

**VTS Digital Information Service**

**Product Specification**

**Draft 0.6.3– November 2020**

VTS Digital Information Service Product Specification

Annex B

Data Format Documentation

This page intentionally left blank

Schema **VTSDigitalInformationService.xsd**

|  |  |
| --- | --- |
| targetNamespace: | **http://www.iho.int/VTSDigitalInformationService/gml/1.0** |
|  |  |

|  |  |  |
| --- | --- | --- |
| Elements | Complex types | Simple types |
| [**Accident**](#Link1) | [**accidentShipCargoInformationType**](#Link2) | [**accidentAlarmTypeType**](#Link3) |
| [**Conditions**](#Link4) | [**accidentShipInformationType**](#Link5) | [**acknowledgementCodeType**](#Link6) |
| [**ContactDetails**](#Link7) | [**accidentShipNameType**](#Link8) | [**bunkerTypeType**](#Link9) |
| [**DataSet**](#LinkA) | [**AccidentType**](#LinkB) | [**categoryOfCargoType**](#LinkC) |
| [**EnvironmentalConditions**](#LinkD) | [**administrationStateType**](#LinkE) | [**categoryOfDangerousOrHazardousCargoType**](#LinkF) |
| [**EnvironmentalWarning**](#Link10) | [**atLocationType**](#Link11) | [**categoryOfStatementType**](#Link12) |
| [**FeatureType**](#Link13) | [**bunkerInformationType**](#Link14) | [**categoryOfVesselType**](#Link15) |
| [**InformationType**](#Link16) | [**cargoInformationType**](#Link17) | [**equipmentConditionType**](#Link18) |
| [**NavigationalAssistance**](#Link19) | [**ConditionsType**](#Link1A) | [**ISO3166-alpha2**](#Link1B) |
| [**NavigationalConditions**](#Link1C) | [**ContactDetailsType**](#Link1D) | [**ISO639-2**](#Link1E) |
| [**NavigationalEquipmentCondition**](#Link1F) | [**CurveOrSurface**](#Link20) | [**ISO639-3**](#Link21) |
| [**NavigationalWarning**](#Link22) | [**DatasetType**](#Link23) | [**ISPSLevelType**](#Link24) |
| [**SendingAccidentInformationInVTSArea**](#Link25) | [**EnvironmentalConditionsType**](#Link26) | [**kindOfMedicalAssistanceType**](#Link27) |
| [**ShipDynamic**](#Link28) | [**EnvironmentalWarningType**](#Link29) | [**messageMarkersType**](#Link2A) |
| [**ShipInformation**](#Link2B) | [**FeatureType**](#Link2C) | [**movementPurposeType**](#Link2D) |
| [**VTSAreaInformation**](#Link2E) | [**fromLocationType**](#Link2F) | [**notUnderCommandCauseType**](#Link30) |
| [**VTSDigitalInformationServiceMessage**](#Link31) | [**GM\_Curve**](#Link32) | [**radarTypeType**](#Link33) |
| [**Warning**](#Link34) | [**GM\_Point**](#Link35) | [**referenceObjectType**](#Link36) |
| [**WarningDetail**](#Link37) | [**GM\_Surface**](#Link38) | [**requestReplyInformtionType**](#Link39) |
|  | [**IMemberType**](#Link3A) | [**rescueEquipmentType**](#Link3B) |
|  | [**InformationTypeType**](#Link3C) | [**serviceObjectType**](#Link3D) |
|  | [**locationStateType**](#Link3E) | [**speedReferenceType**](#Link3F) |
|  | [**medicalAssistanceDetailType**](#Link40) | [**speedUnitsType**](#Link41) |
|  | [**MemberType**](#Link42) | [**telecommunicationServiceType**](#Link43) |
|  | [**NavigationalAssistanceType**](#Link44) | [**timeSequenceType**](#Link45) |
|  | [**navigationalConditionAreaNameType**](#Link46) | [**timeTypeType**](#Link47) |
|  | [**NavigationalConditionsType**](#Link48) | [**vesselsCharacteristicsType**](#Link49) |
|  | [**NavigationalEquipmentConditionType**](#Link4A) | [**vesselsCharacteristicsUnitsType**](#Link4B) |
|  | [**navigationalInformationType**](#Link4C) |  |
|  | [**navigationalWarningAreaNameType**](#Link4D) |  |
|  | [**NavigationalWarningType**](#Link4E) |  |
|  | [**notUnderCommandDetailType**](#Link4F) |  |
|  | [**onBoardCrewsType**](#Link50) |  |
|  | [**PointCurveSurface**](#Link51) |  |
|  | [**PointOrCurve**](#Link52) |  |
|  | [**PointOrSurface**](#Link53) |  |
|  | [**radarEquipmentType**](#Link54) |  |
|  | [**S100\_TruncatedDate**](#Link55) |  |
|  | [**SARDetailType**](#Link56) |  |
|  | [**SendingAccidentInformationInVTSAreaType**](#Link57) |  |
|  | [**shipCrewType**](#Link58) |  |
|  | [**ShipDynamicType**](#Link59) |  |
|  | [**ShipInformationType**](#Link5A) |  |
|  | [**shipSpeedType**](#Link5B) |  |
|  | [**telecommunicationsType**](#Link5C) |  |
|  | [**toLocationType**](#Link5D) |  |
|  | [**vesselNameType**](#Link5E) |  |
|  | [**vesselsMeasurementsType**](#Link5F) |  |
|  | [**VTSAreaInformationType**](#Link60) |  |
|  | [**VTSDigitalInformationServiceMessageType**](#Link61) |  |
|  | [**VTSOperatorAssignmentType**](#Link62) |  |
|  | [**WarningDetailType**](#Link63) |  |
|  | [**WarningType**](#Link64) |  |

element **Accident**

|  |  |
| --- | --- |
| diagram |  |
| type | [**AccidentType**](#LinkB) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link65)[**SARDetail**](#Link66)[**medicalAssistanceDetail**](#Link67)[**notUnderCommandDetail**](#Link68)[**assistanceDetail**](#Link69)[**medicalAssistanceAmongTypesOfAccidents**](#Link6A)[**sARAmongTypesOfAccidents**](#Link6B)[**nUCAmongTypesOfAccidents**](#Link6C)[**geometry**](#Link6D) |

element **Conditions**

|  |  |
| --- | --- |
| diagram |  |
| type | [**ConditionsType**](#Link1A) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E) |

element **ContactDetails**

|  |  |
| --- | --- |
| diagram |  |
| type | [**ContactDetailsType**](#Link1D) |
| substitution group | [**InformationType**](#Link16) |
| children | **informationAssociation invInformationAssociation** [**communicationChannel**](#Link6F)[**telecommunications**](#Link70) |

element **DataSet**

|  |  |
| --- | --- |
| diagram |  |
| type | [**DatasetType**](#Link23) |
| children | **gml:boundedBy** [**DatasetIdentificationInformation**](#Link71)[**DatasetStructureInformation**](#Link72) **Point MultiPoint Curve CompositeCurve OrientableCurve Surface Polygon** [**imember**](#Link73)[**member**](#Link74) |

element **EnvironmentalConditions**

|  |  |
| --- | --- |
| diagram |  |
| type | [**EnvironmentalConditionsType**](#Link26) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**validDateTime**](#Link75)[**messageIdentifierForEnvironmentalConditions**](#Link76) |

element **EnvironmentalWarning**

|  |  |
| --- | --- |
| diagram |  |
| type | [**EnvironmentalWarningType**](#Link29) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**reference**](#Link77)[**validDateTime**](#Link78)[**messageIdentifierForEnvironmentalWarning**](#Link79) |

element **FeatureType**

|  |  |
| --- | --- |
| diagram |  |
| type | [**FeatureType**](#Link2C) |
| substitution group | **gml:AbstractFeature** |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** |

element **InformationType**

|  |  |
| --- | --- |
| diagram |  |
| type | [**InformationTypeType**](#Link3C) |
| children | **informationAssociation invInformationAssociation** |
| used by | |  |  | | --- | --- | | complexType | [**IMemberType**](#Link3A) | |

element **NavigationalAssistance**

|  |  |
| --- | --- |
| diagram |  |
| type | [**NavigationalAssistanceType**](#Link44) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link7A)[**navigationalInformation**](#Link7B)[**adviceMessage**](#Link7C)[**warningMessage**](#Link7D)[**instructionMessage**](#Link7E) |

element **NavigationalConditions**

|  |  |
| --- | --- |
| diagram |  |
| type | [**NavigationalConditionsType**](#Link48) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**navigationalConditionAreaName**](#Link7F)[**messageIdentifierForNavigationalCondition**](#Link80)[**significantFeatureReference**](#Link81) |

element **NavigationalEquipmentCondition**

|  |  |
| --- | --- |
| diagram |  |
| type | [**NavigationalEquipmentConditionType**](#Link4A) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link82)[**whistles**](#Link83)[**speedLog**](#Link84)[**electronicPositionFixing**](#Link85)[**compassSystem**](#Link86)[**numberOfPowerUnitsInUse**](#Link87)[**engineTelegraph**](#Link88)[**steeringGear**](#Link89)[**rudderIndicator**](#Link8A)[**RPMPitchIndicator**](#Link8B)[**rateOfTurnIndicator**](#Link8C)[**VHFEquipment**](#Link8D)[**availableElectronicNavigationAids**](#Link8E)[**radarEquipment**](#Link8F)[**mooringWinchesAndLines**](#Link90) |

