

SysML Semiformal Model Documentation

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# openETCS UNISIG Subset-026 SysML Model

*From "Train" down to "Management of Radio  
Communication"*

## Summary:

SysML model from top level "Train" down to "Management of Radio Communication" with export to SCADE Suite for formal modelling.

Company: Siemens AG

Authors: Uwe Steinke

Reference: UNISIG Subset-026-3 3.0.0, Chapter 3.5 "Management of Radio Communication"

Index: Version No 00.01.00

Date: 2013-09-12

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## Distribution List:

[https://github.com/openETCS/model-evaluation/tree/master/model/SCADE\\_Siemens](https://github.com/openETCS/model-evaluation/tree/master/model/SCADE_Siemens)

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# 1. General Project Description

This SysML model incorporates a functional (de)composition of the ETCS onboard functions as listed in SUBSET-026-4 v330, 4.5.2 (see package "FunctionalComposition" in the model). The most detailed function in the functional break down structure is the "Management of Radio Communication" from Subset-026, Chapt. 3.5.

In parallel to the functional structure the package "Architecture" makes up an architectural view on the system with physical components at top level starting with "Train" and a "Radio" with "RadioManagement" in detail.

The "Management of Radio Communication" function in the functional view is allocated to the "RadioManagement" component in the architecture as can be seen in the "FunctionAllocation" table.

The "RadioManagement" block is designated for implementation with SCADE Suite, see "MoRC\_impl" attached to this model.

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openETCS / UNISIG Subset-026 SysML Model: From top level "Train" down to "Management of Radio Communication"

- Name: MoRC\_System.etp
- Description: SUBSET-026-3, ISSUE : 3.3.0, SysML model with "3.5 Management of Radio Communication" in detail
- Copyright Siemens AG, 2013
- Licensed under the EUPL V.1.1 (<http://joinup.ec.europa.eu/software/page/eupl/licence-eupl> )
- Gist URL: ---
- Cryptography: No
- Author(s): Uwe Steinke

The use of this software is limited to non-vital applications.  
It has not been developed for vital operation purposes and must not be used for applications which may cause harm to people, physical accidents or financial loss.

THEREFORE, NO LIABILITY WILL BE GIVEN FOR SUCH AND ANY OTHER KIND OF USE.

## 2. System Architecture

### 2.1. Project Architecture

This section displays the package and block hierarchy of projects.

Project [MoRC\\_System](#)

[Architecture](#)

[EVC](#)

[EVC\\_InfoBroker](#)

[OBU](#)

[Radio](#)

[RadioManagement](#)

[Train](#)

[FunctionalComposition](#)

[DataConsistency](#)

[DeleteRevokedTSR](#)

[DetermineModeAndLevel](#)

[DetermineMostRestrictiveSpeedProfile](#)

[DetermineTrainSpeedAndPosition](#)

[EstablishingACommunicationSession](#)

[MaintainingACommunicationSession](#)

[ManageMA](#)

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[ManageRBCRBCHandover](#)

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[SuperviseTrainMovements](#)

[SuperviseTrainSpeed](#)

[SystemVersionManagement](#)

[TerminatingACommunicationSession](#)

[FunctionAllocation](#)

[InterfacesAllocation](#)



## 3. MoRC\_System Project

Declared as **public model**

MoRC\_System Comments:

- Name: MoRC\_System.etp
- Description: Architectural structure of SUBSET-026-3, ISSUE : 3.3.0, SysML model with "3.5 Management of Radio Communication" in detail
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<http://joinup.ec.europa.eu/software/page/eupl/licence-eupl> )
- Gist URL: ---
- Cryptography: No
- Author(s): Uwe Steinke
- 
- The use of this software is limited to non-vital applications.
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- 
- THEREFORE, NO LIABILITY WILL BE GIVEN FOR SUCH AND ANY OTHER KIND OF USE.

### 3.1. Root Elements

### 3.2. MoRC\_System::Architecture Package

Declared as **public package**

#### 3.2.1. EVC Block

Declared as **public block**

EVC Comments:

- Vital computer within the onboard unit

### 3.2.1.1. Parts and References

Table 1: Parts of EVC

Name	Visibility	Type	Mult.	Properties	Comments and Information
EVC_InfoBroker	public	MoRC_System ::Architecture ::EVC_InfoBroker	1		Comments: Temporarily proxy for other, not yet existing blocks. Implements the interface counterparts of Radio->Radio Management avoiding the need to draw the interfaces to the outer blocks.
Radio	public	MoRC_System ::Architecture ::Radio	1		Comments: Radio unit: implements the complete radio communication

### 3.2.1.2. Connectors

Table 2: Connectors of EVC

Name	Visibility	From	To	Comments and Information
connector1	public	Port OB_Status (Part EVC_InfoBroker)	Port OB_Status (Part Radio)	
connector2	public	Port RM_Status (Part Radio)	Port RM_Status (Part EVC_InfoBroker)	
connector3	public	Port OrderToRM1 (Part EVC_InfoBroker)	Port OrderToRM (Part Radio)	
connector4	public	Port RadioNetworkIDs 1 (Part EVC_InfoBroker)	Port RadioNetworkIDs (Part Radio)	
connector5	public	Port SafeRadioComSta tus1 (Part EVC_InfoBroker)	Port SafeRadioComSta tus (Part Radio)	

Name	Visibility	From	To	Comments and Information
connector6	public	Port OrderToRBC (Part Radio)	Port OrderToRBC1 (Part EVC_InfoBroker)	
connector7	public	Port SafeRadioCommCmd (Part Radio)	Port SafeRadioCommCmd1 (Part EVC_InfoBroker)	

### 3.2.1.3. Diagrams

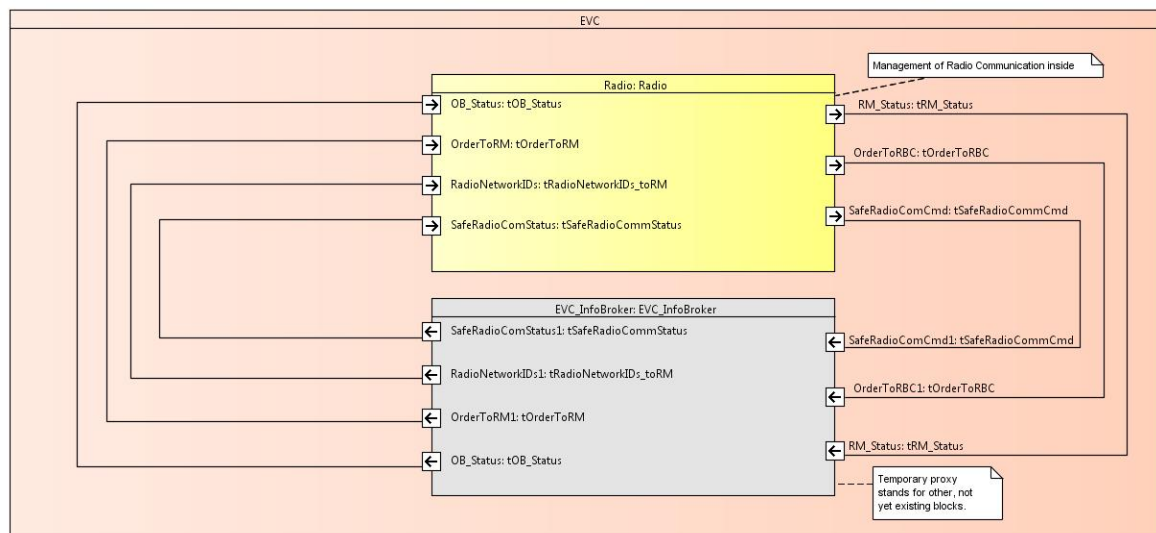


Figure 1: Internal Block Diagram - diagram\_EVC\_1

### 3.2.2. EVC\_InfoBroker Block

Declared as **private block**

EVC\_InfoBroker Comments:

- Temporarily proxy for other, not yet existing blocks.
- Implements the interface counterparts of Radio->RadioManagement avoiding the need to draw the interfaces to the outer blocks.

