defined in the Core Vocabulary

9.2.1 CrisisIncident Class (subclass of Incident)

The CrisisIncident class is a sub-class of Incident and is used to determine types of incidents related to crisis situations as defined by the EUROSUR project.

9.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
CrisisIncidentType	CrisisIncidentType	The type of crisis incident	Natural disaster - Lightning strike: 10	
Certainty	CertaintyType	The code denoting the certainty of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	observed: 01	OASIS-CAP
DeathsOnBoard	int	The number of deaths on board as defined by the draft NSW datasets.	0	NSW
DiseasesOnBoard	boolean	Indicates the presence of diseases on board as defined by the draft NSW datasets.	False	NSW

UML Name	Data type	Description	Example	Source
InfectionOnBoard	boolean	Indicates the presence of infection on board as defined by the draft NSW datasets.	False	NSW
Instructions	String	The text describing the recommended action to be taken by recipients of the alert message	Free text describing instructions.	OASIS-CAP
NumberOfIIllPersons	int	The number of ill persons on board as defined by the draft NSW datasets.	0	NSW
ResponseType	ResponseType	The code denoting the type of action recommended for the target audience	shelter: 01	OASIS-CAP
ResponseUrgency	UrgencyType	The code denoting the urgency of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	response expected: 02	OASIS-CAP
Severity	SeverityType	The code denoting the severity of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	Severe: 0	OASIS-CAP
SickAnimalOnBoard	boolean	Indicates the presence of sick animals on board as defined by the draft NSW datasets.	True	NSW
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

9.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*

UML Name	Data type	Description	Multiplicity
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

9.2.2 Incident Class (subclass of Event)

The class Incident is a sub-class of the abstract class Event. An incident refers to a particular happening, sometimes criminal but always noteworthy. Incident can have the same associations and relationships than the parent-class Event. Thus it can have relationship with other agents, objects, documents and locations or it can be related to risks. An incident can also be associated with other(s) incident(s) (an incident can cause others for example). Incident has four sub-classes: MaritimeSafetyIncident, IrregularMigrationIncident, LawInfringementIncident and CrisisIncident.

9.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
Certainty	CertaintyType	The code denoting the certainty of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	observed: 01	OASIS-CAP
DeathsOnBoard	int	The number of deaths on board as defined by the draft NSW datasets.	0	NSW
DiseasesOnBoard	boolean	Indicates the presence of diseases on board as defined by the draft NSW datasets.	False	NSW
InfectionOnBoard	boolean	Indicates the presence of infection on board as defined by the draft NSW datasets.	False	NSW
Instructions	String	The text describing the recommended action to be taken by recipients of the alert message	Free text describing instructions.	OASIS-CAP
NumberOfIlllPersons	int	The number of ill persons on board as defined by the draft NSW datasets.	0	NSW
ResponseType	ResponseType	The code denoting the type of action recommended for the target audience	shelter: 01	OASIS-CAP
ResponseUrgency	UrgencyType	The code denoting the urgency of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	response expected: 02	OASIS-CAP
Severity	SeverityType	The code denoting the severity of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	Severe: 0	OASIS-CAP
SickAnimalOnBoard	boolean	Indicates the presence of sick animals on board as defined by the draft NSW datasets.	True	NSW

UML Name	Data type	Description	Example	Source
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

9.2.2.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

9.2.3 IrregularMigrationIncident Class (subclass of Incident)

The IrregularMigrationIncident class is a sub-class of Incident and is used to determine types of incidents related to irregular migration as defined by the EUROSUR project.

9.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
IrregularMigrationIncidentType	IrregularMigrationIncidentType	The type of irregular migration incident	Irregular entry attempt: 03	
Certainty	CertaintyType	The code denoting the certainty of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	observed: 01	OASIS-CAP
DeathsOnBoard	int	The number of deaths on board as defined by the draft NSW datasets.	0	NSW
DiseasesOnBoard	boolean	Indicates the presence of diseases on board as defined by the draft NSW datasets.	False	NSW
InfectionOnBoard	boolean	Indicates the presence of infection on board as defined by the draft NSW datasets.	False	NSW
Instructions	String	The text describing the recommended action to be taken by recipients of the alert message	Free text describing instructions.	OASIS-CAP
NumberOfIlllPersons	int	The number of ill persons on board as defined by the draft NSW datasets.	0	NSW
ResponseType	ResponseType	The code denoting the type of action recommended for the target audience	shelter: 01	OASIS-CAP
ResponseUrgency	UrgencyType	The code denoting the urgency of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	response expected: 02	OASIS-CAP
Severity	SeverityType	The code denoting the severity of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	Severe: 0	OASIS-CAP
SickAnimalOnBoard	boolean	Indicates the presence of sick animals on board as defined by the draft NSW datasets.	True	NSW
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with		

UML Name	Data type	Description	Example	Source
		other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

9.2.3.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles.	0..* (allow duplicates)

UML Name	Data type	Description	Multiplicity
		The association has additional attributes. Please check association class EventLocation.	

(*) Inherited association roles are coloured in grey.

9.2.4 LawInfringementIncident Class (subclass of Incident)

The LawInfringementIncident class is a sub-class of Incident and is used to determine types of incidents related to law infringement as defined by the EUROSUR project.

9.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
LawInfringementIncidentType	LawInfringementIncidentType	The type of law infringement incident	Human trafficking - Servitude: 05	EUROSUR
Certainty	CertaintyType	The code denoting the certainty of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	observed: 01	OASIS-CAP
DeathsOnBoard	int	The number of deaths on board as defined by the draft NSW datasets.	0	NSW
DiseasesOnBoard	boolean	Indicates the presence of diseases on board as defined by the draft NSW datasets.	False	NSW
InfectionOnBoard	boolean	Indicates the presence of infection on board as defined by the draft NSW datasets.	False	NSW
Instructions	String	The text describing the recommended action to be taken by recipients of the alert message	Free text describing instructions.	OASIS-CAP
NumberOfIlllPersons	int	The number of ill persons on board as defined by the draft NSW datasets.	0	NSW
ResponseType	ResponseType	The code denoting the type of action recommended for the target audience	shelter: 01	OASIS-CAP
ResponseUrgency	UrgencyType	The code denoting the urgency of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	response expected: 02	OASIS-CAP
Severity	SeverityType	The code denoting the severity of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	Severe: 0	OASIS-CAP

UML Name	Data type	Description	Example	Source
SickAnimalOnBoard	boolean	Indicates the presence of sick animals on board as defined by the draft NSW datasets.	True	NSW
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

9.2.4.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)

UML Name	Data type	Description	Multiplicity
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

9.2.5 MaritimeSafetyIncident Class (subclass of Incident)

The MaritimeSafetyIncident class is a sub-class of Incident and is used to determine types of incidents related to maritime safety as defined by the SafeSeaNet project.

9.2.5.1 Attributes

UML Name	Data type	Description	Example	Source
MaritimeSafetyIncidentType	MaritimeSafetyIncidentType	The type of maritime safety incident.	pollution incident: 01	
Certainty	CertaintyType	The code denoting the certainty of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	observed: 01	OASIS-CAP
DeathsOnBoard	int	The number of deaths on board as defined by the draft NSW datasets.	0	NSW
DiseasesOnBoard	boolean	Indicates the presence of diseases on board as defined by the draft NSW datasets.	False	NSW
InfectionOnBoard	boolean	Indicates the presence of infection on board as defined by the draft NSW datasets.	False	NSW
Instructions	String	The text describing the recommended action to be taken by recipients of the alert message	Free text describing instructions.	OASIS-CAP
NumberOfIIllPersons	int	The number of ill persons on board as defined by the draft NSW datasets.	0	NSW
ResponseType	ResponseType	The code denoting the type of action recommended for the target audience	shelter: 01	OASIS-CAP
ResponseUrgency	UrgencyType	The code denoting the urgency of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	response expected: 02	OASIS-CAP
Severity	SeverityType	The code denoting the severity of the incident as	Severe: 0	OASIS-CAP

UML Name	Data type	Description	Example	Source
		described by the OASIS Common Alerting Protocol (OASIS-CAP)		
SickAnimalOnBoard	boolean	Indicates the presence of sick animals on board as defined by the draft NSW datasets.	True	NSW
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

9.2.5.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)

UML Name	Data type	Description	Multiplicity
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

9.2.6 PollutionIncident Class (subclass of MaritimeSafetyIncident)

The PollutionIncident is a type of Maritime Safety Incident and is used to exchange specific information about pollution. The position and extend of the pollution can be described by the entity Location.

9.2.6.1 Attributes

UML Name	Data type	Description	Example	Source
AreaCoverPercentage	String	Observer's assessment of the percentage of the boxed dimensioned area (length x width), covered with pollution. In percentage. (The polluted area can be described by the entity Location.)	20	BONN AGREEMENT
Characteristics	String	Gives type of pollution (e.g. type of oil with viscosity and pour point, packaged or bulk chemical, sewage). For chemicals, the proper name or United Nations number, if known, should be given. Appearance, e.g. liquid, floating solid, liquid oil, semi-liquid sludge, tarry lumps, weathered oil, discolouration of sea, visible vapour should also be given as well as any markings on drums, containers.	Venezuela crude. Viscosity 3.780 Cs at 37.8°C. Rather viscous	BONN AGREEMENT
DriftCourse	int	Indicates drift course in degrees.	138	BONN AGREEMENT
DriftSpeed	double	Indicates drift speed of pollution knots. In cases of air pollution (gas cloud), drift speed should be indicated in m/sec -	0.1	BONN AGREEMENT
PollutionType	PollutionType	The pollution type observed.	OIL	BONN AGREEMENT
Quantity	double	Maximum quantity of oil pollution in cubic metres.	51.4	BONN AGREEMENT

UML Name	Data type	Description	Example	Source
MaritimeSafetyIncidentType	MaritimeSafetyIncidentType	The type of maritime safety incident.	pollution incident: 01	
Certainty	CertaintyType	The code denoting the certainty of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	observed: 01	OASIS-CAP
DeathsOnBoard	int	The number of deaths on board as defined by the draft NSW datasets.	0	NSW
DiseasesOnBoard	boolean	Indicates the presence of diseases on board as defined by the draft NSW datasets.	False	NSW
InfectionOnBoard	boolean	Indicates the presence of infection on board as defined by the draft NSW datasets.	False	NSW
Instructions	String	The text describing the recommended action to be taken by recipients of the alert message	Free text describing instructions.	OASIS-CAP
NumberOfIIllPersons	int	The number of ill persons on board as defined by the draft NSW datasets.	0	NSW
ResponseType	ResponseType	The code denoting the type of action recommended for the target audience	shelter: 01	OASIS-CAP
ResponseUrgency	UrgencyType	The code denoting the urgency of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	response expected: 02	OASIS-CAP
Severity	SeverityType	The code denoting the severity of the incident as described by the OASIS Common Alerting Protocol (OASIS-CAP)	Severe: 0	OASIS-CAP
SickAnimalOnBoard	boolean	Indicates the presence of sick animals on board as defined by the draft NSW datasets.	True	NSW
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the		

UML Name	Data type	Description	Example	Source
		information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

9.2.6.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

9.2.7 CertaintyType Enumeration

This enumeration presents the certainty of an incident as defined by the OASIS common alerting protocol.

Source: OASIS-CAP

9.2.7.1 Enumeration Values

Value	Label	Description	Source
01	observed	Determined to have occurred or to be ongoing	OASIS CAP
02	likely	Likely (p > ~50%)	OASIS CAP
03	possible	Possible but not likely (p <= ~50%)	OASIS CAP
04	unlikely	Not expected to occur (p ~ 0)	OASIS CAP
05	unknown	Certainty unknown	OASIS CAP
98	other	Any other certainty not mentioned above	
99	non-specified	Certainty not specified	

9.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

36. Certainty (Incident)

9.2.8 CrisisIncidentType Enumeration

This enumeration presents the incident types related to crisis situations.

9.2.8.1 Enumeration Values

Value	Label	Description	Source
01	natural disaster tsunami		EUROSUR
02	natural disaster earthquake		EUROSUR
03	natural disaster heat wave		EUROSUR
04	natural disaster wild fire		EUROSUR
05	natural disaster flood		EUROSUR
06	natural disaster volcanic eruption		EUROSUR
07	natural disaster storm		EUROSUR
08	natural disaster snow storm		EUROSUR
09	natural disaster tropical storm		EUROSUR
10	natural disaster lightning strike		EUROSUR
11	natural disaster landslide		EUROSUR
12	natural disaster avalanche		EUROSUR
13	natural disaster outbreak of infectious disease and other bio hazard		EUROSUR
14	natural disaster other		EUROSUR
15	man made disaster man made fire		EUROSUR
16	man made disaster man made explosion		EUROSUR
17	man made disaster maritime accident		EUROSUR
18	man made disaster aircraft accident		EUROSUR
19	man made disaster radiation		EUROSUR
20	man made disaster oil pollution		EUROSUR

Value	Label	Description	Source
21	man made disaster waste pollution		EUROSUR
22	man made disaster any other man made disaster		EUROSUR
23	violence assassination		EUROSUR
24	man made disaster terrorist attack		EUROSUR
25	violence bombing		EUROSUR
26	violence disorder protest mutiny		EUROSUR
27	violence air missile attack		EUROSUR
28	violence bio chemical attack		EUROSUR
29	violence heavy weapons fire		EUROSUR
30	violence shooting		EUROSUR
31	violence stabbing		EUROSUR
32	violence physical attack		EUROSUR
33	violence execution		EUROSUR
34	violence vandalism		EUROSUR
35	violence robbery		EUROSUR
36	violence kidnapping hostage taking		EUROSUR
37	mines explosives		EUROSUR
38	armed conflict		EUROSUR
39	humanitarian crisis		EUROSUR
98	other	Any other response not mentioned above	
99	non-specified	Response not specified	

9.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

37. CrisisIncidentType (CrisisIncident)

9.2.9 IrregularMigrationIncidentType Enumeration

This enumeration presents the irregular migration incident types.

Source: EUROSUR

9.2.9.1 Enumeration Values

Value	Label	Description	Source
01	irregular border entry	Irregular border entry	EUROSUR
02	event refused border entry	Refused border entry	EUROSUR
03	irregular entry attempt	Irregular entry attempt	EUROSUR
04	irregular border exit	Irregular border exit	EUROSUR
05	refused border entry	Refused border entry	EUROSUR
06	irregular exit attempt	Irregular exit attempt	EUROSUR
07	irregular stay	Irregular stay	EUROSUR

Value	Label	Description	Source
08	facilitator interception	Facilitator interception	EUROSUR
09	facilitator disclosure	Facilitator disclosure	EUROSUR
10	interception in third country territory	Event::Interception in third country territory	EUROSUR
98	other	Any other incident not mentioned above	
99	non-specified	Incident not specified	

9.2.9.2 Enumeration Usage

The following attributes use this enumeration as data type:

38. IrregularMigrationIncidentType (IrregularMigrationIncident)

9.2.10 LawInfringementIncidentType Enumeration

This enumeration presents the law infringement incident types.

Source: EUROSUR

9.2.10.1 Enumeration Values

Value	Label	Description	Source
01	human trafficking exploitation of prostitution of others		EUROSUR
02	human trafficking other forms of sexual exploitation		EUROSUR
03	human trafficking forced labour or services		EUROSUR
04	human trafficking slavery or practices similar to slavery		EUROSUR
05	human trafficking servitude		EUROSUR
06	human trafficking exploitation of activities associated with begging or of unlawful activities		EUROSUR
07	human trafficking removal of organs		EUROSUR
08	human trafficking other		EUROSUR
09	drug smuggling marihuana		EUROSUR
10	drug smuggling cocaine		EUROSUR
11	drug smuggling hashish		EUROSUR
12	drug smuggling cannabis		EUROSUR
13	drug smuggling heroin		EUROSUR
14	drug smuggling amphetamine		EUROSUR
15	drug smuggling metamphetamine		EUROSUR
16	drug smuggling ecstasy		EUROSUR
17	drug smuggling opium		EUROSUR
18	drug smuggling hallucinogens		EUROSUR
19	drug smuggling other drugs		EUROSUR
20	goods smuggling goods carried with no required permits		EUROSUR
21	goods smuggling excise goods		EUROSUR
22	goods smuggling counterfeited products		EUROSUR
23	goods smuggling natural resources minerals		EUROSUR

Value	Label	Description	Source
24	goods smuggling threatened species		EUROSUR
25	goods smuggling cultural heritage goods		EUROSUR
26	smuggling in waste and other hazardous material waste		EUROSUR
27	smuggling in waste and other hazardous material chemical		EUROSUR
28	smuggling in waste and other hazardous material biohazard		EUROSUR
29	smuggling in waste and other hazardous material radio active		EUROSUR
30	smuggling in waste and other hazardous material nuclear		EUROSUR
31	smuggling in waste and other hazardous material other dangerous substances		EUROSUR
32	smuggling in weapon and related accessories arms weapons		EUROSUR
33	smuggling in weapon and related accessories weapons of mass destruction		EUROSUR
34	smuggling in weapon and related accessories ammunition		EUROSUR
35	smuggling in weapon and related accessories explosives		EUROSUR
36	smuggling in other material		EUROSUR
37	other related cross border criminal activity stolen vehicle		EUROSUR
38	other related cross border criminal activity document falsification fraud		EUROSUR
39	other related cross border criminal activity other		EUROSUR
40	law infringement by vessels		EUROSUR
41	illegal flight of an aircraft		EUROSUR
42	law infringement by vehicles		EUROSUR
43	other administrative offense		EUROSUR
98	other	Any other response not mentioned above	
99	non-specified	Response not specified	

9.2.10.2 Enumeration Usage

The following attributes use this enumeration as data type:

39. LawInfringementIncidentType (LawInfringementIncident)

9.2.11 MaritimeSafetyIncidentType Enumeration

This enumeration presents the maritime safety incident types.

Source: SSN IRG

9.2.11.1 Enumeration Values

Value	Label	Description	Source
01	pollution	Pollution	SSN IRG
02	waste	Waste	SSN IRG
03	lost found containers	Lost or Found Containers	SSN IRG
04	VTS rules infringement	VTS Rules Infringement	SSN IRG

Value	Label	Description	Source
05	banned ship	Banned Ship	SSN IRG
06	insurance failure	Insurance Failure	SSN IRG
07	result inspection	Result Inspection	SSN IRG
08	pilot or port report	Pilot Or Port Report	SSN IRG
09	fire	Fire	SSN IRG
10	collision	Collision	SSN IRG
11	medico	Medico	SSN IRG
12	grounding	Grounding	SSN IRG
13	flooding	Flooding	SSN IRG
14	list	List	SSN IRG
15	capsizing	Capsizing	SSN IRG
16	engine failure	Engine Failure	SSN IRG
17	structural failure	Structural failure	SSN IRG
18	steering gear failure	Steering gear failure	SSN IRG
19	electrical generating system failure	Electrical generating system failure	SSN IRG
20	navigation equipment failure	Navigation equipment failure	SSN IRG
21	communication equipment failure	Communication equipment failure	SSN IRG
22	incident nature abandon ship	Abandon ship	SSN IRG
23	incident nature sinking	Sinking	SSN IRG
24	detained ship	DetainedShip	
98	other	Any other incident not mentioned above	
99	non-specified	Incident not specified	

9.2.11.2 Enumeration Usage

The following attributes use this enumeration as data type:

40. MaritimeSafetyIncidentType (MaritimeSafetyIncident)

9.2.12 PollutionType Enumeration

9.2.12.1 Enumeration Values

Value	Label	Description	Source
OIL	Oil	Oil	BONN AGREEMENT
CHEM	Chemical	Chemical	BONN AGREEMENT
FISH	Fish Oil or Waste	Fish Oil or Waste	BONN AGREEMENT
VEG	Vegetable Oil or Waste	Vegetable Oil or Waste	BONN AGREEMENT
OTH	Other	Other	BONN AGREEMENT
UNK	Unknown	Unknown	BONN AGREEMENT

9.2.12.2 Enumeration Usage

The following attributes use this enumeration as data type:

41. PollutionType (PollutionIncident)

9.2.13 ResponseType Enumeration

This enumeration presents the incident's response types as defined by the OASIS common alerting protocol.

Source: OASIS-CAP

9.2.13.1 Enumeration Values

Value	Label	Description	Source
01	shelter	Take shelter in place or per <instruction>	OASIS CAP
02	evacuate	Relocate as instructed in the <instruction>	OASIS CAP
03	prepare	Make preparations per the <instruction>	OASIS CAP
04	execute	Execute a pre-planned activity identified in <instruction>	OASIS CAP
05	avoid	Avoid the subject event as per the <instruction>	OASIS CAP
06	monitor	Attend to information sources as described in <instruction>	OASIS CAP
07	assess	Evaluate the information in this message. (This value SHOULD NOT be used in public warning applications.)	OASIS CAP
08	all clear	The subject event no longer poses a threat or concern and any follow on action is described in <instruction>	OASIS CAP
09	none	No action recommended	OASIS CAP
98	other	Any other response not mentioned above	
99	non-specified	Response not specified	

9.2.13.2 Enumeration Usage

The following attributes use this enumeration as data type:

42. ResponseType (Incident)

9.2.14 SeverityType Enumeration

This enumeration presents the severity of an incident as defined by the OASIS common alerting protocol.