element **NavigationalWarning**

|  |  |
| --- | --- |
| diagram |  |
| type | [**NavigationalWarningType**](#Link4E) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**reference**](#Link91)[**navigationalWarningAreaName**](#Link92)[**messageIdentifierForNavigationalWarning**](#Link93)[**geometry**](#Link94) |

element **SendingAccidentInformationInVTSArea**

|  |  |
| --- | --- |
| diagram |  |
| type | [**SendingAccidentInformationInVTSAreaType**](#Link57) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**accidentAlarmType**](#Link95)[**accidentDetail**](#Link96)[**accidentShipInformation**](#Link97)[**geometry**](#Link98) |

element **ShipDynamic**

|  |  |
| --- | --- |
| diagram |  |
| type | [**ShipDynamicType**](#Link59) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link99)[**shipSpeed**](#Link9A)[**bunkerInformation**](#Link9B)[**heading**](#Link9C)[**categoryOfStatement**](#Link9D)[**movementPurpose**](#Link9E)[**routeName**](#Link9F)[**routeVersion**](#LinkA0)[**messageIdentifierForRoute**](#LinkA1)[**geometry**](#LinkA2) |

element **ShipInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**ShipInformationType**](#Link5A) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#LinkA3)[**vesselName**](#LinkA4)[**vesselsMeasurements**](#LinkA5)[**shipCrew**](#LinkA6)[**cargoInformation**](#LinkA7)[**IMONo**](#LinkA8)[**MMSICode**](#LinkA9)[**callSign**](#LinkAA)[**categoryOfVessel**](#LinkAB)[**flagState**](#LinkAC)[**ISPSLevel**](#LinkAD)[**portStateControl**](#LinkAE)[**numberOfPassenger**](#LinkAF) |

element **VTSAreaInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**VTSAreaInformationType**](#Link60) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E) |

element **VTSDigitalInformationServiceMessage**

|  |  |
| --- | --- |
| diagram |  |
| type | [**VTSDigitalInformationServiceMessageType**](#Link61) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#LinkB0)[**relatedVTSArea**](#LinkB1)[**shipMRN**](#LinkB2)[**MMSICode**](#LinkB3)[**reportedAt**](#LinkB4)[**reportedBy**](#LinkB5)[**messageIdentifier**](#LinkB6)[**messageMarkers**](#LinkB7)[**requestReplyInformtion**](#LinkB8)[**acknowledgementCode**](#LinkB9)[**VTSOperatorAssignment**](#LinkBA)[**locationState**](#LinkBB)[**administrationState**](#LinkBC) |

element **Warning**

|  |  |
| --- | --- |
| diagram |  |
| type | [**WarningType**](#Link64) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E) |

element **WarningDetail**

|  |  |
| --- | --- |
| diagram |  |
| type | [**WarningDetailType**](#Link63) |
| substitution group | [**FeatureType**](#Link13) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**reference**](#LinkBD) |

complexType **accidentShipCargoInformationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**categoryOfCargo**](#LinkBE)[**categoryOfDangerousOrHazardousCargo**](#LinkBF)[**loadWeight**](#LinkC0) |
| used by | |  |  | | --- | --- | | element | [**accidentShipInformationType/accidentShipCargoInformation**](#LinkC1) | |
| annotation | |  | | --- | | documentation | | Details of cargo loaded on a accident ship | |

element **accidentShipCargoInformationType/categoryOfCargo**

|  |  |
| --- | --- |
| diagram |  |
| type | [**categoryOfCargoType**](#LinkC) |
| annotation | |  | | --- | | documentation | | Classification of the different types of cargo that a ship may be carrying. | |

element **accidentShipCargoInformationType/categoryOfDangerousOrHazardousCargo**

|  |  |
| --- | --- |
| diagram |  |
| type | [**categoryOfDangerousOrHazardousCargoType**](#LinkF) |
| annotation | |  | | --- | | documentation | | Classification of dangerous goods or hazardous materials based on the International Maritime Dangerous Goods Code (IMDG Code). | |

element **accidentShipCargoInformationType/loadWeight**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:decimal** |
| annotation | |  | | --- | | documentation | | the weight of a cargo, etc. loaded on a vehicle or cargo | |

complexType **accidentShipInformationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**accidentShipMRN**](#LinkC2)[**accidentShipMMSICode**](#LinkC3)[**accidentShipName**](#LinkC4)[**accidentShipCargoInformation**](#LinkC1) |
| used by | |  |  | | --- | --- | | element | [**SendingAccidentInformationInVTSAreaType/accidentShipInformation**](#Link97) | |
| annotation | |  | | --- | | documentation | | Identification information of the vessel requested for rescue or in an accident and information related to the vessel | |

element **accidentShipInformationType/accidentShipMRN**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | Identifier of the ship in the accident(MRN) | |

element **accidentShipInformationType/accidentShipMMSICode**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Identifier of the ship in the accident(MMSI Code) | |

element **accidentShipInformationType/accidentShipName**

|  |  |
| --- | --- |
| diagram |  |
| type | [**accidentShipNameType**](#Link8) |
| children | [**displayName**](#LinkC5)[**language**](#LinkC6)[**name**](#LinkC7) |
| annotation | |  | | --- | | documentation | | The name of the accident ship can be expressed in various languages. | |

element **accidentShipInformationType/accidentShipCargoInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**accidentShipCargoInformationType**](#Link2) |
| children | [**categoryOfCargo**](#LinkBE)[**categoryOfDangerousOrHazardousCargo**](#LinkBF)[**loadWeight**](#LinkC0) |

complexType **accidentShipNameType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**displayName**](#LinkC5)[**language**](#LinkC6)[**name**](#LinkC7) |
| used by | |  |  | | --- | --- | | element | [**accidentShipInformationType/accidentShipName**](#LinkC4) | |
| annotation | |  | | --- | | documentation | | The name of the accident ship can be expressed in various languages. | |

element **accidentShipNameType/displayName**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | A statement expressing if a feature name is to be displayed in certain display settings or not. Indication: Boolean. A True value is an indication that the name is intended to be displayed. | |

element **accidentShipNameType/language**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The language is encoded by a character code following ISO 639-3 | |

element **accidentShipNameType/name**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The individual name of a feature. | |

complexType **AccidentType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link65)[**SARDetail**](#Link66)[**medicalAssistanceDetail**](#Link67)[**notUnderCommandDetail**](#Link68)[**assistanceDetail**](#Link69)[**medicalAssistanceAmongTypesOfAccidents**](#Link6A)[**sARAmongTypesOfAccidents**](#Link6B)[**nUCAmongTypesOfAccidents**](#Link6C)[**geometry**](#Link6D) |
| used by | |  |  | | --- | --- | | element | [**Accident**](#Link1) | |
| annotation | |  | | --- | | documentation | | Class to communicate own vessel accident information. The purpose of this class is to provide emergency information about ship accidents prior to VTS communication. | |

element **AccidentType/relatedShip**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |
| annotation | |  | | --- | | documentation | | Explanation of situations in which search and rescue is required | |

element **AccidentType/SARDetail**

|  |  |
| --- | --- |
| diagram |  |
| type | [**SARDetailType**](#Link56) |
| children | [**occurredTime**](#LinkC8)[**abandonVesselOrNot**](#LinkC9)[**numberOfInjuredPerson**](#LinkCA)[**rescueEquipment**](#LinkCB)[**numberOfLifeboat**](#LinkCC)[**numberOfLifecraft**](#LinkCD) |
| annotation | |  | | --- | | documentation | | MRN is a naming scheme that can uniquely identify any maritime resource on a global scale. shipMRN is the unique value given to the ship.The shipyard that built this ship | |

element **AccidentType/medicalAssistanceDetail**

|  |  |
| --- | --- |
| diagram |  |
| type | [**medicalAssistanceDetailType**](#Link40) |
| children | [**kindOfMedicalAssistance**](#LinkCE)[**doctorInVessel**](#LinkCF)[**timeForMeeting**](#LinkD0)[**healthCondition**](#LinkD1) |
| annotation | |  | | --- | | documentation | | Details of Medical Support Requests | |

element **AccidentType/notUnderCommandDetail**

|  |  |
| --- | --- |
| diagram |  |
| type | [**notUnderCommandCauseType**](#Link30) |
| annotation | |  | | --- | | documentation | | Explain what is required in the vessel not under command | |

element **AccidentType/assistanceDetail**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | To describe how to respond to an accident | |

element **AccidentType/medicalAssistanceAmongTypesOfAccidents**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | When requesting medical assistance among the types of accidents (true=request) | |

element **AccidentType/sARAmongTypesOfAccidents**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | When requesting SAR(search and rescue) of the type of accident (true=requested) | |

element **AccidentType/nUCAmongTypesOfAccidents**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | When vessel control is difficult (true=request) | |