#### 3.2.2.1. Flow Ports

Table 3: Input Flow Ports of EVC\_InfoBroker

Name	Visibility	Type	Mult.	Properties	Comments and Information
RM_Status	public	MoRC_System :: Architecture :: tRM_Status	1		

Name	Visibility	Type	Mult.	Properties	Comments and Information
OrderToRBC1	public	MoRC_System ::Architecture ::tOrderToRBC	1		
SafeRadioComCmd1	public	MoRC_System ::Architecture ::tSafeRadioCommCmd	1		

Table 4: Output Flow Ports of EVC\_InfoBroker

Name	Visibility	Type	Mult.	Properties	Comments and Information
OB_Status	public	MoRC_System ::Architecture ::tOB_Status	1		
SafeRadioComStatus1	public	MoRC_System ::Architecture ::tSafeRadioCommStatus	1		
RadioNetworkIDs1	public	MoRC_System ::Architecture ::tRadioNetworkIDs_toRM	1		
OrderToRM1	public	MoRC_System ::Architecture ::tOrderToRM	1		

### 3.2.3. OBU Block

Declared as **public block**

#### 3.2.3.1. Parts and References

Table 5: Parts of OBU

Name	Visibility	Type	Mult.	Properties	Comments and Information
EVC	public	MoRC_System ::Architecture ::EVC	1		Comments: Vital computer within the onboard unit

### 3.2.4. Radio Block

Declared as **public block**

Radio Comments:

- Radio unit: implements the complete radio communication

#### 3.2.4.1. Parts and References

Table 6: Parts of Radio

Name	Visibility	Type	Mult.	Properties	Comments and Information
RadioManagement	public	MoRC_System ::Architecture ::RadioManagement	1		Comments: Management of Radio Communication, Subset-026, Chapt. 3.6

#### 3.2.4.2. Flow Ports

Table 7: Input Flow Ports of Radio

Name	Visibility	Type	Mult.	Properties	Comments and Information
OB_Status	public	MoRC_System ::Architecture ::tOB_Status	1		Comments: Inputs from onboard unit (OBU) components: Status, time, ...
OrderToRM	public	MoRC_System ::Architecture ::tOrderToRM	1		Comments: Orders to MoRC from onboard or RBC
RadioNetworkIDs	public	MoRC_System ::Architecture ::tRadioNetworkIDs_toRM	1		Comments: Radio network IDs memorized, from Driver, from Trackside
SafeRadioCommStatus	public	MoRC_System ::Architecture ::tSafeRadioCommStatus	1		Comments: Status of the safe radio communication

Table 8: Output Flow Ports of Radio

Name	Visibility	Type	Mult.	Properties	Comments and Information
RM_Status	public	MoRC_System ::Architecture ::tRM_Status	1		Comments: Actual status of the Management of Radio Communicatio n
OrderToRBC	public	MoRC_System ::Architecture ::tOrderToRB C	1		
SafeRadioCom Cmd	public	MoRC_System ::Architecture ::tSafeRadioC ommCmd	1		Comments: Control commands to the safe radio communicatio n and to the mobile

### 3.2.4.3. Connectors

Table 9: Connectors of Radio

Name	Visibility	From	To	Comments and Information
connector1	public	Port OB_Status	Port OB_Status (Part RadioManagemen t)	
connector2	public	Port RM_Status (Part RadioManagemen t)	Port RM_Status	
connector3	public	Port OrderToRM	Port OrderToRM (Part RadioManagemen t)	
connector4	public	Port RadioNetworkIDs	Port RadioNetworkIDs (Part RadioManagemen t)	
connector5	public	Port SafeRadioComSta tus	Port SafeRadioComSta tus (Part RadioManagemen t)	
connector6	public	Port OrderToRBC (Part RadioManagemen t)	Port OrderToRBC	

Name	Visibility	From	To	Comments and Information
connector7	public	Port SafeRadioComCmd (Part RadioManagement)	Port SafeRadioComCmd	

#### 3.2.4.4. Diagrams

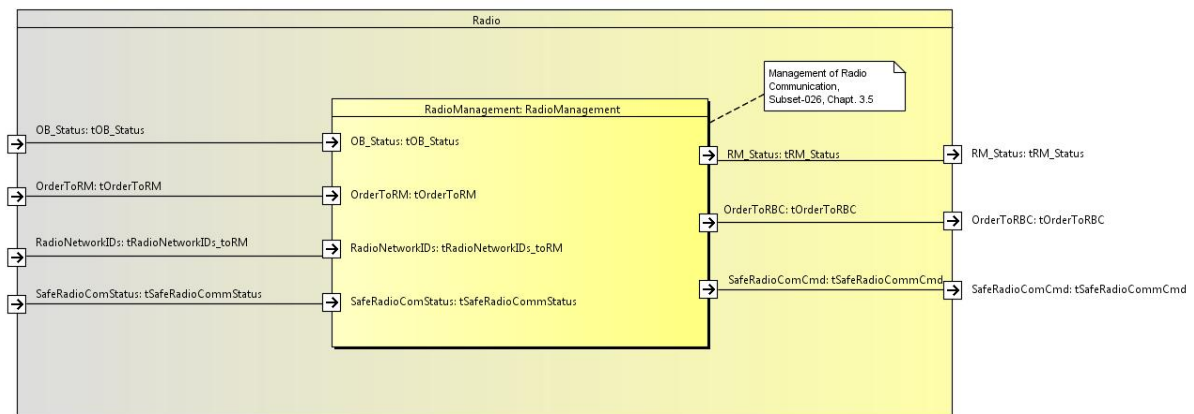


Figure 2: Internal Block Diagram - diagram\_Radio\_1

#### 3.2.5. RadioManagement Block

Declared as **public block**

RadioManagement Implemented in SCADE Suite

RadioManagement Comments:

- Management of Radio Communication, Subset-026, Chapt. 3.5

##### 3.2.5.1. Flow Ports

Table 10: Input Flow Ports of RadioManagement

Name	Visibility	Type	Mult.	Properties	Comments and Information
OB_Status	public	MoRC_System ::Architecture ::tOB_Status	1		Comments: Inputs from onboard unit (OBU) components: Status, time, ...
OrderToRM	public	MoRC_System ::Architecture ::tOrderToRM	1		Comments: Orders to MoRC from onboard or RBC

Name	Visibility	Type	Mult.	Properties	Comments and Information
RadioNetworkIDs	public	MoRC_System ::Architecture ::tRadioNetworkIDs_toRM	1		Comments: Radio network IDs memorized, from Driver, from Trackside
SafeRadioCommStatus	public	MoRC_System ::Architecture ::tSafeRadioCommStatus	1		Comments: Status of the safe radio communication

Table 11: Output Flow Ports of RadioManagement

Name	Visibility	Type	Mult.	Properties	Comments and Information
RM_Status	public	MoRC_System ::Architecture ::tRM_Status	1		Comments: Actual status of the Management of Radio Communication
OrderToRBC	public	MoRC_System ::Architecture ::tOrderToRBC	1		Comments: Order from MoRC to RBC
SafeRadioCommCmd	public	MoRC_System ::Architecture ::tSafeRadioCommCmd	1		Comments: Control commands to the safe radio communication and to the mobile

### 3.2.6. Train Block

Declared as **public reusable block**

Train Comments:

- The train on the track



### 3.2.6.1. Parts and References

Table 12: Parts of Train

Name	Visibility	Type	Mult.	Properties	Comments and Information
OBU	public	MoRC_System ::Architecture ::OBU	1		Comments: Onboard control unit on the train

### 3.2.6.2. Diagrams



Figure 3: Internal Block Diagram - diagram\_Train\_1

### 3.2.7. Types

#### 3.2.7.1. Enumerations

##### 3.2.7.1.1. tM\_Level Enumeration

Declared as **public enumeration**

##### 3.2.7.1.1.1. Literals

Table 13: Literals of tM\_Level

Name	Visibility	Comments and Information
ETCSLevel_0	public	
ETCSLevel_NTC	public	
ETCSLevel_1	public	
ETCSLevel_2	public	
ETCSLevel_3	public	

### 3.2.7.1.2. tM\_Mode Enumeration

Declared as **public enumeration**

#### 3.2.7.1.2.1. Literals

Table 14: Literals of tM\_Mode

Name	Visibility	Comments and Information
ETCSMode_FullSupervision	public	
ETCSMode_OnSight	public	
ETCSMode_StaffResponsible	public	
ETCSMode_Shunting	public	
ETCSMode_Unfitted	public	
ETCSMode_Sleeping	public	
ETCSMode_Standby	public	
ETCSMode_Trip	public	
ETCSMode_PostTrip	public	
ETCSMode_SystemFailure	public	
ETCSMode_Isolation	public	
ETCSMode_NonLeading	public	
ETCSMode_LimitedSupervision	public	
ETCSMode_NationalSystem	public	
ETCSMode_Reversing	public	
ETCSMode_PassiveShunting	public	
ETCSMode_EndOfMission	public	

### 3.2.7.1.3. tMobileHWAAction Enumeration

Declared as **public enumeration**

#### 3.2.7.1.3.1. Literals

Table 15: Literals of tMobileHWAAction

Name	Visibility	Comments and Information
mhwa_nop	public	
mhwa_register	public	
mhwa_connect	public	
mhwa_disconnect	public	

Name	Visibility	Comments and Information
mhwa_unregister	public	

#### 3.2.7.1.4. tMobileHWConnectionStatus Enumeration

Declared as **public enumeration**

##### 3.2.7.1.4.1. Literals

Table 16: Literals of tMobileHWConnectionStatus

Name	Visibility	Comments and Information
mhwc_notRegistered	public	
mhwc_registered	public	
mhwc_connectionSetupInProgress	public	
mhwc_connected	public	

