

RCA



Reference CCS Architecture

*An initiative facilitated by the ERTMS Users Group
and the EULYNX consortium*

A. Interface Specification SCI_2

This is a snapshot version. Please use it with caution.

There is ongoing work. The content of this document may be unfinished, will likely contain errors and can be changed without prior notice.

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	2

REVISION HISTORY

Version	Date	Superseded documents/description/details	Change Request No
0.0.7	06-12-2019	Initial version of component specification	n/a

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	3

TABLE OF CONTENTS

1. Concept (Phase 1).....	6
2. System Definition (Phase 2)	7
3. Risk Analysis and Evaluation (Phase 3).....	8
4. System Requirements (Phase 4)	9
4.1. Class Diagram: SCI_2 DriveProtectionSection	9
4.2. Class Diagram: SCI_2 IO Items	10
4.3. Class Diagram: SCI_2 MovementPermission	12
4.4. Class Diagram: SCI_2 OccupancySection	14
4.5. Class Diagram; SCI_2 MoveableObject.....	15

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	4

TABLE OF FIGURES

Figure 1 Class Diagram: SCI_2 DriveProtectionSection	9
Figure 2 Class Diagram: SCI_2 IO Items.....	10
Figure 3 Class Diagram: SCI_2 MovementPermission	12
Figure 4 Class Diagram: SCI_2 OccupancySection	14
Figure 5 Class Diagram; SCI_2 MoveableObject	15

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	5

LIST OF TABLES

Table 1 Description of Classes.....	10
Table 2 Description of Classes.....	11
Table 3 Description of Classes.....	13
Table 4 Description of Classes.....	14
Table 5 Description of Classes.....	16