element **AccidentType/geometry**

|  |  |
| --- | --- |
| diagram |  |
| type | [**GM\_Point**](#Link35) |
| children | **pointProperty** |

complexType **administrationStateType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**atLocation**](#LinkD2)[**effectiveTime**](#LinkD3)[**performingActor**](#LinkD4)[**serviceObject**](#LinkD5)[**timeSequence**](#LinkD6)[**windowAfter**](#LinkD7)[**windowBefore**](#LinkD8) |
| used by | |  |  | | --- | --- | | element | [**VTSDigitalInformationServiceMessageType/administrationState**](#LinkBC) | |
| annotation | |  | | --- | | documentation | | Describes a time related data point for a service administration event, such as a request made, received, confirmed or denied. | |

element **administrationStateType/atLocation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**atLocationType**](#Link11) |
| children | [**locationMRN**](#LinkD9)[**terminal**](#LinkDA) |

element **administrationStateType/effectiveTime**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | The instant at which the information or condition becomes effective. | |

element **administrationStateType/performingActor**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | The actor performing action related to the service referenced in service object. | |

element **administrationStateType/serviceObject**

|  |  |
| --- | --- |
| diagram |  |
| type | [**serviceObjectType**](#Link3D) |
| annotation | |  | | --- | | documentation | | The reference to a particular service in service state and administration state messages | |

element **administrationStateType/timeSequence**

|  |  |
| --- | --- |
| diagram |  |
| type | [**timeSequenceType**](#Link45) |

element **administrationStateType/windowAfter**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Time offset, after a given time. | |

element **administrationStateType/windowBefore**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Time offset, before a given time. | |

complexType **atLocationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**locationMRN**](#LinkD9)[**terminal**](#LinkDA) |
| used by | |  |  | | --- | --- | | element | [**administrationStateType/atLocation**](#LinkD2) | |
| annotation | |  | | --- | | documentation | | The location where a stationary service is performed | |

element **atLocationType/locationMRN**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH. | |

element **atLocationType/terminal**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | Terminal identifier. | |

complexType **bunkerInformationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**bunkerType**](#LinkDB)[**quantity**](#LinkDC)[**comment**](#LinkDD) |
| used by | |  |  | | --- | --- | | element | [**ShipDynamicType/bunkerInformation**](#Link9B) | |
| annotation | |  | | --- | | documentation | | Ship Fuel Oil Remaining Information | |

element **bunkerInformationType/bunkerType**

|  |  |
| --- | --- |
| diagram |  |
| type | [**bunkerTypeType**](#Link9) |
| annotation | |  | | --- | | documentation | | Ship Fuel Oil Type | |

element **bunkerInformationType/quantity**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:decimal** |
| annotation | |  | | --- | | documentation | | Ship Fuel Oil Remaining | |

element **bunkerInformationType/comment**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Comment regarding an entity obvious from context | |

complexType **cargoInformationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**categoryOfCargo**](#LinkDE)[**categoryOfDangerousOrHazardousCargo**](#LinkDF)[**loadWeight**](#LinkE0) |
| used by | |  |  | | --- | --- | | element | [**ShipInformationType/cargoInformation**](#LinkA7) | |
| annotation | |  | | --- | | documentation | | Details of cargo loaded on a ship | |

element **cargoInformationType/categoryOfCargo**

|  |  |
| --- | --- |
| diagram |  |
| type | [**categoryOfCargoType**](#LinkC) |
| annotation | |  | | --- | | documentation | | Classification of the different types of cargo that a ship may be carrying. | |

element **cargoInformationType/categoryOfDangerousOrHazardousCargo**

|  |  |
| --- | --- |
| diagram |  |
| type | [**categoryOfDangerousOrHazardousCargoType**](#LinkF) |
| annotation | |  | | --- | | documentation | | Classification of dangerous goods or hazardous materials based on the International Maritime Dangerous Goods Code (IMDG Code). | |

element **cargoInformationType/loadWeight**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:decimal** |
| annotation | |  | | --- | | documentation | | the weight of a cargo, etc. loaded on a vehicle or cargo | |

complexType **ConditionsType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**VTSAreaInformationType**](#Link60) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E) |
| used by | |  |  | | --- | --- | | element | [**Conditions**](#Link4) | | complexTypes | [**EnvironmentalConditionsType**](#Link26)[**NavigationalConditionsType**](#Link48) | |
| annotation | |  | | --- | | documentation | | Class for transmitting environmental conditions and navigational conditions, etc. within the VTS Area. | |

complexType **ContactDetailsType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**InformationTypeType**](#Link3C) |
| children | **informationAssociation invInformationAssociation** [**communicationChannel**](#Link6F)[**telecommunications**](#Link70) |
| used by | |  |  | | --- | --- | | element | [**ContactDetails**](#Link7) | |
| annotation | |  | | --- | | documentation | | Information on how to reach a person or organisation by postal, internet, telephone, telex and radio systems | |

element **ContactDetailsType/communicationChannel**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |

element **ContactDetailsType/telecommunications**

|  |  |
| --- | --- |
| diagram |  |
| type | [**telecommunicationsType**](#Link5C) |
| children | [**contactInstructions**](#LinkE1)[**telcomCarrier**](#LinkE2)[**telecommunicationIdentifier**](#LinkE3)[**telecommunicationService**](#LinkE4) |
| annotation | |  | | --- | | documentation | | information for contact by means of a telecommunications service. Distinctions: emailAddress, internetAddress, callName, callSign, COMCHA | |

complexType **CurveOrSurface**

|  |  |
| --- | --- |
| diagram |  |
| children | **curveProperty surfaceProperty** |

complexType **DatasetType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of **gml:AbstractFeatureType** |
| children | **gml:boundedBy** [**DatasetIdentificationInformation**](#Link71)[**DatasetStructureInformation**](#Link72) **Point MultiPoint Curve CompositeCurve OrientableCurve Surface Polygon** [**imember**](#Link73)[**member**](#Link74) |
| used by | |  |  | | --- | --- | | element | [**DataSet**](#LinkA) | |
| annotation | |  | | --- | | documentation | | Dataset element for MPA dataset as "GML document" | |

element **DatasetType/DatasetIdentificationInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | **DataSetIdentificationType** |
| children | **encodingSpecification encodingSpecificationEdition productIdentifier productEdition applicationProfile datasetFileIdentifier datasetTitle datasetReferenceDate datasetLanguage datasetAbstract datasetTopicCategory** |
| annotation | |  | | --- | | documentation | | Dataset identification information | |

element **DatasetType/DatasetStructureInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | **DataSetStructureInformationType** |
| children | **datasetCoordOriginX datasetCoordOriginY datasetCoordOriginZ coordMultFactorX coordMultFactorY coordMultFactorZ nInfoRec nPointRec nMultiPointRec nCurveRec nCompositeCurveRec nSurfaceRec nFeatureRec** |
| annotation | |  | | --- | | documentation | | Dataset structure information | |

element **DatasetType/imember**

|  |  |
| --- | --- |
| diagram |  |
| type | [**IMemberType**](#Link3A) |
| children | [**InformationType**](#Link16) |
| annotation | |  | | --- | | documentation | | intended for S100 information types. Extension of GML practice, not addressed by ISO 19136. | |

element **DatasetType/member**

|  |  |
| --- | --- |
| diagram |  |
| type | [**MemberType**](#Link42) |
| children | **gml:AbstractFeature** |
| annotation | |  | | --- | | documentation | | intended for technical GML 3.2 requirement for making the dataset a "GML document" and clause 21.3 of the OGC GML standard | |

complexType **EnvironmentalConditionsType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**ConditionsType**](#Link1A) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**validDateTime**](#Link75)[**messageIdentifierForEnvironmentalConditions**](#Link76) |
| used by | |  |  | | --- | --- | | element | [**EnvironmentalConditions**](#LinkD) | |
| annotation | |  | | --- | | documentation | | Environmental condition Information in the VTS Area from VTS Operator. Use S-412 to get information. | |

element **EnvironmentalConditionsType/validDateTime**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | The time, expressed in Universal Time Coordinated (UTC) for which an object and its attributes are valid or for which an observation was recorded. | |

element **EnvironmentalConditionsType/messageIdentifierForEnvironmentalConditions**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Attribute for include environmental conditions of S-412 Weather Overlay in the VTS-INS Dataset. | |

complexType **EnvironmentalWarningType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**reference**](#Link77)[**validDateTime**](#Link78)[**messageIdentifierForEnvironmentalWarning**](#Link79) |
| used by | |  |  | | --- | --- | | element | [**EnvironmentalWarning**](#Link10) | |
| annotation | |  | | --- | | documentation | | Environmental warning Information in the VTS Area from VTS Operator. Use S-412 to get information. | |

element **EnvironmentalWarningType/reference**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **EnvironmentalWarningType/validDateTime**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | The time, expressed in Universal Time Coordinated (UTC) for which an object and its attributes are valid or for which an observation was recorded. | |

element **EnvironmentalWarningType/messageIdentifierForEnvironmentalWarning**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Attribute for include environmental warning information of S-412 Weather Overlay in the VTS-INS Dataset. | |