#### 3.2.7.1.5. tMobileSWConnectionStatus Enumeration

Declared as **public enumeration**

##### 3.2.7.1.5.1. Literals

Table 17: Literals of tMobileSWConnectionStatus

Name	Visibility	Comments and Information
mswc_unregistered	public	
mswc_registering	public	
mswc_registered	public	
mswc_connecting	public	
mswc_connected	public	
mswc_establishingSession	public	
mswc_sessionEstablished	public	

#### 3.2.7.1.6. tRadioHoleStatus Enumeration

Declared as **public enumeration**

##### 3.2.7.1.6.1. Literals

Table 18: Literals of tRadioHoleStatus

Name	Visibility	Comments and Information
RHS_none	public	
RHS_end	public	

Name	Visibility	Comments and Information
RHS_begin	public	
RHS_inside	public	

### 3.2.7.1.7. tRMOrder Enumeration

Declared as **public enumeration**

#### 3.2.7.1.7.1. Literals

Table 19: Literals of tRMOrder

Name	Visibility	Comments and Information
trm_noOrder	public	
trm_initiateSession	public	
trm_terminateSession	public	
trm_registerToNetwork	public	

### 3.2.7.2. Data Types

#### 3.2.7.2.1. tOB\_Status Data Type

Declared as **public data type**

#### 3.2.7.2.1.1. Fields

Table 20: Fields of tOB\_Status

Name	Visibility	Type	Mult.	Properties	Comments and Information
powerAvailable	public	libscade::bool	1		
M_Mode	public	MoRC_System ::Architecture ::tM_Mode	1		
M_Level	public	MoRC_System ::Architecture ::tM_Level	1		
systemVersionIsCompatible	public	libscade::bool	1		
radioHoleStatus	public	MoRC_System ::Architecture ::tRadioHoleStatus	1		
actualTime	public	MoRC_System ::Architecture ::tTime	1		

### 3.2.7.2.2. tOrderToRBC Data Type

Declared as **public data type**

#### 3.2.7.2.2.1. Fields

Table 21: Fields of tOrderToRBC

Name	Visibility	Type	Mult.	Properties	Comments and Information
messageToRBC	public	MoRC_System ::Architecture ::tNID_Message	1		

### 3.2.7.2.3. tOrderToRM Data Type

Declared as **public data type**

#### 3.2.7.2.3.1. Fields

Table 22: Fields of tOrderToRM

Name	Visibility	Type	Mult.	Properties	Comments and Information
orderFromOnboard	public	MoRC_System ::Architecture ::tRMOrder	1		
messageFromRBC	public	MoRC_System ::Architecture ::tNID_Message	1		
NID_RBC_ID	public	MoRC_System ::Architecture ::tNIC_RBC_ID	1		

### 3.2.7.2.4. tRadioNetworkIDs\_toRM Data Type

Declared as **public data type**

#### 3.2.7.2.4.1. Fields

Table 23: Fields of tRadioNetworkIDs\_toRM

Name	Visibility	Type	Mult.	Properties	Comments and Information
radioNetworkID_memorized	public	MoRC_System ::Architecture ::tRadioNetworkID	1		
radioNetworkID_fromDriver	public	MoRC_System ::Architecture ::tRadioNetworkID	1		

Name	Visibility	Type	Mult.	Properties	Comments and Information
radioNetworkID_fromTrackside	public	MoRC_System :: Architecture :: tRadioNetworkID	1		

#### 3.2.7.2.5. tRM\_Status Data Type

Declared as **public data type**

##### 3.2.7.2.5.1. Fields

Table 24: Fields of tRM\_Status

Name	Visibility	Type	Mult.	Properties	Comments and Information
radioComSessionEstablished	public	libscade::bool	1		
mobileSWStatus	public	MoRC_System :: Architecture :: tMobileSWConnectionStatus	1		

#### 3.2.7.2.6. tSafeRadioCommCmd Data Type

Declared as **public data type**

##### 3.2.7.2.6.1. Fields

Table 25: Fields of tSafeRadioCommCmd

Name	Visibility	Type	Mult.	Properties	Comments and Information
requestSetup	public	libscade::bool	1		
releaseSetup	public	libscade::bool	1		
mobileHWCmd	public	MoRC_System :: Architecture :: tMobileHWAction	1		
actualRadioNetworkID	public	MoRC_System :: Architecture :: tRadioNetworkID	1		
memorizeTheLastRadioNetworkID	public	libscade::bool	1		

#### 3.2.7.2.7. tSafeRadioCommStatus Data Type

Declared as **public data type**

### 3.2.7.2.7.1. Fields

Table 26: Fields of tSafeRadioCommStatus

Name	Visibility	Type	Mult.	Properties	Comments and Information
setupEstablished	public	libscade::bool	1		
mobileHWConnectionStatus	public	MoRC_System::Architecture::tMobileHWCConnectionStatus	1		

### 3.2.7.3. Typedefs

Table 27: Typedefs of Architecture

Name	Visibility	Type	Comments and Information
tNIC_RBC_ID	public	libscade::int	
tNID_Message	public	libscade::int	
tRadioNetworkID	public	libscade::int	
tTime	public	libscade::int	

### 3.2.8. Associations

#### 3.2.8.1. Association1 Association

Declared as **public association**

##### 3.2.8.1.1. Sources and Targets

Source type: **MoRC\_System::Architecture::Train**

Target:

Table 28: Target of Association1

Name	Visibility	Type	Aggregation	Mult.	Properties
OBU	public	MoRC_System::Architecture::OBU	composite	1	

#### 3.2.8.2. Association2 Association

Declared as **public association**

##### 3.2.8.2.1. Sources and Targets

Source type: **MoRC\_System::Architecture::OBU**

Target:

Table 29: Target of Association2

Name	Visibility	Type	Aggregation	Mult.	Properties
EVC	public	MoRC_System::Arc hitecture::EVC	composite	1	

### 3.2.8.3. Association3 Association

Declared as **public association**

#### 3.2.8.3.1. Sources and Targets

Source type: **MoRC\_System::Architecture::EVC**

Target:

Table 30: Target of Association3

Name	Visibility	Type	Aggregation	Mult.	Properties
Radio	public	MoRC_System::Arc hitecture::Radio	composite	1	

### 3.2.8.4. Association4 Association

Declared as **public association**

#### 3.2.8.4.1. Sources and Targets

Source type: **MoRC\_System::Architecture::Radio**

Target:

Table 31: Target of Association4

Name	Visibility	Type	Aggregation	Mult.	Properties
RadioManagement	public	MoRC_System::Arc hitecture::RadioMan agement	composite	1	

### 3.2.8.5. Association5 Association

Declared as **public association**

#### 3.2.8.5.1. Sources and Targets

Source type: **MoRC\_System::Architecture::EVC**

Target:

Table 32: Target of Association5

Name	Visibility	Type	Aggregation	Mult.	Properties
EVC_InfoBroker	public	MoRC_System::Arc hitecture::EVC_Info Broker	composite	1	



### 3.2.9. Diagrams

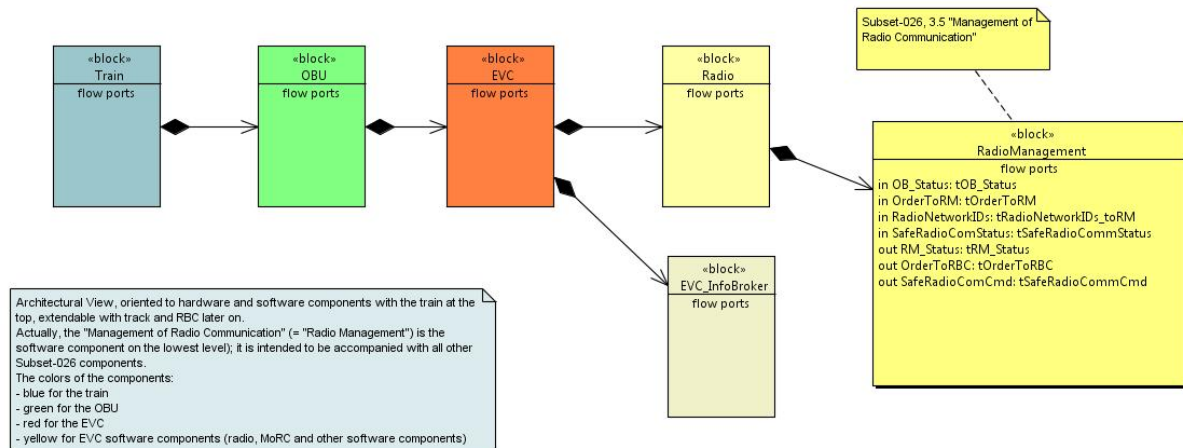


Figure 4: Block Definition Diagram - diagram\_Architecture\_2

## 3.3. MoRC\_System::FunctionalComposition Package

Declared as **public package**

FunctionalComposition Comments:

- Name: MoRC\_System.etp
- Description: Functional structure of SUBSET-026-3, ISSUE : 3.3.0, SysML model with "3.5 Management of Radio Communication" in detail
- Copyright Siemens AG, 2013
- Licensed under the EUPL V.1.1 (<http://joinup.ec.europa.eu/software/page/eupl/licence-eupl>)
- Gist URL: ---
- Cryptography: No
- Author(s): Uwe Steinke
- 
- The use of this software is limited to non-vital applications.
- It has not been developed for vital operation purposes and must not be used for applications which may cause harm to people, physical accidents or financial loss.
- 
- THEREFORE, NO LIABILITY WILL BE GIVEN FOR SUCH AND ANY OTHER KIND OF USE.