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	6

1. CONCEPT (PHASE 1)

Cenelec Phase 1 is not covered in this document

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	7

2. SYSTEM DEFINITION (PHASE 2)

Cenelec Phase 2 is not covered in this document

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	8

3. RISK ANALYSIS AND EVALUATION (PHASE 3)

Cenelec Phase 3 is not covered in this document

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	9

4. SYSTEM REQUIREMENTS (PHASE 4)

4.1. Class Diagram: SCI_2 DriveProtectionSection

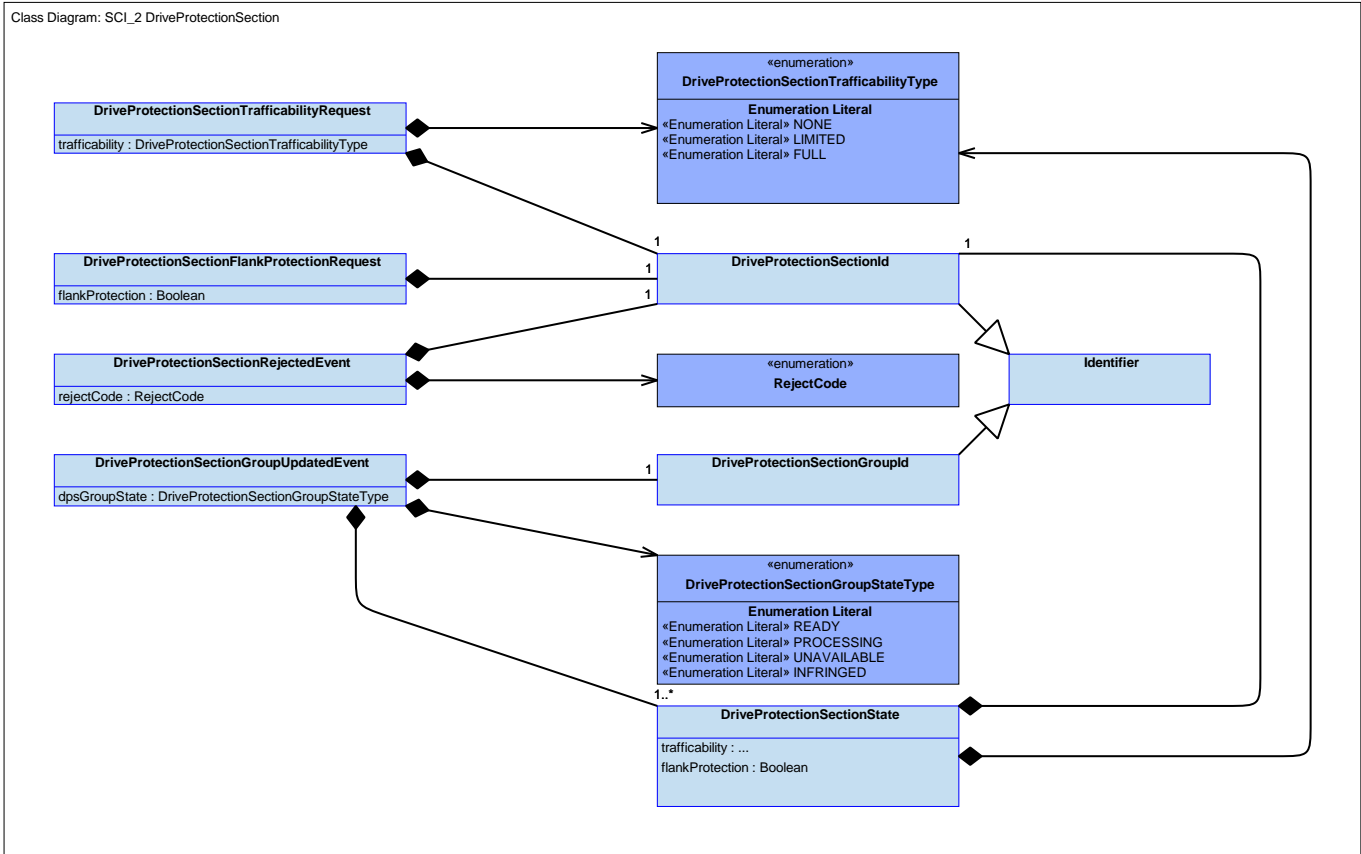


Figure 1 Class Diagram: SCI_2 DriveProtectionSection

Description: Unique Identifier [Movement Permission](#)

DynamicUmlClassName: Class Diagram

Name	Description
DriveProtectionSectionFlankProtectionRequest	Request to change the current Flank Protection state of a specific Drive Protection Section .
DriveProtectionSectionGroupId	Unique identification of a Drive Protection Section Group
DriveProtectionSectionGroupUpdatedEvent	This event will be sent if the state of a Drive Protection Section has been changed. It shall always contain the current state of every Drive Protection Section belonging to group event of those that have not been directly affected by the state change.
DriveProtectionSectionId	Unique identification of a Drive Protection Section

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	10

Name	Description
DriveProtectionSectionRejectedEvent	This event informs the sender of the related DriveProtectionSectionFlankProtectionRequest or DriveProtectionSectionTrafficabilityRequest that the request has been rejected.
DriveProtectionSectionState	Contains the current state of one Drive Protection Section of a Drive Protection Section Group
DriveProtectionSectionTrafficabilityRequest	Requests a specific Drive Protection Section to change it's current trafficability state.
Identifier	ToDo