complexType **FeatureType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of **AbstractFeatureType** |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** |
| used by | |  |  | | --- | --- | | element | [**FeatureType**](#Link13) | | complexTypes | [**AccidentType**](#LinkB)[**EnvironmentalWarningType**](#Link29)[**NavigationalAssistanceType**](#Link44)[**NavigationalEquipmentConditionType**](#Link4A)[**NavigationalWarningType**](#Link4E)[**ShipDynamicType**](#Link59)[**ShipInformationType**](#Link5A)[**VTSAreaInformationType**](#Link60)[**VTSDigitalInformationServiceMessageType**](#Link61) | |
| annotation | |  | | --- | | documentation | | Generalized feature type which carry all the common attributes | |

complexType **fromLocationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**locationMRN**](#LinkE5)[**terminal**](#LinkE6) |
| used by | |  |  | | --- | --- | | element | [**locationStateType/fromLocation**](#LinkE7) | |
| annotation | |  | | --- | | documentation | | The departure location. | |

element **fromLocationType/locationMRN**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH. | |

element **fromLocationType/terminal**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | Terminal identifier. | |

complexType **GM\_Curve**

|  |  |
| --- | --- |
| diagram |  |
| children | **curveProperty** |

complexType **GM\_Point**

|  |  |
| --- | --- |
| diagram |  |
| children | **pointProperty** |
| used by | |  |  | | --- | --- | | elements | [**ShipDynamicType/geometry**](#LinkA2)[**AccidentType/geometry**](#Link6D) | |

complexType **GM\_Surface**

|  |  |
| --- | --- |
| diagram |  |
| children | **surfaceProperty** |

complexType **IMemberType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of **gml:AbstractFeatureMemberType** |
| children | [**InformationType**](#Link16) |
| used by | |  |  | | --- | --- | | element | [**DatasetType/imember**](#Link73) | |
| annotation | |  | | --- | | documentation | | dataset member S-100 infotmation types | |

complexType **InformationTypeType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of **AbstractInformationType** |
| children | **informationAssociation invInformationAssociation** |
| used by | |  |  | | --- | --- | | element | [**InformationType**](#Link16) | | complexType | [**ContactDetailsType**](#Link1D) | |
| annotation | |  | | --- | | documentation | | Generalized information type which carry all the common attributes | |

complexType **locationStateType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**effectiveTime**](#LinkE8)[**referenceObject**](#LinkE9)[**timeSequence**](#LinkEA)[**timeType**](#LinkEB)[**windowAfter**](#LinkEC)[**windowBefore**](#LinkED)[**fromLocation**](#LinkE7)[**toLocation**](#LinkEE) |
| used by | |  |  | | --- | --- | | element | [**VTSDigitalInformationServiceMessageType/locationState**](#LinkBB) | |
| annotation | |  | | --- | | documentation | | Describes a time related data point for an arrival to or departure from a specified location. | |

element **locationStateType/effectiveTime**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | The instant at which the information or condition becomes effective. | |

element **locationStateType/referenceObject**

|  |  |
| --- | --- |
| diagram |  |
| type | [**referenceObjectType**](#Link36) |
| annotation | |  | | --- | | documentation | | The entity that the time stamp concerns that changes location upon a timestamp of a location state | |

element **locationStateType/timeSequence**

|  |  |
| --- | --- |
| diagram |  |
| type | [**timeSequenceType**](#Link45) |
| annotation | |  | | --- | | documentation | | The component of a state (as location, service, administrative state) regulating the communicative intent of the state (such as arrived, departed, commenced, completed, requested, request received, confirmed, denied, cancelled). | |

element **locationStateType/timeType**

|  |  |
| --- | --- |
| diagram |  |
| type | [**timeTypeType**](#Link47) |
| annotation | |  | | --- | | documentation | | The time dimension of a time stamp combined with the state expressing intentions, recommendations or outcomes. | |

element **locationStateType/windowAfter**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Time offset, after a given time. | |

element **locationStateType/windowBefore**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Time offset, before a given time. | |

element **locationStateType/fromLocation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**fromLocationType**](#Link2F) |
| children | [**locationMRN**](#LinkE5)[**terminal**](#LinkE6) |

element **locationStateType/toLocation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**toLocationType**](#Link5D) |
| children | [**locationMRN**](#LinkEF)[**terminal**](#LinkF0) |

complexType **medicalAssistanceDetailType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**kindOfMedicalAssistance**](#LinkCE)[**doctorInVessel**](#LinkCF)[**timeForMeeting**](#LinkD0)[**healthCondition**](#LinkD1) |
| used by | |  |  | | --- | --- | | element | [**AccidentType/medicalAssistanceDetail**](#Link67) | |
| annotation | |  | | --- | | documentation | | Details of Medical Support Requests | |

element **medicalAssistanceDetailType/kindOfMedicalAssistance**

|  |  |
| --- | --- |
| diagram |  |
| type | [**kindOfMedicalAssistanceType**](#Link27) |
| annotation | |  | | --- | | documentation | | Medical Support Request Type | |

element **medicalAssistanceDetailType/doctorInVessel**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | Whether or not there are doctors in the ship | |

element **medicalAssistanceDetailType/timeForMeeting**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | Time to meet a doctor or boat/helicopter | |

element **medicalAssistanceDetailType/healthCondition**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Briefly write the health status of the person requesting medical assistance | |

complexType **MemberType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of **gml:AbstractFeatureMemberType** |
| children | **gml:AbstractFeature** |
| used by | |  |  | | --- | --- | | element | [**DatasetType/member**](#Link74) | |
| annotation | |  | | --- | | documentation | | dataset member | |

complexType **NavigationalAssistanceType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link7A)[**navigationalInformation**](#Link7B)[**adviceMessage**](#Link7C)[**warningMessage**](#Link7D)[**instructionMessage**](#Link7E) |
| used by | |  |  | | --- | --- | | element | [**NavigationalAssistance**](#Link19) | |
| annotation | |  | | --- | | documentation | | This class is intended to send navigation support results, A Navigational Assistance is a service that provides essential and timely navigational information to assist in the on board navigational decision‐making process and to monitor its effects. | |

element **NavigationalAssistanceType/relatedShip**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **NavigationalAssistanceType/navigationalInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**navigationalInformationType**](#Link4C) |
| children | [**proximityToDanger**](#LinkF1)[**navigationInDanger**](#LinkF2) |
| annotation | |  | | --- | | documentation | | Navigation information of individual ships in danger, including ship's course and position information. | |

element **NavigationalAssistanceType/adviceMessage**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Recommendations to ships. | |

element **NavigationalAssistanceType/warningMessage**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Warnings that require attention on the ship. | |

element **NavigationalAssistanceType/instructionMessage**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Instructions to be followed by the ship | |

complexType **navigationalConditionAreaNameType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**displayName**](#LinkF3)[**language**](#LinkF4)[**name**](#LinkF5) |
| used by | |  |  | | --- | --- | | element | [**NavigationalConditionsType/navigationalConditionAreaName**](#Link7F) | |
| annotation | |  | | --- | | documentation | | Identification of the location name used as a source for obtain navigational Warning from S-127 | |

element **navigationalConditionAreaNameType/displayName**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |

element **navigationalConditionAreaNameType/language**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |

element **navigationalConditionAreaNameType/name**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |

complexType **NavigationalConditionsType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**ConditionsType**](#Link1A) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**navigationalConditionAreaName**](#Link7F)[**messageIdentifierForNavigationalCondition**](#Link80)[**significantFeatureReference**](#Link81) |
| used by | |  |  | | --- | --- | | element | [**NavigationalConditions**](#Link1C) | |
| annotation | |  | | --- | | documentation | | Navigation conditions in the VTS Area from VTS Operator. Use S-127 to get information. | |

element **NavigationalConditionsType/navigationalConditionAreaName**

|  |  |
| --- | --- |
| diagram |  |
| type | [**navigationalConditionAreaNameType**](#Link46) |
| children | [**displayName**](#LinkF3)[**language**](#LinkF4)[**name**](#LinkF5) |
| annotation | |  | | --- | | documentation | | Identification of the location name used as a source for obtain navigational Warning from S-127 | |

element **NavigationalConditionsType/messageIdentifierForNavigationalCondition**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Attribute for include navigational conditions of S-127 Marine Traffic Management in the VTS-INS Dataset. | |

element **NavigationalConditionsType/significantFeatureReference**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | reference of the MRN identifier of the significant feature(s) | |

complexType **NavigationalEquipmentConditionType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link82)[**whistles**](#Link83)[**speedLog**](#Link84)[**electronicPositionFixing**](#Link85)[**compassSystem**](#Link86)[**numberOfPowerUnitsInUse**](#Link87)[**engineTelegraph**](#Link88)[**steeringGear**](#Link89)[**rudderIndicator**](#Link8A)[**RPMPitchIndicator**](#Link8B)[**rateOfTurnIndicator**](#Link8C)[**VHFEquipment**](#Link8D)[**availableElectronicNavigationAids**](#Link8E)[**radarEquipment**](#Link8F)[**mooringWinchesAndLines**](#Link90) |
| used by | |  |  | | --- | --- | | element | [**NavigationalEquipmentCondition**](#Link1F) | |
| annotation | |  | | --- | | documentation | | Mechanical defects, An item to manage the condition of items to determine whether mechanical defects that can affect the normal operation of a ship are present. | |