### 3.3.1. DataConsistency Block

Declared as **public block**

### 3.3.2. DeleteRevokedTSR Block

Declared as **public block**

### 3.3.3. DetermineModeAndLevel Block

Declared as **public block**

### 3.3.4. DetermineMostRestrictiveSpeedProfile Block

Declared as **public block**

### 3.3.5. DetermineTrainSpeedAndPosition Block

Declared as **public block**

### 3.3.6. EstablishingACommunicationSession Block

Declared as **public block**

#### 3.3.6.1. Flow Ports

Table 33: Input Flow Ports of EstablishingACommunicationSession

Name	Visibility	Type	Mult.	Properties	Comments and Information
activation	public	MoRC_System :: FunctionalCo mposition:: Act ivationMode	1		

Table 34: Grouped Flow Ports of EstablishingACommunicationSession

Name	Visibility	Type	Mult.	Properties	Comments and Information
OBU_Status	public	MoRC_System :: FunctionalCo mposition:: OB U_Status_IF	1		
MoRC_Status	public	MoRC_System :: FunctionalCo mposition:: Mo RC_Status_IF	1		
OrderToRBC	public	MoRC_System :: FunctionalCo mposition:: Or derToRBC_IF	1		

Name	Visibility	Type	Mult.	Properties	Comments and Information
OrderToMoRC	public	MoRC_System :: FunctionalCo mposition:: Or derToMoRC_IF	1		

### 3.3.7. MaintainingACommunicationSession Block

Declared as **public block**

#### 3.3.7.1. Flow Ports

Table 35: Input Flow Ports of MaintainingACommunicationSession

Name	Visibility	Type	Mult.	Properties	Comments and Information
activation	public	MoRC_System :: FunctionalCo mposition:: Act ivationMode	1		

Table 36: Grouped Flow Ports of MaintainingACommunicationSession

Name	Visibility	Type	Mult.	Properties	Comments and Information
MoRC_Status	public	MoRC_System :: FunctionalCo mposition:: Mo RC_Status_IF	1		
OBU_Status	public	MoRC_System :: FunctionalCo mposition:: OB U_Status_IF	1		
OrderToRBC	public	MoRC_System :: FunctionalCo mposition:: Or derToRBC_IF	1		
OrderToMoRC	public	MoRC_System :: FunctionalCo mposition:: Or derToMoRC_IF	1		

### 3.3.8. ManageMA Block

Declared as **public block**

### 3.3.9. ManagementOfRadioCommunication Block

Declared as **public block**

### 3.3.9.1. Parts and References

Table 37: Parts of ManagementOfRadioCommunication

Name	Visibility	Type	Mult.	Properties	Comments and Information
EstablishingACommunicationSession	public	MoRC_System :: FunctionalComposition:: EstablishingACommunicationSession	1		
MaintainingACommunicationSession	public	MoRC_System :: FunctionalComposition:: MaintainingACommunicationSession	1		
RegisteringToTheRadioNetwork	public	MoRC_System :: FunctionalComposition:: RegisteringToTheRadioNetwork	1		
SessionStateManager	public	MoRC_System :: FunctionalComposition:: SessionStateManager	1		
TerminatingACommunicationSession	public	MoRC_System :: FunctionalComposition:: TerminatingACommunicationSession	1		

### 3.3.9.2. Flow Ports

Table 38: Grouped Flow Ports of ManagementOfRadioCommunication

Name	Visibility	Type	Mult.	Properties	Comments and Information
OBU_Status	public	MoRC_System :: FunctionalComposition:: OBU_Status_IF	1		
MoRC_Status	public	MoRC_System :: FunctionalComposition:: MoRC_Status_IF	1		
OrderToMoRC	public	MoRC_System :: FunctionalComposition:: OrderToMoRC_IF	1		

Name	Visibility	Type	Mult.	Properties	Comments and Information
OrderToRBC	public	MoRC_System :: FunctionalCo mposition:: Or derToRBC_IF	1		
RadioNetworkIDs	public	MoRC_System :: FunctionalCo mposition:: Ra dioNetworkIDs _ToMoRC_IF	1		
SafeRadioCommmands	public	MoRC_System :: FunctionalCo mposition:: Saf eRadioCommC md_IF	1		
SafeRadioCommStatus	public	MoRC_System :: FunctionalCo mposition:: Saf eRadioCommS tatus_IF	1		

### 3.3.9.3. Connectors

Table 39: Connectors of ManagementOfRadioCommunication

Name	Visibility	From	To	Comments and Information
connector18	public	Port OrderToMoRC	Port OrderToMoRC (Part SessionStateMan ager)	
connector19	public	Port MoRC_Status (Part SessionStateMan ager)	Port MoRC_Status	
connector20	public	Port OrderToRBC (Part SessionStateMan ager)	Port OrderToRBC	
connector27	public	Port RadioNetworkIDs	Port RadioNetworkIDs (Part RegisteringToThe RadioNetwork)	
connector28	public	Port SafeRadioCommS tatus	Port SafeRadioCommS tatus (Part RegisteringToThe RadioNetwork)	
connector29	public	Port SafeRadioComma nds (Part RegisteringToThe RadioNetwork)	Port SafeRadioComma nds	

Name	Visibility	From	To	Comments and Information
connector30	public	Port OBU_Status	Port OBU_Status (Part SessionStateManager)	
connector32	public	Port OrderToMoRC	Port OrderToMoRC (Part EstablishingACommunicationSession)	
connector33	public	Port OBU_Status	Port OBU_Status (Part EstablishingACommunicationSession)	
connector34	public	Port activation (Part SessionStateManager)	Port activation (Part EstablishingACommunicationSession)	
connector35	public	Port activation (Part SessionStateManager)	Port activation (Part MaintainingACommunicationSession)	
connector36	public	Port activation (Part SessionStateManager)	Port activation (Part TerminatingACommunicationSession)	
connector37	public	Port MoRC_Status (Part EstablishingACommunicationSession)	Port Stati (Part SessionStateManager)	
connector38	public	Port MoRC_Status (Part MaintainingACommunicationSession)	Port Stati (Part SessionStateManager)	
connector39	public	Port MoRC_Status (Part TerminatingACommunicationSession)	Port Stati (Part SessionStateManager)	
connector40	public	Port OrderToRBC (Part EstablishingACommunicationSession)	Port Orders (Part SessionStateManager)	

Name	Visibility	From	To	Comments and Information
connector41	public	Port OrderToRBC (Part MaintainingACom municationSessio n)	Port Orders (Part SessionStateMan ager)	
connector42	public	Port OrderToRBC (Part TerminatingACom municationSessio n)	Port Orders (Part SessionStateMan ager)	
connector43	public	Port OBU_Status	Port OBU_Status (Part MaintainingACom municationSessio n)	
connector45	public	Port OrderToMoRC	Port OrderToMoRC (Part MaintainingACom municationSessio n)	
connector46	public	Port OrderToMoRC	Port OrderToMoRC (Part TerminatingACom municationSessio n)	
connector47	public	Port OBU_Status	Port OBU_Status (Part TerminatingACom municationSessio n)	