Table 1 Description of Classes

4.2. Class Diagram: SCI_2 IO Items

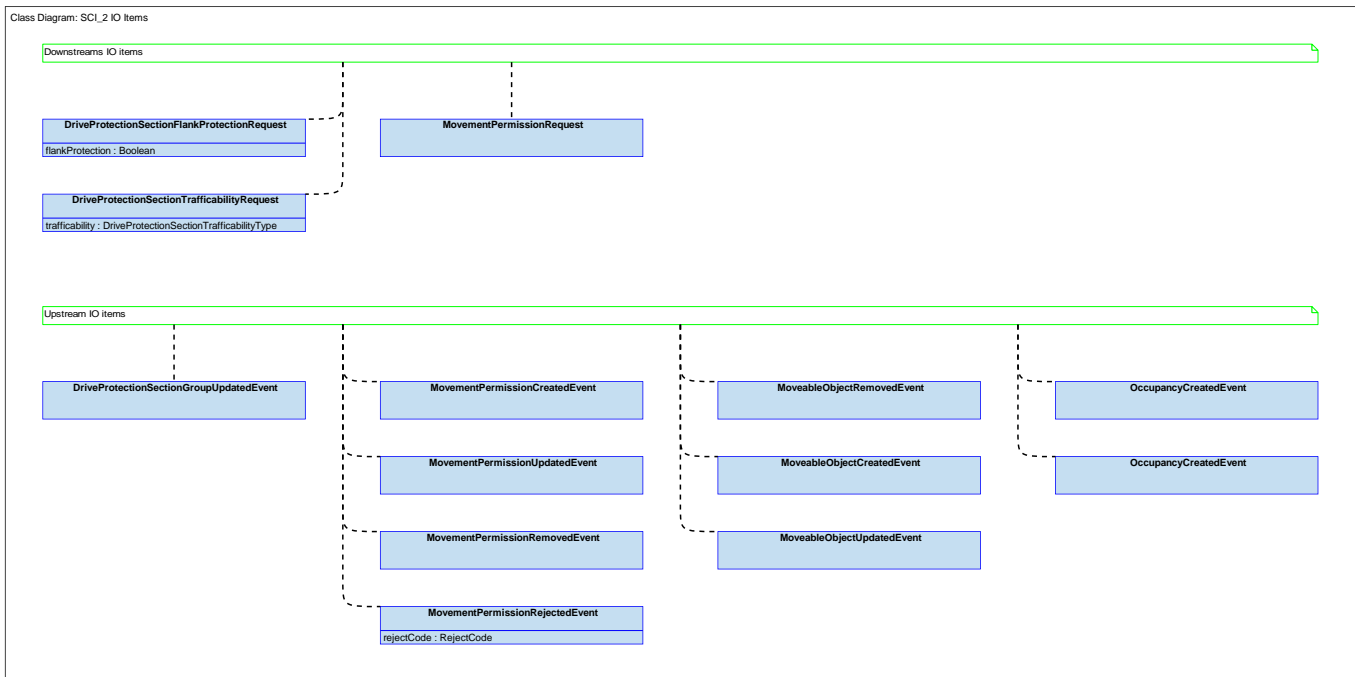


Figure 2 Class Diagram: SCI_2 IO Items

Description:

DynamicUmlClassName: Class Diagram

Name	Description
DriveProtectionSectionFlankProtectionRequest	Request to change the current Flank Protection state of a specific Drive Protection Section .

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	11

Name	Description
DriveProtectionSectionGroupUpdatedEvent	This event will be sent if the state of a Drive Protection Section has been changed. It shall always contain the current state of every Drive Protection Section belonging to group event of those that have not been directly affected by the state change.
DriveProtectionSectionTrafficabilityRequest	Requests a specific Drive Protection Section to change it's current trafficability state.
MoveableObjectCreatedEvent	This event informs that a new Moveable Object has been created
MoveableObjectRemovedEvent	This event informs that an existing Moveable Object has been removed.
MoveableObjectUpdatedEvent	This event informs if a property of a Moveable Object has been changed. Always the full Moveable Object information will be delivered with this event.
MovementPermissionCreatedEvent	This event informs that the Movement Permission to an existing Moveable Object has been created.
MovementPermissionRejectedEvent	This event informs the sender the related MovementPermissionRequest has been rejected
MovementPermissionRemovedEvent	This event informs that an existing Movement Permission has been removed
MovementPermissionRequest	Request to update an Movement Permission .
MovementPermissionUpdatedEvent	This event informs that the Movement Permission to an existing Moveable Object has been updated.
OccupancyCreatedEvent	This event informs if an Occupancy section is occupied by an object which is not clearly identified.

