



EULYNX Initiative



Europe's Rail Joint Undertaking

Generic interface and subsystem requirements for SCI

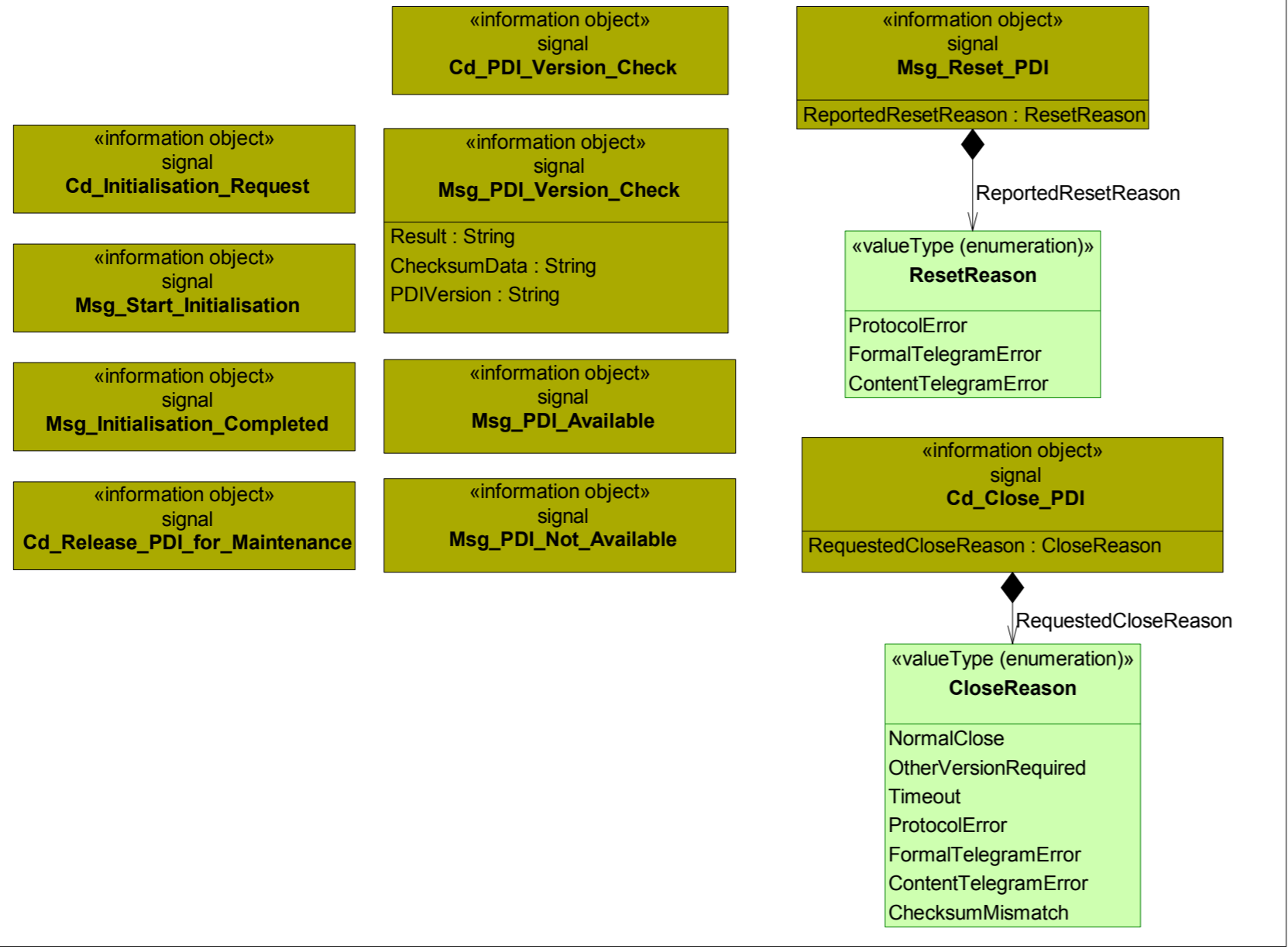
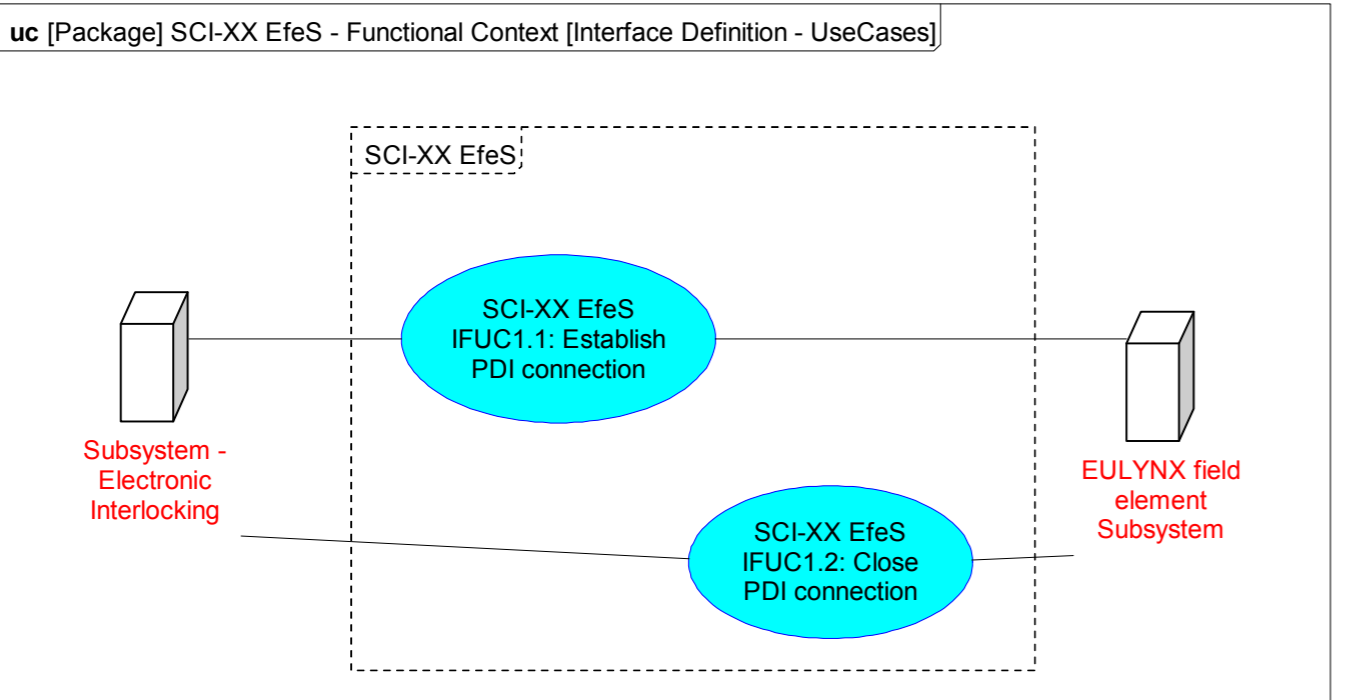
Document number: Eu.Doc.119
Version: 1.0 (3.A)

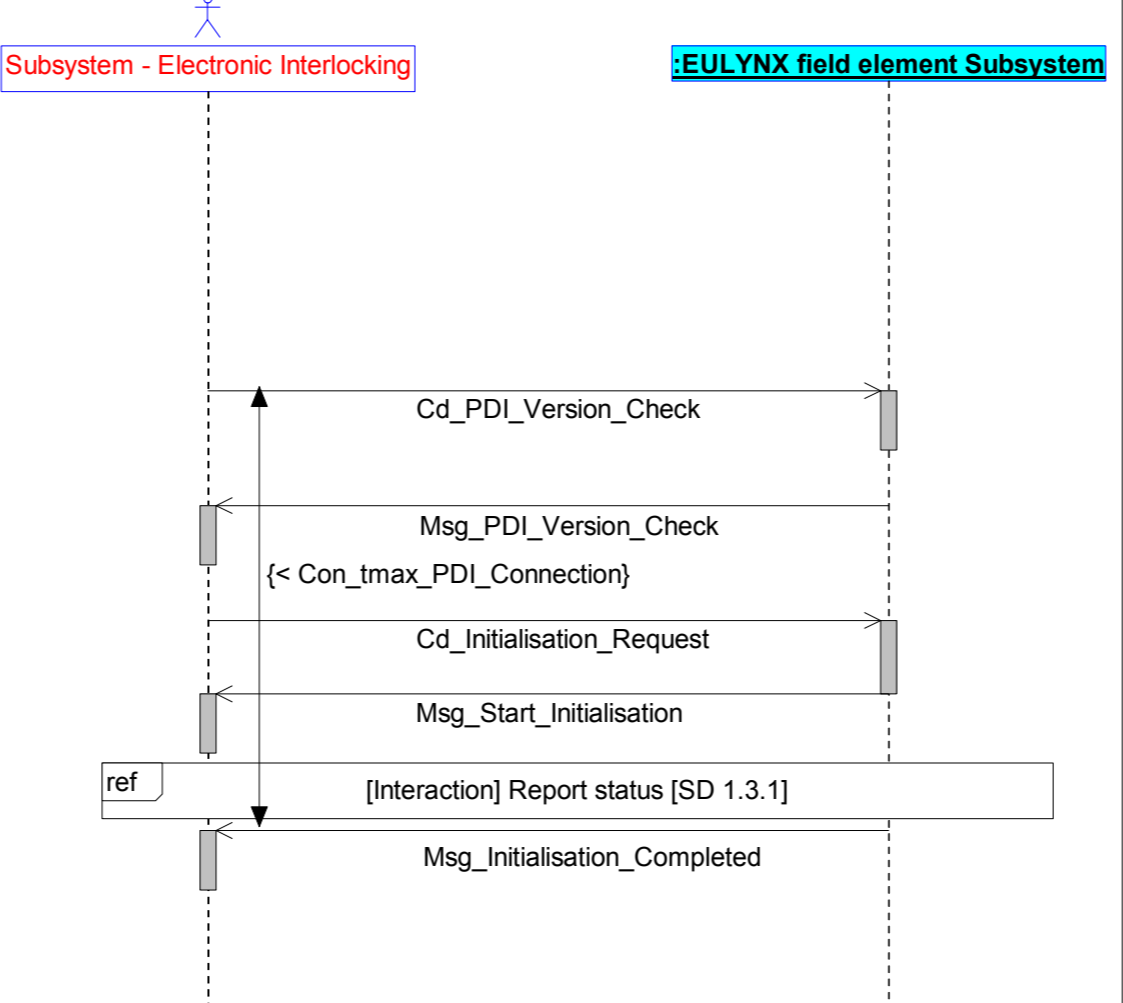
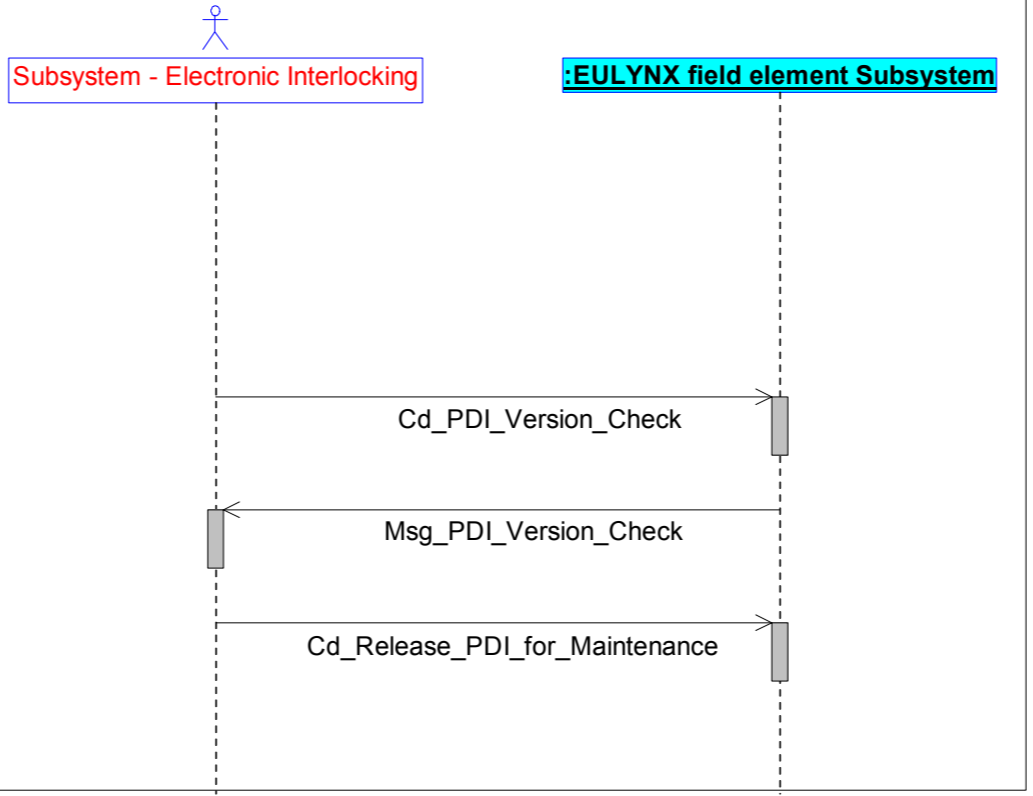
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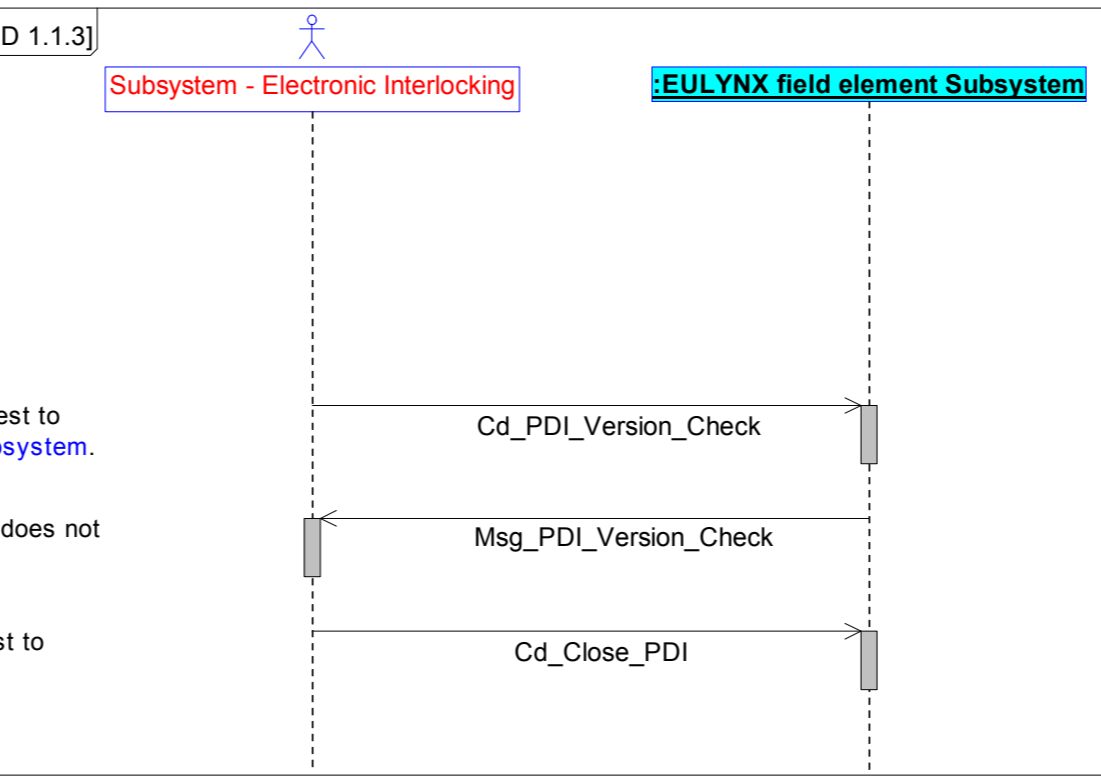
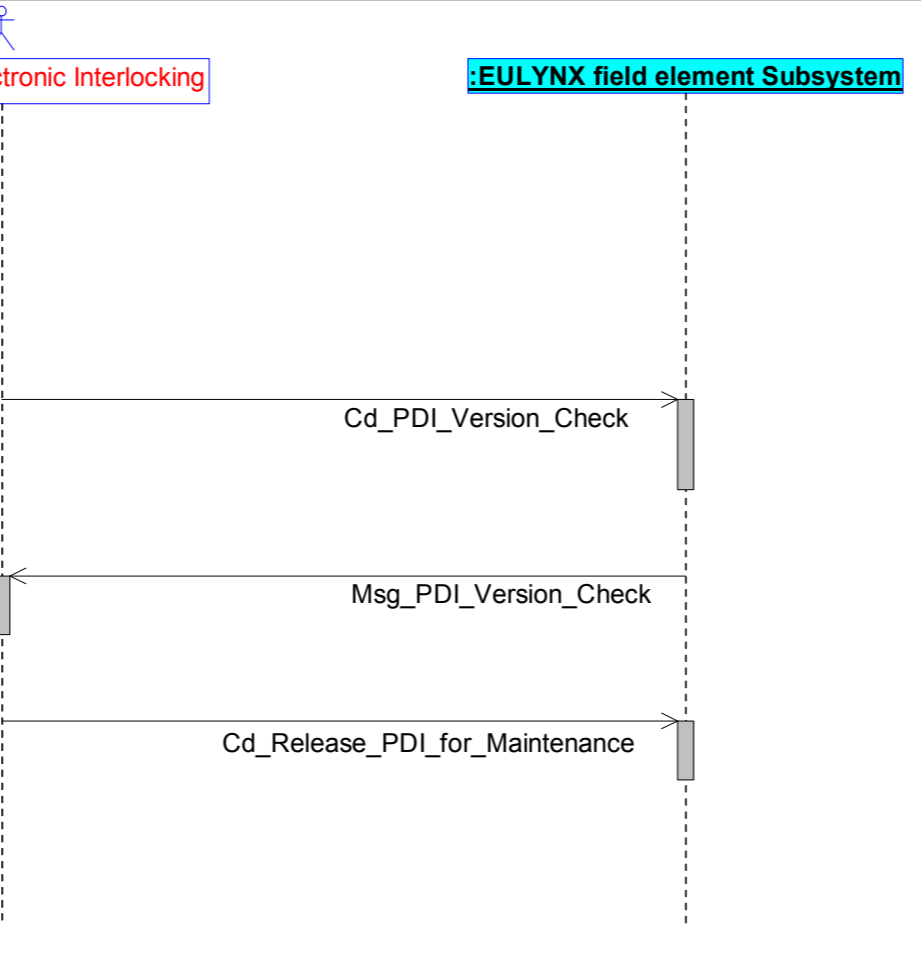
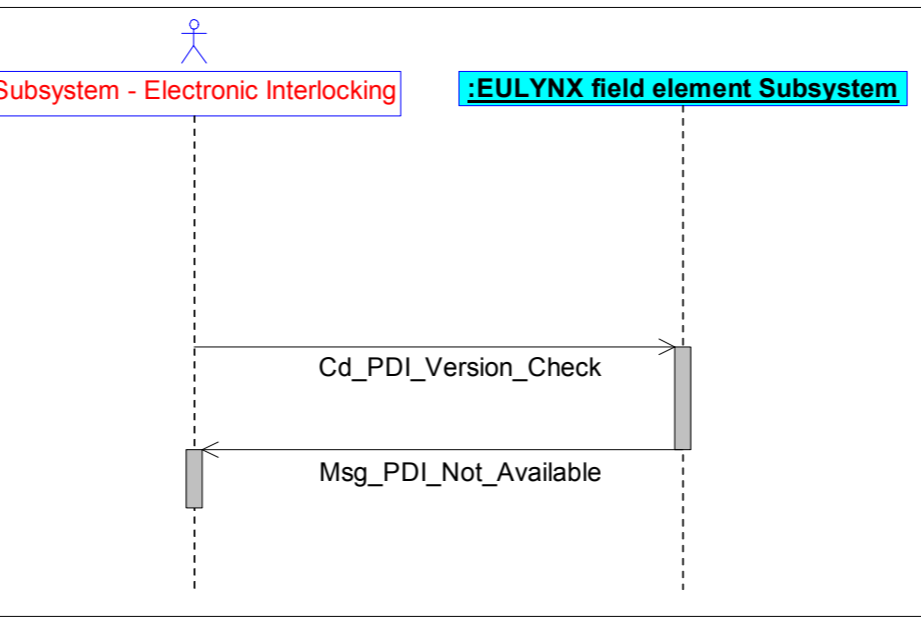
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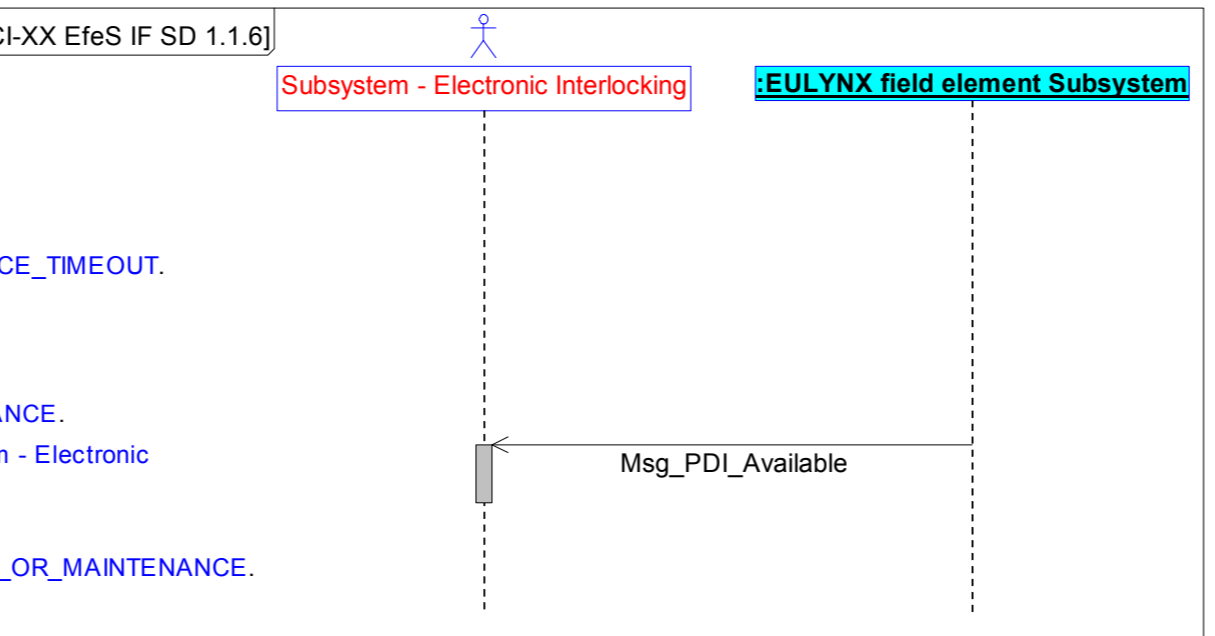
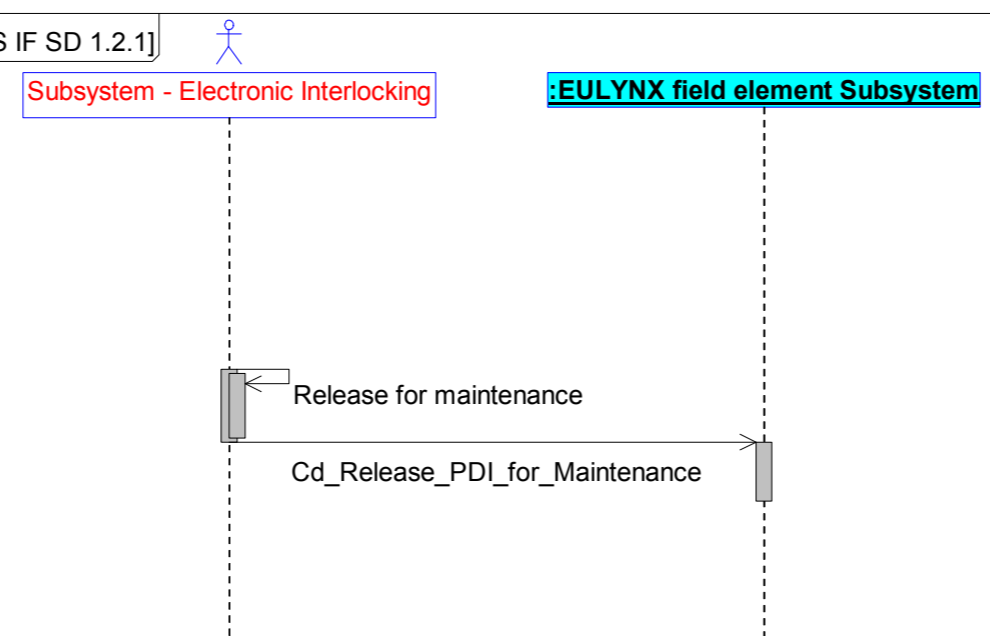
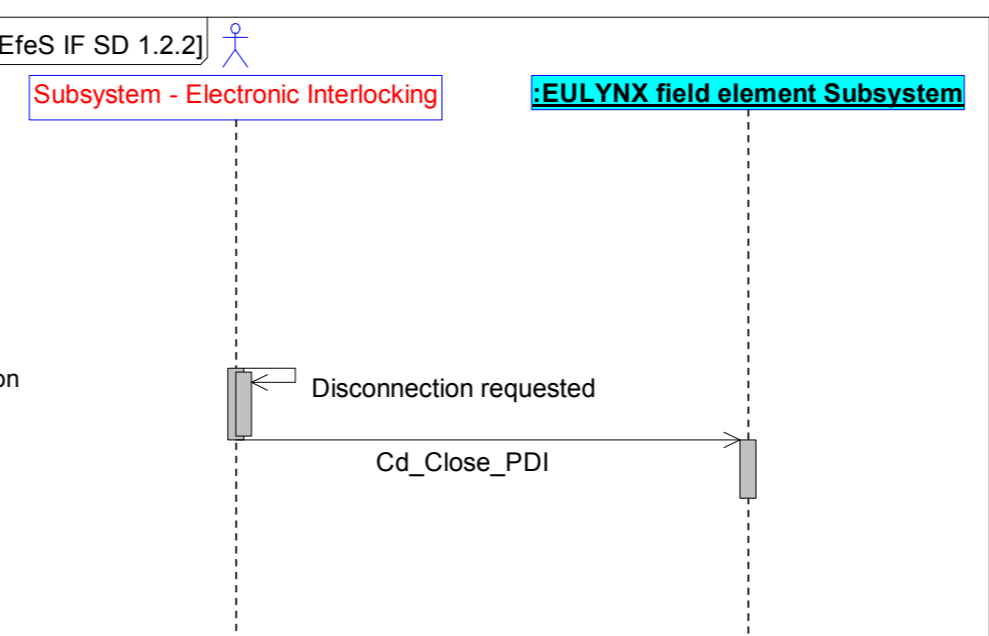
ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.1	Head	1 Introduction	