### 3.3.9.4. Diagrams

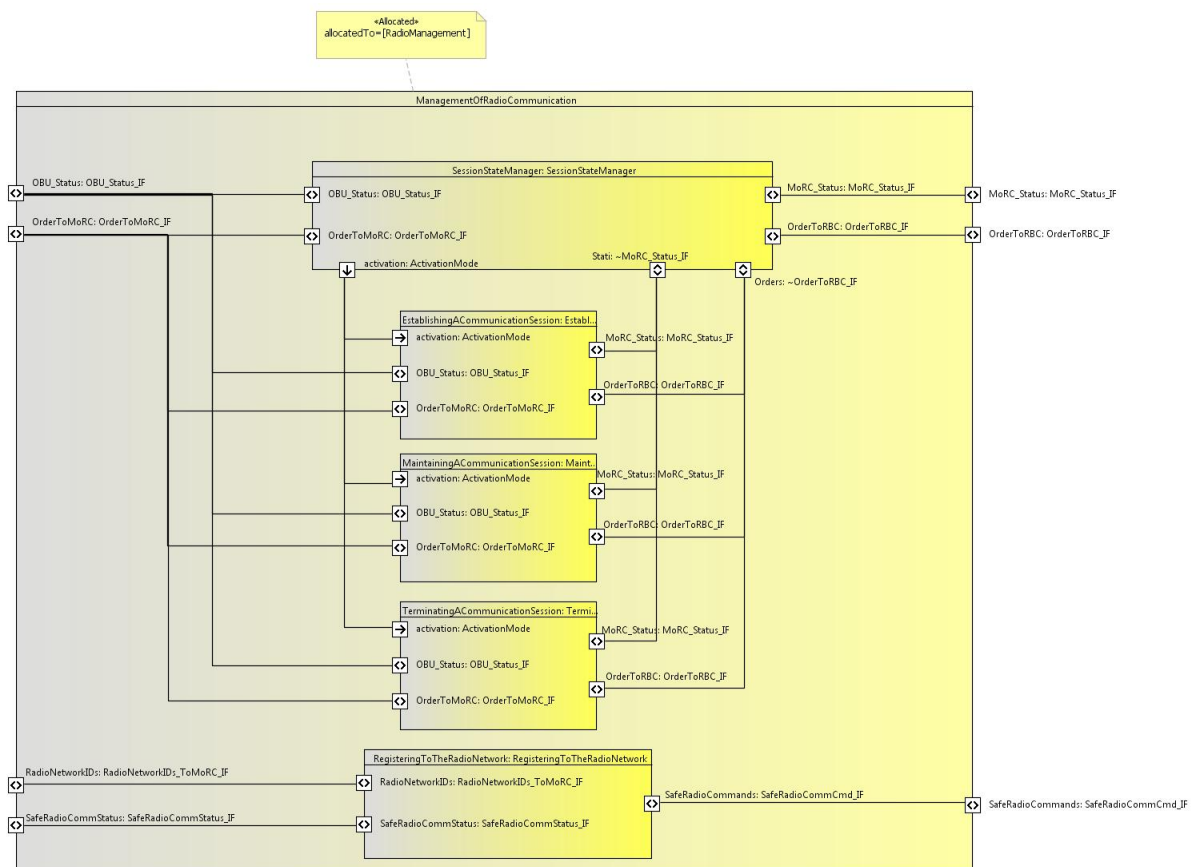


Figure 5: Internal Block Diagram - diagram\_ManagementOfRadioCommunication\_1

### 3.3.10. ManageRBCRBCHandover Block

Declared as **public block**

### 3.3.11. ManageRouteSuitability Block

Declared as **public block**

### 3.3.12. ManageTextDisplay Block

Declared as **public block**

### 3.3.13. ManageTrackConditions Block

Declared as **public block**



### 3.3.14. MoreOtherFunctions Block

Declared as **public block**

### 3.3.15. OtherFunctions Block

Declared as **public block**

#### 3.3.15.1. Parts and References

Table 40: Parts of OtherFunctions

Name	Visibility	Type	Mult.	Properties	Comments and Information
DeleteRevoke dTSR	public	MoRC_System :: FunctionalCo mposition:: Del eteRevokedTS R	1		
ManagementO fRadioCommu nication	public	MoRC_System :: FunctionalCo mposition:: Ma nagementOfR adioCommunica tion	1		
ManageRBCRB CHandover	public	MoRC_System :: FunctionalCo mposition:: Ma nageRBCRBCH andover	1		
ManageRoute Suitability	public	MoRC_System :: FunctionalCo mposition:: Ma nageRouteSuit ability	1		
ManageTextDi splay	public	MoRC_System :: FunctionalCo mposition:: Ma nageTextDispl ay	1		
ManageTrackC onditions	public	MoRC_System :: FunctionalCo mposition:: Ma nageTrackCon ditions	1		
MoreOtherFun ctions	public	MoRC_System :: FunctionalCo mposition:: Mo reOtherFunci ons	1		

Name	Visibility	Type	Mult.	Properties	Comments and Information
Override	public	MoRC_System :: FunctionalCo mposition:: Ov erride	1		
SystemVersionManagement	public	MoRC_System :: FunctionalCo mposition:: Sy stemVersionM anagement	1		

### 3.3.15.2. Flow Ports

Table 41: Grouped Flow Ports of OtherFunctions

Name	Visibility	Type	Mult.	Properties	Comments and Information
OBU_Status	public	MoRC_System :: FunctionalCo mposition:: OB U_Status_IF	1		
OrderToMoRC	public	MoRC_System :: FunctionalCo mposition:: Or derToMoRC_IF	1		
OrderToRBC	public	MoRC_System :: FunctionalCo mposition:: Or derToRBC_IF	1		
SafeRadioCom mands	public	MoRC_System :: FunctionalCo mposition:: Saf eRadioCommC md_IF	1		
SafeRadioCom mStatus	public	MoRC_System :: FunctionalCo mposition:: Saf eRadioCommS tatus_IF	1		
MoRC_Status	public	MoRC_System :: FunctionalCo mposition:: Mo RC_Status_IF	1		
RadioNetworkI Ds	public	MoRC_System :: FunctionalCo mposition:: Ra dioNetworkIDs _ToMoRC_IF	1		

### 3.3.15.3. Connectors

Table 42: Connectors of OtherFunctions

Name	Visibility	From	To	Comments and Information
connector1	public	Port OBU_Status	Port OBU_Status (Part ManagementOfRadioCommunication)	
connector2	public	Port OrderToMoRC	Port OrderToMoRC (Part ManagementOfRadioCommunication)	
connector3	public	Port RadioNetworkIDs	Port RadioNetworkIDs (Part ManagementOfRadioCommunication)	
connector4	public	Port SafeRadioCommStatus	Port SafeRadioCommStatus (Part ManagementOfRadioCommunication)	
connector5	public	Port MoRC_Status (Part ManagementOfRadioCommunication)	Port MoRC_Status	
connector6	public	Port OrderToRBC (Part ManagementOfRadioCommunication)	Port OrderToRBC	
connector7	public	Port SafeRadioCommands (Part ManagementOfRadioCommunication)	Port SafeRadioCommands	

### 3.3.15.4. Diagrams

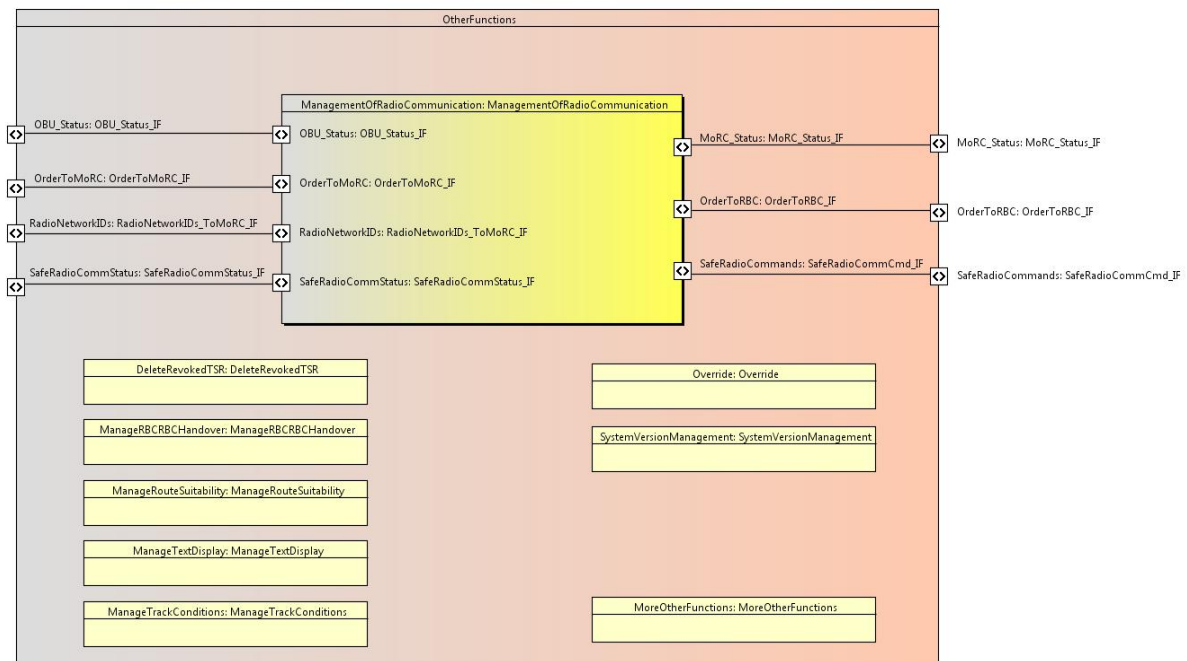


Figure 6: Internal Block Diagram - diagram\_OtherFunctions\_1

### 3.3.16. Override Block

Declared as **public block**

### 3.3.17. RegisteringToTheRadioNetwork Block

Declared as **public block**

#### 3.3.17.1. Flow Ports

Table 43: Grouped Flow Ports of RegisteringToTheRadioNetwork

Name	Visibility	Type	Mult.	Properties	Comments and Information
RadioNetworkIDs	public	MoRC_System :: FunctionalComposition :: RadioNetworkIDs_ToMoRC_IF	1		
SafeRadioCommands	public	MoRC_System :: FunctionalComposition :: SafeRadioCommCmd_IF	1		