Table 2 Description of Classes

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	12

4.3. Class Diagram: SCI_2 MovementPermission

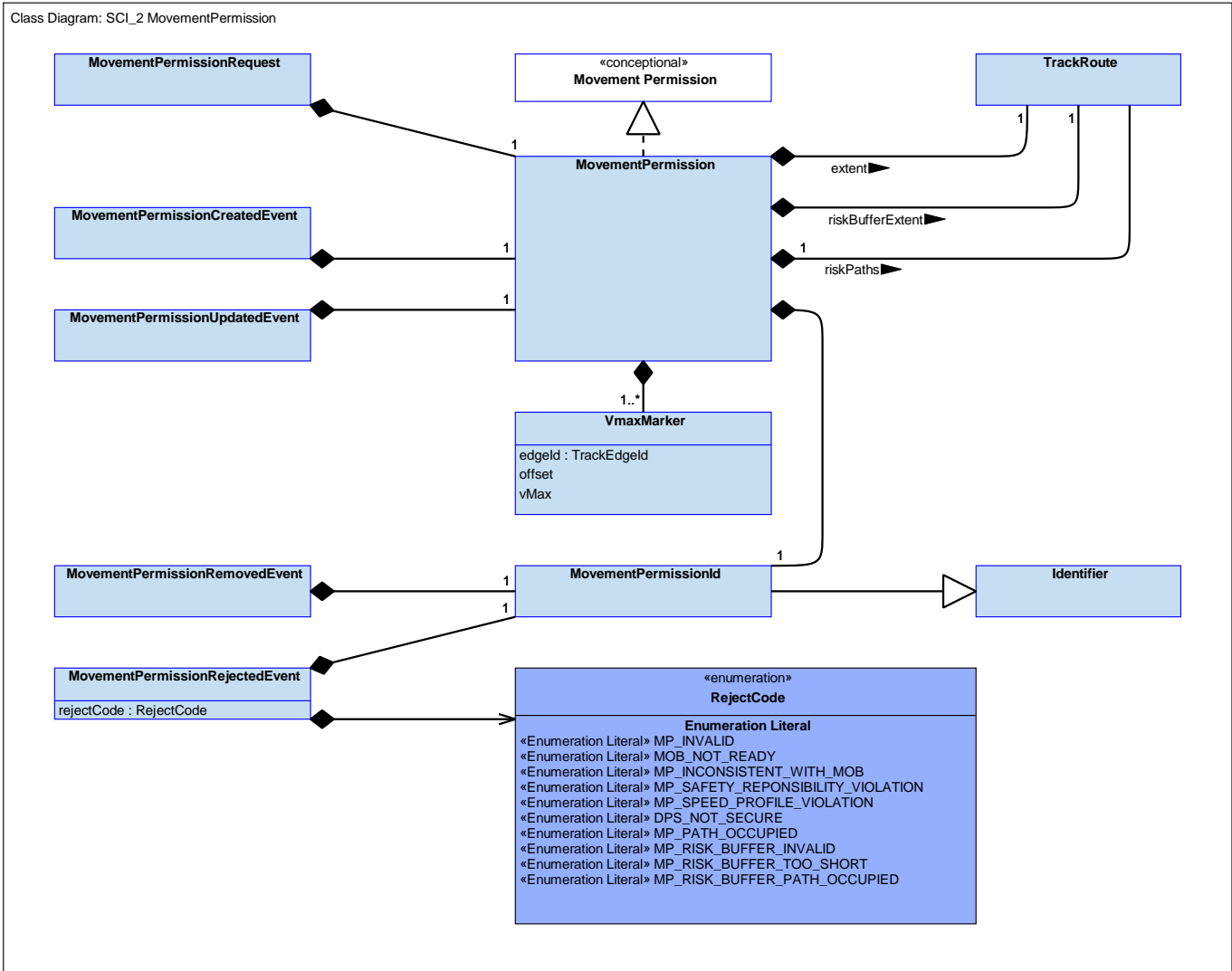


Figure 3 Class Diagram: SCI_2 MovementPermission

Description: [ToDo](#)

DynamicUmlClassName: Class Diagram

Name	Description
Identifier	ToDo
MovementPermission	This data container contains all extents on the Topology for a Movement Permission .
MovementPermissionCreatedEvent	This event informs that the Movement Permission to an existing Moveable Object has been created.

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	13

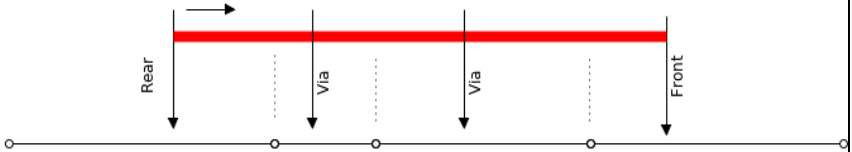
Name	Description
MovementPermissionId	Unique identification of a Movement Permission
MovementPermissionRejectedEvent	This event informs the sender the related MovementPermissionRequest has been rejected
MovementPermissionRemovedEvent	This event informs that an existing Movement Permission has been removed
MovementPermissionRequest	Request to update an Movement Permission .
MovementPermissionUpdatedEvent	This event informs that the Movement Permission to an existing Moveable Object has been updated.
TrackRoute	<p>The track route describes the extent of a navigable gap free route path on the Topology in a defined direction.</p> <p>Example of a TrackRoute with an extent over 4 Track Edges</p> 
VmaxMarker	Marker to define the maximum speed from the defined point until the next VmaxMarker . The speed profile is built with a list of maximum speed marker ordered along the path starting from rear to front of the Movement Permission . The first VmaxMarker must be placed exactly on the rear.