element **NavigationalEquipmentConditionType/relatedShip**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **NavigationalEquipmentConditionType/whistles**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | A sound-making device equipped to the vessel. The mariners uses the horn to warn others of the vessel's approach or presence, or to communicate his intentions. | |

element **NavigationalEquipmentConditionType/speedLog**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | A navigation tool mariners use to estimate the speed of a vessel through water. | |

element **NavigationalEquipmentConditionType/electronicPositionFixing**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | A system for detecting and determining the position of vessel, where electronic transceiver units communicate with at least two fixed transceiver stations to perform a constant position determination of movable objects within a delimited area. | |

element **NavigationalEquipmentConditionType/compassSystem**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | Indicates abnormal condition of compasses, the operating sensor of the vessel | |

element **NavigationalEquipmentConditionType/numberOfPowerUnitsInUse**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The number of the Power unit you are using. | |

element **NavigationalEquipmentConditionType/engineTelegraph**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | A communications device used on a vessel for the mariner on the bridge to order engineers in the engine room to power the vessel at a certain desired speed. | |

element **NavigationalEquipmentConditionType/steeringGear**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | The mechanism by which the steering controls of a vehicle are connected to a part, such as a pair of wheels or a rudder, that causes the vessel to turn | |

element **NavigationalEquipmentConditionType/rudderIndicator**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | An indicating device that shows angle of the rudder installed on the vessel | |

element **NavigationalEquipmentConditionType/RPMPitchIndicator**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | An indicating device that shows RPM pitch of the vessel using variable RPM pitch system. | |

element **NavigationalEquipmentConditionType/rateOfTurnIndicator**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:integer** |
| annotation | |  | | --- | | documentation | | An indicating device that show Rate of turn for the vessel heading. | |

element **NavigationalEquipmentConditionType/VHFEquipment**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | Marine VHF radio equipment installed on all large ships and most seagoing small craft. It is used for a wide variety of purposes, including summoning rescue services and communicating with harbours, locks, bridges and marinas. | |

element **NavigationalEquipmentConditionType/availableElectronicNavigationAids**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Lists available electronic navigation aids such as GNSS, Loran, LRIT, DGPS, AIS, RACON. | |

element **NavigationalEquipmentConditionType/radarEquipment**

|  |  |
| --- | --- |
| diagram |  |
| type | [**radarEquipmentType**](#Link54) |
| children | [**radarType**](#LinkF6)[**abnormalRadar**](#LinkF7)[**radarARPA**](#LinkF8) |
| annotation | |  | | --- | | documentation | | A detection system that uses radio waves to determine the range, angle, or velocity of objects. Radio waves (pulsed or continuous) from the transmitter reflect off the object and return to the receiver, giving information about the object's location and speed. | |

element **NavigationalEquipmentConditionType/mooringWinchesAndLines**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | A mooring system prevents the ship from drifting away from a berth and holds the ship in position in relation to the shore loading / discharging equipments, which may have limited freedom of movement. Mooring lines may also assist in heaving the ship alongside a berth or another ship and can be used to assist in unberthing. A mooring winch is an integral part of the mooring system. | |

complexType **navigationalInformationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**proximityToDanger**](#LinkF1)[**navigationInDanger**](#LinkF2) |
| used by | |  |  | | --- | --- | | element | [**NavigationalAssistanceType/navigationalInformation**](#Link7B) | |
| annotation | |  | | --- | | documentation | | Navigation information of individual ships in danger, including ship's course and position information. | |

element **navigationalInformationType/proximityToDanger**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | range and bearing from fixed objects, fairway/channel or way-points; proximity to navigational hazards. | |

element **navigationalInformationType/navigationInDanger**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | provide information related to navigating into a channel/fairway/lane | |

complexType **navigationalWarningAreaNameType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**displayName**](#LinkF9)[**language**](#LinkFA)[**name**](#LinkFB) |
| used by | |  |  | | --- | --- | | element | [**NavigationalWarningType/navigationalWarningAreaName**](#Link92) | |
| annotation | |  | | --- | | documentation | | Identification of the location name used as a source for obtain navigational Warning from S-124 | |

element **navigationalWarningAreaNameType/displayName**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |

element **navigationalWarningAreaNameType/language**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |

element **navigationalWarningAreaNameType/name**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |

complexType **NavigationalWarningType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**reference**](#Link91)[**navigationalWarningAreaName**](#Link92)[**messageIdentifierForNavigationalWarning**](#Link93)[**geometry**](#Link94) |
| used by | |  |  | | --- | --- | | element | [**NavigationalWarning**](#Link22) | |
| annotation | |  | | --- | | documentation | | Navigation warning in the VTS Area from VTS Operator. Use S-124 to get information. | |

element **NavigationalWarningType/reference**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **NavigationalWarningType/navigationalWarningAreaName**

|  |  |
| --- | --- |
| diagram |  |
| type | [**navigationalWarningAreaNameType**](#Link4D) |
| children | [**displayName**](#LinkF9)[**language**](#LinkFA)[**name**](#LinkFB) |

element **NavigationalWarningType/messageIdentifierForNavigationalWarning**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |

element **NavigationalWarningType/geometry**

|  |  |
| --- | --- |
| diagram |  |
| type | [**PointCurveSurface**](#Link51) |
| children | **pointProperty curveProperty surfaceProperty** |

complexType **notUnderCommandDetailType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**notUnderCommandCause**](#LinkFC)[**tugRequest**](#LinkFD) |
| annotation | |  | | --- | | documentation | | Explain what is required in the vessel not under command | |

element **notUnderCommandDetailType/notUnderCommandCause**

|  |  |
| --- | --- |
| diagram |  |
| type | [**notUnderCommandCauseType**](#Link30) |
| annotation | |  | | --- | | documentation | | the cause of a vessel not under command | |

element **notUnderCommandDetailType/tugRequest**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | Whether a tugboat is requested to tow a vessel. | |

complexType **onBoardCrewsType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**crewName**](#LinkFE)[**crewRank**](#LinkFF)[**crewTelephoneNumber**](#Link100) |
| used by | |  |  | | --- | --- | | element | [**shipCrewType/onBoardCrews**](#Link101) | |
| annotation | |  | | --- | | documentation | | Detailed information of the crew on board the ship (excluding the captain) | |

element **onBoardCrewsType/crewName**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Name of the crew aboard the ship. | |

element **onBoardCrewsType/crewRank**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Rank of the crew aboard the ship. | |

element **onBoardCrewsType/crewTelephoneNumber**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | the telephone number of the crew on board the ship | |

complexType **PointCurveSurface**

|  |  |
| --- | --- |
| diagram |  |
| children | **pointProperty curveProperty surfaceProperty** |
| used by | |  |  | | --- | --- | | element | [**NavigationalWarningType/geometry**](#Link94) | |

complexType **PointOrCurve**

|  |  |
| --- | --- |
| diagram |  |
| children | **pointProperty curveProperty** |

complexType **PointOrSurface**

|  |  |
| --- | --- |
| diagram |  |
| children | **pointProperty surfaceProperty** |
| used by | |  |  | | --- | --- | | element | [**SendingAccidentInformationInVTSAreaType/geometry**](#Link98) | |

complexType **radarEquipmentType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**radarType**](#LinkF6)[**abnormalRadar**](#LinkF7)[**radarARPA**](#LinkF8) |
| used by | |  |  | | --- | --- | | element | [**NavigationalEquipmentConditionType/radarEquipment**](#Link8F) | |
| annotation | |  | | --- | | documentation | | A detection system that uses radio waves to determine the range, angle, or velocity of objects. Radio waves (pulsed or continuous) from the transmitter reflect off the object and return to the receiver, giving information about the object's location and speed. | |

element **radarEquipmentType/radarType**

|  |  |
| --- | --- |
| diagram |  |
| type | [**radarTypeType**](#Link33) |
| annotation | |  | | --- | | documentation | | The type of radar frequency used in ship navigation. | |

element **radarEquipmentType/abnormalRadar**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | A status indicates that RADAR is not available. | |

element **radarEquipmentType/radarARPA**

|  |  |
| --- | --- |
| diagram |  |
| type | [**equipmentConditionType**](#Link18) |
| annotation | |  | | --- | | documentation | | The system that can calculate the tracked object's course, speed and closest point of approach (CPA), thereby knowing if there is a danger of collision with the other ship or landmass. ( Automatic Radar Plotting Aid ) | |

complexType **S100\_TruncatedDate**

|  |  |
| --- | --- |
| diagram |  |
| children | [**gDay**](#Link102)[**gMonth**](#Link103)[**gYear**](#Link104)[**gMonthDay**](#Link105)[**gYearMonth**](#Link106)[**date**](#Link107) |
| annotation | |  | | --- | | documentation | | built in date types from W3C XML schema, implementing S-100 truncated date | |

element **S100\_TruncatedDate/gDay**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:gDay** |

element **S100\_TruncatedDate/gMonth**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:gMonth** |