Source: OASIS-CAP

9.2.14.1 Enumeration Values

Value	Label	Description	Source
01	extreme	Extraordinary threat to life or property	OASIS CAP

Value	Label	Description	Source
02	severe	Significant threat to life or property	OASIS CAP
03	moderate	Possible threat to life or property	OASIS CAP
04	minor	Minimal threat to life or property	OASIS CAP
05	unknown	Severity unknown	OASIS CAP
98	other	Any other severity not mentioned above	
99	non-specified	Severity not specified	

9.2.14.2 Enumeration Usage

The following attributes use this enumeration as data type:

43. Severity (Incident)

9.2.15 UrgencyType Enumeration

This enumeration presents the urgency of an incident response as defined by the OASIS common alerting protocol.

Source: OASIS-CAP

9.2.15.1 Enumeration Values

Value	Label	Description	Source
01	immediate	Responsive action should be taken immediately	OASIS CAP
02	expected	Responsive action should be taken soon (within next hour)	OASIS CAP
03	future	Responsive action should be taken in the near future	OASIS CAP
04	past	Responsive action is no longer required	OASIS CAP
05	unknown	Urgency not known	OASIS CAP
98	other	Any other urgency not mentioned above	
99	non-specified	Urgency not specified	

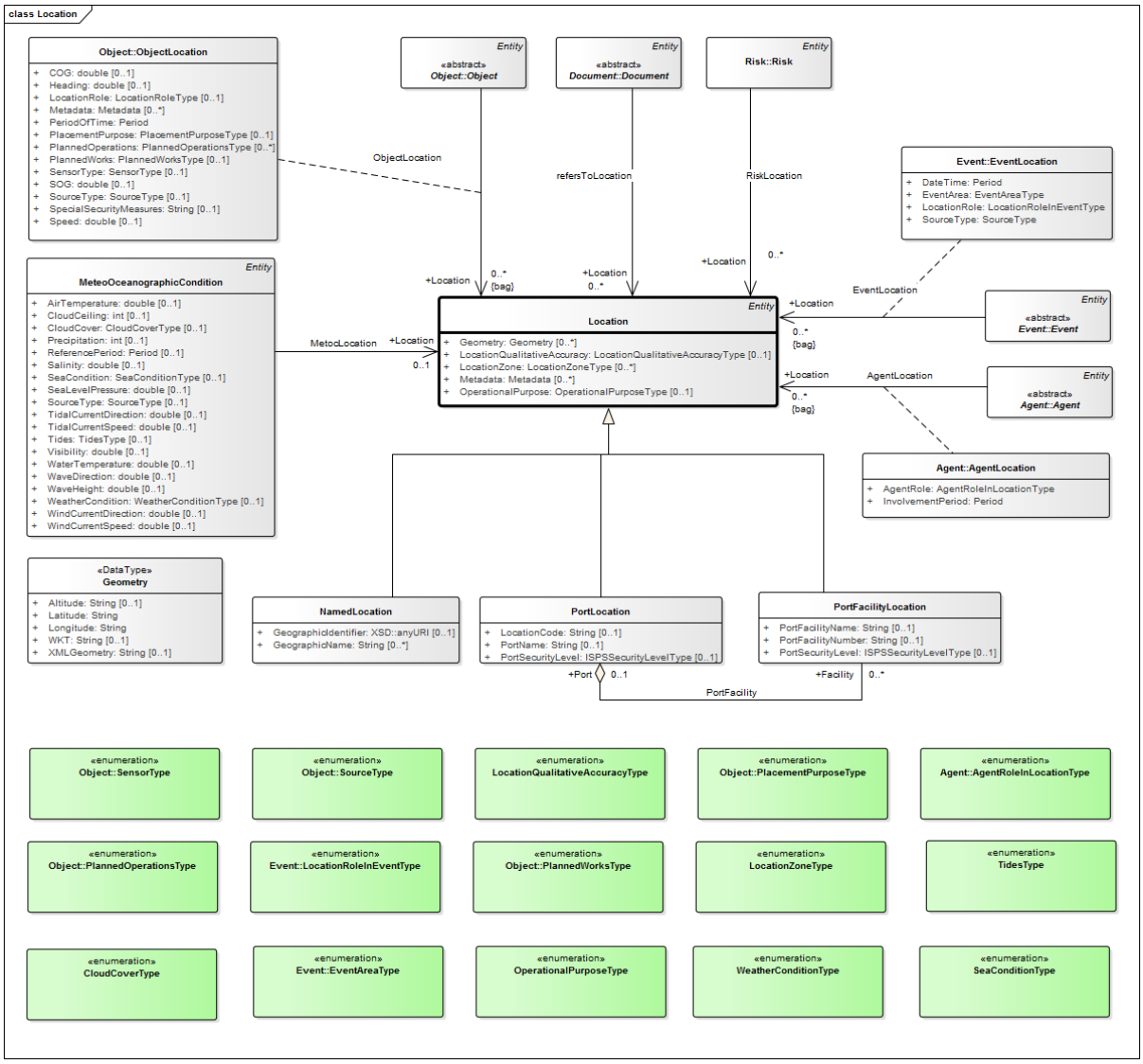
9.2.15.2 Enumeration Usage

The following attributes use this enumeration as data type:

44. ResponseUrgency (Incident)

10 Location Core Entity

10.1 UML models



10.2 Elements defined in the Core Vocabulary

10.2.1 Location Class (subclass of Entity)

Locations can be described in three principal ways: by using a place name, geometry or an address. The specific context will determine which method of describing a location is most appropriate. ISO 19112 defines a location as "an identifiable geographic place". With this in mind, "Eiffel Tower", "Madrid" and "California" are all locations and this is a common way of representing locations in public sector data, i.e. simply by using a recognized name. Such identifiers are common although they can be highly ambiguous as many places share the same or similar names.

In addition to a simple (string) label or name for a Location, the identifier property allows defining a Location by a Uniform Resource Identifier (URI), such as a GeoNames or DBpedia URI.

No cardinality constraints are placed on any property of the Location class so as to maximize flexibility.

10.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
Geometry	Geometry	A Geometry Object which represents a Georeference		

UML Name	Data type	Description	Example	Source
LocationQualitativeAccuracy	LocationQualitativeAccuracyType	Describes the qualitative accuracy of location: high/medium/low	High	
LocationZone	LocationZoneType	Provides the types of location. Enumerated	High Seas	
Metadata	Metadata	Provides a placeholder for Metadata		
OperationalPurpose	OperationalPurposeType	Provides the types of operational purpose. Enumerated	Search area	

10.2.2 MeteoOceanographicCondition Class (subclass of Entity)

This class allows the description of the meteorological oceanographic condition of a given Location.

10.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
AirTemperature	double	Air temperature is a measure of how hot or cold the air is. It is the most commonly measured weather parameter.		
CloudCeiling	int	Ceiling is a measurement of the cloud base height relative to the ground (in meters).	2000(m)	
CloudCover	CloudCoverType	Cloud cover (also known as cloudiness, cloudage or cloud amount) refers to the fraction of the sky obscured by clouds when observed from a particular location.	4 (sky half cloudy)	
Precipitation	int			
ReferencePeriod	Period	Period of reference		
Salinity	double	Salinity is the saltiness or dissolved salt content of the sea (in g per Kg of water).	5 (g/Kg)	
SeaCondition	SeaConditionType	In oceanography, a sea state is the general condition of the free surface on a large body of water—with respect to wind waves and swell—at a certain location and moment.	04 (moderate)	
SeaLevelPressure	double	Atmospheric pressure at sea level (in HPa).	100.15 (HPa)	
SourceType	SourceType	Indicate if the oceanographic condition was observed or estimated. Enumerated.	Observed	
TidalCurrentDirection	double	Indicates current direction in degrees andknots. The direction always indicates the direction in which the current is flowing	180	SSN IRG
TidalCurrentSpeed	double	Indicates current speed in tenths of knots.	0.3	SSN IRG
Tides	TidesType	Tides are the rise and fall of sea levels caused by the combined effects of gravitational forces exerted by the Moon, Sun, and rotation of the Earth.	low (low tides)	
Visibility	double	Visibility should be indicated in nautical miles.	10	SSN IRG

UML Name	Data type	Description	Example	Source
WaterTemperature	double	Water temperature.		
WaveDirection	double	Idicates wave direction in degrees.	180	SSN IRG
WaveHeight	double	Indicates the wave height in metres.	2	SSN IRG
WeatherCondition	WeatherConditionType	Type of weather condition. Enumerated.	HUM	CWA 15931-1:2009
WindCurrentDirection	double	Indicates wind direction in degrees. The direction always indicates from where the wind is blowing.	270	SSN IRG
WindCurrentSpeed	double	Indicates wind speed in m/sec.	10	SSN IRG

10.2.2.2 Association Roles

UML Name	Data type	Description	Multiplicity
Location	Location	Location in which the METOC were measured.	0..1

10.2.3 NamedLocation Class (subclass of Location)

Location with a given name.

10.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
GeographicIdentifier	XSD::anyURI	A URI that identifies the location. GeoNames.org provides stable, widely recognized identifiers for more than 10 million geographical names that can be used as links to further information. For example, http://sws.geonames.org/593116/ identifies the Lithuanian capital Vilnius. Unfortunately these URIs cannot easily be automatically deduced since the URI scheme uses simple numeric codes. Finding a GeoNames identifier for a Location is almost always a manual process. Where such identifiers are known or can be found, however, it is recommended that they be used. The use of a URIs has added advantages: 1.it can be used by automated systems to look	http://sws.geonames.org/593116/	IETF RFC 3986

UML Name	Data type	Description	Example	Source
		up additional data (linked data); 2. a triple store may store only one copy of the URI, whereas if a string is used, a copy of that string is always stored for each and every person in the database. Thus, in large data sets, the saving on memory capacity and the improvement in transmission efficiency can be substantial.		
GeographicName	String	String A geographic name is a proper noun applied to a spatial object. The following are all valid geographic names for the Greek capital: • Ana (the Greek endonym written in the Greek script) • Athina (the standard Romanisation of the endonym) • Athens (the English language exonym) The country codes defined in ISO 3166 may be used as geographic names and these are generally preferred over either the long form or short form of a country's name (as they are less error prone). The Publications Office of the European Union recommends the use of ISO 3166-1 codes for countries in all cases except two: • use 'UK' in preference to the ISO 3166 code GB for the United Kingdom; • use 'EL' in preference to the ISO 3166 code GR for Greece. Where a country has changed its name or no longer exists (such as Czechoslovakia, Yugoslavia etc.) use the ISO 3166-3 code [ISO 3166-3].	Athens	ISA CORE
Geometry	Geometry	A Geometry Object which represents a Georeference		

UML Name	Data type	Description	Example	Source
LocationQualitativeAccuracy	LocationQualitativeAccuracyType	Describes the qualitative accuracy of location: high/medium/low	High	
LocationZone	LocationZoneType	Provides the types of location. Enumerated	High Seas	
Metadata	Metadata	Provides a placeholder for Metadata		
OperationalPurpose	OperationalPurposeType	Provides the types of operational purpose. Enumerated	Search area	

(*) Inherited attributes are coloured in grey.

10.2.4 PortFacilityLocation Class (subclass of Location)

Location of one of the facilities contained in a port.

10.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
PortFacilityName	String			
PortFacilityNumber	String	Port facility identified by its IMO port facility number. Port facility number is used identify each port facility within each port. Where the whole port is being classified as a single port facility, this number is 0000. The port facility number is not duplicated inside one port but the same number can be reused in different ports. When used in connection with the port code forms an unique identification for each port facility.	Port facility assigned with number 0000: 0000	NSW
PortSecurityLevel	ISPSSecurityLevelType			
Geometry	Geometry	A Geometry Object which represents a Georeference		
LocationQualitativeAccuracy	LocationQualitativeAccuracyType	Describes the qualitative accuracy of location: high/medium/low	High	
LocationZone	LocationZoneType	Provides the types of location. Enumerated	High Seas	
Metadata	Metadata	Provides a placeholder for Metadata		
OperationalPurpose	OperationalPurposeType	Provides the types of operational purpose. Enumerated	Search area	

(*) Inherited attributes are coloured in grey.

10.2.5 PortLocation Class (subclass of Location)

Location describing the position/area of a port.

10.2.5.1 Attributes

UML Name	Data type	Description	Example	Source
LocationCode	String	A location is defined as any named geographical place, recognized by a competent national body, either with permanent facilities used for goods movement associated with trade, and used for these purposes, or proposed by the government concerned or by a competent national or international organization for inclusion in the UN/LOCODE. A port is any location with permanent facilities at which vessels can load or discharge cargo moving in maritime traffic. An anchoring area is any location official recommended for anchoring. There are areas dedicated for different type of vessels or general. Such areas are announced in notifications or in sea charts. A code is data transformation or data representation in different forms according to pre-establish rules. (Definition adapted from ISO 5127-1:1983) A code element is result of applying a code to an element in a set of elements to be coded. In UN/LOCODE, one code element represents the name of a port, or a location, i.e. anchoring area, and in addition possible subsidiary location, i.e. an ISPS-area or -terminal. (Definition adapted from ISO 2382-4/1987) A five-character code element is provided for each location included	NOOSL	UN/LOCODE

UML Name	Data type	Description	Example	Source
		UN/LOCODE and consists of: a) two letters identifying the country, according to the ISO 3166 two-letter Code for the representation of names of countries, and UN/ECE/FAL recommendation No. 3, and b) three characters identifying the location within the country. e.g. A vessel call for Norway, Oslo in the five-character code elements is: "NOOSL" the official Locode list of SSN is obtained from the UNECE (http://www.unece.org/),		
PortName	String			
PortSecurityLevel	ISPSSecurityLevelType	Enumerated. Port's security level according to ISPS standard.	Port has been assigned the ISPS Security level 2: 02	NSW::Voyage
Geometry	Geometry	A Geometry Object which represents a Georeference		
LocationQualitativeAccuracy	LocationQualitativeAccuracyType	Describes the qualitative accuracy of location: high/medium/low	High	
LocationZone	LocationZoneType	Provides the types of location. Enumerated	High Seas	
Metadata	Metadata	Provides a placeholder for Metadata		
OperationalPurpose	OperationalPurposeType	Provides the types of operational purpose. Enumerated	Search area	

(*) Inherited attributes are coloured in grey.

10.2.6 Geometry Datatype

This class allows the definition of Georeferenced areas.

10.2.6.1 Attributes

UML Name	Data type	Description	Example	Source
Altitude	String	Geographic Altitude, expressed using the WGS84 reference.	37° 59' 0" N	
Latitude	String	Geographic Latitude, expressed using the WGS84 reference.	37° 59' 0" N	
Longitude	String	Geographic Longitude, expressed using the WGS84 reference.	23° 44' 0" E	
WKT	String	Well-known text (WKT) is a text markup language for representing vector geometry objects on a map	POINT (30 10)	
XMLGeometry	String	Geometry defined by an XML file such as KML	<?xml version="1.0" encoding="UTF-8"?> <kml xmlns="http://www.opengis.net/kml/2.2"> <Placemark> <name>Simple placemark</name> <description>Attached to the ground. Intelligently places itself at the height of the underlying terrain. </description> <Point> <coordinates>-122.0822035425683,37.42228990140251,0</coordinates> </Point> </Placemark> </kml>	

10.2.7 CloudCoverType Enumeration

Cloud cover is estimated in terms of how many eighths of the sky are covered in cloud, ranging from 0 oktas (completely clear sky) through to 8 oktas (completely overcast).

10.2.7.1 Enumeration Values

Value	Label	Description	Source
0	clear sky	Sky completely clear	
1	1 okta		
2	2 oktas		
3	3 oktas		
4	4 oktas	Sky half cloudy	
5	5 oktas		
6	6 oktas		

Value	Label	Description	Source
7	7 oktas		
8	8 oktas	Sky completely cloudy	
9	sky obscured	Sky obstructed from view	

10.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

45. CloudCover (MeteoOceanographicCondition)

10.2.8 LocationQualitativeAccuracyType Enumeration

10.2.8.1 Enumeration Values

Value	Label	Description	Source
01	high	High qualitative accuracy	
02	medium	Medium qualitative accuracy	
03	low	Low qualitative accuracy	
98	other	Qualitative accuracy not listed here	
99	non-specified	The qualitative accuracy is not declared	

10.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

46. LocationQualitativeAccuracy (Location)

10.2.9 LocationZoneType Enumeration

Source: EUROSUR

10.2.9.1 Enumeration Values

Value	Label	Description	Source
01	high seas	High seas	EUROSUR
02	territorial waters	Territorial waters	EUROSUR
03	coast line	Coast line	EUROSUR
04	contiguous zone	Contiguous zone	EUROSUR
05	port	Port	EUROSUR
06	control point	Control point	EUROSUR
07	green border	Green border	EUROSUR
08	inland	Inland	EUROSUR

Value	Label	Description	Source
09	exclusive economic area	Exclusive Economic Area	EUROSUR
10	third country	Third country	EUROSUR
11	INW	Inland waterway. A body of water, such as a river, canal or lake. It may be navigable if it is deep and wide enough for a vessel to pass and there are no obstructions.	CWA 15931-1:2009
12	NAT	Natural / rural environment	CWA 15931-1:2009
98	other	Location type not listed here	
99	non-specified	The location type is not declared	

10.2.9.2 Enumeration Usage

The following attributes use this enumeration as data type:

47. LocationZone (Location)

10.2.10 MetocType Enumeration

10.2.10.1 Enumeration Values

Value	Label	Description	Source
01	observed	By observation	
02	declared	By declaration	
03	estimated	By estimation	
04	simulated	By simulation	
98	other	METOC type not listed here	
99	non-specified	The METOC type is not declared	

10.2.11 OperationalPurposeType Enumeration

10.2.11.1 Enumeration Values

Value	Label	Description	Source
01	search area	Search area	
02	surveillance area	Surveillance area	
98	other	Operational purpose not listed here	
99	non-specified	The operational purpose is not declared	

10.2.11.2 Enumeration Usage

The following attributes use this enumeration as data type:

48. OperationalPurpose (Location)

10.2.12 SeaConditionType Enumeration

10.2.12.1 Enumeration Values

Value	Label	Description	Source
00	calm (glassy)	0 metres (0 ft)	WMO
01	calm (rippled)	Waves from 0 to 0.1 metres (0.00 to 0.33 ft)	WMO
02	smooth (wavelets)	Waves from 0.1 to 0.5 metres (3.9 in to 1 ft 7.7 in)	WMO
03	slight	Waves from 0.5 to 1.25 metres (1 ft 8 in to 4 ft 1 in)	WMO
04	moderate	Waves from 1.25 to 2.5 metres (4 ft 1 in to 8 ft 2 in)	WMO
05	rough	Waves from 2.5 to 4 metres (8 ft 2 in to 13 ft 1 in)	WMO
06	very rough	Waves from 4 to 6 metres (13 to 20 ft)	WMO
07	high	Waves from 6 to 9 metres (20 to 30 ft)	WMO
08	very high	Waves from 9 to 14 metres (30 to 46 ft)	WMO
09	phenomenal	Waves over 14 metres (46 ft)	WMO

10.2.12.2 Enumeration Usage

The following attributes use this enumeration as data type:

49. SeaCondition (MeteoOceanographicCondition)

10.2.13 TidesType Enumeration

10.2.13.1 Enumeration Values

Value	Label	Description	Source
Low	low tides	low tides	
High	high tides	high tides	

10.2.13.2 Enumeration Usage

The following attributes use this enumeration as data type:

50. Tides (MeteoOceanographicCondition)

10.2.14 WeatherConditionType Enumeration

Source: CWA 15931-1:2009

10.2.14.1 Enumeration Values

Value	Label	Description	Source
HUM	hum weather	Humid conditions	CWA 15931-1:2009
ICY	icy weather	Icy conditions	CWA 15931-1:2009
TDS	tds weather	Thunderstorm conditions	CWA 15931-1:2009
WIN	win weather	Windy conditions	CWA 15931-1:2009
DRZLE	drzle weather	Drizzle. Fairly uniform precipitation composed exclusively of fine drops very close together. Drizzle appears to float while following air currents although, unlike fog droplets, it falls to the ground. It usually falls from low stratus clouds and is frequently accompanied by low visibility and fog.	CWA 15931-1:2009
FOG	fog weather	Fog/mist. A visible aggregate of minute water particles (droplets) which are based on the Earth's surface, extends vertically, and reduceshorizontal visibility to less than 5/8 mile (1,000 meters). Unlike drizzle, FOG does not fall to the ground.	CWA 15931-1:2009
Other	other	Weather Condition type not listed here	
NonSpecified	non-specified	Weather Condition type is not declared	

10.2.14.2 Enumeration Usage

The following attributes use this enumeration as data type:

51. WeatherCondition (MeteoOceanographicCondition)

11 Metadata Core Entity

11.1 UML models

11.2 Elements defined in the Core Vocabulary

11.2.1 Metadata Datatype

The class provides information about the properties of the data communicated through the system, excluding the content of the data.