Table 3 Description of Classes

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	14

4.4. Class Diagram: SCI_2 OccupancySection

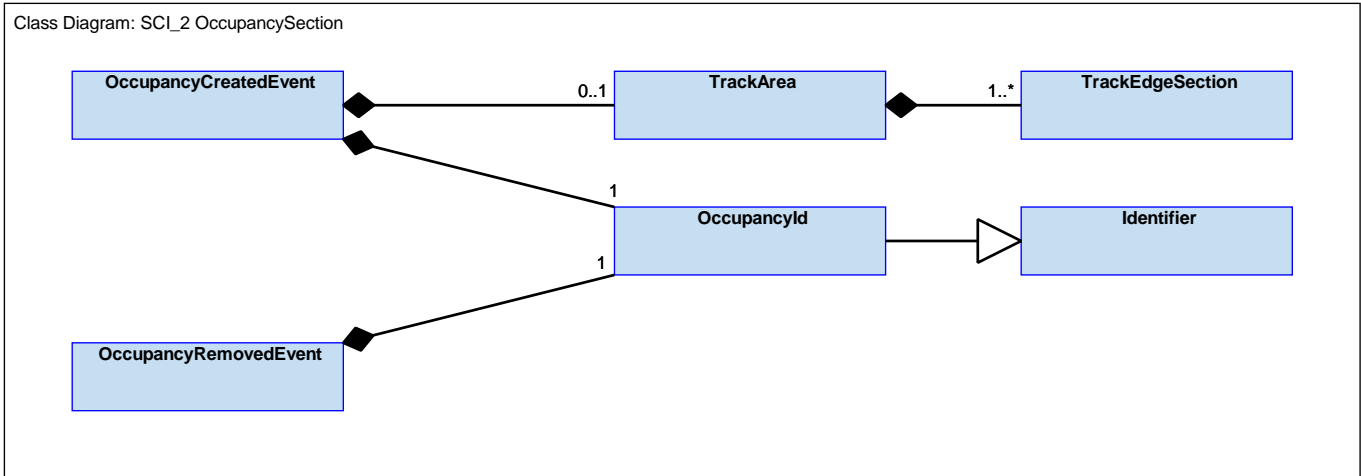


Figure 4 Class Diagram: SCI_2 OccupancySection

Description:

DynamicUmlClassName: Class Diagram

Name	Description
Identifier	ToDo
OccupancyCreatedEvent	This event informs if an Occupancy section is occupied by an object which is not clearly identified.
OccupancyId	Unique identification of an Occupancy
OccupancyRemovedEvent	This event reports a previous reported Occupancy by an OccupancyCreatedEvent has been removed
TrackArea	Contains a list of section on Track Edge
TrackEdgeSection	An TrackEdgeSection represents a contiguous extent on a single Track Edge .