element **S100\_TruncatedDate/gYear**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:gYear** |

element **S100\_TruncatedDate/gMonthDay**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:gMonthDay** |

element **S100\_TruncatedDate/gYearMonth**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:gYearMonth** |

element **S100\_TruncatedDate/date**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:date** |

complexType **SARDetailType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**occurredTime**](#LinkC8)[**abandonVesselOrNot**](#LinkC9)[**numberOfInjuredPerson**](#LinkCA)[**rescueEquipment**](#LinkCB)[**numberOfLifeboat**](#LinkCC)[**numberOfLifecraft**](#LinkCD) |
| used by | |  |  | | --- | --- | | element | [**AccidentType/SARDetail**](#Link66) | |
| annotation | |  | | --- | | documentation | | Explanation of situations in which search and rescue is required | |

element **SARDetailType/occurredTime**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | the time of the accident | |

element **SARDetailType/abandonVesselOrNot**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | To leave a vessel in a situation in which one must give up in the face of an unavoidable situation. | |

element **SARDetailType/numberOfInjuredPerson**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:integer** |
| annotation | |  | | --- | | documentation | | the number of people injured in an accident | |

element **SARDetailType/rescueEquipment**

|  |  |
| --- | --- |
| diagram |  |
| type | [**rescueEquipmentType**](#Link3B) |
| annotation | |  | | --- | | documentation | | Types of rescue equipment installed on ships | |

element **SARDetailType/numberOfLifeboat**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:integer** |
| annotation | |  | | --- | | documentation | | The number of lifeboats installed on a vessel | |

element **SARDetailType/numberOfLifecraft**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:integer** |
| annotation | |  | | --- | | documentation | | The number of lifecrafts installed on a vessel | |

complexType **SendingAccidentInformationInVTSAreaType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**WarningType**](#Link64) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**accidentAlarmType**](#Link95)[**accidentDetail**](#Link96)[**accidentShipInformation**](#Link97)[**geometry**](#Link98) |
| used by | |  |  | | --- | --- | | element | [**SendingAccidentInformationInVTSArea**](#Link25) | |
| annotation | |  | | --- | | documentation | | Class that contains information to inform the surrounding vessel of accident information or information about the vessel requesting assistance | |

element **SendingAccidentInformationInVTSAreaType/accidentAlarmType**

|  |  |
| --- | --- |
| diagram |  |
| type | [**accidentAlarmTypeType**](#Link3) |
| annotation | |  | | --- | | documentation | | Type of alarm that occurs in connection with a ship accident | |

element **SendingAccidentInformationInVTSAreaType/accidentDetail**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Brief description of accidents with FreeText | |

element **SendingAccidentInformationInVTSAreaType/accidentShipInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**accidentShipInformationType**](#Link5) |
| children | [**accidentShipMRN**](#LinkC2)[**accidentShipMMSICode**](#LinkC3)[**accidentShipName**](#LinkC4)[**accidentShipCargoInformation**](#LinkC1) |
| annotation | |  | | --- | | documentation | | Identification information of the vessel requested for rescue or in an accident and information related to the vessel | |

element **SendingAccidentInformationInVTSAreaType/geometry**

|  |  |
| --- | --- |
| diagram |  |
| type | [**PointOrSurface**](#Link53) |
| children | **pointProperty surfaceProperty** |

complexType **shipCrewType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**numberOfCrew**](#Link108)[**captainTelephoneNumber**](#Link109)[**onBoardCrews**](#Link101) |
| used by | |  |  | | --- | --- | | element | [**ShipInformationType/shipCrew**](#LinkA6) | |
| annotation | |  | | --- | | documentation | | Information of the crew aboard the ship | |

element **shipCrewType/numberOfCrew**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:integer** |
| annotation | |  | | --- | | documentation | | the number of sailors aboard a ship. | |

element **shipCrewType/captainTelephoneNumber**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | the captain's telephone number | |

element **shipCrewType/onBoardCrews**

|  |  |
| --- | --- |
| diagram |  |
| type | [**onBoardCrewsType**](#Link50) |
| children | [**crewName**](#LinkFE)[**crewRank**](#LinkFF)[**crewTelephoneNumber**](#Link100) |

complexType **ShipDynamicType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#Link99)[**shipSpeed**](#Link9A)[**bunkerInformation**](#Link9B)[**heading**](#Link9C)[**categoryOfStatement**](#Link9D)[**movementPurpose**](#Link9E)[**routeName**](#Link9F)[**routeVersion**](#LinkA0)[**messageIdentifierForRoute**](#LinkA1)[**geometry**](#LinkA2) |
| used by | |  |  | | --- | --- | | element | [**ShipDynamic**](#Link28) | |
| annotation | |  | | --- | | documentation | | dynamic information/information that may change or change when a ship is operated in one voyage | |

element **ShipDynamicType/relatedShip**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **ShipDynamicType/shipSpeed**

|  |  |
| --- | --- |
| diagram |  |
| type | [**shipSpeedType**](#Link5B) |
| children | [**speedReference**](#Link10A)[**speedValue**](#Link10B)[**speedUnits**](#Link10C) |
| annotation | |  | | --- | | documentation | | Ship's speed information | |

element **ShipDynamicType/bunkerInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**bunkerInformationType**](#Link14) |
| children | [**bunkerType**](#LinkDB)[**quantity**](#LinkDC)[**comment**](#LinkDD) |
| annotation | |  | | --- | | documentation | | Ship Fuel Oil Remaining Information | |

element **ShipDynamicType/heading**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:decimal** |
| annotation | |  | | --- | | documentation | | Heading of the target in degrees. | |

element **ShipDynamicType/categoryOfStatement**

|  |  |
| --- | --- |
| diagram |  |
| type | [**categoryOfStatementType**](#Link12) |
| annotation | |  | | --- | | documentation | | the current state of operation of a ship | |

element **ShipDynamicType/movementPurpose**

|  |  |
| --- | --- |
| diagram |  |
| type | [**movementPurposeType**](#Link2D) |
| annotation | |  | | --- | | documentation | | Purpose for which ship movements have occurred of the ship | |

element **ShipDynamicType/routeName**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Identification of the route used as a source for obtain navigation information from S-421 | |

element **ShipDynamicType/routeVersion**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:integer** |
| annotation | |  | | --- | | documentation | | Identification of the route used as a source for obtain navigation information from S-421 | |

element **ShipDynamicType/messageIdentifierForRoute**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Attribute for include of S-421 IEC Route Plan Exchange Format in the VTS-INS Dataset. | |

element **ShipDynamicType/geometry**

|  |  |
| --- | --- |
| diagram |  |
| type | [**GM\_Point**](#Link35) |
| children | **pointProperty** |

complexType **ShipInformationType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#LinkA3)[**vesselName**](#LinkA4)[**vesselsMeasurements**](#LinkA5)[**shipCrew**](#LinkA6)[**cargoInformation**](#LinkA7)[**IMONo**](#LinkA8)[**MMSICode**](#LinkA9)[**callSign**](#LinkAA)[**categoryOfVessel**](#LinkAB)[**flagState**](#LinkAC)[**ISPSLevel**](#LinkAD)[**portStateControl**](#LinkAE)[**numberOfPassenger**](#LinkAF) |
| used by | |  |  | | --- | --- | | element | [**ShipInformation**](#Link2B) | |
| annotation | |  | | --- | | documentation | | Static information/information that does not change when a ship is operated in one voyage | |

element **ShipInformationType/relatedShip**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **ShipInformationType/vesselName**

|  |  |
| --- | --- |
| diagram |  |
| type | [**vesselNameType**](#Link5E) |
| children | [**displayName**](#Link10D)[**language**](#Link10E)[**name**](#Link10F) |
| annotation | |  | | --- | | documentation | | The name of the ship can be expressed in various languages. | |

element **ShipInformationType/vesselsMeasurements**

|  |  |
| --- | --- |
| diagram |  |
| type | [**vesselsMeasurementsType**](#Link5F) |
| children | [**vesselsCharacteristics**](#Link110)[**vesselsCharacteristicsValue**](#Link111)[**vesselsCharacteristicsUnits**](#Link112) |
| annotation | |  | | --- | | documentation | | Values, discovered by measuring, that correpond to vessel's characteristics. | |

element **ShipInformationType/shipCrew**

|  |  |
| --- | --- |
| diagram |  |
| type | [**shipCrewType**](#Link58) |
| children | [**numberOfCrew**](#Link108)[**captainTelephoneNumber**](#Link109)[**onBoardCrews**](#Link101) |
| annotation | |  | | --- | | documentation | | Information of the crew aboard the ship | |

element **ShipInformationType/cargoInformation**

|  |  |
| --- | --- |
| diagram |  |
| type | [**cargoInformationType**](#Link17) |
| children | [**categoryOfCargo**](#LinkDE)[**categoryOfDangerousOrHazardousCargo**](#LinkDF)[**loadWeight**](#LinkE0) |
| annotation | |  | | --- | | documentation | | Details of cargo loaded on a ship | |