11.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
Abstract	String	A short account of the resource.	Free text abstract describing the data	DC::Terms
Comments	String	Additional comments on the resource.	Comments as free text	
CreationDate	XSD::DateTime	The date and time the information was created.		
Creator	Agent	An entity primarily responsible for making the resource.	Finnish Border Guard	
Description	String	A detailed account of the resource.	free text describ	DC::Terms

UML Name	Data type	Description	Example	Source
			ing the data	
Designation	String	Refers to the class/entity which is described by the metadata.		
FileMediaType	FileMediaType	Content types and subtypes as defined in RFC 2046 (Main types include: application, audio, example, image, message, model, multipart, text, video)	image/jpeg or video/mpeg etc.	ETF:RFC2046::Content-Type::MediaType
FileSchema	XSD::anyURI			IETF::RFC3986::URI
FileURI	XSD::anyURI			IETF::RFC3986::URI
InformationReliabilityLevel	InformationReliabilityLevelType	Enumerated		
InformationSecurityClassification	InformationSecurityClassificationType	Enumerated	EU Secret	
InformationSensitivityDegree	InformationSensitivityDegreeType	This enumeration presents the possible values for information sensitivity degree. The Traffic Light Protocol (TLP) of US-CERT is applied (http://www.us-cert.gov/tlp).	AMBER	Traffic Light Protocol (TLP) of US-CERT is applied (http://www.us-cert.gov/tlp)
Language	String	Alpha-3 codes which represent the names of language of the resource. For the languages which are defined with two codes, the ´terminological´ code (ISO 639-2/T) is used instead of the ´bibliographic´ one (see http://www.iso.org/iso/catalogue_detail?csnumber=4767).	pol for Polish	ISO 639-2/T
PublicationDate	XSD::DateTime	The date and time the information was published		
Publisher	Agent	An entity responsible for making the resource available.	Finnish Border Guard	
ValidityPeriod	Period	Validity for a specific Period of time		

11.2.2 FileMediaType Enumeration

Content types and subtypes as defined in RFC 2046||(Main types include: application, audio, example, image, message, model, multipart, text, video)

Source: IETF RFC 2046

11.2.2.1 Enumeration Values

Value	Label	Description	Source
.3dm	x-world/x-3dmf		
.avi	video/avi		
.jpeg	image/jpeg		

11.2.2.2 Enumeration Usage

The following attributes use this enumeration as data type:

52. FileMediaType (Metadata)

11.2.3 InformationReliabilityLevelType Enumeration

This enumeration provides a quantitative evaluation of the reliability level of the information that is provided.

11.2.3.1 Enumeration Values

Value	Label	Description	Source
01	very high confidence, verified data	Information and material whose owner is extremely confident of	
02	high confidence	Information and material whose owner is very confident of	
03	confident	Information and material whose owner is confident of	
04	low confidence, unsure source of verification	Information and material whose owner is not confident of	
05	very low confidence, no verification, co-operative target	Information and material whose owner is very unconfident of	
99	non-specified	Information and material whose reliability is not specified	

11.2.3.2 Enumeration Usage

The following attributes use this enumeration as data type:

53. InformationReliabilityLevel (Metadata)

11.2.4 InformationSecurityClassificationType Enumeration

This enumeration presents the possible values for information security classification. The enumeration is based in the security rules for protecting EU classified information (<u>http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:141:0017:0065:EN:PDF</u>).

11.2.4.1 Enumeration Values

Value	Label	Description	Source
01	EU top secret	Information and material the unauthorized disclosure of which could cause exceptionally grave prejudice to the essential interests of the European Union or of one or more of the Member States	
02	EU secret	Information and material the unauthorized disclosure of which could seriously harm the essential interests of the European Union or of one or more of the Member States	
03	EU confidential	Information and material the unauthorized disclosure of which could harm the essential interests of the European Union or of one or more of the Member States	
04	EU restricted	Information and material the unauthorized disclosure of which could be disadvantageous to the interests of the European Union or of one or more of the Member States	

Value	Label	Description	Source
05	non-classified	It can be used for information and material whose classification level is still pending	
99	non-specified	It can be used for information and material whose classification level is not specified	

11.2.4.2 Enumeration Usage

The following attributes use this enumeration as data type:

54. InformationSecurityClassification (Metadata)

11.2.5 InformationSensitivityDegreeType Enumeration

This enumeration presents the possible values for information sensitivity degree. The Traffic Light Protocol (TLP) of US-CERT is applied (<u>http://www.us-cert.gov/tlp</u>).

Source: US-CERT

11.2.5.1 Enumeration Values

Value	Label	Description	Source
01	red	TLP: RED when information cannot be effectively acted upon by additional parties, and could lead to impacts on a party's privacy, reputation, or operations if misused.	
02	amber	TLP: AMBER when information requires support to be effectively acted upon, but carries risks to privacy, reputation, or operations if shared outside of the organizations involved.	
03	green	TLP: GREEN when information is useful for the awareness of all participating organizations as well as with peers within the broader community or sector.	
04	white	TLP: WHITE when information carries minimal or no foreseeable risk of misuse, in accordance with applicable rules and procedures for public release.	
99	non-specified	It can be used for information and material whose classification level is not specified	

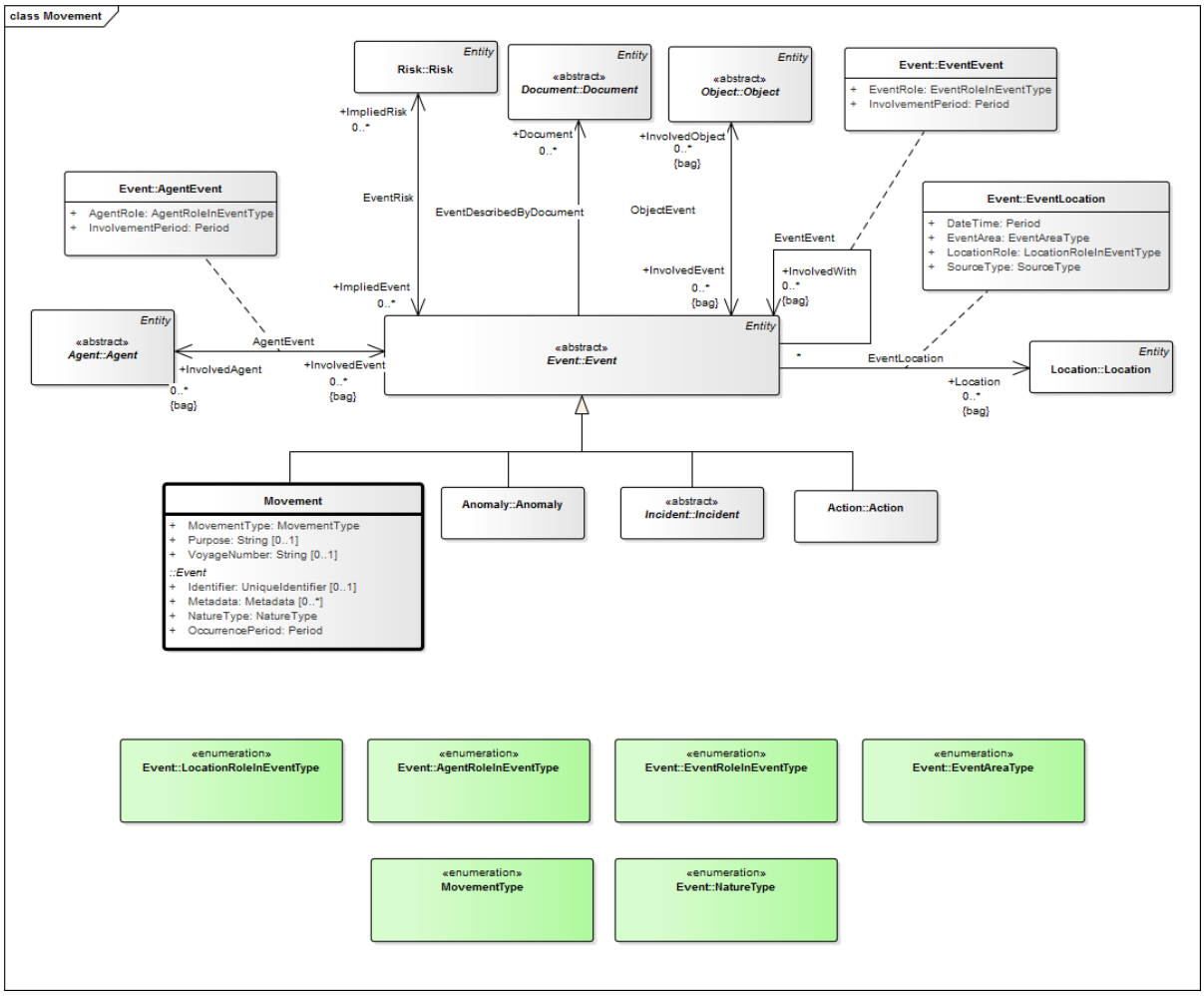
11.2.5.2 Enumeration Usage

The following attributes use this enumeration as data type:

55. InformationSensitivityDegree (Metadata)

12 Movement Core Entity

12.1 UML models



12.2 Elements defined in the Core Vocabulary

12.2.1 Movement Class (subclass of Event)

It is a subclass of event. The Movement entity is linked to Voyage. Movement can be actual (e.g. current position, heading and speed), Historical data or planned in the future and can also be expressed taking into account other entities as location, object, etc.

12.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
MovementType	MovementType	Many different movements types can be described	Route Plan	
Purpose	String	The purpose of the movement	Leisure	
VoyageNumber	String	This is an operator-assigned reference code for a voyage and serves the purpose of the operator.	111124	NSW
Identifier	UniqueIdentifier	Identifier of the event. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified		

UML Name	Data type	Description	Example	Source
		and brought together for a better understanding of the information being shared.		
Metadata	Metadata	see: Core Vocabularies Specification for "Metadata"	see: Core Vocabularies Specification for "Metadata"	
NatureType	NatureType	Enumerated. Is used to define nature of the event. An event can be observed, declared, estimated or simulated.	for an observed event: 01	
OccurrencePeriod	Period	An Event occurs during a period of time.		CISE

(*) Inherited attributes are coloured in grey.

12.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Events (movements, incidents, anomalies, actions) can be associated to zero to multiple documents.	0..*
ImpliedRisk	Risk	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedWith	Event	The association has additional attributes. Please check association class EventEvent.	0..* (allow duplicates)
Location	Location	Locations can be involved in zero to multiple events (movements, incidents, anomalies, actions) in many different roles. The association has additional attributes. Please check association class EventLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

12.2.2 MovementType Enumeration

This enumeration presents the possible types of processes used to perform the objects' correlation.

12.2.2.1 Enumeration Values

Value	Label	Description	Source
01	route plan	Expected locations/direction and movements that a vessels will follow during a voyage. It is known before departure	
02	voyage	Journey involving travel by sea	
03	voyage leg	Stage of a Voyage	
04	search pattern	Search pattern for a certain area	
05	patrol route plan	Patrol route plan for a certain area	
98	other	Movement type not included above	
99	non-specified	Movement type non-specified	

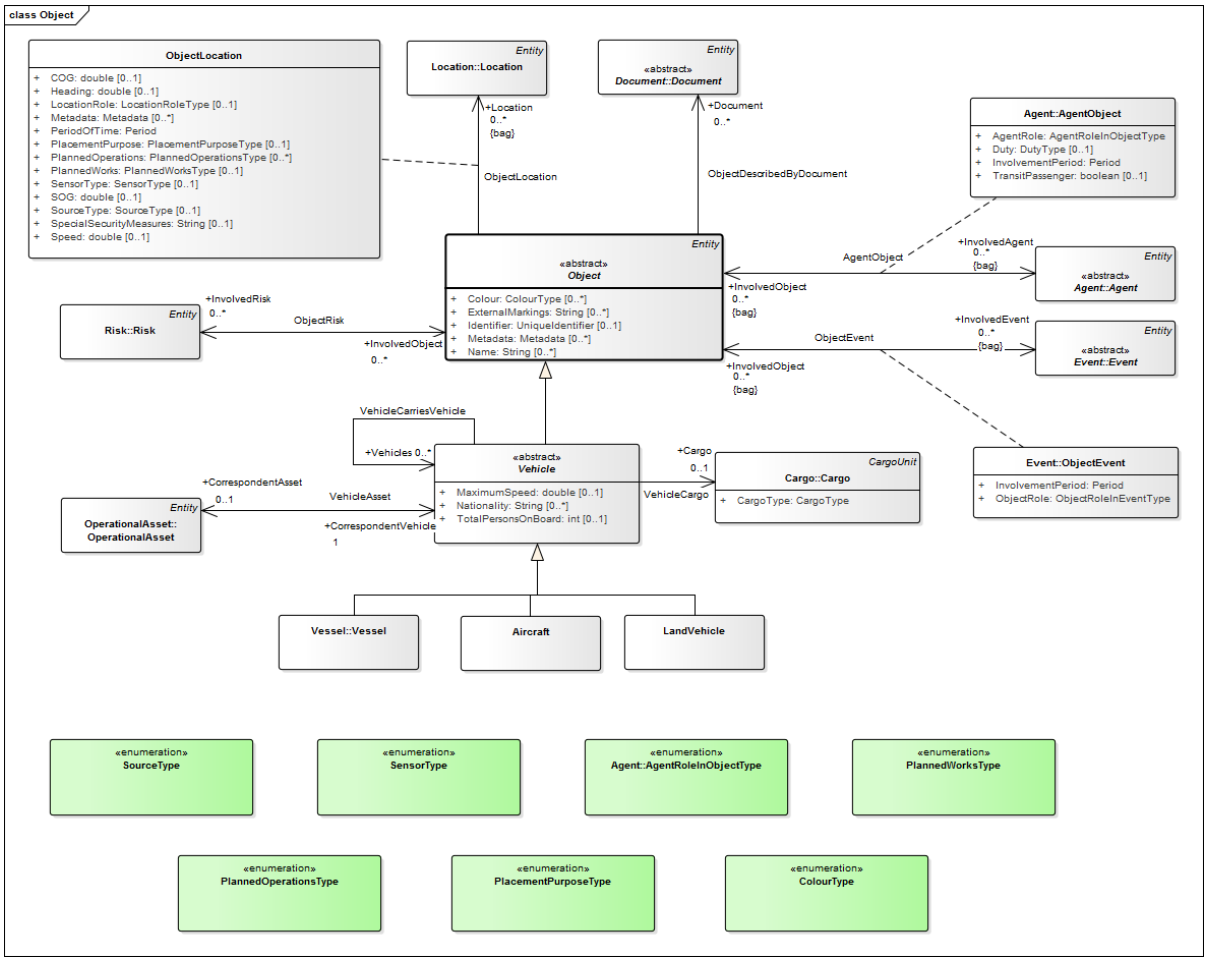
12.2.2.2 Enumeration Usage

The following attributes use this enumeration as data type:

56. MovementType (Movement)

13 Object Core Entity

13.1 UML models



13.2 Elements defined in the Core Vocabulary

13.2.1 Aircraft Class (subclass of Vehicle)

13.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
MaximumSpeed	double	The vehicle's maximum speed measured in knots	20	EUROSUR
Nationality	String	Two-letter country codes to represent countries, dependent territories, and special areas of geographical interest. Represent the flag for a Vessel.	Country code for Portugal: PT (Country code for Portugal)	ISO 3166-1
TotalPersonsOnBoard	int	The total number of persons on board	10	
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object.		

UML Name	Data type	Description	Example	Source
		Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

13.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Cargo	Cargo	Vehicles can carry cargo.	0..1
CorrespondentAsset	OperationalAsset	Permits the definition of a Vehicle as an operational asset. One vehicle can be defined as a single operational asset or not.	0..1
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)
Vehicles	Vehicle	Vehicles can carry other vehicles.	0..*

(*) Inherited association roles are coloured in grey.

13.2.1.3 Constraints

Name	Description	OCL Constraint
Minimum of TotalPersonsOnBoard		The number of TotalPersonsOnBoard can not be smaller than the sum of master/crewmembers and passengers

(*) Inherited constraints are coloured in grey.

13.2.2 LandVehicle Class (subclass of Vehicle)

13.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
MaximumSpeed	double	The vehicle's maximum speed measured in knots	20	EUROSUR
Nationality	String	Two-letter country codes to represent countries, dependent territories, and special areas of geographical interest. Represent the flag for a Vessel.	Country code for Portugal: PT (Country code for Portugal)	ISO 3166-1
TotalPersonsOnBoard	int	The total number of persons on board	10	
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

13.2.2.2 Association Roles

UML Name	Data type	Description	Multiplicity
Cargo	Cargo	Vehicles can carry cargo.	0..1
CorrespondentAsset	OperationalAsset	Permits the definition of a Vehicle as an operational asset. One vehicle can be defined as a single operational asset or not.	0..1
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)

UML Name	Data type	Description	Multiplicity
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)
Vehicles	Vehicle	Vehicles can carry other vehicles.	0..*

(*) Inherited association roles are coloured in grey.

13.2.2.3 Constraints

Name	Description	OCL Constraint
Minimum of TotalPersonsOnBoard		The number of TotalPersonsOnBoard can not be smaller than the sum of master/crewmembers and passengers

(*) Inherited constraints are coloured in grey.

13.2.3 Object Class (subclass of Entity)

The Object entity is one of the core entities of the overall data model. It is an abstract entity (it cannot been used as such) that holds information about physical entities from the maritime domain like vehicles (vessels, aircrafts and land vehicles) and cargo. Object has relationships with Event, Agent, Document, Risk and Location. Object can also be associated with another Object.

13.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

13.2.3.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can	0..* (allow duplicates)

UML Name	Data type	Description	Multiplicity
		vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)

13.2.4 Vehicle Class (subclass of Object)

The Vehicle is a sub-class of Object and is used to determine types of physical moving objects related to maritime. The class Vehicle inherits the attributes and relationships of Object. Vehicle has three sub-classes: Vessel, Aircraft and LandVehicle.

13.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
MaximumSpeed	double	The vehicle's maximum speed measured in knots	20	EUROSUR
Nationality	String	Two-letter country codes to represent countries, dependent territories, and special areas of geographical interest. Represent the flag for a Vessel.	Country code for Portugal: PT (Country code for Portugal)	ISO 3166-1
TotalPersonsOnBoard	int	The total number of persons on board	10	
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

13.2.4.2 Association Roles

UML Name	Data type	Description	Multiplicity
Cargo	Cargo	Vehicles can carry cargo.	0..1
CorrespondentAsset	OperationalAsset	Permits the definition of a Vehicle as an operational asset. One vehicle can be defined as a single operational asset or not.	0..1
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)
Vehicles	Vehicle	Vehicles can carry other vehicles.	0..*

(*) Inherited association roles are coloured in grey.

13.2.4.3 Constraints

Name	Description	OCL Constraint
Minimum of TotalPersonsOnBoard		The number of TotalPersonsOnBoard can not be smaller than the sum of master/crewmembers and passengers

13.2.5 ObjectLocation Association Class

This class allows the association between Object (or one of its sub-classes: Vehicle, CargoPackage) and Location. It is not mandatory to associate an Object with a Location but one or many Object can be associated to a Location through this class. The association further describes the role of the Object in relation to the Location and other useful data.

13.2.5.1 Attributes

UML Name	Data type	Description	Example	Source
COG	double	Course over ground in degrees	120	ITU-R M.1371-1

UML Name	Data type	Description	Example	Source
Heading	double	Heading of the object	120	ITU-R M.1371-1
LocationRole	LocationRoleType	Enumerated. Describes the relationship between the Object and the Location.	Port of embarkation of the Vessel: 001	
Metadata	Metadata	Metadata linked to the localisation of the object		
PeriodOfTime	Period	Defines the duration of the relationship between the Object and the Location.		
PlacementPurpose	PlacementPurposeType	Defines the reason why the object is at a location	01 (In Transit)	NSW
PlannedOperations	PlannedOperationsType	Defines the planned operations for which the object is at the location	01 (loading)	NSW
PlannedWorks	PlannedWorksType	Defines the planned works the object will undergo when at the location	01 (inspection)	NSW
SensorType	SensorType	Defines the sensor origin of the position	01 (sighting)	
SOG	double	Speed on ground in knots	12	
SourceType	SourceType	Defines how the location of the object has been determined	Observation	
SpecialSecurityMeasures	String	Defines security measures to be apply when the object is a the location	description of security measures	NSW
Speed	double	Speed of the object in knots	12	

13.2.6 ColourType Enumeration

Source: EUROSUR

13.2.6.1 Enumeration Values

Value	Label	Description	Source
Cyan	cyan		
Grey	grey		
Yellow	yellow		
White	white		
Black	black		
Pink	pink		
Green	green		
Blue	blue		
Brown	brown		
Orange	orange		
Violet	violet		

Value	Label	Description	Source
Red	red		

13.2.6.2 Enumeration Usage

The following attributes use this enumeration as data type:

57. Colour (Object)

13.2.7 LocationRoleType Enumeration

13.2.7.1 Enumeration Values

Value	Label	Description	Source
001	Port of embarkation	Port of embarkation (for vessel)	
002	Port of disembarkation	Port of disembarkation (for vessel)	
003	Port of registry	Port of registry (for vessel)	
004	Lengthened place	Lengthened place (for vessel)	
005	Port of loading	Port of loading (for cargo)	
006	Port of discharge	Port of discharge (for cargo)	
999	non-specified	Non specified	

13.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

58. LocationRole (ObjectLocation)

13.2.8 PlacementPurposeType Enumeration

This enumeration describes the reason of placement of an object to a location. An object can be at a location because it is in transit. A vessel (i.e. an object) can also be assigned to a location.