Eu.Gen-SCI.2	Head	1.1 Release information	
Eu.Gen-SCI.3	Info	[Eu.Doc.119] EULYNX Generic interface and subsystem requirements for SCI CENELEC Phase: 4 Version: 1.0 (3.A) Approval date: 15.06.2023	
Eu.Gen-SCI.4	Info	Version history	
Eu.Gen-SCI.532	Info	version number: 1.0 (0.A) date: 16.05.2022 author: Dennis Kunz, Filip Giering generic profile version: 18 review: CCB changes: EUAR-508, EUAR-510, EUAR-522, EUAR-523, EUAR-524, EUAR-526, EUAR-535, EUAR-536	
Eu.Gen-SCI.549	Info	version number: 1.0 (1.A) date: 31.03.2023 author: Filip Giering generic profile version: 21 review: changes: EUAR-546, EUAR-552, EUAR-553, EUAR-564, EUAR-582	
Eu.Gen-SCI.581	Info	version number: 1.0 (2.A) date: 11.05.2023 author: Dominik Smajgl, Filip Giering model version: 22 review: cluster changes: EUAR-589, EUAR-592	
Eu.Gen-SCI.591	Info	version number: 1.0 (3.A) date: 27.06.2023 author: Filip Giering model version: 22 review: TACS Mirror Group changes: EUAR-586, EUAR-600, EUAR-601, EUAR-612, EUAR-613	
Eu.Gen-SCI.6	Head	1.2 Impressum	
Eu.Gen-SCI.7	Info	Publishers: Europe's Rail Joint Undertaking https://rail-research.europa.eu EULYNX Initiative A full list of the EULYNX Partners can be found on www.eulynx.eu/index.php/members	
Eu.Gen-SCI.8	Info	Responsible for this document: EU-Rail System Pillar Trackside Assets Control and Supervision domain	
Eu.Gen-SCI.9	Info	Copyright EULYNX Partners All information included or disclosed in this document is licensed under the European Union Public Licence EUPL, Version 1.2 or later.	
Eu.Gen-SCI.10	Head	1.3 Purpose	