element **ShipInformationType/IMONo**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The International Maritime Organization (IMO) number is a unique reference for ships, registered ship owners and management companies. IMO numbers were introduced to improve maritime safety and security and to reduce maritime fraud. They consist of the three letters "IMO" followed by unique seven-digit numbers, assigned under the International Convention for the Safety of Life at Sea (SOLAS). | |

element **ShipInformationType/MMSICode**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The Maritime Mobile Service Identity (MMSI) Code is formed of a series of ninedigits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations,coast stations, coast earth stations, and group calls. These identities are formed in such a way that theidentity or part thereof can be used by telephone and telex subscribers connected to the generaltelecommunications network principally to call ships automatically. (Adapted from Appendix 43 of theInternational Telecommunications Union Radio Regulations). | |

element **ShipInformationType/callSign**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The designated call-sign of a radio station, pilot, .... | |

element **ShipInformationType/categoryOfVessel**

|  |  |
| --- | --- |
| diagram |  |
| type | [**categoryOfVesselType**](#Link15) |
| annotation | |  | | --- | | documentation | | Classification of vessels by function or use. | |

element **ShipInformationType/flagState**

|  |  |
| --- | --- |
| diagram |  |
| type | [**ISO3166-alpha2**](#Link1B) |
| facets | |  |  |  | | --- | --- | --- | | Kind | Value | Annotation | | pattern | \w{2} |  | |
| annotation | |  | | --- | | documentation | | a country in which a ship belongs the right to be raised | |

element **ShipInformationType/ISPSLevel**

|  |  |
| --- | --- |
| diagram |  |
| type | [**ISPSLevelType**](#Link24) |
| annotation | |  | | --- | | documentation | | Classification of ISPS security levels according to the ISPS Code. | |

element **ShipInformationType/portStateControl**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Port State Control (PSC) is the inspection of foreign ships in other national ports by PSC officers (inspectors) for the purpose of verifying that the competency of the master and officers on board, and the condition of the ship and its equipment comply with the requirements of international conventions (e.g. SOLAS, MARPOL, STCW, etc.) and that the vessel is manned and operated in compliance with applicable international law. | |

element **ShipInformationType/numberOfPassenger**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:integer** |
| annotation | |  | | --- | | documentation | | the number of passengers on board the ship | |

complexType **shipSpeedType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**speedReference**](#Link10A)[**speedValue**](#Link10B)[**speedUnits**](#Link10C) |
| used by | |  |  | | --- | --- | | element | [**ShipDynamicType/shipSpeed**](#Link9A) | |
| annotation | |  | | --- | | documentation | | Ship's speed information | |

element **shipSpeedType/speedReference**

|  |  |
| --- | --- |
| diagram |  |
| type | [**speedReferenceType**](#Link3F) |
| annotation | |  | | --- | | documentation | | Indicates the type of speed measurement | |

element **shipSpeedType/speedValue**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:decimal** |
| annotation | |  | | --- | | documentation | | ship speed value | |

element **shipSpeedType/speedUnits**

|  |  |
| --- | --- |
| diagram |  |
| type | [**speedUnitsType**](#Link41) |
| annotation | |  | | --- | | documentation | | The units for description of speed. | |

complexType **telecommunicationsType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**contactInstructions**](#LinkE1)[**telcomCarrier**](#LinkE2)[**telecommunicationIdentifier**](#LinkE3)[**telecommunicationService**](#LinkE4) |
| used by | |  |  | | --- | --- | | element | [**ContactDetailsType/telecommunications**](#Link70) | |
| annotation | |  | | --- | | documentation | | A means or channel of communicating at a distance by electrical or electromagnetic means such as telegraphy, telephony, or broadcasting. | |

element **telecommunicationsType/contactInstructions**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | supplemental instructions on how or when to contact the individual, organisation, or service | |

element **telecommunicationsType/telcomCarrier**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The name of provider or type of carrier for a telecommunications service | |

element **telecommunicationsType/telecommunicationIdentifier**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Identifier used for contact by means of a telecommunications service, such as a telephone number | |

element **telecommunicationsType/telecommunicationService**

|  |  |
| --- | --- |
| diagram |  |
| type | [**telecommunicationServiceType**](#Link43) |
| annotation | |  | | --- | | documentation | | Methods to communicate between involved parties over a distance. | |

complexType **toLocationType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**locationMRN**](#LinkEF)[**terminal**](#LinkF0) |
| used by | |  |  | | --- | --- | | element | [**locationStateType/toLocation**](#LinkEE) | |
| annotation | |  | | --- | | documentation | | The arrival location. | |

element **toLocationType/locationMRN**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH. | |

element **toLocationType/terminal**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | Terminal identifier. | |

complexType **vesselNameType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**displayName**](#Link10D)[**language**](#Link10E)[**name**](#Link10F) |
| used by | |  |  | | --- | --- | | element | [**ShipInformationType/vesselName**](#LinkA4) | |
| annotation | |  | | --- | | documentation | | The name of the ship can be expressed in various languages. | |

element **vesselNameType/displayName**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | A statement expressing if a feature name is to be displayed in certain display settings or not. Indication: Boolean. A True value is an indication that the name is intended to be displayed. | |

element **vesselNameType/language**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The language is encoded by a character code following ISO 639-3 | |

element **vesselNameType/name**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The individual name of a feature. | |

complexType **vesselsMeasurementsType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**vesselsCharacteristics**](#Link110)[**vesselsCharacteristicsValue**](#Link111)[**vesselsCharacteristicsUnits**](#Link112) |
| used by | |  |  | | --- | --- | | element | [**ShipInformationType/vesselsMeasurements**](#LinkA5) | |

element **vesselsMeasurementsType/vesselsCharacteristics**

|  |  |
| --- | --- |
| diagram |  |
| type | [**vesselsCharacteristicsType**](#Link49) |
| annotation | |  | | --- | | documentation | | characteristics of the vessels | |

element **vesselsMeasurementsType/vesselsCharacteristicsValue**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:decimal** |
| annotation | |  | | --- | | documentation | | The value of a particular characteristic such as a dimension or tonnage of a vessel. | |

element **vesselsMeasurementsType/vesselsCharacteristicsUnits**

|  |  |
| --- | --- |
| diagram |  |
| type | [**vesselsCharacteristicsUnitsType**](#Link4B) |
| annotation | |  | | --- | | documentation | | the unit used for vessel characteristics attribute | |

complexType **VTSAreaInformationType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E) |
| used by | |  |  | | --- | --- | | element | [**VTSAreaInformation**](#Link2E) | | complexTypes | [**ConditionsType**](#Link1A)[**WarningType**](#Link64) | |
| annotation | |  | | --- | | documentation | | Class for transmitting environmental and warning information, accident information, etc. within the VTS Area. | |

element **VTSAreaInformationType/relatedVTSArea**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

complexType **VTSDigitalInformationServiceMessageType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**FeatureType**](#Link2C) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedShip**](#LinkB0)[**relatedVTSArea**](#LinkB1)[**shipMRN**](#LinkB2)[**MMSICode**](#LinkB3)[**reportedAt**](#LinkB4)[**reportedBy**](#LinkB5)[**messageIdentifier**](#LinkB6)[**messageMarkers**](#LinkB7)[**requestReplyInformtion**](#LinkB8)[**acknowledgementCode**](#LinkB9)[**VTSOperatorAssignment**](#LinkBA)[**locationState**](#LinkBB)[**administrationState**](#LinkBC) |
| used by | |  |  | | --- | --- | | element | [**VTSDigitalInformationServiceMessage**](#Link31) | |
| annotation | |  | | --- | | documentation | | The name for identifying the ship, the calling information, and the information indicating the characteristics of the ship. | |

element **VTSDigitalInformationServiceMessageType/relatedShip**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **VTSDigitalInformationServiceMessageType/relatedVTSArea**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

element **VTSDigitalInformationServiceMessageType/shipMRN**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:anyURI** |
| annotation | |  | | --- | | documentation | | MRN is a naming scheme that can uniquely identify any maritime resource on a global scale. shipMRN is the unique value given to the ship.The shipyard that built this ship | |

element **VTSDigitalInformationServiceMessageType/MMSICode**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | The Maritime Mobile Service Identity (MMSI) Code is formed of a series of ninedigits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations,coast stations, coast earth stations, and group calls. These identities are formed in such a way that theidentity or part thereof can be used by telephone and telex subscribers connected to the generaltelecommunications network principally to call ships automatically. (Adapted from Appendix 43 of theInternational Telecommunications Union Radio Regulations). | |

element **VTSDigitalInformationServiceMessageType/reportedAt**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | Time when a time stamp was reported. | |

element **VTSDigitalInformationServiceMessageType/reportedBy**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | Entity that reported a time stamp. | |

element **VTSDigitalInformationServiceMessageType/messageIdentifier**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | A unique identifier distinguishing one message from another | |

element **VTSDigitalInformationServiceMessageType/messageMarkers**

|  |  |
| --- | --- |
| diagram |  |
| type | [**messageMarkersType**](#Link2A) |
| annotation | |  | | --- | | documentation | | The purpose of a message used to facilitate communication between ships. | |