Source: NSW

13.2.8.1 Enumeration Values

Value	Label	Description	Source
01	in transit	The Object is at a Location during a transit	
02	assigned	The Object is assigned to the Location	
98	other	Any other type not mentioned above	
99	non-specified	Type not specified	

13.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

59. PlacementPurpose (ObjectLocation)

13.2.9 PlannedOperationsType Enumeration

This enumeration presents the possible planned operations for which an Object is at a Location.

Source: NSW

13.2.9.1 Enumeration Values

Value	Label	Description	Source
01	loading	The Object is at the Location to load cargo	NSW
02	unloading	The Object is at the Location to unload cargo	NSW
98	other	Any other operation not mentioned above	
99	non-specified	Operation not specified	

13.2.9.2 Enumeration Usage

The following attributes use this enumeration as data type:

60. PlannedOperations (ObjectLocation)

13.2.10 PlannedWorksType Enumeration

This enumeration presents the possible planned works which can explain that an Object is at a Location.

Source: NSW

13.2.10.1 Enumeration Values

Value	Label	Description	Source
01	inspection	The Object is at a Location for Inspection	NSW
02	maintenance and repair	The Object is at a Location for Maintenance and repair	NSW
98	other	Any other works not mentioned above	
99	non-specified	Works not specified	

13.2.10.2 Enumeration Usage

The following attributes use this enumeration as data type:

61. PlannedWorks (ObjectLocation)

13.2.11 SensorType Enumeration

This enumeration presents the Sensor at the origin of an association between an Object and a Location.

13.2.11.1 Enumeration Values

Value	Label	Description	Source
01	sighting	The Object is observed at the Location	
02	underwater sensor	Underwater sensor	
03	maritime radar	Maritime radar	
04	synthetic aperture radar	Synthetic aperture radar	

Value	Label	Description	Source
05	EOIR optronic system	EO/IR Optronic system	
06	maritime moving target identification	Maritime moving target identification	
07	signal interception systems COMINT	Signal interception systems COMINT	
08	signal interception systems ELINT	Signal interception systems ELINT	
09	environmental sensing systems	Environmental sensing systems	
10	automatic identification system	Automatic Identification System (AIS)	
11	vessel monitoring system	Vessel monitoring system (VMS)	
12	long range identification tracking	Long range identification and tracking (LRIT)	
13	automatic vehicle location	Automatic vehicle location (AVL)	
14	acoustic systems	Acoustic Systems ACINT	
15	non-traditional sources	Non-traditional sources	
98	other	Any other sensor not mentioned above	
99	non-specified	Sensor not specified	

13.2.11.2 Enumeration Usage

The following attributes use this enumeration as data type:

62. SensorType (ObjectLocation)

13.2.12 SourceType Enumeration

This enumeration defines how the placement of an object to a location has been determined. The location of an object can be observed, declared, estimated or simulated.

13.2.12.1 Enumeration Values

Value	Label	Description	Source
01	observation	The location of the object is observed	
02	declaration	The location of the object is declared	
03	estimation	The location of the object is estimated	
04	simulation	The location of the object is simulated	
05	correlation	The location of the object has been correlated	
98	other	Any other type not mentioned above	
99	non-specified	Type not specified	

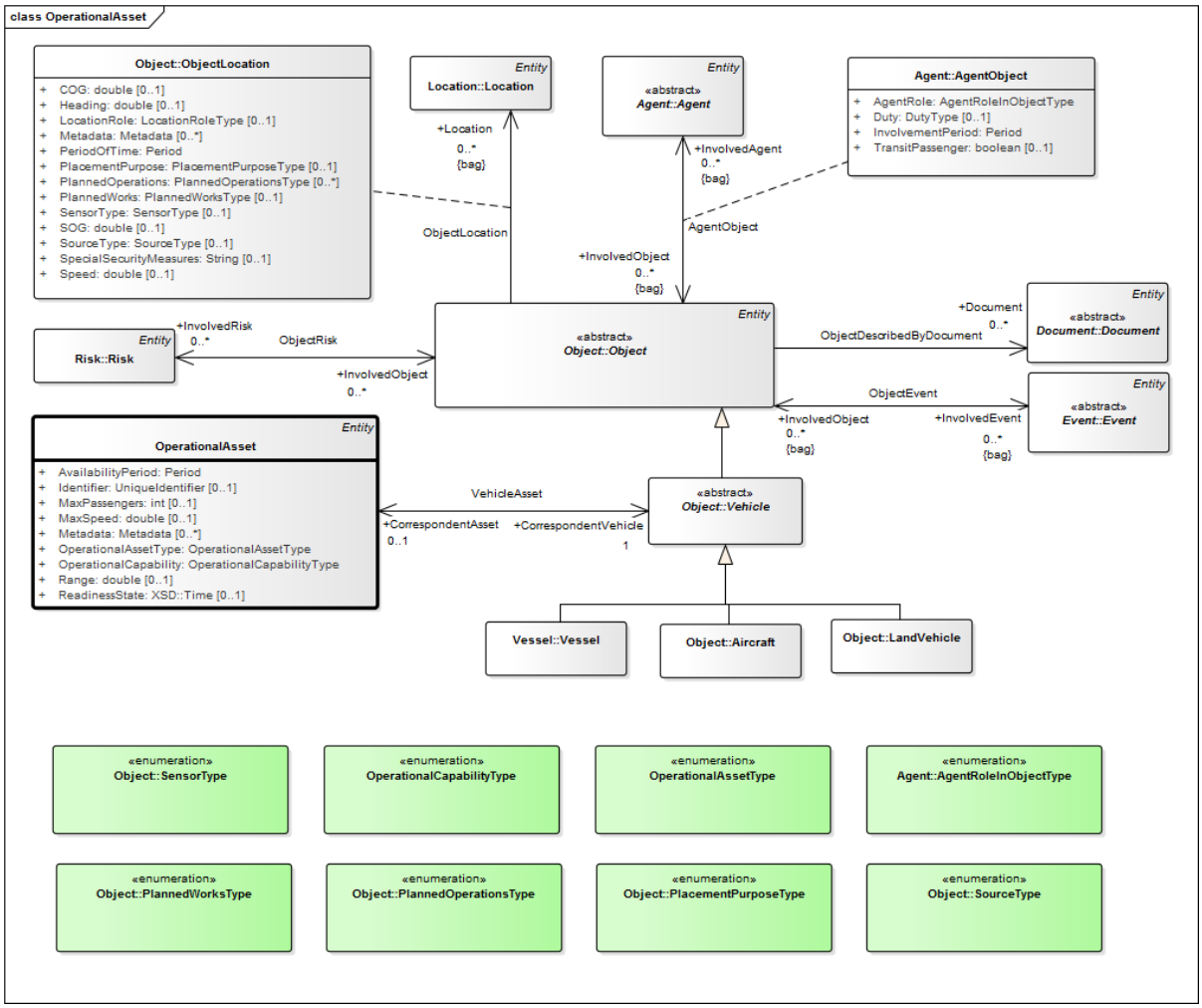
13.2.12.2 Enumeration Usage

The following attributes use this enumeration as data type:

63. SourceType (EventLocation)
64. SourceType (MeteoOceanographicCondition)
65. SourceType (ObjectLocation)

14 OperationalAsset Core Entity

14.1 UML models



14.2 Elements defined in the Core Vocabulary

14.2.1 OperationalAsset Class (subclass of Entity)

An Operational Asset is an Object (in particular means of observation or transportation, but also including associated sensors, means of communication and means of intervention such as deterrence or neutralization of threats, fire fighting, pollution containment etc.) enabling operational Actions (most often at sea or on sea shores) of the Agents mandated by public Organizations in charge of Maritime Safety and Security.

14.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
AvailabilityPeriod	Period	Defines the time period of Agent involvement in the Event. Can be either defined by start and end dates/times or duration. • Format for date is: CCYY-MM-DD • Format for time is: hh:mm:ss	Date (e.g. 27th October year 2013): 2013-10-27 Time (e.g. 20 minutes and 45 seconds past noon): 12:20:45 Duration (e.g. 7 years, 3 months, 8 days, 8 hours, 31 minutes and 52.05 seconds):	CISE

UML Name	Data type	Description	Example	Source
		• Format for duration is: P[yY][mM][dD][T[hH][mM][s[.s]S]] See also : Core Vocabularities Specification for "Period"	P7Y3M8DT8H31M52.05S	
Identifier	UniqueIdentifier	Identifier of the operational asset. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
MaxPassengers	int	MaxPassengers of an OperationalAsset	200 passengers	
MaxSpeed	double	Max. Speed of the Operational Asset measured in knots	12	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	see: Core Vocabulary Specification for "Metadata"	
OperationalAssetType	OperationalAssetType	Asset type	Cruiser	
OperationalCapability	OperationalCapabilityType	Defines the Asset Capability to perform as intended in an operation	Search and rescue	
Range	double	Range of the Operational Asset	Coastal Radar with 0-9 range miles of detection	
ReadinessState	XSD::Time	The lexical space of xsd:time is identical to the time part of xsd:dateTime (hh:mm:ss[Z|(+|-)hh:mm]), and its value space is the set of points in time recurring daily. The period (one day) is fixed, and no calendars other than Gregorian are supported.	Valid values include 21:32:52, 21:32:52+02:00, 19:32:52Z, 19:32:52+00:00, and 21:32:52.12679. Invalid values include 21:32 (all the parts must be specified), 25:25:10 (the hour part is out of range), -10:00:00 (the hour part is out of range), and 1:20:10 (all the digits must be supplied).	

14.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
CorrespondentVehicle	Vehicle	Permits the definition of a Vehicle as an operational asset. One vehicle can be defined as a single operational asset or not.	1

14.2.2 OperationalAssetType Enumeration

This enumeration presents the possible types of operational assets.

14.2.2.1 Enumeration Values

Value	Label	Description	Source
01	aircraft	An aircraft is a machine that is able to fly by gaining support from the air, or, in general, the atmosphere of a planet. It counters the force of gravity by using either static lift or by using the dynamic lift of an airfoil, or in a few cases the downward thrust from jet engines.	
02	helicopter	A helicopter is a type of rotorcraft in which lift and thrust are supplied by rotors	
03	patrol boat	Operated by navies, coast guards and police. Function – defense of coastal waters, rivers and estuaries, borders security and law enforcement. May have an anti-surface role	
04	UAV	An unmanned aerial vehicle (UAV), also known as a drone, is an aircraft without a human pilot on board	
05	submarine	A submarine is a watercraft capable of independent operation underwater	
06	frigate	Smaller than destroyers, one or two missions. Protect naval groups and merchant ships. Anti-submarine warfare. Fleet air defense. Anti-surface warships	
07	speed boat	A motorboat, speedboat, or powerboat is a boat which is powered by an engine	
08	drone	Drone is the popular term for an unmanned aircraft. It is still a UAV however a drone is flown by software with pre-programmed behavior save for additional commands by the operators	
09	tank	A tank is a tracked, armoured fighting vehicle designed for front-line combat which combines operational mobility and tactical offensive and defensive capabilities	
10	truck	A truck (US, CA and AU) or lorry (UK and Ireland) is a motor vehicle designed to transport cargo. Also military use.	
11	Four-wheel drive	Four-wheel drive, All-wheel drive, AWD, 4WD, or 4×4 is a four-wheeled vehicle with a drivetrain that allows all four wheels to receive torque from the engine	
12	carrier	Vehicle for transport	
13	ambulance	Ambulance	
14	motorcycle	Motorcycle	
15	artillery vehicle	Vehicle artillery equipped with an own propel system to move towards its target	
16	desert patrol vehicle	The Desert Patrol Vehicle (DPV), formerly called the Fast Attack Vehicle (FAV), is a high-speed, lightly armored sandrail-like vehicle first used in combat during the Gulf War in 1991	
17	tractor	A tractor is an engineering vehicle specifically designed to deliver a high tractive effort (or torque) at slow speeds	
18	wrecker	A vehicle used to tow away broken-down cars	
19	trailer	A trailer is generally an unpowered vehicle pulled by a powered vehicle	
20	humvee	The High Mobility Multipurpose Wheeled Vehicle (HMMWV), commonly known as the Humvee, is a four-wheel drive military automobile produced by AM General	
21	firetrack	Vehicle used for Firefighting	
22	van	A van is a kind of vehicle used for transporting goods or people	
23	UUV	Unmanned underwater vehicles (UUV), sometimes known as underwater drones, are any vehicles that are able to operate underwater without a human occupant. These	

Value	Label	Description	Source
		vehicles may be divided into two categories, Remotely operated underwater vehicles (ROVs) and Autonomous underwater vehicles (AUVs)	
24	ROV	ROV controlled by a remote human operato	
25	USV	USV operate independently of direct human input	
26	sea platform	Platform that stand on the sea for different purposes	
27	aeroplane	Aeroplane	
28	destroyer	Fast warships providing multi-mission offensive and defensive capability, independently or in fleet support	
29	cruiser	Multi-mission warships capable of engaging multiple simultaneous targets and employed in force support or independent action	
30	aircraft carrier	An aircraft carrier is a warship with a full-length flight deck and facilities for carrying, arming, deploying and recovering aircraft, acting as a seagoing airbase	
31	corvette	Small frigates. Protect naval and merchant ships. Anti-submarine warfare. Fleet defence (anti-aircraft mission)	
32	auxiliary ships	Re-supply Ship. Replenishment at Sea	
33	landing ships	Smaller then assault ships	
34	assault ships	Air Cushioned Vehicles	
35	mine warfare ships	Mine Warfare Ships	
36	strategic fixed assets	Strategic/fixed assets	
37	ballons	Ballons	
98	other	Other	

14.2.2.2 Enumeration Usage

The following attributes use this enumeration as data type:

66. OperationalAssetType (OperationalAsset)

14.2.3 OperationalCapabilityType Enumeration

This enumeration presents the possible types of operational capabilities.

14.2.3.1 Enumeration Values

Value	Label	Description	Source
01	search and rescue	Search for and provision of aid to people who are in distress or imminent danger	
02	oil pollution	Pollution due to release of a liquid petroleum hydrocarbon into the environment, especially marine areas, due to human activity	
03	telecommunications TLC	Can be accommodated within any of the listed OperationalCapability. It is the transmission of signals over long distances	
04	patrolling	The act of moving about an area especially by an authorized and trained person or group, for purposes of observation, inspection, or security	
05	piracy attack	Act of robbery or criminal violence at sea. The term can include acts committed on land, in the air, or in other major bodies of water or on a shore. It does not normally include crimes committed against persons traveling on	

Value	Label	Description	Source
		the same vessel as the perpetrator (e.g. one passenger stealing from others on the same vessel). The term has been used throughout history to refer to raids across land borders by non-state agents.	
06	illegal migration	Refers to the migration of people across national borders in a way that violates the immigration laws of the destined country. In concrete detection of Cayucos, mother ships and border monitoring	
07	counter drug smuggling	Refers to a global illicit trade involving the cultivation, manufacture, distribution and sale of substances which are subject to drug prohibition laws	
08	counter illegal fishing	Illegal fishing is the fishing which takes place where vessels operate in violation of the fishery laws. It normally applies to the fisheries which are under the jurisdiction of the coastal state regulated by the regional organizations.	
09	firefighting	Attempting to control and extinguish fires	
10	coordination	Operating principle. Command and control that involves multiple, diverse, networked teams that can involve national and coalition partners and non-military agencies, challenging the commander to deal with options along various dimensions.	
11	simulation	Operating principle. Imitation of the operation of a real-world process or system over time. The act of simulating something first requires that a model be developed; this model represents the key characteristics or behaviors/functions of the selected physical or abstract system or process. The model represents the system itself, whereas the simulation represents the operation of the system over time	
12	mobility	Operating principle. It allows disposing of the necessary means in order to allow strategic deployment and high mobility of assets and personnel required for the operations.	
13	training	Operating principle. In general, training is the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies.	
14	maintenance	Operating principle. Operating principle. In general, all actions which have the objective of retaining or restoring an item in or to a state in which it can perform its required function. The actions include the combination of all technical and corresponding administrative, managerial, and supervision actions	
15	sustainability	Operating principle. This capability is oriented to guarantee the sustainability of the assets deployed during a long period of time.	
16	intelligence surveillance reconnaissance	Fall within the ISTAR concept, which is fundamentally obtaining information and intelligence to support the planning and conduct of operations. It is a practice that links several battlefield functions together to assist a combat force in employing its sensors and managing the information they gather.	
17	C2 W command and control warfare	Electronic Warfare encompasses all that is command and control capability, also PSYOPS (includes deception- simulation)	
98	other	Other not included above -Source	
99	non-specified	Non-specified	

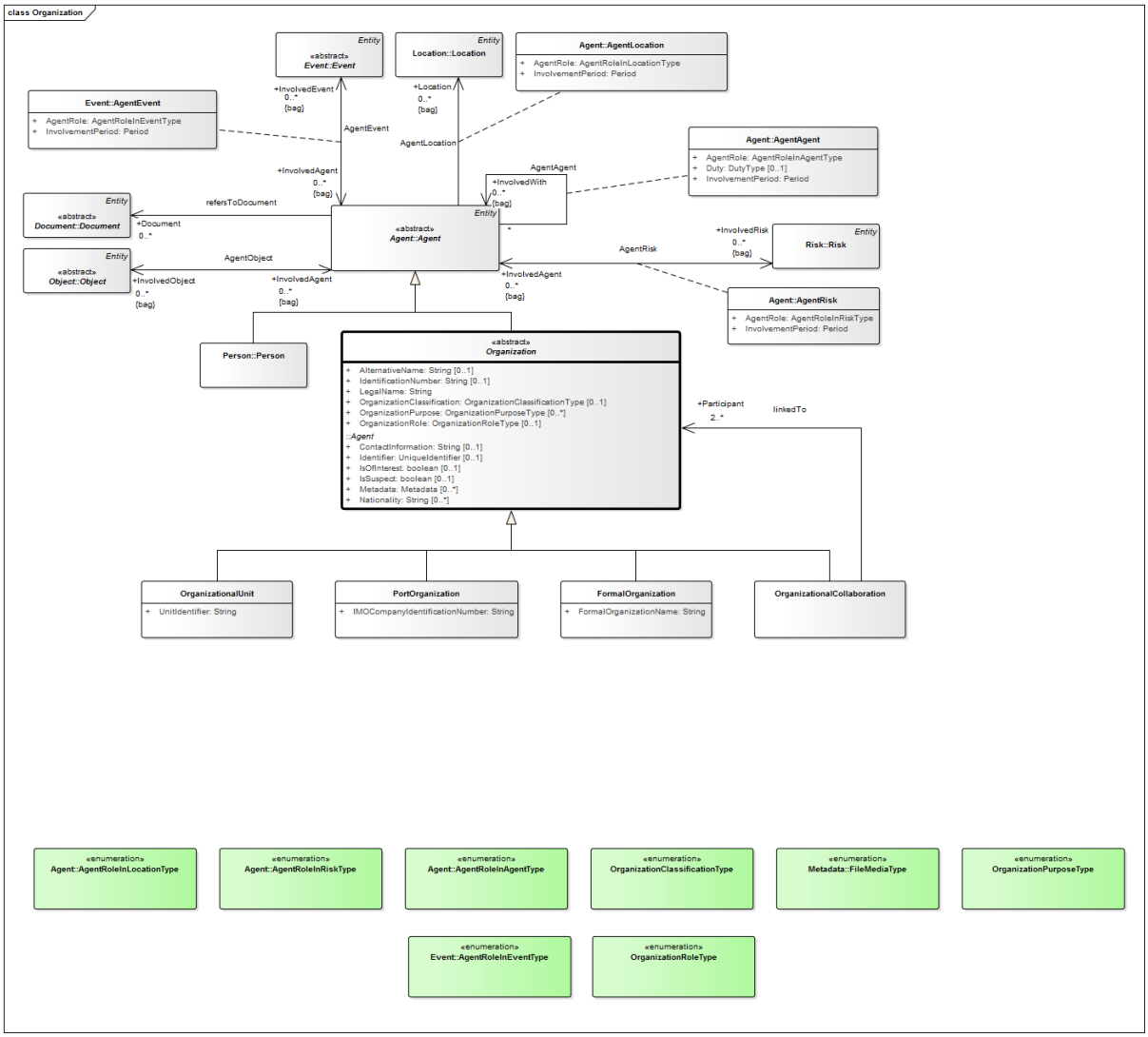
14.2.3.2 Enumeration Usage

The following attributes use this enumeration as data type:

67. OperationalCapability (OperationalAsset)

15 Organization Core Entity

15.1 UML models



15.2 Elements defined in the Core Vocabulary

15.2.1 FormalOrganization Class (subclass of Organization)

A particular sub-class of organization FormalOrganization can be used to indicate organizations that are recognized in the world at large, in particular in legal jurisdictions, with associated rights and responsibilities. Examples include a corporation, charity, government or church.