Table 4 Description of Classes

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	15

4.5. Class Diagram; SCI_2 MoveableObject

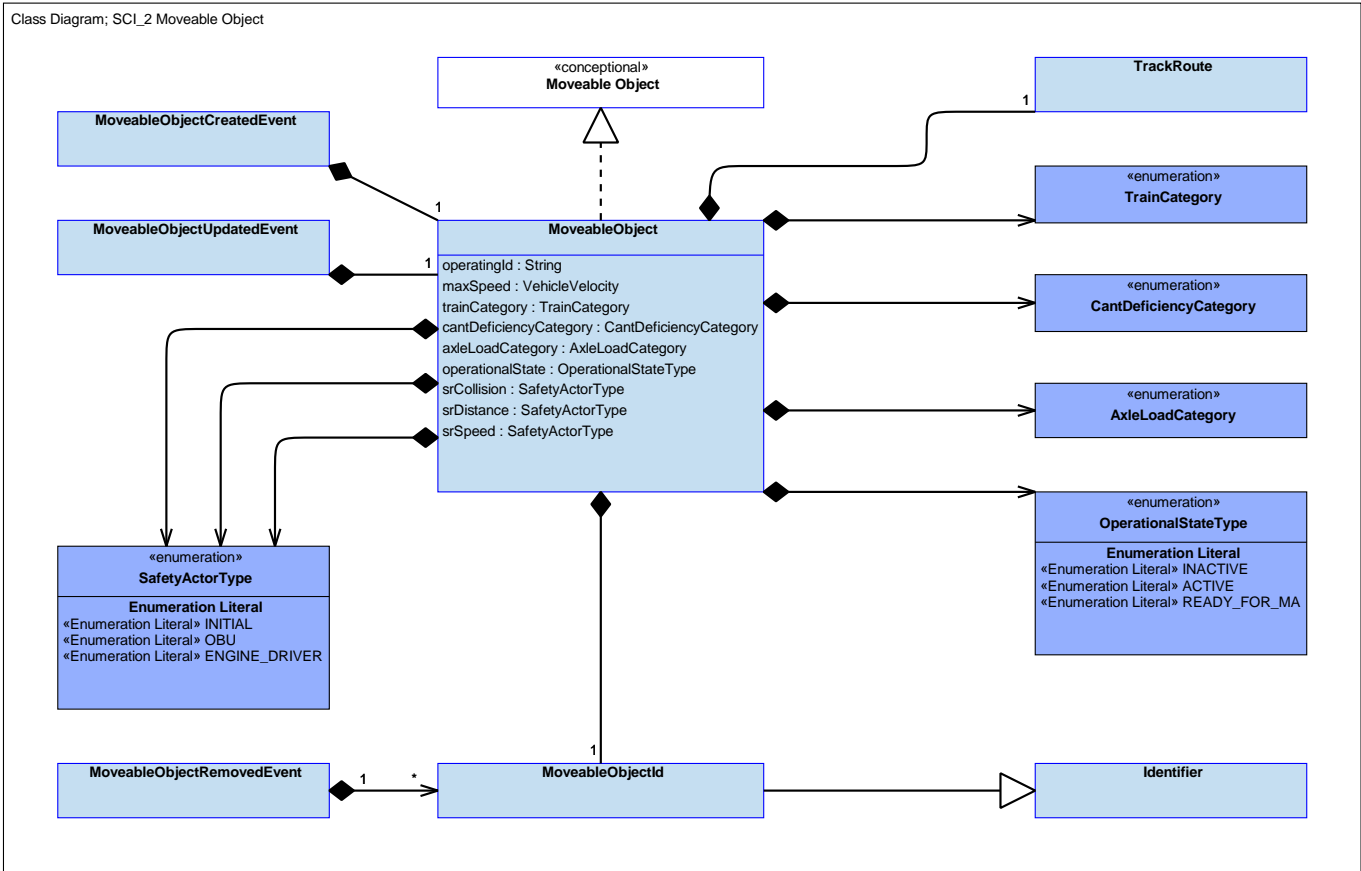


Figure 5 Class Diagram; SCI_2 MoveableObject

Description:

DynamicUmlClassName: Class Diagram

Name	Description
Identifier	ToDo
MoveableObject	Contains all current available information about a Moveable Object
MoveableObjectCreatedEvent	This event informs that a new Moveable Object has been created
MoveableObjectId	Unique identification of a Moveable Object .
MoveableObjectRemovedEvent	This event informs that an existing Moveable Object has been removed.
MoveableObjectUpdatedEvent	This event informs if a property of a Moveable Object has been changed. Always the full Moveable Object information will be delivered with this event.

	Document Number and Issue	RCA.Doc.26, Public Snapshot (v0.0.7)
	Date of Publish	06-12-2019
	Page No	16

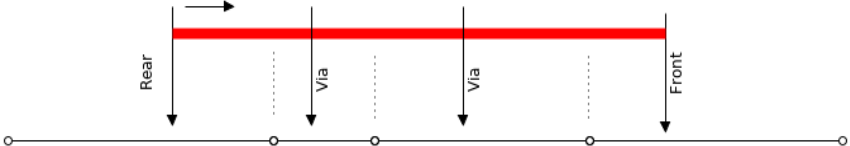
Name	Description
TrackRoute	<p>The track route describes the extent of a navigable gap free route path on the Topology in a defined direction.</p> <p>Example of a TrackRoute with an extent over 4 Track Edges</p> 

Table 5 Description of Classes