Name	Visibility	Type	Mult.	Properties	Comments and Information
SafeRadioCommStatus	public	MoRC_System :: FunctionalComposition:: SafeRadioCommStatus_IF	1		

### 3.3.18. SessionStateManager Block

Declared as **public block**

#### 3.3.18.1. Flow Ports

Table 44: Output Flow Ports of SessionStateManager

Name	Visibility	Type	Mult.	Properties	Comments and Information
activation	public	MoRC_System :: FunctionalComposition:: ActivationMode	1		

Table 45: Grouped Flow Ports of SessionStateManager

Name	Visibility	Type	Mult.	Properties	Comments and Information
OrderToMoRC	public	MoRC_System :: FunctionalComposition:: OrderToMoRC_IF	1		
MoRC_Status	public	MoRC_System :: FunctionalComposition:: MoRC_Status_IF	1		
OrderToRBC	public	MoRC_System :: FunctionalComposition:: OrderToRBC_IF	1		
OBU_Status	public	MoRC_System :: FunctionalComposition:: OBU_Status_IF	1		
Stati	public	MoRC_System :: FunctionalComposition:: MoRC_Status_IF	1	conjugated	
Orders	public	MoRC_System :: FunctionalComposition:: OrderToRBC_IF	1	conjugated	

### 3.3.19. Subset026\_OnboardFunctions Block

Declared as **public reusable block**

#### 3.3.19.1. Parts and References

Table 46: Parts of Subset026\_OnboardFunctions

Name	Visibility	Type	Mult.	Properties	Comments and Information
DataConsistency	public	MoRC_System :: FunctionalComposition:: DataConsistency	1		
DetermineModeAndLevel	public	MoRC_System :: FunctionalComposition:: DetermineModeAndLevel	1		
DetermineMostRestrictiveSpeedProfile	public	MoRC_System :: FunctionalComposition:: DetermineMostRestrictiveSpeedProfile	1		
DetermineTrainSpeedAndPosition	public	MoRC_System :: FunctionalComposition:: DetermineTrainSpeedAndPosition	1		
ManageMA	public	MoRC_System :: FunctionalComposition:: ManageMA	1		
OtherFunctions	public	MoRC_System :: FunctionalComposition:: OtherFunctions	1		
SuperviseTrainMovements	public	MoRC_System :: FunctionalComposition:: SuperviseTrainMovements	1		
SuperviseTrainSpeed	public	MoRC_System :: FunctionalComposition:: SuperviseTrainSpeed	1		

### 3.3.19.2. Flow Ports

Table 47: Grouped Flow Ports of Subset026\_OnboardFunctions

Name	Visibility	Type	Mult.	Properties	Comments and Information
OrderToRBC1	public	MoRC_System :: FunctionalCo mposition:: Or derToRBC_IF	1		
OBU_Status1	public	MoRC_System :: FunctionalCo mposition:: OB U_Status_IF	1		
SafeRadioCommStatus1	public	MoRC_System :: FunctionalCo mposition:: Saf eRadioCommS tatus_IF	1		
RadioNetworkIDs1	public	MoRC_System :: FunctionalCo mposition:: Ra dioNetworkIDs _ToMoRC_IF	1		
OrderToMoRC1	public	MoRC_System :: FunctionalCo mposition:: Or derToMoRC_IF	1		
SafeRadioCommands1	public	MoRC_System :: FunctionalCo mposition:: Saf eRadioCommC md_IF	1		
MoRC_Status1	public	MoRC_System :: FunctionalCo mposition:: Mo RC_Status_IF	1		

### 3.3.19.3. Connectors

Table 48: Connectors of Subset026\_OnboardFunctions

Name	Visibility	From	To	Comments and Information
connector1	public	Port OBU_Status1	Port OBU_Status (Part OtherFunctions)	
connector2	public	Port OrderToMoRC1	Port OrderToMoRC (Part OtherFunctions)	
connector3	public	Port RadioNetworkIDs 1	Port RadioNetworkIDs (Part OtherFunctions)	
connector4	public	Port SafeRadioCommS tatus1	Port SafeRadioCommS tatus (Part OtherFunctions)	

Name	Visibility	From	To	Comments and Information
connector5	public	Port OrderToRBC (Part OtherFunctions)	Port OrderToRBC1	
connector6	public	Port MoRC_Status (Part OtherFunctions)	Port MoRC_Status1	
connector7	public	Port SafeRadioCommands (Part OtherFunctions)	Port SafeRadioCommands1	

### 3.3.19.4. Diagrams

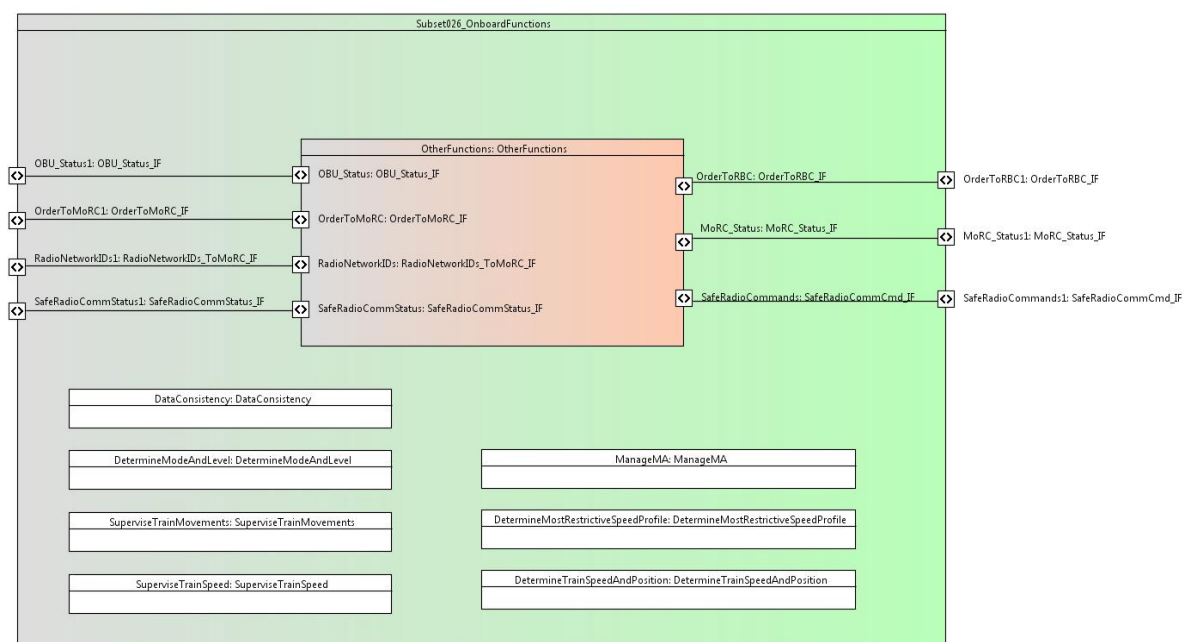


Figure 7: Internal Block Diagram - diagram\_Subset026\_OnboardFunctions\_1

### 3.3.20. SuperviseTrainMovements Block

Declared as **public block**

### 3.3.21. SuperviseTrainSpeed Block

Declared as **public block**

### 3.3.22. SystemVersionManagement Block

Declared as **public block**



### 3.3.23. TerminatingACommunicationSession Block

Declared as **public block**

#### 3.3.23.1. Flow Ports

Table 49: Input Flow Ports of TerminatingACommunicationSession

Name	Visibility	Type	Mult.	Properties	Comments and Information
activation	public	MoRC_System :: FunctionalCo mposition:: Act ivationMode	1		

Table 50: Grouped Flow Ports of TerminatingACommunicationSession

Name	Visibility	Type	Mult.	Properties	Comments and Information
OBU_Status	public	MoRC_System :: FunctionalCo mposition:: OB U_Status_IF	1		
MoRC_Status	public	MoRC_System :: FunctionalCo mposition:: Mo RC_Status_IF	1		
OrderToRBC	public	MoRC_System :: FunctionalCo mposition:: Or derToRBC_IF	1		
OrderToMoRC	public	MoRC_System :: FunctionalCo mposition:: Or derToMoRC_IF	1		

### 3.3.24. Types

#### 3.3.24.1. Enumerations

##### 3.3.24.1.1. ActivationMode Enumeration

Declared as **public enumeration**

##### 3.3.24.1.1.1. Literals

Table 51: Literals of ActivationMode

Name	Visibility	Comments and Information
inactive	public	

Name	Visibility	Comments and Information
establishing	public	
maintaining	public	
terminating	public	