15.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
FormalOrganizationName	String	Name of the organization	Red cross	
AlternativeName	String	Any other name used. This attribute can be used for example for the official name of the	Rajavartiolaitos	

UML Name	Data type	Description	Example	Source
		organization in the native language.		
IdentificationNumber	String	Business ID number of the organisation in international format.	The business number of the Finnish Border Guard: FI02460035	
LegalName	String	The official name of the organization. It is recommended to use the official English translation.	Finnish Border Guard	
OrganizationClassification	OrganizationClassificationType	Enumerated. Formal classification of organization.	Government authority on national level: 01	W3C Oont
OrganizationPurpose	OrganizationPurposeType	Enumerated. Defines the purpose of the organization. The purpose is modeled using the CISE user community plus some additional options where those are not applicable. There can be more than one purpose connected to one organization.	Authority responsible for border control: 07	W3C Oont
OrganizationRole	OrganizationRoleType	Enumerated. Organization role as described by the different roles defined in SafeSeaNet system.	A body responsible for coordinating search and rescue operations or operations to tackle pollution at sea (Coastal station): 02	SSN MRG
ContactInformation	String	vCard [IETF RFC6350] is a data format for representing and exchanging information about individuals and other entities. It is a text-based format (as opposed to a binary format). xCard [IETF RFC6351] is an XML	Name of a person called Mr John Brown, M.Sc.: <fn><text>Mr John Brown, M.Sc.</text></fn> <n> <surname>Brown</surname> <given>John</given> <additional/> <prefix>Mr<prefix/> <suffix>M.Sc.<suffix/>	IETF RFC 6351

UML Name	Data type	Description	Example	Source
		representation for vCard. All available attributes are described in the vCard document [IETF RFC6350] and listed bellow: • General Properties (BEGIN, END, SOURCE, KIND, XML) • Identification Properties (FN, N, NICKNAME, PHOTO, BDAY, ANNIVERSARY, GENDER) • Delivery Addressing Properties (ADR) • Communications Properties (TEL, EMAIL, IMPP, LANG) • Geographical Properties (TZ, GEO) • Organizational Properties (TITLE, ROLE, LOGO, ORG, MEMBER, RELATED) • Explanatory Properties (CATEGORIES, NOTE, PRODID, REV, SOUND, UID, CLIENTPIDMAP, URL, VERSION) • Security Properties (KEY) • Calendar Properties (FBURL, CALADRURI, CALURI)	</n> more examples found in: [IETF RFC6351]	
Identifier	UniqueIdentifier	Identifier of the agent. Each UniqueIdentifier can be correlated		

UML Name	Data type	Description	Example	Source
		with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
IsOfInterest	boolean	Attribute is flagging an interest to follow more closely any activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	0	
IsSuspect	boolean	Attribute is flagging a possible suspicion of illegal activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	There is some suspect related to the agent: 1	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	DCMI	
Nationality	String	Three-letter country codes to represent countries, dependent territories, and special areas of geographical interest	Portugal: PT	ISO 3166-1 (alpha-2)

(*) Inherited attributes are coloured in grey.

15.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Agents (persons, organizations) can be associated to zero to multiple documents.	0..*
InvolvedEvent	Event	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedRisk	Risk	Agents (persons, organizations) can be associated to zero to multiple risks in different roles. The association has additional attributes. Please check association class AgentRisk.	0..* (allow duplicates)
InvolvedWith	Agent	Agents (persons, organizations) can be associated to zero to multiple agents (persons, organizations) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInAgent). The association has additional attributes. Please check association class AgentAgent.	0..* (allow duplicates)
Location	Location	Agents (persons, organizations) can be associated to zero to multiple location in different roles. The lenght of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInLocation). The association has additional attributes. Please check association class AgentLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

15.2.2 Organization Class (subclass of Agent)

The class Organization is a sub-class of an abstract class Agent. Organization represents a structured and legally recognized association of humans and material resources for some common purpose or reason for existence which goes beyond the set of people belonging to it. An organization may itself be involved as actor or target in the various events and activities. Organization can have the same associations and relationships than the parent-class Agent. Thus it can have relationship with other agents, objects and locations or it can be related to risks in different roles. Organization has four sub-classes: OrganizationalUnit, PortOrganization, FormalOrganization and OrganizationalCollaboration.

15.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
AlternativeName	String	Any other name used. This	Rajavartiolaitos	

UML Name	Data type	Description	Example	Source
		attribute can be used for example for the official name of the organization in the native language.		
IdentificationNumber	String	Business ID number of the organisation in international format.	The business number of the Finnish Border Guard: FI02460035	
LegalName	String	The official name of the organization. It is recommended to use the official English translation.	Finnish Border Guard	
OrganizationClassification	OrganizationClassificationType	Enumerated. Formal classification of organization.	Government authority on national level: 01	W3C Oont
OrganizationPurpose	OrganizationPurposeType	Enumerated. Defines the purpose of the organization. The purpose is modeled using the CISE user community plus some additional options where those are not applicable. There can be more than one purpose connected to one organization.	Authority responsible for border control: 07	W3C Oont
OrganizationRole	OrganizationRoleType	Enumerated. Organization role as described by the different roles defined in SafeSeaNet system.	A body responsible for coordinating search and rescue operations or operations to tackle pollution at sea (Coastal station): 02	SSN MRG
ContactInformation	String	vCard [IETF RFC6350] is a data format for representing and exchanging information about individuals and other entities. It is a text-based format (as opposed to a	Name of a person called Mr John Brown, M.Sc.: <fn><text>Mr John Brown, M.Sc.</text></fn> <n> <surname>Brown</surname> <given>John</given>	IETF RFC 6351

UML Name	Data type	Description	Example	Source
		binary format). xCard [IETF RFC6351] is an XML representation for vCard. All available attributes are described in the vCard document [IETF RFC6350] and listed bellow: • General Properties (BEGIN, END, SOURCE, KIND, XML) • Identification Properties (FN, N, NICKNAME, PHOTO, BDAY, ANNIVERSARY, GENDER) • Delivery Addressing Properties (ADR) • Communications Properties (TEL, EMAIL, IMPP, LANG) • Geographical Properties (TZ, GEO) • Organizational Properties (TITLE, ROLE, LOGO, ORG, MEMBER, RELATED) • Explanatory Properties (CATEGORIES, NOTE, PRODID, REV, SOUND, UID, CLIENTPIDMAP, URL, VERSION) • Security Properties (KEY) • Calendar Properties (FBURL, CALADRURI, CALURI)	<additional/> <prefix>Mr<prefix/> <suffix>M.Sc.<suffix/> </n> more examples found in: [IETF RFC6351]	

UML Name	Data type	Description	Example	Source
Identifier	UniqueIdentifier	Identifier of the agent. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
IsOfInterest	boolean	Attribute is flagging an interest to follow more closely any activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	0	
IsSuspect	boolean	Attribute is flagging a possible suspicion of illegal activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	There is some suspect related to the agent: 1	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	DCMI	
Nationality	String	Three-letter country codes to represent countries, dependent territories, and special areas of geographical interest	Portugal: PT	ISO 3166-1 (alpha-2)

(*) Inherited attributes are coloured in grey.

15.2.2.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Agents (persons, organizations) can be associated to zero to multiple documents.	0..*
InvolvedEvent	Event	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedRisk	Risk	Agents (persons, organizations) can be associated to zero to multiple risks in different roles. The association has additional attributes. Please check association class AgentRisk.	0..* (allow duplicates)
InvolvedWith	Agent	Agents (persons, organizations) can be associated to zero to multiple agents (persons, organizations) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInAgent). The association has additional attributes. Please check association class AgentAgent.	0..* (allow duplicates)
Location	Location	Agents (persons, organizations) can be associated to zero to multiple location in different roles. The lenght of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInLocation). The association has additional attributes. Please check association class AgentLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

15.2.3 OrganizationalCollaboration Class (subclass of Organization)

The sub-class OrganizationalCollaboration is defined to describe a collaboration between two or more Organizations such as a project. OrganizationalCollaboration meets the criteria for being an Organization in that it has an identity and defined purpose independent of its particular members but is neither a formally recognized legal entity nor a sub-unit within some larger organization. Might typically have a shorter lifetime than the Organizations within it, but not necessarily.

15.2.3.1 Attributes

UML Name	Data type	Description	Example	Source
AlternativeName	String	Any other name used. This attribute can be used for example	Rajavartiolaitos	

UML Name	Data type	Description	Example	Source
		for the official name of the organization in the native language.		
IdentificationNumber	String	Business ID number of the organisation in international format.	The business number of the Finnish Border Guard: FI02460035	
LegalName	String	The official name of the organization. It is recommended to use the official English translation.	Finnish Border Guard	
OrganizationClassification	OrganizationClassificationType	Enumerated. Formal classification of organization.	Government authority on national level: 01	W3C Oont
OrganizationPurpose	OrganizationPurposeType	Enumerated. Defines the purpose of the organization. The purpose is modeled using the CISE user community plus some additional options where those are not applicable. There can be more than one purpose connected to one organization.	Authority responsible for border control: 07	W3C Oont
OrganizationRole	OrganizationRoleType	Enumerated. Organization role as described by the different roles defined in SafeSeaNet system.	A body responsible for coordinating search and rescue operations or operations to tackle pollution at sea (Coastal station): 02	SSN MRG
ContactInformation	String	vCard [IETF RFC6350] is a data format for representing and exchanging information about individuals and other entities. It is a text-based format (as opposed to a binary format). xCard [IETF	Name of a person called Mr John Brown, M.Sc.: <fn><text>Mr John Brown, M.Sc.</text></fn> <n> <surname>Brown</surname> <given>John</given> <additional/> <prefix>Mr<prefix/>	IETF RFC 6351

UML Name	Data type	Description	Example	Source
		RFC6351] is an XML representation for vCard. All available attributes are described in the vCard document [IETF RFC6350] and listed bellow: • General Properties (BEGIN, END, SOURCE, KIND, XML) • Identification Properties (FN, N, NICKNAME, PHOTO, BDAY, ANNIVERSARY, GENDER) • Delivery Addressing Properties (ADR) • Communications Properties (TEL, EMAIL, IMPP, LANG) • Geographical Properties (TZ, GEO) • Organizational Properties (TITLE, ROLE, LOGO, ORG, MEMBER, RELATED) • Explanatory Properties (CATEGORIES, NOTE, PRODID, REV, SOUND, UID, CLIENTPIDMAP, URL, VERSION) • Security Properties (KEY) • Calendar Properties (FBURL, CALADRURI, CALURI)	<suffix>M.Sc.<suffix/> </n> more examples found in: [IETF RFC6351]	
Identifier	UniqueIdentifier	Identifier of the agent.		

UML Name	Data type	Description	Example	Source
		Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
IsOfInterest	boolean	Attribute is flagging an interest to follow more closely any activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	0	
IsSuspect	boolean	Attribute is flagging a possible suspicion of illegal activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	There is some suspect related to the agent: 1	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	DCMI	
Nationality	String	Three-letter country codes to represent countries, dependent territories, and special areas of geographical interest	Portugal: PT	ISO 3166-1 (alpha-2)

(*) Inherited attributes are coloured in grey.

15.2.3.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Agents (persons, organizations) can be associated to zero to multiple documents.	0..*
InvolvedEvent	Event	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedRisk	Risk	Agents (persons, organizations) can be associated to zero to multiple risks in different roles. The association has additional attributes. Please check association class AgentRisk.	0..* (allow duplicates)
InvolvedWith	Agent	Agents (persons, organizations) can be associated to zero to multiple agents (persons, organizations) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInAgent). The association has additional attributes. Please check association class AgentAgent.	0..* (allow duplicates)
Location	Location	Agents (persons, organizations) can be associated to zero to multiple location in different roles. The lenght of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInLocation). The association has additional attributes. Please check association class AgentLocation.	0..* (allow duplicates)
Participant	Organization	Indicating the individual organizations participating the collaboration.	2..*

(*) Inherited association roles are coloured in grey.

15.2.4 OrganizationalUnit Class (subclass of Organization)

In some cases it is useful to refer to departments or organizational units such as the IT department which only have meaning within the context of the containing organization and would not be regarded as a legal entity in its own right. This situation is supported by a subclass of Organization called OrganizationalUnit.

15.2.4.1 Attributes

UML Name	Data type	Description	Example	Source
UnitIdentifier	String	Defines the name of the	Administrative unit responsible of flight operations inside the Finnish	

UML Name	Data type	Description	Example	Source
		organizational unit	Border Guard: Air Patrol Squadron	
AlternativeName	String	Any other name used. This attribute can be used for example for the official name of the organization in the native language.	Rajavartiolaitos	
IdentificationNumber	String	Business ID number of the organisation in international format.	The business number of the Finnish Border Guard: FI02460035	
LegalName	String	The official name of the organization. It is recommended to use the official English translation.	Finnish Border Guard	
OrganizationClassification	OrganizationClassificationType	Enumerated. Formal classification of organization.	Government authority on national level: 01	W3C Oont
OrganizationPurpose	OrganizationPurposeType	Enumerated. Defines the purpose of the organization. The purpose is modeled using the CISE user community plus some additional options where those are not applicable. There can be more than one purpose connected to one organization.	Authority responsible for border control: 07	W3C Oont
OrganizationRole	OrganizationRoleType	Enumerated. Organization role as described by the different roles defined in SafeSeaNet system.	A body responsible for coordinating search and rescue operations or operations to tackle pollution at sea (Coastal station): 02	SSN MRG
ContactInformation	String	vCard [IETF RFC6350] is a data format for representing and exchanging information about individuals and other	Name of a person called Mr John Brown, M.Sc.: <fn><text>Mr John Brown, M.Sc.</text></fn> <n>	IETF RFC 6351

UML Name	Data type	Description	Example	Source
		entities. It is a text-based format (as opposed to a binary format). xCard [IETF RFC6351] is an XML representation for vCard. All available attributes are described in the vCard document [IETF RFC6350] and listed bellow: • General Properties (BEGIN, END, SOURCE, KIND, XML) • Identification Properties (FN, N, NICKNAME, PHOTO, BDAY, ANNIVERSARY, GENDER) • Delivery Addressing Properties (ADR) • Communications Properties (TEL, EMAIL, IMPP, LANG) • Geographical Properties (TZ, GEO) • Organizational Properties (TITLE, ROLE, LOGO, ORG, MEMBER, RELATED) • Explanatory Properties (CATEGORIES, NOTE, PRODID, REV, SOUND, UID, CLIENTPIDMAP, URL, VERSION) • Security Properties (KEY) • Calendar Properties (FBURL,	<surname>Brown</surname> <given>John</given> <additional/> <prefix>Mr<prefix/> <suffix>M.Sc.<suffix/> </n> more examples found in: [IETF RFC6351]	

UML Name	Data type	Description	Example	Source
		CALADRURI, CALURI)		
Identifier	UniqueIdentifier	Identifier of the agent. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
IsOfInterest	boolean	Attribute is flagging an interest to follow more closely any activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	0	
IsSuspect	boolean	Attribute is flagging a possible suspicion of illegal activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	There is some suspect related to the agent: 1	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	DCMI	
Nationality	String	Three-letter country codes to represent countries, dependent territories, and special areas of geographical interest	Portugal: PT	ISO 3166-1 (alpha-2)

(*) Inherited attributes are coloured in grey.

15.2.4.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Agents (persons, organizations) can be associated to zero to multiple documents.	0..*
InvolvedEvent	Event	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedRisk	Risk	Agents (persons, organizations) can be associated to zero to multiple risks in different roles. The association has additional attributes. Please check association class AgentRisk.	0..* (allow duplicates)
InvolvedWith	Agent	Agents (persons, organizations) can be associated to zero to multiple agents (persons, organizations) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInAgent). The association has additional attributes. Please check association class AgentAgent.	0..* (allow duplicates)
Location	Location	Agents (persons, organizations) can be associated to zero to multiple location in different roles. The lenght of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInLocation). The association has additional attributes. Please check association class AgentLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

15.2.5 PortOrganization Class (subclass of Organization)

A particular sub-class of organization has been defined to be used when modelling IMO recognized ports. PortOrganization carries some additional attributes that carry information relevant only to ports. Subclass of Organization.

15.2.5.1 Attributes

UML Name	Data type	Description	Example	Source
IMOCompanyIdentificationNumber	String	MO unique company and registered	IMOCompany1234567	NSW

UML Name	Data type	Description	Example	Source
		owner identification number. Unique number given to company or registered owner of a vessel. The IMO Unique Company and Registered Owner Identification Number Scheme was introduced through the adoption by the Maritime Safety Committee (MSC), at its seventy-eighth session (12 to 21 May 2004), of resolution MSC.160(78). Its purpose is to assign a permanent number for identification purposes to each company and/or registered owner managing ships of 100 gross tonnage and above engaged on international voyages. Additionally, Administrations are invited to participate in the scheme to the extent they desire by assigning an IMO unique company and registered owner identification number to each company and/or registered owner managing ships		

UML Name	Data type	Description	Example	Source
		of 100 gross tonnage and above not engaged on international voyages. The procedures for the implementation of resolution MSC.160(78) were initially circulated by means of Circular letter No.2554, dated 24 June 2004.		
AlternativeName	String	Any other name used. This attribute can be used for example for the official name of the organization in the native language.	Rajavartiolaitos	
IdentificationNumber	String	Business ID number of the organisation in international format.	The business number of the Finnish Border Guard: FI02460035	
LegalName	String	The official name of the organization. It is recommended to use the official English translation.	Finnish Border Guard	
OrganizationClassification	OrganizationClassificationType	Enumerated. Formal classification of organization.	Government authority on national level: 01	W3C Oont
OrganizationPurpose	OrganizationPurposeType	Enumerated. Defines the purpose of the organization. The purpose is modeled using the CISE user community plus some additional options where those are not applicable. There can be more than one purpose	Authority responsible for border control: 07	W3C Oont

UML Name	Data type	Description	Example	Source
		connected to one organization.		
OrganizationRole	OrganizationRoleType	Enumerated. Organization role as described by the different roles defined in SafeSeaNet system.	A body responsible for coordinating search and rescue operations or operations to tackle pollution at sea (Coastal station): 02	SSN MRG
ContactInformation	String	vCard [IETF RFC6350] is a data format for representing and exchanging information about individuals and other entities. It is a text-based format (as opposed to a binary format). xCard [IETF RFC6351] is an XML representation for vCard. All available attributes are described in the vCard document [IETF RFC6350] and listed bellow: • General Properties (BEGIN, END, SOURCE, KIND, XML) • Identification Properties (FN, N, NICKNAME, PHOTO, BDAY, ANNIVERSARY, GENDER) • Delivery Addressing Properties (ADR) • Communications Properties (TEL, EMAIL, IMPP, LANG)	Name of a person called Mr John Brown, M.Sc.: <fn><text>Mr John Brown, M.Sc.</text></fn> <n> <surname>Brown</surname> <given>John</given> <additional/> <prefix>Mr<prefix/> <suffix>M.Sc.<suffix/> </n> more examples found in: [IETF RFC6351]	IETF RFC 6351

UML Name	Data type	Description	Example	Source
		• Geographical Properties (TZ, GEO) • Organizational Properties (TITLE, ROLE, LOGO, ORG, MEMBER, RELATED) • Explanatory Properties (CATEGORIES, NOTE, PRODID, REV, SOUND, UID, CLIENTPIDMAP, URL, VERSION) • Security Properties (KEY) • Calendar Properties (FBURL, CALADRURI, CALURI)		
Identifier	UniqueIdentifier	Identifier of the agent. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
IsOfInterest	boolean	Attribute is flagging an interest to follow more closely any activities related to the Agent. Value of the attribute	0	

UML Name	Data type	Description	Example	Source
		can be either true or false (true = 1 and false = 0)		
IsSuspect	boolean	Attribute is flagging a possible suspicion of illegal activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	There is some suspect related to the agent: 1	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	DCMI	
Nationality	String	Three-letter country codes to represent countries, dependent territories, and special areas of geographical interest	Portugal: PT	ISO 3166-1 (alpha-2)

(*) Inherited attributes are coloured in grey.

15.2.5.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Agents (persons, organizations) can be associated to zero to multiple documents.	0..*
InvolvedEvent	Event	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)
InvolvedObject	Object	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedRisk	Risk	Agents (persons, organizations) can be associated to zero to multiple risks in different roles.	0..* (allow duplicates)

UML Name	Data type	Description	Multiplicity
		The association has additional attributes. Please check association class AgentRisk.	
InvolvedWith	Agent	Agents (persons, organizations) can be associated to zero to multiple agents (persons, organizations) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInAgent). The association has additional attributes. Please check association class AgentAgent.	0..* (allow duplicates)
Location	Location	Agents (persons, organizations) can be associated to zero to multiple location in different roles. The lenght of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInLocation). The association has additional attributes. Please check association class AgentLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

15.2.6 OrganizationClassificationType Enumeration

This enumeration presents the formal classification (status) of organization.

15.2.6.1 Enumeration Values

Value	Label	Description	Source
01	governmental	Governmental organization.	
02	european	European agency.	
03	member state	Representing the government of a member state.	
04	non-governmental	International organization, independent of governments.	
05	criminal	Company involved in organized crime.	
06	private	Private sector company.	
07	inter governmental	International organization between governments.	
98	other	Any other not mentioned before	
99	non-specified	Not declared	

15.2.6.2 Enumeration Usage

The following attributes use this enumeration as data type:

68. OrganizationClassification (Organization)

15.2.7 OrganizationPurposeType Enumeration

This enumeration presents the general purpose of the organization.