Eu.Gen-SCI.11	Info	The purpose of the document is the specification of generic requirements for the development of the EULYNX System. The generic requirements complement the specific interface and subsystem requirements.	
Eu.Gen-SCI.12	Info	This document describes: <ul style="list-style-type: none"> • generic functional requirements for the interface SCI-XX between an EULYNX field element Subsystem and the Subsystem - Electronic Interlocking • generic functional requirements for the interface SCI-XX between an adjacent system and the Subsystem - Electronic Interlocking which are describing only the interface parts of each communication partner 	
Eu.Gen-SCI.13	Info	This document is intended for the following users: <ul style="list-style-type: none"> • safety authorities • infrastructure managers • safety assessors • signalling system suppliers • validators 	
Eu.Gen-SCI.14	Info	This document is the basis for the implementation by the supplier and for approval by the infrastructure manager.	
Eu.Gen-SCI.590	Info	This document is applicable for both the EU-Rail System Pillar target architecture and the EULYNX architecture. The document is delivered as a single specification fitting both the System Pillar documentation sets and the EULYNX documentation sets. EU-Rail System Pillar is the technical authority for this document.	
Eu.Gen-SCI.15	Head	1.4 Applicable standards and regulations	
Eu.Gen-SCI.16	Info	A list of applicable standards and regulations used in EULYNX is listed in the EULYNX Reference Document List [Eu.Doc.12].	