### 3.3.25. Interfaces

#### 3.3.25.1. MoRC\_OnboardInterface Flow Specification

Declared as **public flow specification**

##### 3.3.25.1.1. Flow Properties

Table 52: Flow Properties of MoRC\_OnboardInterface

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
RadioNetworkID_fromDriver	public	<Undefined>	in	1		Comments : RadioNetworkIDs: Memorized and from Driver
RadioNetworkID_memorized	public	<Undefined>	in	1		
memorizeTheLastRadioNetworkID	public	libscade:: bool	out	1		
powerAvailable	public	libscade:: bool	in	1		
M_Mode	public	<Undefined>	in	1		
M_Level	public	<Undefined>	in	1		
SystemVersionIsCompatible	public	libscade:: bool	in	1		
orderFromOnBoard	public	<Undefined>	in	1		
radioComSessionEstablished	public	libscade:: bool	out	1		

#### 3.3.25.2. MoRC\_RBC\_Interface Flow Specification

Declared as **public flow specification**

### 3.3.25.2.1. Flow Properties

Table 53: Flow Properties of MoRC\_RBC\_Interface

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
MessageFromRBC	public	<Undefined>	in	1		
MessageToRBC	public	<Undefined>	out	1		
NID_RBC_ID	public	<Undefined>	in	1		
RadioNetworkID_fromTrasckside	public	<Undefined>	in	1		

### 3.3.25.3. MoRC\_SafeRadioInterface Flow Specification

Declared as **public flow specification**

#### 3.3.25.3.1. Flow Properties

Table 54: Flow Properties of MoRC\_SafeRadioInterface

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
mobileHWCcommand	public	<Undefined>	out	1		
mobileHWCconnectionStatus	public	<Undefined>	in	1		
actualRadioNetworkID	public	<Undefined>	out	1		
safeRadioCommunication_requestSetup	public	<Undefined>	out	1		
safeRadioCommunication_releaseSetup	public	<Undefined>	out	1		
safeRadioCommunication_setupEstablished	public	<Undefined>	in	1		
radioHoleStatus	public	<Undefined>	in	1		

### 3.3.25.4. MoRC\_Status\_IF Flow Specification

Declared as **public flow specification**

### 3.3.25.4.1. Flow Properties

Table 55: Flow Properties of MoRC\_Status\_IF

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
radioComSessionEstablished1	public	libscade::bool	out	1		

### 3.3.25.5. OBU\_Status\_IF Flow Specification

Declared as **public flow specification**

#### 3.3.25.5.1. Flow Properties

Table 56: Flow Properties of OBU\_Status\_IF

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
M_Mode1	public	<Undefined>	in	1		
M_Level1	public	<Undefined>	in	1		
powerAvailable1	public	libscade::bool	in	1		
SystemVersionIsCompatible1	public	libscade::bool	in	1		
radioHoleStatus1	public	<Undefined>	in	1		

### 3.3.25.6. OrderToMoRC\_IF Flow Specification

Declared as **public flow specification**

#### 3.3.25.6.1. Flow Properties

Table 57: Flow Properties of OrderToMoRC\_IF

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
orderFromOnBoard1	public	<Undefined>	in	1		
MessageFromRBC1	public	<Undefined>	in	1		
NID_RBC_ID1	public	<Undefined>	in	1		

### 3.3.25.7. OrderToRBC\_IF Flow Specification

Declared as **public flow specification**

### 3.3.25.7.1. Flow Properties

Table 58: Flow Properties of OrderToRBC\_IF

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
MessageToRBC1	public	<Undefined>	out	1		

### 3.3.25.8. RadioNetworkIDs\_ToMoRC\_IF Flow Specification

Declared as **public flow specification**

#### 3.3.25.8.1. Flow Properties

Table 59: Flow Properties of RadioNetworkIDs\_ToMoRC\_IF

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
RadioNetworkID_memorized1	public	<Undefined>	in	1		
RadioNetworkID_fromDriver1	public	<Undefined>	in	1		Comments : RadioNetworkIDs: Memorized and from Driver
RadioNetworkID_fromTruckside1	public	<Undefined>	in	1		

### 3.3.25.9. SafeRadioCommCmd\_IF Flow Specification

Declared as **public flow specification**

#### 3.3.25.9.1. Flow Properties

Table 60: Flow Properties of SafeRadioCommCmd\_IF

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
mobileHWCcommand1	public	<Undefined>	out	1		
safeRadioCommunication_requestSetup1	public	<Undefined>	out	1		

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
safeRadioCommunication_releaseSetup1	public	<Undefined>	out	1		
actualRadioNetworkID1	public	<Undefined>	out	1		
memorizeTheLastRadioNetworkID1	public	libscade::bool	out	1		

### 3.3.25.10. SafeRadioCommStatus\_IF Flow Specification

Declared as **public flow specification**

#### 3.3.25.10.1. Flow Properties

Table 61: Flow Properties of SafeRadioCommStatus\_IF

Name	Visibility	Type	Dir.	Mult.	Properties	Comments and Information
safeRadioCommunication_setupEstablished1	public	<Undefined>	in	1		
mobileHWCConnectionStatus1	public	<Undefined>	in	1		

### 3.3.26. Associations

#### 3.3.26.1. Association10 Association

Declared as **public association**

##### 3.3.26.1.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::ManagementOfRadioCommunication**

Target:

Table 62: Target of Association10

Name	Visibility	Type	Aggregation	Mult.	Properties
MaintainingACommunicationSession	public	MoRC_System::FunctionalComposition::MaintainingACommunicationSession	composite	1	

### 3.3.26.2. Association11 Association

Declared as **public association**

#### 3.3.26.2.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::ManagementOfRadioCommunication**

Target:

Table 63: Target of Association11

Name	Visibility	Type	Aggregation	Mult.	Properties
TerminatingACommunicationSession	public	MoRC_System::FunctionalComposition::TerminatingACommunicationSession	composite	1	

### 3.3.26.3. Association12 Association

Declared as **public association**

#### 3.3.26.3.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::ManagementOfRadioCommunication**

Target:

Table 64: Target of Association12

Name	Visibility	Type	Aggregation	Mult.	Properties
SessionStateManager	public	MoRC_System::FunctionalComposition::SessionStateManager	composite	1	

### 3.3.26.4. Association13 Association

Declared as **public association**

#### 3.3.26.4.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:

Table 65: Target of Association13

Name	Visibility	Type	Aggregation	Mult.	Properties
DataConsistency	public	MoRC_System::FunctionalComposition: :DataConsistency	composite	1	

### 3.3.26.5. Association14 Association

Declared as **public association**

#### 3.3.26.5.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:

Table 66: Target of Association14

Name	Visibility	Type	Aggregation	Mult.	Properties
DetermineTrainSpeedAndPosition	public	MoRC_System::FunctionalComposition: :DetermineTrainSpeedAndPosition	composite	1	

### 3.3.26.6. Association15 Association

Declared as **public association**

#### 3.3.26.6.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:

Table 67: Target of Association15

Name	Visibility	Type	Aggregation	Mult.	Properties
ManageMA	public	MoRC_System::FunctionalComposition: :ManageMA	composite	1	

### 3.3.26.7. Association16 Association

Declared as **public association**

#### 3.3.26.7.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:



Table 68: Target of Association16

Name	Visibility	Type	Aggregation	Mult.	Properties
DetermineMostRestrictiveSpeedProfile	public	MoRC_System::FunctionalComposition: :DetermineMostRestrictiveSpeedProfile	composite	1	

### 3.3.26.8. Association17 Association

Declared as **public association**

#### 3.3.26.8.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:

Table 69: Target of Association17

Name	Visibility	Type	Aggregation	Mult.	Properties
SuperviseTrainSpeed	public	MoRC_System::FunctionalComposition: :SuperviseTrainSpeed	composite	1	

### 3.3.26.9. Association18 Association

Declared as **public association**

#### 3.3.26.9.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:

Table 70: Target of Association18

Name	Visibility	Type	Aggregation	Mult.	Properties
SuperviseTrainMovements	public	MoRC_System::FunctionalComposition: :SuperviseTrainMovements	composite	1	

### 3.3.26.10. Association19 Association

Declared as **public association**

#### 3.3.26.10.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:

Table 71: Target of Association19

Name	Visibility	Type	Aggregation	Mult.	Properties
DetermineModeAndLevel	public	MoRC_System::FunctionalComposition: :DetermineModeAndLevel	composite	1	

### 3.3.26.11. Association20 Association

Declared as **public association**

#### 3.3.26.11.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 72: Target of Association20

Name	Visibility	Type	Aggregation	Mult.	Properties
SystemVersionManagement	public	MoRC_System::FunctionalComposition: :SystemVersionManagement	composite	1	

### 3.3.26.12. Association21 Association

Declared as **public association**

#### 3.3.26.12.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 73: Target of Association21

Name	Visibility	Type	Aggregation	Mult.	Properties
DeleteRevokedTSR	public	MoRC_System::FunctionalComposition: :DeleteRevokedTSR	composite	1	