15.2.7.1 Enumeration Values

Value	Label	Description	Source
01	general law enforcement	Authorities responsible for:	

Value	Label	Description	Source
		• Monitoring of compliance with applicable legislation in sea areas, where there is policing competence; support to enforcement and/or response operations	
02	customs	Authorities responsible for: • Monitoring of compliance with customs regulations on the import, export and movement of goods; support of enforcement operations • Early warning/identification of criminal trafficking of goods (narcotics, weapons, etc.); support of response operations	
03	marine environment	Authorities responsible for: • Monitoring of compliance with regulations on the protection of the marine environment; support of enforcement operations • Early warning/identification of incidents/accidents that may have an environmental impact; support of pollution response operations	
04	maritime safety and security	Authorities responsible for: • Monitoring of compliance with regulations on the safety and prevention of pollution caused by ships (construction, equipment, crew/passengers, cargo); support of enforcement operations • Monitoring of compliance with regulations on the safety of navigation (vessel traffic safety); support of enforcement operations • Monitoring of compliance with regulations on the security of ships; support of enforcement operations • Supporting safe and efficient flow of vessel traffic; vessel traffic management • Early warning/identification of ships/persons in distress; support of response operations (search and rescue, salvage, place of refuge) • Early warning/identification of maritime security threats, within the scope of SOLAS Chapter XI-2; support of response operations • Early warning/identification of threats/acts of piracy or armed robbery; support of response operations	
05	defence	Authorities responsible for: • Monitoring in support of general Defence tasks, such as: exercising national sovereignty at sea; combating terrorism and other hostile activities outside the EU; other Common Security and Defence Policy tasks, as defined in Articles 42 and 43 TEU.	
06	fisheries control	Authorities responsible for: • Monitoring of compliance with regulations on fisheries; support of enforcement operations • Early warning/identification of illegal fisheries or fish landings; support of response operations	
07	border control	Authorities responsible for: • Monitoring of compliance with regulations on immigration and border crossing; support of enforcement operations • Early warning/identification of cases of illegal migration or trafficking in human beings; support of response operations	
08	profitable	Not authority. Private or public organization/company which is expected to make profit.	
09	non-profitable	Nor authority. Private or public organization which is not expected to make profit.	
98	other	Any other not mentioned before	
99	non-specified	Not declared	

15.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

69. OrganizationPurpose (Organization)

15.2.8 OrganizationRoleType Enumeration

Source: SSN MRG

15.2.8.1 Enumeration Values

Value	Label	Description	Source
01	port authority	SSN::Port authority. Port Authority means the competent authority or body designated by Member States for each port to receive and pass on information reported pursuant to the directive.	
02	coastal station	SSN::Coastal station. Coastal Station means any of the following, designated by Member States pursuant to the directive: • A vessel traffic service (VTS) • A shore-based installation responsible for a mandatory reporting system approved (adopted) by the IMO • A body responsible for coordinating search and rescue operations or operations to tackle pollution at sea	
03	port state control	SSN::Port state control. The competent authority for inspecting the foreign ships in national ports to verify that the condition of the ship and its equipment comply with the requirements of international regulations and that the ship is manned and operated in compliance with these rules.	
04	national competent authority	SSN::National competent authority. Physical entity designated by Member States in charge of handling and exchanging the SafeSeaNet messages related to the maritime safety and the traffic monitoring directive. The single point of contact within the Member State is designated as NCA in the framework of SafeSeaNet.	
05	inspection authority	SSN::Incident::Inspection authority. Competent authority for incident inspections.	
98	other	Any other not mentioned before	
99	non-specified	Not declared	

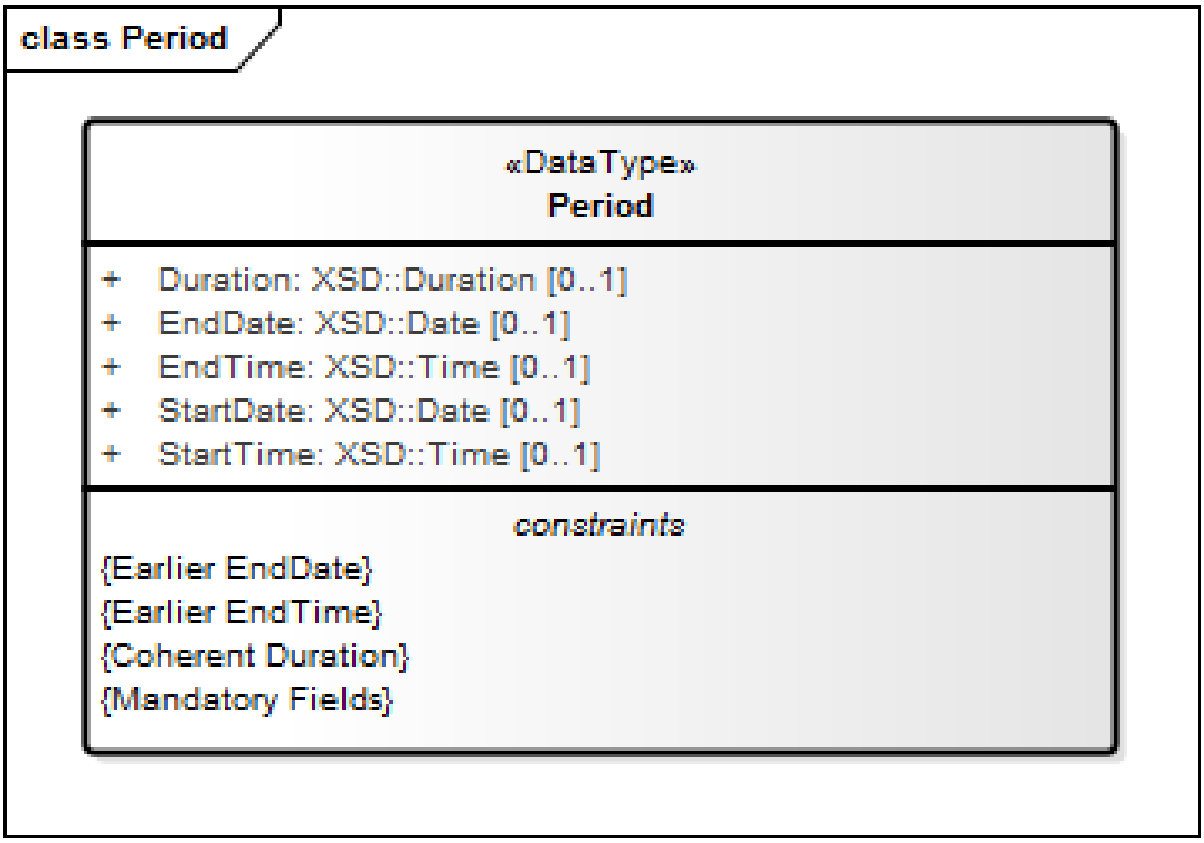
15.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

70. OrganizationRole (Organization)

16 Period Core Entity

16.1 UML models



16.2 Elements defined in the Core Vocabulary

16.2.1 Period Datatype

The class Period is used to define a time interval which can be expressed by:

71. only a duration (i.e. one month),
72. a duration and a start (resp. end) date [ex.: a period of ten days starting (resp. ending) on December 10th, 2002], in this case the period is assumed to start (resp. end) on December 10th at 0:00 (resp. 23:59).
73. a duration and a start (resp. end) time [ex.: a period of ten days starting (resp. ending) at 10am],
74. a duration and start (resp. end) date and time (ex.: a period of ten days starting (resp. ending) on December 10th, 2002, 10am),
75. a start Date and an end Date (ex.: December 3rd, 2002 & January 24th 2010),
76. a start Time and an end Time (ex.: 9am and 10pm),
77. a start date and start time following by an end date and end time (ex.: December 3rd, 2002 at 10pm and January 24th, 2010 at 9am).

16.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
Duration	XSD::Duration	The Duration attribute is used to define a time interval. It is from the standard XML schema Duration type (XSD:Duration).	"P5Y" for a period of five years. "PT15H" for a period of 15 hours.	

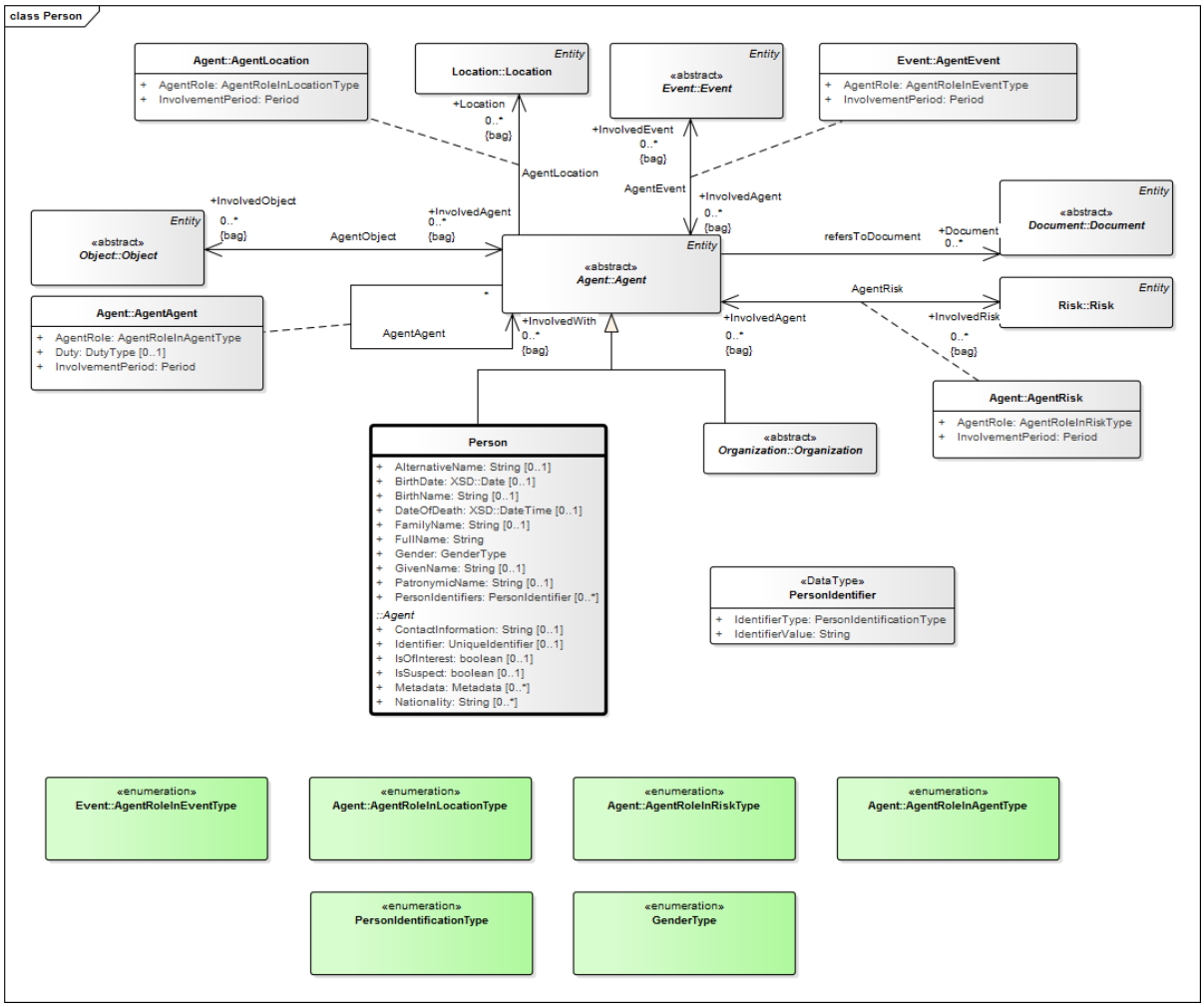
UML Name	Data type	Description	Example	Source
		The time interval is specified in the following form "PnYnMnDTnHnMnS" where: •P indicates the period (required) •nY indicates the number of years •nM indicates the number of months •nD indicates the number of days •T indicates the start of a time section (required if you are going to specify hours, minutes, or seconds) •nH indicates the number of hours •nM indicates the number of minutes •nS indicates the number of seconds. To specify a negative duration, enter a minus sign before the P.	"-P10D" for a period of -10 days (useful when combined to an End Date.	
EndDate	XSD::Date	The EndDate attribute is used to specify the end date of something located in time. It is from the standard XML Schema Date type (XSD:Date).	2002-09-24	
EndTime	XSD::Time	The EndTime attribute is used to specify the end time of something located in time. It is from the standard XML Schema Time type (XSD:Time).	09:00:00	
StartDate	XSD::Date	The StartDate attribute is used to specify a starting date. It is from the standard XML Schema Date type (XSD:Date). The start date is specified in the following form "YYYY-MM-DD" where: •YYYY indicates the year •MM indicates the month •DD indicates the day Note: All components are required!	2002-09-24	
StartTime	XSD::Time	The StartTime attribute is used to specify a starting time. . It is from the standard XML Schema Time type (XSD:Time). The time is specified in the following form "hh:mm:ss" where: •hh indicates the hour •mm indicates the minute •ss indicates the second Note: All components are required!	09:00:00	

16.2.1.2 Constraints

Name	Description	OCL Constraint
Coherent Duration	StartDate + StartTime plus Duration equals EndDate + Endtime	context Period::Duration(): Float post: result = self.EndDate + self.EndTime - (self.StartDate + self.StartTime)
Earlier EndDate	EndDate can not be earlier than StartDate	context Period inv: self.EndDate.DateTimeAsFloat > self.StartDate.DateTimeAsFloat
Earlier EndTime	EndTime can not be earlier than StartTime	context Period inv: self.EndTime > self.StartTime
Mandatory Fields	StartDate or EndDate or Duration must be filled	context: Period inv: (self.StartDate.isNull=true and self.EndDate.isNull=true and self.Duration.isNull=true) = false

17 Person Core Entity

17.1 UML models



17.2 Elements defined in the Core Vocabulary

17.2.1 Person Class (subclass of Agent)

The Person Class is a sub class of the more general 'Agent' class that encompasses organizations, legal entities, groups etc. - any entity that is able to carry out actions. The data type properties of the Person class do not have any cardinality restrictions and as such all are optional. However, guidance is provided for the usage of each property in the following sections.

17.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
AlternativeName	String	Any name by which an individual is known other than their full name. Many individuals use a short form of their name, a 'middle' name as a 'first' name or a professional name. For example, the British politician and former UN High Representative for Bosnia and Herzegovina, Jeremy John Durham Ashdown, Baron Ashdown of Norton-sub-Hamdon, is	Lord Ashdown	ISA CORE

UML Name	Data type	Description	Example	Source
		usually referred to simply as 'Paddy Ashdown' or 'Lord Ashdown'.		
BirthDate	XSD::Date	A date that specifies the birth date of a person. Format yyyy-mm-dd	1930-06-22	ISA CORE
BirthName	String	All data associated with an individual are subject to change. Names can change for a variety of reasons, either formally or informally, and new information may come to light that means that a correction or clarification can be made to an existing record. Birth names tend to be persistent however and for this reason they are recorded by some public sector information systems. There is no granularity for birth name - the full name should be recorded in a single field.	Johan	ISA CORE
DateOfDeath	XSD::DateTime	A date that specifies the death date of a person. Format yyyy-mm-ddThh:mm:ss	1930-06-22T19:15:30	ISA CORE
FamilyName	String	A family name is usually shared by members of a family. This attribute also carries prefixes or suffixes which are part of the Family Name, e.g. “de Boer”, “van de Putte”, “von und zuOrlow”. Multiple family names, such as are commonly found in Hispanic countries, are recorded in the single Family Name field so that, for example, Miguel de Cervantes Saavedra's Family Name would be recorded as "de Cervantes Saavedra".	de Cervantes Saavedra	ISA CORE
FullName	String	Complete name of a person. The Full Name is the most reliable label for an individual and as such its use is strongly encouraged, irrespective of whether that name is broken down using the more granular elements. A name usually sticks with a person for a long time period. In some European countries a name may only be changed according to certain laws and life events, e.g. marriage. The name denominates a natural person even if he/she changes their address. Documents like birth certificate or diploma usually don’t carry an address but always the name. Thus the name is one of the core attributes. However it is not sufficient to identify a person since there are combinations of very common names like Smith in the UK, Meier in Germany, or Li in China.	George Smith	ISA CORE

UML Name	Data type	Description	Example	Source
Gender	GenderType	The gender of an individual. Eurostat SCL - Sex [SCLS] possible values: Female/Male/Other/Unknown/Not applicable.	Female	ISA CORE
GivenName	String	A given name, or multiple given names, are the denominator(s) that identify an individual within a family. These are given to a person by his or her parents at birth or may be legally recognised as 'given names' through a formal process. All given names are ordered in one field so that, for example, the Given Name for Johan Sebastian Bach is 'Johan Sebastian.'	Johan Sebastian	ISA CORE
PatronymicName	String	Patronymic names are important in some countries. Iceland does not have a concept of 'family name' in the way that many other European countries do, for example. Erik Magnusson and Erika Magnusdottir are siblings, both offspring of Magnus, irrespective of his patronymic name. In Bulgaria and Russia, patronymic names are in every day usage, for example, the Sergeyevich in 'Mikhail Sergeyevich Gorbachev'. Patronymic names refer to a father's given name, not the family name inherited from the mother and father as is the case in countries such as Spain and Portugal. Again referring to the example of Miguel de Cervantes Saavedra's, the patronymic name element would be unused.	Sergeyevich	ISA CORE
PersonIdentifiers	PersonIdentifier			
ContactInformation	String	vCard [IETF RFC6350] is a data format for representing and exchanging information about individuals and other entities. It is a text-based format (as opposed to a binary format). xCard [IETF RFC6351] is an XML representation for vCard. All available attributes are described in the vCard document [IETF RFC6350] and listed bellow: • General Properties (BEGIN, END, SOURCE, KIND, XML) • Identification Properties (FN, N, NICKNAME, PHOTO, BDAY, ANNIVERSARY, GENDER) • Delivery Addressing Properties (ADR)	Name of a person called Mr John Brown, M.Sc.: <fn><text>Mr John Brown, M.Sc.</text></fn> <n> <surname>Brown</surname> <given>John</given> <additional/> <prefix>Mr<prefix/> <suffix>M.Sc.<suffix/> </n> more examples found in: [IETF RFC6351]	IETF RFC 6351

UML Name	Data type	Description	Example	Source
		• Communications Properties (TEL, EMAIL, IMPP, LANG) • Geographical Properties (TZ, GEO) • Organizational Properties (TITLE, ROLE, LOGO, ORG, MEMBER, RELATED) • Explanatory Properties (CATEGORIES, NOTE, PRODID, REV, SOUND, UID, CLIENTPIDMAP, URL, VERSION) • Security Properties (KEY) • Calendar Properties (FBURL, CALADRURI, CALURI)		
Identifier	UniqueIdentifier	Identifier of the agent. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
IsOfInterest	boolean	Attribute is flagging an interest to follow more closely any activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	0	
IsSuspect	boolean	Attribute is flagging a possible suspicion of illegal activities related to the Agent. Value of the attribute can be either true or false (true = 1 and false = 0)	There is some suspect related to the agent: 1	
Metadata	Metadata	see: Core Vocabulary Specification for "Metadata"	DCMI	
Nationality	String	Three-letter country codes to represent countries, dependent territories, and special areas of geographical interest	Portugal: PT	ISO 3166-1 (alpha-2)

(*) Inherited attributes are coloured in grey.

17.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	Agents (persons, organizations) can be associated to zero to multiple documents.	0..*
InvolvedEvent	Event	Agents (persons, organizations) can be involved in zero to multiple events (movements, incidents, anomalies, actions) as actors or targets in many different roles. The association has additional attributes. Please check association class AgentEvent.	0..* (allow duplicates)

UML Name	Data type	Description	Multiplicity
InvolvedObject	Object	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedRisk	Risk	Agents (persons, organizations) can be associated to zero to multiple risks in different roles. The association has additional attributes. Please check association class AgentRisk.	0..* (allow duplicates)
InvolvedWith	Agent	Agents (persons, organizations) can be associated to zero to multiple agents (persons, organizations) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInAgent). The association has additional attributes. Please check association class AgentAgent.	0..* (allow duplicates)
Location	Location	Agents (persons, organizations) can be associated to zero to multiple location in different roles. The lenght of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInLocation). The association has additional attributes. Please check association class AgentLocation.	0..* (allow duplicates)

(*) Inherited association roles are coloured in grey.

17.2.2 PersonIdentifier Datatype

The PersonIdentifier class allows the identification of the Person by means of a document of given type and related id number, according to the different countries policy.

17.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
IdentifierType	PersonIdentificationType	Type of document identifying the Person	IdentityCard	
IdentifierValue	String	Identification number of document	199000592	

17.2.3 GenderType Enumeration

The gender of an individual.