Eu.Gen-SCI.17	Head	1.5 Applicable documents	
Eu.Gen-SCI.18	Info	The current versions of documents used as input or related to this document are listed in the EULYNX Documentation Plan [Eu.Doc.11]. The relationships between the documents are displayed in the Appendix A1 Documentation plan and structure [Eu.Doc.11_A1].	
Eu.Gen-SCI.19	Head	1.6 Terms and abbreviations	
Eu.Gen-SCI.20	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].	
Eu.Gen-SCI.21	Head	1.7 Variability management	

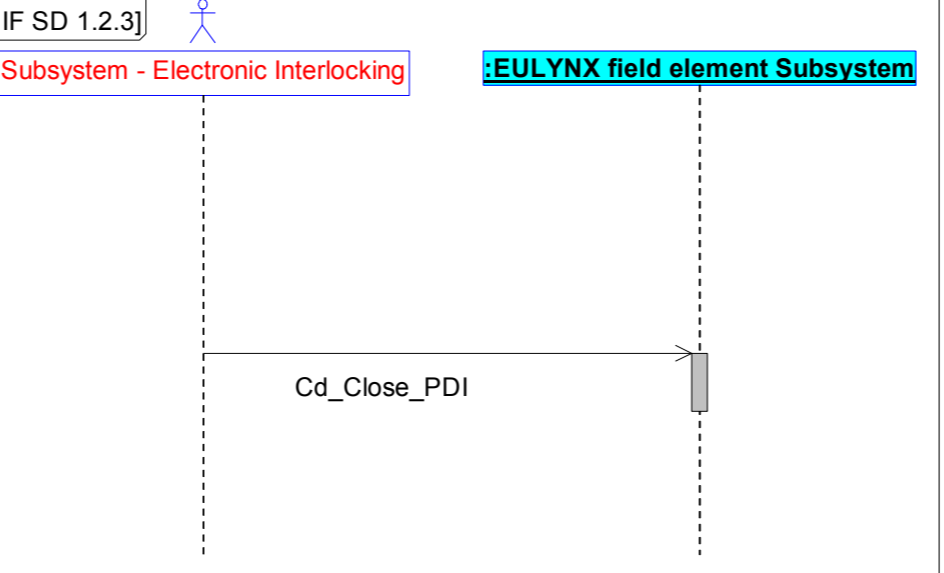
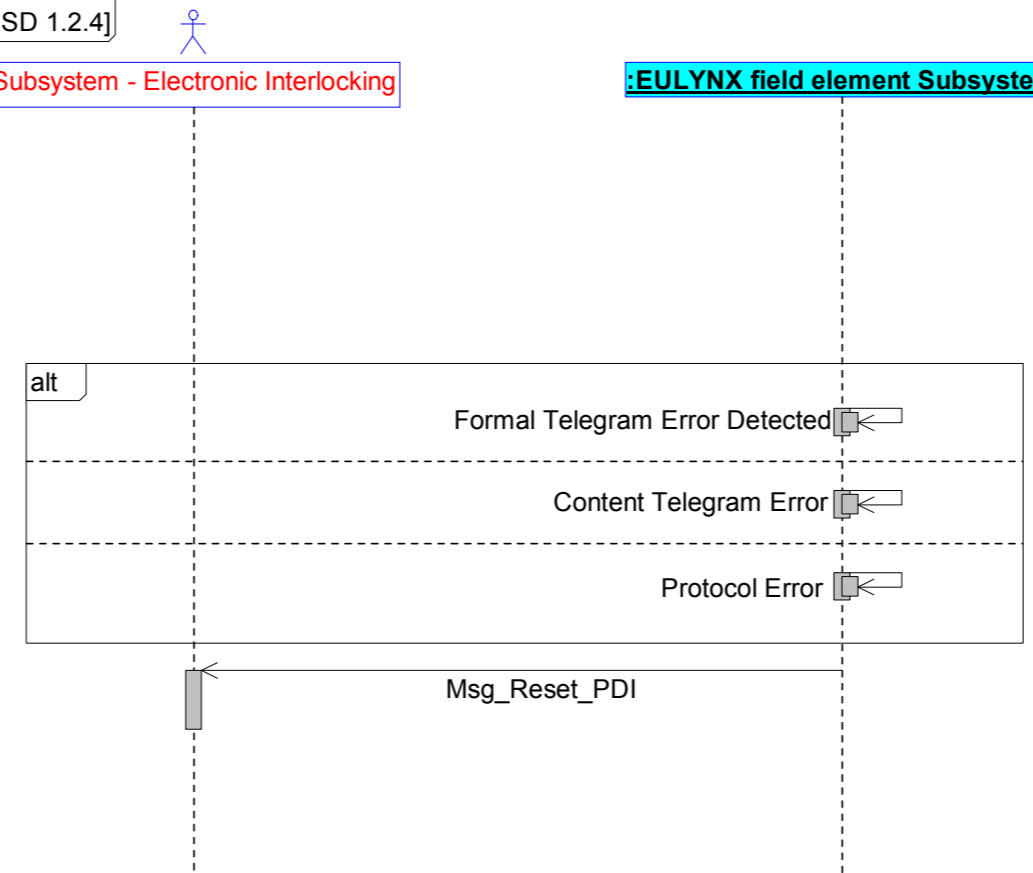
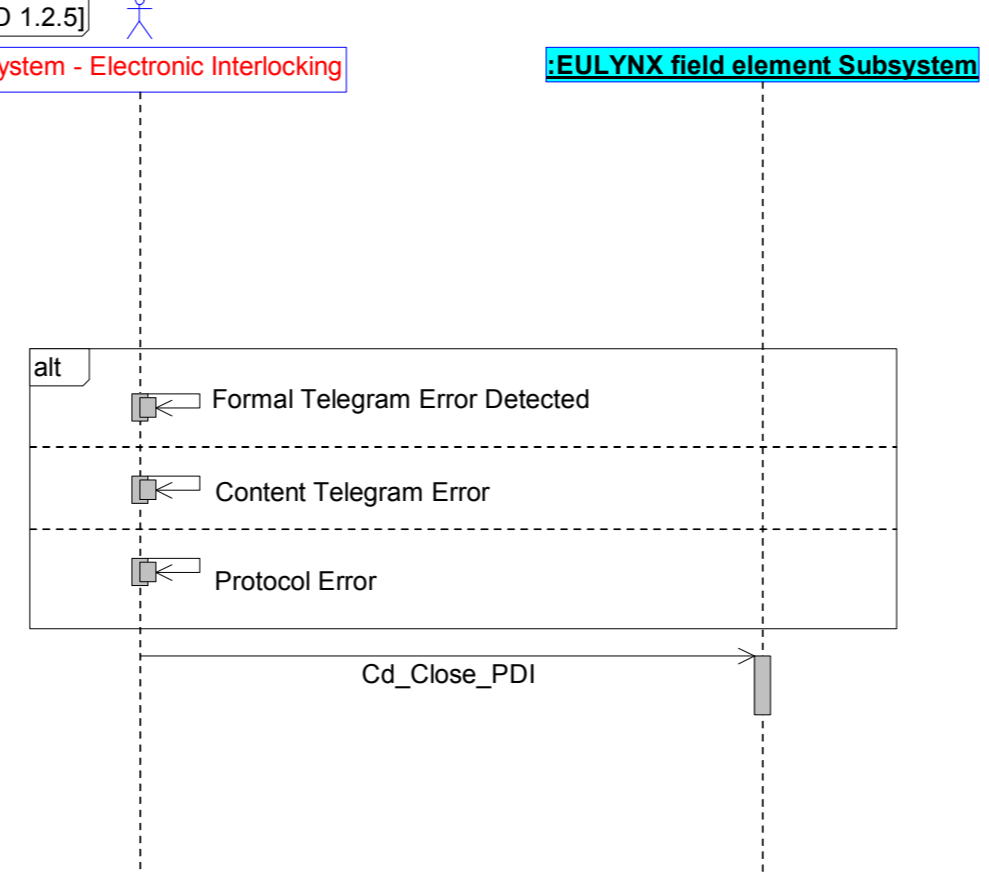
ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.22	Info	This document describes harmonised requirements. Variability management is not applicable. The specific applicability of requirements is captured in individual interface specifications.	
Eu.Gen-SCI.23	Head	1.8 Definition of object types	
Eu.Gen-SCI.24	Info	The following definition for object types is applied in this document:	
Eu.Gen-SCI.25	Info	<ul style="list-style-type: none"> "Req" - This denotes a mandatory requirement. 	
Eu.Gen-SCI.26	Info	<ul style="list-style-type: none"> "Info" - This denotes additional information to help understand the specification. These objects do not specify any additional requirements. 	
Eu.Gen-SCI.27	Info	<ul style="list-style-type: none"> "Head" - This denotes chapter headings. 	
Eu.Gen-SCI.28	Head	1.9 Modelling	
Eu.Gen-SCI.29	Info	The section "Generic requirements for SCI" follows a model based systems engineering process using Systems Modelling Language (SysML) and defines the functional system requirements for the EULYNX field element Subsystem in stimulus-response form. Furthermore the information objects (stimuli and responses) exchanged over the interfaces of the EULYNX field element Subsystem, Subsystem - Electronic Interlocking and the adjacent systems are defined.	
Eu.Gen-SCI.30	Info	The diagrams presented in this document are modelled in SysML [SysML].	