### 3.3.26.13. Association22 Association

Declared as **public association**

#### 3.3.26.13.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 74: Target of Association22

Name	Visibility	Type	Aggregation	Mult.	Properties
Override	public	MoRC_System::FunctionalComposition: :Override	composite	1	

### 3.3.26.14. Association23 Association

Declared as **public association**

#### 3.3.26.14.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 75: Target of Association23

Name	Visibility	Type	Aggregation	Mult.	Properties
ManageTrackConditions	public	MoRC_System::FunctionalComposition: :ManageTrackConditions	composite	1	

### 3.3.26.15. Association24 Association

Declared as **public association**

#### 3.3.26.15.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 76: Target of Association24

Name	Visibility	Type	Aggregation	Mult.	Properties
ManageRouteSuitability	public	MoRC_System::FunctionalComposition: :ManageRouteSuitability	composite	1	

### 3.3.26.16. Association25 Association

Declared as **public association**

#### 3.3.26.16.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 77: Target of Association25

Name	Visibility	Type	Aggregation	Mult.	Properties
ManageTextDisplay	public	MoRC_System::FunctionalComposition: :ManageTextDisplay	composite	1	

### 3.3.26.17. Association26 Association

Declared as **public association**

#### 3.3.26.17.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 78: Target of Association26

Name	Visibility	Type	Aggregation	Mult.	Properties
ManageRBCRBCHHandover	public	MoRC_System::FunctionalComposition: :ManageRBCRBCHHandover	composite	1	

### 3.3.26.18. Association27 Association

Declared as **public association**

#### 3.3.26.18.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 79: Target of Association27

Name	Visibility	Type	Aggregation	Mult.	Properties
MoreOtherFunctions	public	MoRC_System::FunctionalComposition: :MoreOtherFunctions	composite	1	

### 3.3.26.19. Association5 Association

Declared as **public association**

#### 3.3.26.19.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::Subset026\_OnboardFunctions**

Target:

Table 80: Target of Association5

Name	Visibility	Type	Aggregation	Mult.	Properties
OtherFunctions	public	MoRC_System::FunctionalComposition: :OtherFunctions	composite	1	

### 3.3.26.20. Association6 Association

Declared as **public association**

#### 3.3.26.20.1. Sources and Targets

Source type: **MoRC\_System::FunctionalComposition::OtherFunctions**

Target:

Table 81: Target of Association6

Name	Visibility	Type	Aggregation	Mult.	Properties
ManagementOfRadioCommunication	public	MoRC_System::FunctionalComposition: :ManagementOfRadioCommunication	composite	1	

### 3.3.26.21. Association7 Association

Declared as **public association**

#### 3.3.26.21.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::ManagementOfRadioCommunication**

Target:

Table 82: Target of Association7

Name	Visibility	Type	Aggregation	Mult.	Properties
RegisteringToTheRadioNetwork	public	MoRC_System::FunctionalComposition: :RegisteringToTheRadioNetwork	composite	1	

### 3.3.26.22. Association9 Association

Declared as **public association**

#### 3.3.26.22.1. Sources and Targets

Source type:

**MoRC\_System::FunctionalComposition::ManagementOfRadioCommunication**

## Target:

Table 83: Target of Association9

Name	Visibility	Type	Aggregation	Mult.	Properties
EstablishingACommunicationSession	public	MoRC_System::FunctionalComposition: EstablishingACommunicationSession	composite	1	

## 3.3.27. Diagrams

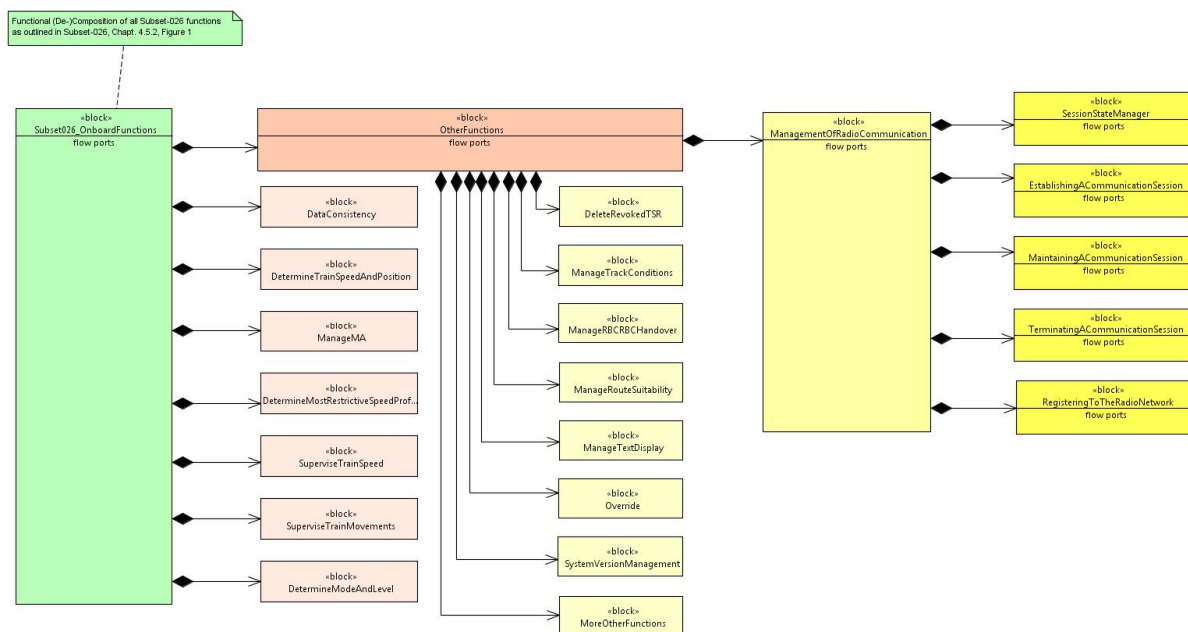


Figure 8: Block Definition Diagram - diagram\_Functional\_1

## 3.4. MoRC\_System::FunctionAllocation Package

Declared as **public package**

FunctionAllocation Comments:

- Name: MoRC\_System.etp
- Description: Allocation of functions from functional decomposition to architectural elements
- Copyright Siemens AG, 2013
- Licensed under the EUPL V.1.1 (<http://joinup.ec.europa.eu/software/page/eupl/licence-eupl>)
- Gist URL: ---
- Cryptography: No
- Author(s): Uwe Steinke
- The use of this software is limited to non-vital applications.
- It has not been developed for vital operation purposes and must not be used for applications which may cause harm to people, physical accidents or financial loss.

- 
- THEREFORE, NO LIABILITY WILL BE GIVEN FOR SUCH AND ANY OTHER KIND OF USE.

### 3.4.1. FunctionsAllocationTable Allocation Table

Table 84: Allocation table of FunctionAllocation

Declared in	Name	Source	Target
FunctionAllocation	Allocate1	RadioManagement	EstablishingAComm unicationSession
FunctionAllocation	Allocate2	RadioManagement	MaintainingAComm unicationSession
FunctionAllocation	Allocate3	RadioManagement	RegisteringToTheRa dioNetwork
FunctionAllocation	Allocate4	RadioManagement	SessionStateManag er
FunctionAllocation	Allocate5	RadioManagement	TerminatingAComm unicationSession
FunctionAllocation	Allocate6	RadioManagement	ManagementOfRadi oCommunication

## 3.5. MoRC\_System::InterfacesAllocation Package

Declared as **public package**

InterfacesAllocation Comments:

- Name: MoRC\_System.etp
- Description: Allocation of interfaces from functional decomposition to architecural elements
- Copyright Siemens AG, 2013
- Licensed under the EUPL V.1.1 (  
<http://joinup.ec.europa.eu/software/page/eupl/licence-eupl> )
- Gist URL: ---
- Cryptography: No
- Author(s): Uwe Steinke
- 
- The use of this software is limited to non-vital applications.
- It has not been developed for vital operation purposes and must not be used for applications which may cause harm to people, physical accidents or financial loss.
- 
- THEREFORE, NO LIABILITY WILL BE GIVEN FOR SUCH AND ANY OTHER KIND OF USE.

### 3.5.1. PortsAllocationTable Allocation Table

Table 85: Allocation table of InterfacesAllocation

Declared in	Name	Source	Target
InterfacesAllocation	Allocate2	RM_Status	MoRC_Status
InterfacesAllocation	Allocate3	OB_Status	OBU_Status
InterfacesAllocation	Allocate4	OrderToRM	OrderToMoRC
InterfacesAllocation	Allocate5	OrderToRBC	OrderToRBC
InterfacesAllocation	Allocate6	RadioNetworkIDs	RadioNetworkIDs
InterfacesAllocation	Allocate7	SafeRadioComCmd	SafeRadioCommands
InterfacesAllocation	Allocate8	SafeRadioComStatus	SafeRadioCommStatus

End of document.