Source: Eurostat SCL - Sex [SCLS]

17.2.3.1 Enumeration Values

Value	Label	Description	Source
01	female	Female	

Value	Label	Description	Source
02	male	Male	
03	other	Other gender, not male neither female	
04	unknown	Unknown	
05	not applicable	Not Applicable	

17.2.3.2 Enumeration Usage

The following attributes use this enumeration as data type:

78. Gender (Person)

17.2.4 PersonIdentificationType Enumeration

17.2.4.1 Enumeration Values

Value	Label	Description	Source
01	identity card	Identity Card	
02	social security card	Social Security Card	
03	passport	Passport	
04	fiscal document	Fiscal Document	
05	VISA	Visa International Service Association Card	
06	crew master book	Crew Master Book	
98	other	Other value not included in the list	
99	non-specified	Not Specified	

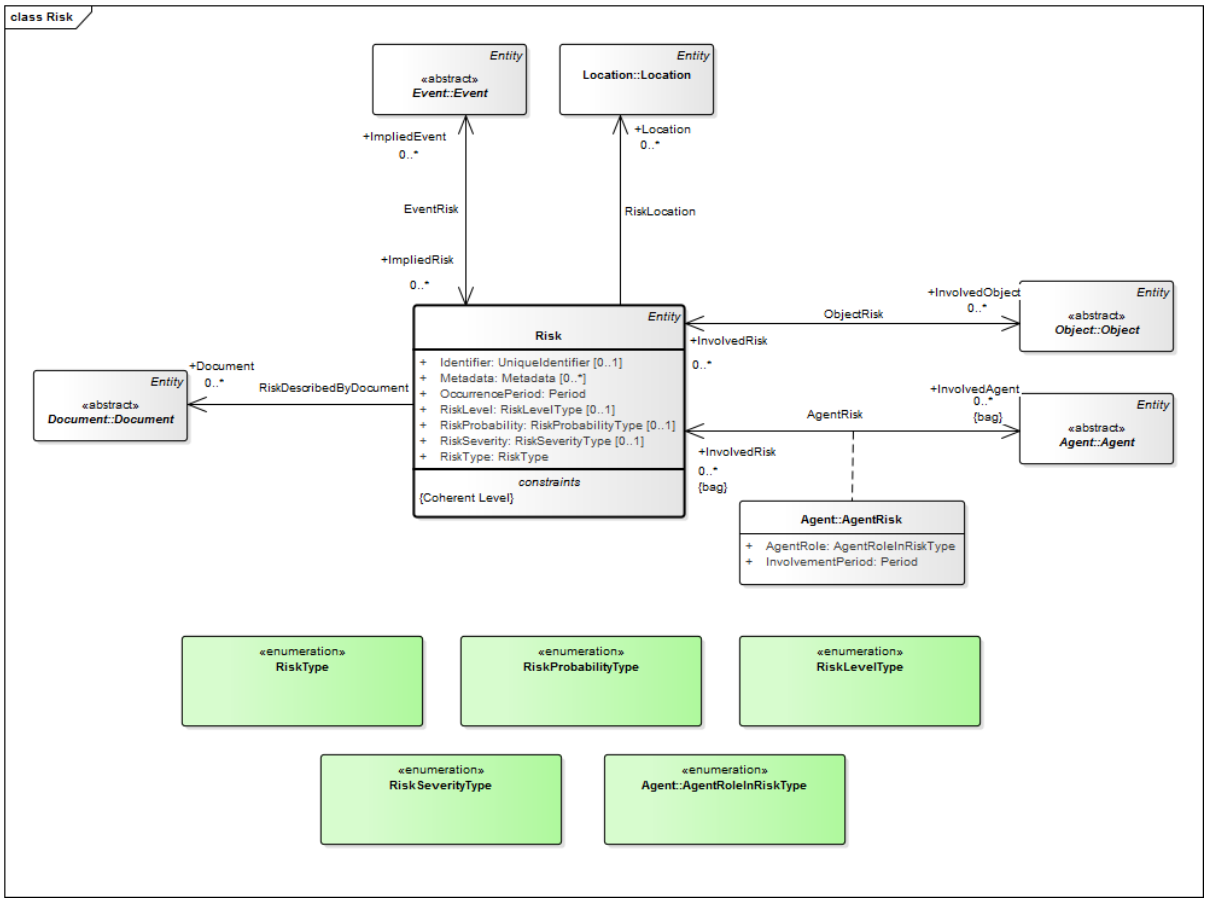
17.2.4.2 Enumeration Usage

The following attributes use this enumeration as data type:

79. IdentifierType (PersonIdentifier)

18 Risk Core Entity

18.1 UML models



18.2 Elements defined in the Core Vocabulary

18.2.1 Risk Class (subclass of Entity)

The class Risk is used to represent a more or less probable situation involving exposure to danger concerning the maritime domain. The notion of risk is usually very subjective and, in a first step, we decided to keep the definition of the class simple in order to ease its adoption. Further work could be used to detail the risk definition and introduce metrics regarding probability and severity.

18.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
Identifier	UniqueIdentifier	Identifier of the risk. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better understanding of the information being shared.		
Metadata	Metadata	The Metadata of a Risk		
OccurrencePeriod	Period	Defines the period of time concerned by the Risk.		

UML Name	Data type	Description	Example	Source
RiskLevel	RiskLevelType	The risk level is used to define the importance of a risk on the maritime domain.	for an medium risk level 02	
RiskProbability	RiskProbabilityType	The probability of occurrence of the risk	for an occasional risk: 03	
RiskSeverity	RiskSeverityType	The importance of the consequences of the risk	for risk with few consequences on the maritime activities: 03	
RiskType	RiskType	Identifies the type of the risk	for an accident risk: 01	

18.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Document	Document	A Risk can be described by one or many documents	0..*
ImpliedEvent	Event	This bidirectional association can be used to link risks to event or to define events as consequences of one or many risks. Among events associated with Risks we can find: Movements, Anomalies, Incidents and Actions. For example: - mitigation actions can be associated with a risk, - one or many risks can be the consequences of an incident. - a movement of a dangerous ship can lead to a risk (pollution for example)	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple risks in different roles. The association has additional attributes. Please check association class AgentRisk.	0..* (allow duplicates)
InvolvedObject	Object	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	A Risk can concern one or many Locations	0..*

18.2.1.3 Constraints

Name	Description	OCL Constraint
Coherent Level	The Level attribute must be defined in accordance with the Probability and Severity attributes when present.	

18.2.2 RiskLevelType Enumeration

The risk level is defined regarding the impact of the risk's occurrence. It is a combination of the two previous data: risk probability and risk severity. A risk which occurs frequently and has a critical severity will have a high risk level. Respectively, a low probability risk with negligible severity will have a low risk level. This enumeration presents the possible risk levels.

18.2.2.1 Enumeration Values

Value	Label	Description	Source
01	high	A high level risk occurs frequently and has important consequences	
02	medium	Medium level risks have medium impact on maritime activities	
03	low	A low level risk has a low impact on maritime activities (improbable or rare risk, risk with negligible severity)	
98	other	Risk level not included above	
99	non-specified	Risk level non-specified	

18.2.2.2 Enumeration Usage

The following attributes use this enumeration as data type:

80. RiskLevel (Risk)

18.2.3 RiskProbabilityType Enumeration

18.2.3.1 Enumeration Values

Value	Label	Description	Source
01	frequent	The risk occurs frequently	
02	probable	The risk is probable	
03	occasional	The risk could occur on some occasions	
04	rare	The occurrence of the risk is rare	
05	improbable	The risk is improbable	
98	other	Risk Probability not included above	
99	non-specified	Risk Probability non-specified	

18.2.3.2 Enumeration Usage

The following attributes use this enumeration as data type:

81. RiskProbability (Risk)

18.2.4 RiskSeverityType Enumeration

This enumeration presents the different severities which can be assigned to a risk.

18.2.4.1 Enumeration Values

Value	Label	Description	Source
01	catastrophic	A major catastrophic event is the consequence of the risk (death of people, major pollution…)	
02	critical	The occurrence of the risk leads to major consequences affecting maritime activities (maritime traffic blocked…)	

Value	Label	Description	Source
03	marginal	The risk's consequences are marginal. The risk as no impact on maritime activities, people or cargo.	
04	negligible	The risk's consequences are negligible.	
98	other	Risk severity not included above	
99	non-specified	Risk severity non-specified	

18.2.4.2 Enumeration Usage

The following attributes use this enumeration as data type:

82. RiskSeverity (Risk)

18.2.5 RiskType Enumeration

This enumeration presents the possible types of Risks.

18.2.5.1 Enumeration Values

Value	Label	Description	Source
01	accident	Accident	
02	illegal immigration	Illegal Immigration	
03	drug trafficking	Drug Trafficking	
04	collision	Collision	
05	human trafficking	Human Trafficking	
06	smuggling	Smuggling	
07	illegal fishing	Illegal Fishing	
08	weapons trafficking	Weapons Trafficking	
09	fire	Fire	
10	pollution	Pollution	
98	other	Risk type not included above	
99	non-specified	Risk type non-specified	

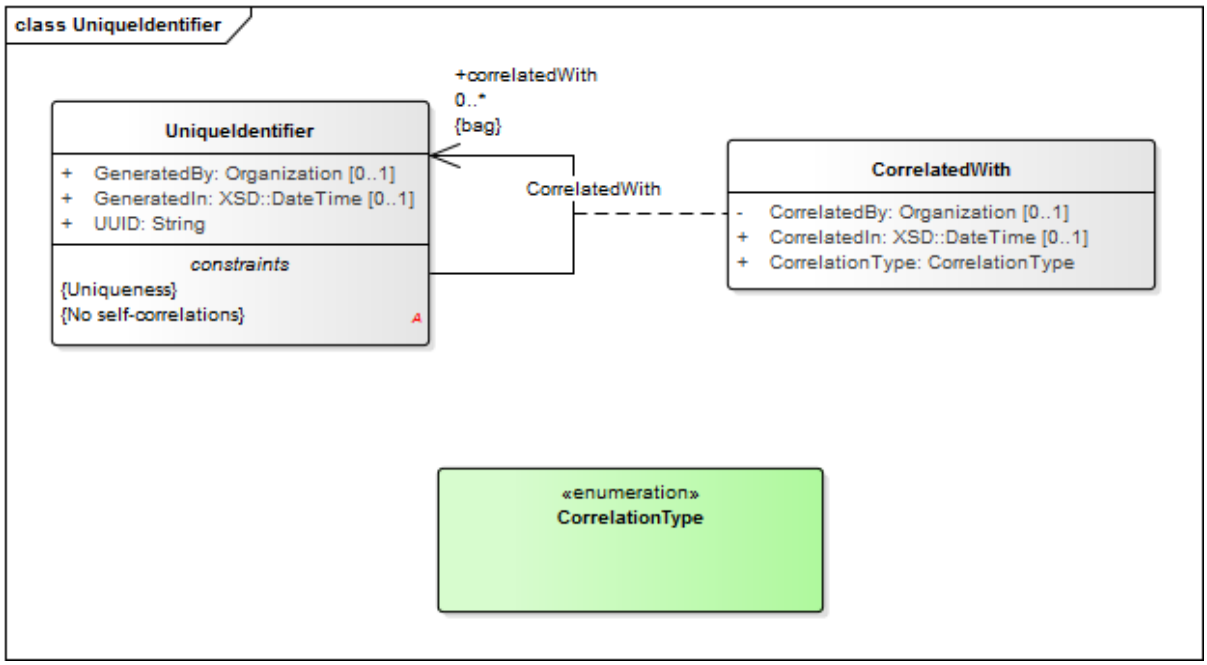
18.2.5.2 Enumeration Usage

The following attributes use this enumeration as data type:

83. RiskType (Risk)

19 UniqueIdentifier Core Entity

19.1 UML models



19.2 Elements defined in the Core Vocabulary

19.2.1 UniqueIdentifier Class

The Unique Identifier is a fundamental entity of the overall data model of the information sharing environment, since it will allow, as it name implies, to uniquely identify each and every single data object exchanged through the network. With this identifier it will also be possible for the legacy systems to keep trace of the relationships between their data objects and those from the information sharing environment. It will be possible to understand who and when is publishing each and every data object in the network.

19.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
GeneratedBy	Organization	Organization that generated the Unique Identifier object		
GeneratedIn	XSD::DateTime	Date and time when this UUID was generated	19 OCT 2013 22:36:45	
UUID	String	UUID is represented by 32 hexadecimal digits, displayed in five groups separated by hyphens, in the form 8-4-4-4-12 for a total of 36 characters (32 alphanumeric characters and four hyphens	550e8400-e29b-41d4-a716-446655440000	IETF RFC 4122

19.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
correlatedWith	UniqueIdentifier	The association has additional attributes. Please check association class CorrelatedWith.	0..* (allow duplicates)

19.2.1.3 Constraints

Name	Description	OCL Constraint
No self-correlations	object can not be correlated with itself	context: UniqueIdentifier inv: self.correlatesTo <> self context: UniqueIdentifier inv: self.correlatedBy <> self
Uniqueness	There is only one object for each uniqueidentifier	context: UniqueIdentifier inv: UniqueIdentifier->allInstances()->forAll(n1, n2| n1.UUID<>n2.UUID)

19.2.2 CorrelatedWith Association Class

This class allows the correlation among the different objects in the information sharing environment. This correlation will allow the identification and "merging" of duplicate objects in the network, thus making the information shared more understandable.

19.2.2.1 Attributes

UML Name	Data type	Description	Example	Source
CorrelatedBy	Organization	Organization that correlated two UUIDs		
CorrelatedIn	XSD::DateTime	Date and time when this correlation was made	19 OCT 2013 22:36:45	
CorrelationType	CorrelationType	Process used to perform the correlation	Manual	

19.2.3 CorrelationType Enumeration

This enumeration presents the possible types of processes used to perform the objects correlation.

19.2.3.1 Enumeration Values

Value	Label	Description	Source
01	manual	Correlation performed by an operator	
02	automatic	Correlation performed automatically by a system	
98	other	Correlation performed by any other process not listed here	
99	non-specified	The correlation process is not declared	

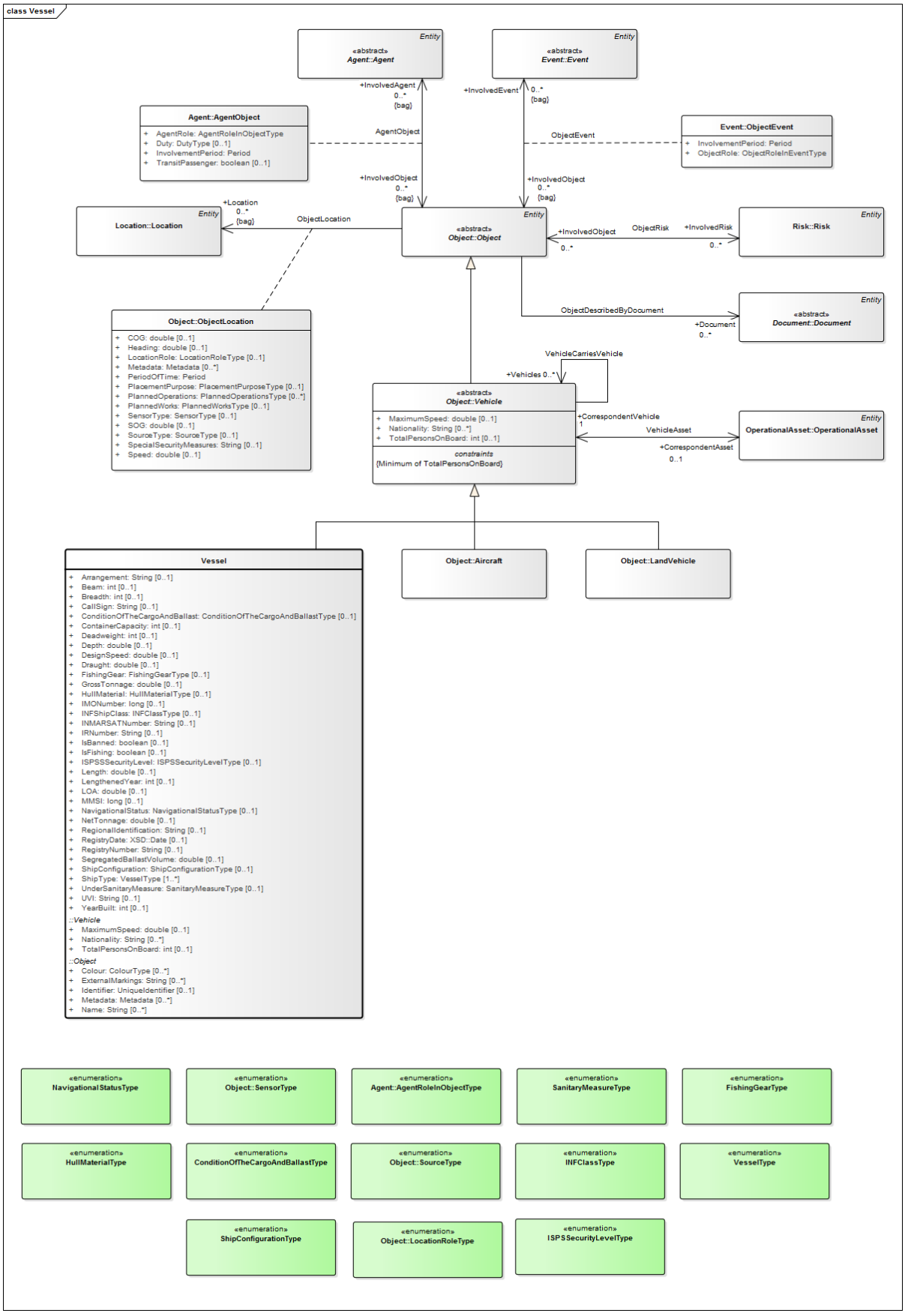
19.2.3.2 Enumeration Usage

The following attributes use this enumeration as data type:

84. CorrelationType (CorrelatedWith)

20 Vessel Core Entity

20.1 UML models



20.2 Elements defined in the Core Vocabulary

20.2.1 Vessel Class (subclass of Vehicle)

The class Vessel is a sub-class of the class Vehicle. A vessel refers to a ship or a boat. Vessel has the same associations and relationships than its parent-classes Vehicle and Object. Thus it can have relationship with Document, Risk, Event, Location, and Agent. It can also be associated with OperationalAsset.

20.2.1.1 Attributes

UML Name	Data type	Description	Example	Source
Arrangement	String	Arrangement		
Beam	int	Beam measurement in meters.	30	
Breadth	int	Distance side to side of the vessel in meters	32	
CallSign	String	Callsign as defined by ITU-R M.1371	MTDM5	ITU-R M.1371-1
ConditionOfTheCargoAndBallast	ConditionOfTheCargoAndBallastType	Indicates the current load of cargo and ballast	Full	NSW
ContainerCapacity	int	Container capacity in feet. Available in common standard lengths of 20-ft (6.1 m), 40-ft (12.2 m), 45-ft (13.7 m), 48-ft (14.6 m), and 53-ft (16.2 m).	20 (20-ft)	ISO container dimensions and payloads
Deadweight	int	Dead weight in tonnes	53807	
Depth	double	Depth		
DesignSpeed	double	Design speed in knots	12	
Draught	double	Draught in meter	1.2 (1.2 meters)	
FishingGear	FishingGearType	Indicates the type of fishing gear aboard the vessel	05 (lift nets)	FAO
GrossTonnage	double	Gross tonnage (no unit)	48788	NSW
HullMaterial	HullMaterialType	Hull material	High Strength Steel	
IMONumber	long	The IMO number of the vessel.	9074729	IMO ISPS Code

UML Name	Data type	Description	Example	Source
INFShipClass	INFClassType	International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships	INF1	IMO ISPS Code
INMARSATNumber	String	INMARSAT number	00870+mobile number	NSW
IRNumber	String	Information request number for the vessel.		
IsBanned	boolean	Indicates if a vessel is banned	FALSE	
IsFishing	boolean	Indicates if a vessel is currently fishing	FALSE	
ISPSSSecurityLevel	ISPSSecurityLevelType	International Ship and Port Security levels as defined by the ISPS code	01 (Security Level 1)	IMO ISPS Code
Length	double	Length in meters.	294	
LengthenedYear	int	Lengthened year	2010	
LOA	double	Length overall of the vessel in meters.	294	
MMSI	long	MMSI number as defined by ITU-R M.1371	232000000	ITU-R M.1371-1
NavigationalStatus	NavigationalStatusType	Navigational status enumeration defined by the IVEF standard	01 (At Anchor)	IALA IVEF
NetTonnage	double	Net tonnage	47000	NSW
RegionalIdentification	String	Regional identification		
RegistryDate	XSD::Date	Registry date	1952-12-21	NSW
RegistryNumber	String	Registry number	212056	NSW
SegregatedBallastVolume	double	Separated volume of ballast	200	
ShipConfiguration	ShipConfigurationType	Indicates the hull configuration of the vessel	Double hull tanker	NSW

UML Name	Data type	Description	Example	Source
ShipType	VesselType	Different types of vessels.	Passenger ship	IMO GISIS
UnderSanitaryMeasure	SanitaryMeasureType	Sanitary measure to be taken in respect to the vessel	04 (Decontamination)	NSW
UVI	String	Unique vessel identifier defined by the FAO.	235210	FAO
YearBuilt	int	Year when the vessel was built	1990	
MaximumSpeed	double	The vehicle's maximum speed measured in knots	20	EUROSUR
Nationality	String	Two-letter country codes to represent countries, dependent territories, and special areas of geographical interest. Represent the flag for a Vessel.	Country code for Portugal: PT (Country code for Portugal)	ISO 3166-1
TotalPersonsOnBoard	int	The total number of persons on board	10	
Colour	ColourType	Colour information about the object	Red	EUROSUR
ExternalMarkings	String	External markings of the object	ABER	FLUX
Identifier	UniqueIdentifier	Identifier of the object. Each UniqueIdentifier can be correlated with other UniqueIdentifiers, either manually, by operators, or automatically, by systems, so that duplicate objects in the network can be identified and brought together for a better		

UML Name	Data type	Description	Example	Source
		understanding of the information being shared.		
Metadata	Metadata	Metadata related to the object		
Name	String	Name of the object	ABERIII	NSW

(*) Inherited attributes are coloured in grey.