element **VTSDigitalInformationServiceMessageType/requestReplyInformtion**

|  |  |
| --- | --- |
| diagram |  |
| type | [**requestReplyInformtionType**](#Link39) |
| annotation | |  | | --- | | documentation | | Category of information requested by ships within VTS Area Or a category of information provided to a ship at the request of a ship or at the discretion of the VTS. | |

element **VTSDigitalInformationServiceMessageType/acknowledgementCode**

|  |  |
| --- | --- |
| diagram |  |
| type | [**acknowledgementCodeType**](#Link6) |
| annotation | |  | | --- | | documentation | | Identifier to verify normal reception for each message sent. | |

element **VTSDigitalInformationServiceMessageType/VTSOperatorAssignment**

|  |  |
| --- | --- |
| diagram |  |
| type | [**VTSOperatorAssignmentType**](#Link62) |
| children | [**assignment**](#Link113)[**waitingTime**](#Link114)[**assignmentComment**](#Link115) |
| annotation | |  | | --- | | documentation | | Results of items requested by vessel to VTS Operator | |

element **VTSDigitalInformationServiceMessageType/locationState**

|  |  |
| --- | --- |
| diagram |  |
| type | [**locationStateType**](#Link3E) |
| children | [**effectiveTime**](#LinkE8)[**referenceObject**](#LinkE9)[**timeSequence**](#LinkEA)[**timeType**](#LinkEB)[**windowAfter**](#LinkEC)[**windowBefore**](#LinkED)[**fromLocation**](#LinkE7)[**toLocation**](#LinkEE) |
| annotation | |  | | --- | | documentation | | Describes a time related data point for an arrival to or departure from a specified location. | |

element **VTSDigitalInformationServiceMessageType/administrationState**

|  |  |
| --- | --- |
| diagram |  |
| type | [**administrationStateType**](#LinkE) |
| children | [**atLocation**](#LinkD2)[**effectiveTime**](#LinkD3)[**performingActor**](#LinkD4)[**serviceObject**](#LinkD5)[**timeSequence**](#LinkD6)[**windowAfter**](#LinkD7)[**windowBefore**](#LinkD8) |
| annotation | |  | | --- | | documentation | | Describes a time related data point for a service administration event, such as a request made, received, confirmed or denied. | |

complexType **VTSOperatorAssignmentType**

|  |  |
| --- | --- |
| diagram |  |
| children | [**assignment**](#Link113)[**waitingTime**](#Link114)[**assignmentComment**](#Link115) |
| used by | |  |  | | --- | --- | | element | [**VTSDigitalInformationServiceMessageType/VTSOperatorAssignment**](#LinkBA) | |
| annotation | |  | | --- | | documentation | | Results of items requested by vessel to VTS Operator | |

element **VTSOperatorAssignmentType/assignment**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:boolean** |
| annotation | |  | | --- | | documentation | | Approval result for items requested by vessel to VTS Operator true: approval/false: deny | |

element **VTSOperatorAssignmentType/waitingTime**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:dateTime** |
| annotation | |  | | --- | | documentation | | Time the vessel can perform the requested item to the VTS Operator | |

element **VTSOperatorAssignmentType/assignmentComment**

|  |  |
| --- | --- |
| diagram |  |
| type | **xs:string** |
| annotation | |  | | --- | | documentation | | FreeText for the approval result of the item requested by the vessel to the VTS Operator | |

complexType **WarningDetailType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**WarningType**](#Link64) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E)[**reference**](#LinkBD) |
| used by | |  |  | | --- | --- | | element | [**WarningDetail**](#Link37) | |
| annotation | |  | | --- | | documentation | | Classes for detailed information on environmental and warning information within the VTS area. | |

element **WarningDetailType/reference**

|  |  |
| --- | --- |
| diagram |  |
| type | **gml:ReferenceType** |

complexType **WarningType**

|  |  |
| --- | --- |
| diagram |  |
| type | extension of [**VTSAreaInformationType**](#Link60) |
| children | **gml:boundedBy featureObjectIdentifier informationAssociation featureAssociation invFeatureAssociation** [**relatedVTSArea**](#Link6E) |
| used by | |  |  | | --- | --- | | element | [**Warning**](#Link34) | | complexTypes | [**SendingAccidentInformationInVTSAreaType**](#Link57)[**WarningDetailType**](#Link63) | |
| annotation | |  | | --- | | documentation | | Class for transmitting environmental and warning information, accident information, etc. within the VTS Area. | |

simpleType **accidentAlarmTypeType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**SendingAccidentInformationInVTSAreaType/accidentAlarmType**](#Link95) | |

simpleType **acknowledgementCodeType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**VTSDigitalInformationServiceMessageType/acknowledgementCode**](#LinkB9) | |

simpleType **bunkerTypeType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**bunkerInformationType/bunkerType**](#LinkDB) | |

simpleType **categoryOfCargoType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | elements | [**cargoInformationType/categoryOfCargo**](#LinkDE)[**accidentShipCargoInformationType/categoryOfCargo**](#LinkBE) | |

simpleType **categoryOfDangerousOrHazardousCargoType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | elements | [**cargoInformationType/categoryOfDangerousOrHazardousCargo**](#LinkDF)[**accidentShipCargoInformationType/categoryOfDangerousOrHazardousCargo**](#LinkBF) | |

simpleType **categoryOfStatementType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**ShipDynamicType/categoryOfStatement**](#Link9D) | |

simpleType **categoryOfVesselType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**ShipInformationType/categoryOfVessel**](#LinkAB) | |

simpleType **equipmentConditionType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | elements | [**NavigationalEquipmentConditionType/compassSystem**](#Link86)[**NavigationalEquipmentConditionType/electronicPositionFixing**](#Link85)[**NavigationalEquipmentConditionType/engineTelegraph**](#Link88)[**NavigationalEquipmentConditionType/mooringWinchesAndLines**](#Link90)[**radarEquipmentType/radarARPA**](#LinkF8)[**NavigationalEquipmentConditionType/RPMPitchIndicator**](#Link8B)[**NavigationalEquipmentConditionType/rudderIndicator**](#Link8A)[**NavigationalEquipmentConditionType/speedLog**](#Link84)[**NavigationalEquipmentConditionType/steeringGear**](#Link89)[**NavigationalEquipmentConditionType/VHFEquipment**](#Link8D)[**NavigationalEquipmentConditionType/whistles**](#Link83) | |

simpleType **ISO3166-alpha2**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**ShipInformationType/flagState**](#LinkAC) | |
| facets | |  |  |  | | --- | --- | --- | | Kind | Value | Annotation | | pattern | \w{2} |  | |
| annotation | |  | | --- | | documentation | | stub for ISO 3166 alpha2 country codes | |

simpleType **ISO639-2**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| facets | |  |  |  | | --- | --- | --- | | Kind | Value | Annotation | | pattern | \w{3} |  | |
| annotation | |  | | --- | | documentation | | stub for ISO 639-2 language codes | |

simpleType **ISO639-3**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| facets | |  |  |  | | --- | --- | --- | | Kind | Value | Annotation | | pattern | \w{3} |  | |
| annotation | |  | | --- | | documentation | | stub for ISO 639-3 language codes | |

simpleType **ISPSLevelType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**ShipInformationType/ISPSLevel**](#LinkAD) | |

simpleType **kindOfMedicalAssistanceType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**medicalAssistanceDetailType/kindOfMedicalAssistance**](#LinkCE) | |

simpleType **messageMarkersType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**VTSDigitalInformationServiceMessageType/messageMarkers**](#LinkB7) | |

simpleType **movementPurposeType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**ShipDynamicType/movementPurpose**](#Link9E) | |

simpleType **notUnderCommandCauseType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | elements | [**notUnderCommandDetailType/notUnderCommandCause**](#LinkFC)[**AccidentType/notUnderCommandDetail**](#Link68) | |

simpleType **radarTypeType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**radarEquipmentType/radarType**](#LinkF6) | |

simpleType **referenceObjectType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**locationStateType/referenceObject**](#LinkE9) | |

simpleType **requestReplyInformtionType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**VTSDigitalInformationServiceMessageType/requestReplyInformtion**](#LinkB8) | |

simpleType **rescueEquipmentType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**SARDetailType/rescueEquipment**](#LinkCB) | |

simpleType **serviceObjectType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**administrationStateType/serviceObject**](#LinkD5) | |

simpleType **speedReferenceType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**shipSpeedType/speedReference**](#Link10A) | |

simpleType **speedUnitsType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**shipSpeedType/speedUnits**](#Link10C) | |

simpleType **telecommunicationServiceType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**telecommunicationsType/telecommunicationService**](#LinkE4) | |

simpleType **timeSequenceType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | elements | [**locationStateType/timeSequence**](#LinkEA)[**administrationStateType/timeSequence**](#LinkD6) | |

simpleType **timeTypeType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**locationStateType/timeType**](#LinkEB) | |

simpleType **vesselsCharacteristicsType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**vesselsMeasurementsType/vesselsCharacteristics**](#Link110) | |

simpleType **vesselsCharacteristicsUnitsType**

|  |  |
| --- | --- |
| type | restriction of **xs:string** |
| used by | |  |  | | --- | --- | | element | [**vesselsMeasurementsType/vesselsCharacteristicsUnits**](#Link112) | |