Eu.Gen-SCI.31	Info	The rules for the interpretation of the model based parts of specification are defined in [Eu.Doc.29].	
Eu.Gen-SCI.32	Info	In chapter 3 "Generic requirements for SCI" the functional system requirements, defined in the form of a SysML model in the PTC Integrity Modeler are depicted as a surrogate of this model in the form of DOORS-objects.	
Eu.Gen-SCI.33	Info	A requirement thereby consists of the respective SysML model element, for instance a SysML diagram, and if necessary an additional extension of the requirement.	
Eu.Gen-SCI.34	Info	In the column "Requirement Part 1" the particular SysML model element is depicted and in the column "Requirement Part 2" the corresponding extension of the definition is given. The stated object type normally applies both to "Requirement Part 1" and to "Requirement Part 2".	
Eu.Gen-SCI.35	Info	There are requirements with type "Req" given, where the column "Requirement Part 2" or a part of it is provided with the heading "Information". In this case, the defined type only applies to the column "Requirement Part 1" and the part of "Requirement Part 2", which is not labelled as "Information".	
Eu.Gen-SCI.36	Head	2 Conditions of use	
Eu.Gen-SCI.37	Info	The specifications defined in this document shall follow the requirements of the EULYNX System Architecture Specification [Eu.Doc.16].	
Eu.Gen-SCI.524	Req	All references to Eu.Doc.20 refer to Generic interface and subsystem requirements version 4.0 (3.A).	
Eu.Gen-SCI.38	Head	3 Generic requirements for SCI	
Eu.Gen-SCI.220	Head	3.1 Field element interfaces	
Eu.Gen-SCI.221	Head	3.1.1 Interface between Subsystem - Electronic Interlocking and EfeS (SCI-XX EfeS)	
Eu.Gen-SCI.409	Head	3.1.1.1 SCI-XX EfeS - Logical Viewpoint	
Eu.Gen-SCI.410	Head	3.1.1.1.1 SCI-XX EfeS - Logical Context	
Eu.Gen-SCI.411	Info	<p>[Package] SCI-XX EfeS - Logical Context [Logical Viewpoint - Interface Definition]</p>	
Eu.Gen-SCI.401	Head	3.1.1.2 SCI-XX EfeS - Information Flows	
Eu.Gen-SCI.526	Info	The InformationFlows between F_EST_EfeS and F_SCI_EfeS_Sec are specified in Eu.Doc.20.	