20.2.1.2 Association Roles

UML Name	Data type	Description	Multiplicity
Cargo	Cargo	Vehicles can carry cargo.	0..1
CorrespondentAsset	OperationalAsset	Permits the definition of a Vehicle as an operational asset. One vehicle can be defined as a single operational asset or not.	0..1
Document	Document	One or many Objects can be described by one or many Documents	0..*
InvolvedAgent	Agent	Agents (persons, organizations) can be associated to zero to multiple objects (crafts, cargo) in different roles. The length of the association can vary which is described by association involvedDuring with class Period (described later in connection with class AgentInvolvementInObject). Passenger have special relationship to craft via Boolean type attribute TransitPassanger which carries information about the status of the passenger (Transit passenger or not). Crew has also a special relationship to craft which is described by attribute Duty which carries information about the responsibilities and position of the person in the vessel. The association has additional attributes. Please check association class AgentObject.	0..* (allow duplicates)
InvolvedEvent	Event	Objects may be involved in Events. Events can concern Objects. The association has additional attributes. Please check association class ObjectEvent.	0..* (allow duplicates)
InvolvedRisk	Risk	One or many Objects may be related one or many Risks. The relationship is bidirectional	0..*
Location	Location	One or many Objects (vehicles, cargo packages) can be located to a location in many different roles. This association is described by a class which enables the addition of useful information. The association has additional attributes. Please check association class ObjectLocation.	0..* (allow duplicates)
Vehicles	Vehicle	Vehicles can carry other vehicles.	0..*

(*) Inherited association roles are coloured in grey.

20.2.1.3 Constraints

Name	Description	OCL Constraint
Minimum of TotalPersonsOnBoard		The number of TotalPersonsOnBoard can not be smaller than the sum of master/crewmembers and passengers

(*) Inherited constraints are coloured in grey.

20.2.2 ConditionOfTheCargoAndBallastType Enumeration

This enumeration presents the vessel load's condition.

Source: NSW

20.2.2.1 Enumeration Values

Value	Label	Description	Source
01	full	Vessel fully loaded	NSW
02	empty	Vessel empty	NSW
03	inerted	Load inerted	NSW
98	other	Any other condition not mentioned above	
99	non-specified	Condition not specified	

20.2.2.2 Enumeration Usage

The following attributes use this enumeration as data type:

85. ConditionOfTheCargoAndBallast (Vessel)

20.2.3 FishingGearType Enumeration

This enumeration presents the list of fishing gears a vessel can be equipped with according to UN FAO rules.

Source: UN/FAO

20.2.3.1 Enumeration Values

Value	Label	Description	Source
01	surrounding nets	Surrounding nets	FAO FGM
02	seine nets	Seine nets	FAO FGM
03	trawl nets	Trawl nets	FAO FGM
04	dredges	Dredges	FAO FGM
05	lift nets	Lift nets	FAO FGM
06	falling nets	Falling nets	FAO FGM
07	gillnets and entangling nets	Gillnets and entangling nets	FAO FGM
08	traps	Traps	FAO FGM
09	hooks and lines	Hooks and lines	FAO FGM
10	grappling and wounding gears	Grappling and wounding gears	FAO FGM
11	stupefying devices	Stupefying devices	FAO FGM
98	other	Any other gear not mentioned above	

Value	Label	Description	Source
99	non-specified	Gear not specified	

20.2.3.2 Enumeration Usage

The following attributes use this enumeration as data type:

86. FishingGear (Vessel)

20.2.4 HullMaterialType Enumeration

This enumeration presents hull material types.

20.2.4.1 Enumeration Values

Value	Label	Description	Source
01	high strength steel	High Strength Steel	
98	other	Any other type not mentioned above	
99	non-specified	Type not specified	

20.2.4.2 Enumeration Usage

The following attributes use this enumeration as data type:

87. HullMaterial (Vessel)

20.2.5 INFClassType Enumeration

This enumeration presents the list of international codes for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes.||See http://www.imo.org/OurWork/Safety/Cargoes/Pages/IrradiatedNuclearFuel.aspx for further details.

Source: IMO FSI 21/18

20.2.5.1 Enumeration Values

Value	Label	Description	Source
INF1	Class INF1	Class INF 1 ship - Ships which are certified to carry INF cargo with an aggregate activity less than 4,000 TBq (TeraBecquerel= measurement of radioactivity)	IMO FSI 21/18
INF2	Class INF2	Class INF 2 ship - Ships which are certified to carry irradiated nuclear fuel or high-level radioactive wastes with an aggregate activity less than 2 x 106 TBq and ships which are certified to carry plutonium with an aggregate activity less than 2 x 105 TBq.	IMO FSI 21/18
INF3	Class INF3	Class INF 3 ship - Ships which are certified to carry irradiated nuclear fuel or high-level radioactive wastes and ships which are certified to carry plutonium with no restriction of the maximum aggregate activity of the materials	IMO FSI 21/18
98	other	Any class not mentioned above	
99	non-specified	Class not specified	

20.2.5.2 Enumeration Usage

The following attributes use this enumeration as data type:

88. INFShipClass (Vessel)

20.2.6 ISPSSecurityLevelType Enumeration

This enumeration presents the possible values for the security level of the port.||(This enumeration presents the three levels of the ISPS code. See http://www.imo.org/blast/mainframe.asp?topic_id=583&doc_id=2689#code for further details.)

Source: IMO ISPS Code

20.2.6.1 Enumeration Values

Value	Label	Description	Source
01	security level1	Normal, the level at which the ship or port facility normally operates. Security level 1 means the level for which minimum appropriate protective security measures shall be maintained at all times.	IMO ISPS Code
02	security level2	Heightened, the level applying for as long as there is a heightened risk of a security incident. Security level 2 means the level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a security incident.	IMO ISPS Code
03	security level3	Exceptional, the level applying for the period of time when there is the probable or imminent risk of a security incident. Security level 3 means the level for which further specific protective security measures shall be maintained for a limited period of time when a security incident is probable or imminent, although it may not be possible to identify the specific target.	IMO ISPS Code
98	other	Any other security level not mentioned above	
99	non-specified	Security level not specified	

20.2.6.2 Enumeration Usage

The following attributes use this enumeration as data type:

89. PortSecurityLevel (PortFacilityLocation)
90. ISPSSSecurityLevel (Vessel)
91. PortSecurityLevel (PortLocation)

20.2.7 NavigationalStatusType Enumeration

This enumeration presents the different types of navigational statuses in accordance with the inter VTS exchange format.

Source: IALA IVEF

20.2.7.1 Enumeration Values

Value	Label	Description	Source
00	under way using engine	Under way using engine	IALA IVEF
01	at anchor	At anchor	IALA IVEF
02	not under command	Not under command	IALA IVEF
03	restricted manoeuvrability	Restricted manoeuvrability	IALA IVEF

Value	Label	Description	Source
04	constrained by her draught	Constrained by her draught	IALA IVEF
05	moored	Moored	IALA IVEF
06	aground	Aground	IALA IVEF
07	engaged in fishing	Engaged in fishing	IALA IVEF
08	under way sailing	Under way sailing	IALA IVEF
09	engaged in fishing other than trawling	Engaged in fishing other than trawling	IALA IVEF
10	air cushion vessel in non-displamenet mode or WIG craft taking off landing or in flight	Air-cushion vessel in non-displacement mode or WIG craft taking off, landing or in flight	IALA IVEF
11	power driven vessel towing astern	Power driven vessel towing astern	IALA IVEF
12	power driven vessel towig ahead or pushing alongside	Power driven vessel towing ahead or pushing alongside	IALA IVEF
13	in distress or requiring assistance	In distress or requiring assistance	IALA IVEF
14	AISSART seeking to attract attention	AIS SART, seeking to attract attention	IALA IVEF
15	undefined default	Undefined default	IALA IVEF
98	other	Any other severity not mentioned above	
99	non-specified	Severity not specified	

20.2.7.2 Enumeration Usage

The following attributes use this enumeration as data type:

92. NavigationalStatus (Vessel)

20.2.8 SanitaryMeasureType Enumeration

This enumeration presents the list of sanitary measure a vessel can be the object of.

Source: NSW

20.2.8.1 Enumeration Values

Value	Label	Description	Source
01	quarantine	Quarantine	NSW
02	isolation	Isolation	NSW
03	disinfection	Disinfection	NSW
04	decontamination	Decontamination	NSW
98	other	Any other sanitary measure not mentioned above	
99	non-specified	Sanitary measure not specified	

20.2.8.2 Enumeration Usage

The following attributes use this enumeration as data type:

93. UnderSanitaryMeasure (Vessel)

20.2.9 ShipConfigurationType Enumeration

This enumeration presents the list of ship configuration types.

Source: NSW

20.2.9.1 Enumeration Values

Value	Label	Description	Source
SHT	Single hull tanker	Single hull tanker	NSW
SHTBHT	Single hull with segregatted ballast tanks	Single hull with segregated ballast tanks	NSW
DHT	Double hull tanker	Double hull tanker	NSW
98	other	Any other ship configuration type not mentioned above	
99	non-specified	Ship configuration type not specified	

20.2.9.2 Enumeration Usage

The following attributes use this enumeration as data type:

94. ShipConfiguration (Vessel)

20.2.10 VesselType Enumeration

This enumeration presents the different types of Vessel. This list is limited to general type of vessel. It could be detailed in further modeling activities.

Source: IMO GISIS

20.2.10.1 Enumeration Values

Value	Label	Description	Source
01	passenger ship	Passenger ship	IMO GISIS
02	fishing vessel	Fishing vessel	IMO GISIS
03	nuclear ship	Nuclear ship	IMO GISIS
04	bulk carrier	Bulk carrier	IMO GISIS
05	oil tanker	Oil tanker	IMO GISIS
06	general cargo ship	General cargo ship	IMO GISIS
07	high speed craft	High-speed craft	IMO GISIS
08	mobile off shore drilling unit	Mobile off-shore drilling unit	IMO GISIS
09	special purpose ship	Special purpose ship	IMO GISIS
98	other	Any other certainty not mentioned above	
99	non-specified	Certainty not specified	

20.2.10.2 Enumeration Usage

The following attributes use this enumeration as data type:

95. ShipType (Vessel)

21 References

The following information sources were used during the design of the model:

Reference	Author	Title	Date - Version
CWA 15931-1:2009	European Committee for Standardization	Disaster and emergency management - Shared situation awareness - Part 1: Message structure (http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:32676&cs=1DB63724BE7CED45756D9BACF421AFCDB https://www.oasis-open.org/committees/download.php/42411/CWA_15931-1.pdf)	11 Feb 2009 -
WCO	WCO	WCO Data Model (http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/pf_tools_datamodel.aspx)	-
DCMI	DC	DCMI Metadata Terms	14 Jun 2012 -
ERS	Fisheries	Commission Implementing Regulation (EU) No 404/2011 of 8 April 2011 laying down detailed rules for the implementation of Council Regulation (EC) No 1224/2009 establishing a Community control system for ensuring compliance with the rules of the Common Fisheries Policy (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011R0404:EN:NOT http://ec.europa.eu/fisheries/cfp/control/codes/index_en.htm)	08 Apr 2011 -
IMO FAL	IMO	FAL Forms and Certificates (http://www.imo.org/OurWork/Facilitation/FormsCertificates/Pages/Default.aspx)	No date -
FAO FGM	UN/FAO	Fishing gears and methods (http://www.fao.org/fishery/topic/1617/en)	2013 -
FLUX	UN/CEFACT	Business Requirements Specification (BRS) - Fisheries Language for Universal eXchange	22 May 2013 - 0.5.2 Draft
BONN AGREEMENT	Bonn Agreement Secretariat	Bonn Agreement counter pollution manual (http://www.bonnagreement.org/site/assets/files/3946/bonn_agreement_counter_pollution_manual.pdf http://www.bonnagreement.org/manuals)	May 2014 -
ITU-R M.1371-1	ITU-R	Recommendation ITU-R M.1371-1. Technical characteristics for a universal shipborne automatic identification system using time division multiple access in the VHF maritime mobile band (https://archive.org/details/gov.law.itu-r.M-1371-1.2001)	2001 -
IMO MARPOL - annex II	IMO	Regulations for the control of pollution by noxious liquid substances in bulk (http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx http://www.imo.org/blast/mainframe.asp?topic_id=848&doc_id=4405)	-
IMO IMDG	IMO	International Maritime Dangerous Goods (IMDG) Code (http://www.imo.org/Publications/IMDGCode/Pages/Default.aspx)	-
IMO GISIS	IMO	IMO Global Integrated Shipping Information System (GISIS) (http://gisis.imo.org/Public/Default.aspx)	No date -
IETF RFC 3986	IETF	Uniform Resource Identifier (URI): Generic Syntax (http://www.ietf.org/rfc/rfc3986.txt)	-
W3C XSD 1	W3C	W3C XML Schema Definition Language (XSD) 1.1 Part 1: Structures. W3C Recommendation (http://www.w3.org/TR/xmlschema11-1/)	05 Apr 2012 -
W3C XSD 2	W3C	XML Schema Part 2: Datatypes Second Edition. W3C Recommendation (http://dublincore.org/documents/dcmi-terms/)	28 Oct 2004 -
IALA IVEF	IALA	IALA Recommendation V-145 on the Inter-VTS Exchange Format (IVEF) Service (http://www.iala-aism.org/publications/1707091216/inter-vts-exchange-format-service-145)	14 Jun 2011 - Edition 1

Reference	Author	Title	Date - Version
ISO 6346	ISO	Freight containers -- Coding, identification and marking (http://www.iso.org/iso/catalogue_detail?csnumber=20453)	-
ISO 8601	ISO	Date and time format (http://www.iso.org/iso/home/standards/iso8601.htm)	-
OASIS CAP	OASIS	Common Alerting Protocol Version 1.2 (http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.pdf)	01 Jul 2010 - 1.2
IMO FSI 21/18	IMO	Report to the Maritime Safety Committee and the Marine Environment Protection Committee. Annex 1 Draft FAL.2-MEPC.1-MSC.1 Circular on List of Certificates and Documents Required to be Carried on Board Ships.	07 Mar 2013 -
ISA CORE	ISA	ISA Core Vocabularies Specification (https://joinup.ec.europa.eu/catalogue/distribution/core_vocabularies-location_v100_specification_pdf)	11 May 2012 - 1.00
EUROSUR	Frontex	Events Catalogue and some aspects of the visualization policy in the Events Layer of EUROSUR network	21 May 2012 - 2.0
UNECE Recommendation 21 - annex IV	UNECE	Recommendation N°. 21 - Codes for Passengers, Types of Cargo, Packages and Packaging Materials (with Complementary Codes for Package Names) Annex IV (http://www.unece.org/tradewelcome/areas-of-work/un-centre-for-trade-facilitation-and-e-business-uncefact/outputs/cefactrecommendationsrec-index/list-of-trade-facilitation-recommendations-n-21-to-24.html http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec21/rec21rev2_rev_96trd211.pdf)	1996 - ECE/TRADE/211
ANSI / NISO Z39.85-2007	ANSI/NISO	The Dublin Core Metadata Element Set (http://www.niso.org/apps/group_public/download.php/6576/The%20Dublin%20Core%20Metadata%20Element%20Set.pdf)	-
e-NOA/D	The United States Coast Guard (USCG)	Electronic Notice of Arrival/Departure (e-NOA/D) (http://www.mxak.org/regulations/pdfs/enoagde.pdf)	07 Aug 2008 -
IMO MSC.1/Circ.1333	IMO	Piracy and Armed Robbery against Ships. Recommendations to Governments for preventing and suppressing piracy and armed robbery against ships (http://www.imo.org/OurWork/Security/PiracyArmedRobbery/Guidance/Documents/MSC.1-Circ.1333.pdf)	26 Jun 2009 -
IMO ISPS Code	IMO	International Ship and Port Facility Security Code (ISPS Code) (http://www.imo.org/ourwork/security/instruments/pages/ispscode.aspx)	-
UN/LOCODE	UN/CEFACT	UN/LOCODE Code List by Country (http://www.unece.org/cefact/locode/service/location.html)	-
ISO 3166-1	ISO	Codes for the representation of names of countries and their subdivisions – Part 1: Country codes (http://www.iso.org/iso/home/standards/country_codes.htm)	-
IETF RFC 6350	IETF	vCard Format Specification (https://tools.ietf.org/html/rfc6350)	-
IETF RFC 2046	IETF	Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types (https://www.ietf.org/rfc/rfc2046.txt)	-
ISO 15836:2009	ISO	Information and documentation -- The Dublin Core metadata element set (http://www.iso.org/iso/catalogue_detail.htm?csnumber=52142)	-
IETF RFC 6351	IETF	xCard: vCard XML Representation (https://tools.ietf.org/html/rfc6351)	-
CWA 15931-2:2009	European Committee for	Disaster and emergency management - Shared situation awareness - Part 2: Codes for the message structure (http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:32677&cs=	11 Feb 2009 -

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	Standardization	17A5CA3C1AC669C16019C1B19DE7EA570 https://www.oasis-open.org/committees/download.php/42412/CWA_15931-2.pdf)	
SSN IRG	EMSA	SafeSeaNet Incident Report Guidelines (http://www.emsa.europa.eu/documents/technical-documentation/224-ssn-documentation/1137-ssn-incident-report-guidelines-v191.html)	18 Oct 2012 - 1.91
IETF RFC 4122	IETF	A Universally Unique IDentifier (UUID) URN Namespace (https://www.ietf.org/rfc/rfc4122.txt)	-
IETF RFC 5013	IETF	The Dublin Core Metadata Element Set (https://tools.ietf.org/html/rfc5013)	-
SSN MRG	EMSA	SafeSeaNet XML Messaging Reference Guide v2.07 (http://www.emsa.europa.eu/documents/technical-documentation/224-ssn-documentation/1142-ssn-xml-message-guide-draft-v207.html)	19 Dec 2012 - 2.07
UNECE Recommendation 21 - annex II	UNECE	Recommendation N°. 21 - Codes for Passengers, Types of Cargo, Packages and Packaging Materials (with Complementary Codes for Package Names) Annex II (http://www.unece.org/tradewelcome/areas-of-work/un-centre-for-trade-facilitation-and-e-business-uncefact/outputs/cefactrecommendationsrec-index/list-of-trade-facilitation-recommendations-n-21-to-24.html http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec21/rec21rev2_rev_96trd211.pdf)	1996 - ECE/TRADE/211
NSW	eMS	eMS sub-group on data mapping and functionalities. Data Mapping Report	15 Nov 2013 - 1.0
UNECE Recommendation 20	UNECE	Recommendation N°. 20 - Codes for Units of Measure Used in International Trade (http://www.unece.org/tradewelcome/areas-of-work/un-centre-for-trade-facilitation-and-e-business-uncefact/outputs/cefactrecommendationsrec-index/list-of-trade-facilitation-recommendations-n-16-to-20.html http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec20/rec20.zip)	2012 -
UNECE Recommendation 21	UNECE	Recommendation N°. 21 - Codes for Passengers, Types of Cargo, Packages and Packaging Materials (with Complementary Codes for Package Names) (http://www.unece.org/tradewelcome/areas-of-work/un-centre-for-trade-facilitation-and-e-business-uncefact/outputs/cefactrecommendationsrec-index/list-of-trade-facilitation-recommendations-n-21-to-24.html http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec21/rec21.zip)	2012 -
UNDG	UNECE	European Agreement concerning the International Carriage of Dangerous Goods by Road. ADR applicable as from 1 January 2011 (http://www.unece.org/fileadmin/DAM/trans/danger/publi/adr/adr2011/English/Part3.pdf http://www.unece.org/trans/danger/publi/adr/adr2011/11contentse.html)	2010 -
UNECE Recommendation 21 - annex I	UNECE	Recommendation N°. 21 - Codes for Passengers, Types of Cargo, Packages and Packaging Materials (with Complementary Codes for Package Names) Annex I (http://www.unece.org/tradewelcome/areas-of-work/un-centre-for-trade-facilitation-and-e-business-uncefact/outputs/cefactrecommendationsrec-index/list-of-trade-facilitation-recommendations-n-21-to-24.html http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec21/rec21rev2_rev_96trd211.pdf)	1996 - ECE/TRADE/211
W3C OOnt	W3C	The Organization Ontology - W3C Candidate Recommendation (http://www.w3.org/TR/2013/CR-vocab-org-20130625/)	25 Jun 2013 -