Eu.Gen-SCI.402	Info	<p>[Package] SCI-XX EfeS - Information Flows [Interface Requirements - Direction of Information Objects]</p>	

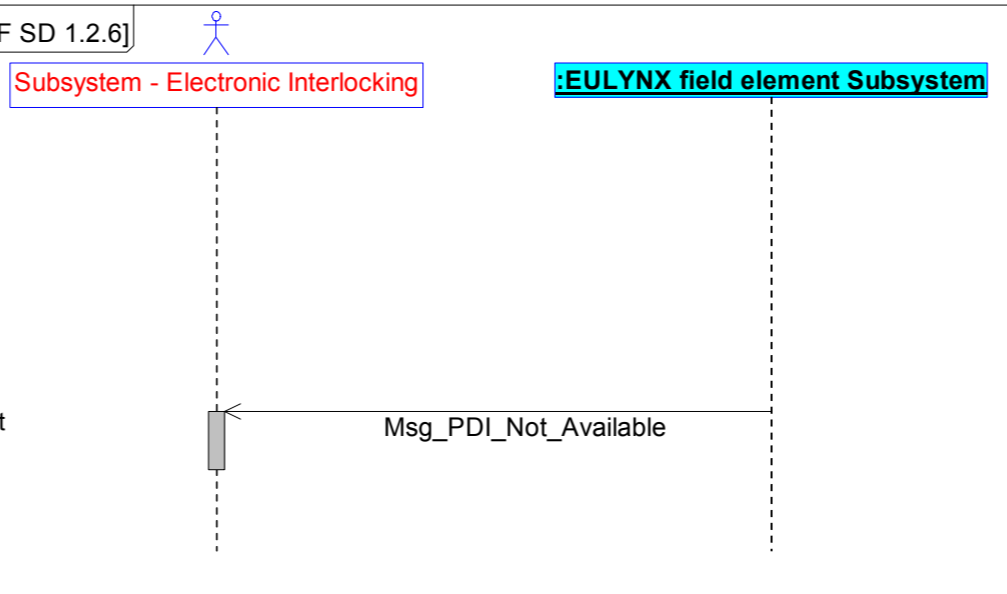
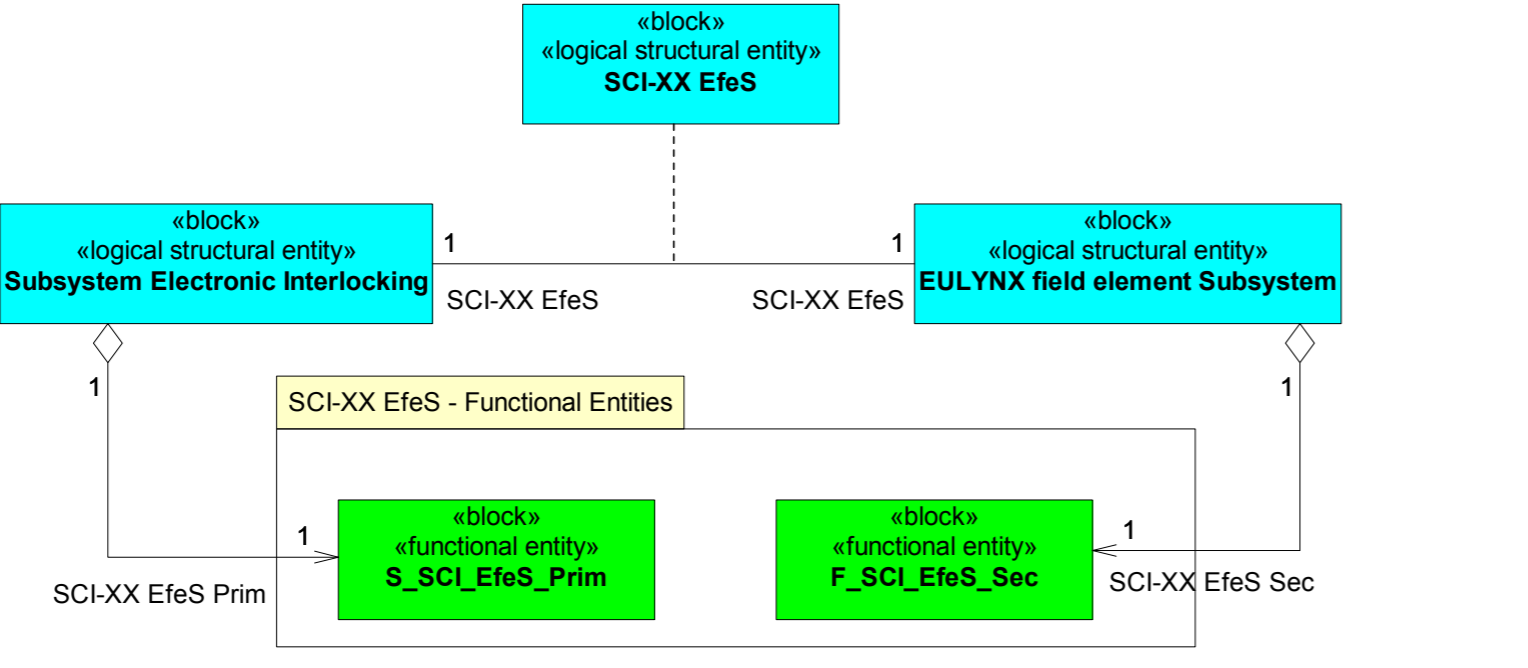
ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.403	Info	<p>[Package] SCI-XX EfeS - Information Flows [Interface Requirements - Information Objects]</p> <p>bdd [Package] SCI-XX EfeS - Information Flows [Interface Requirements - Information Objects]</p>  <pre> classDiagram class Cd_PDI_Version_Check { <<information object>> signal } class Msg_Reset_PDI { <<information object>> signal ReportedResetReason : ResetReason } class ResetReason { <<valueType (enumeration)>> ProtocolError FormalTelegramError ContentTelegramError } class Cd_Close_PDI { <<information object>> signal RequestedCloseReason : CloseReason } class CloseReason { <<valueType (enumeration)>> NormalClose OtherVersionRequired Timeout ProtocolError FormalTelegramError ContentTelegramError ChecksumMismatch } class Cd_Initialisation_Request { <<information object>> signal } class Msg_PDI_Version_Check { <<information object>> signal Result : String ChecksumData : String PDIVersion : String } class Msg_Start_Initialisation { <<information object>> signal } class Msg_Initialisation_Completed { <<information object>> signal } class Msg_PDI_Available { <<information object>> signal } class Cd_Release_PDI_for_Maintenance { <<information object>> signal } class Msg_PDI_Not_Available { <<information object>> signal } Cd_PDI_Version_Check --> Msg_Reset_PDI Cd_Close_PDI --> ResetReason Cd_Close_PDI --> CloseReason </pre>	
Eu.Gen-SCI.404	Info	The shown information objects for this Interface can be found in SCI-XX - Information Flows.	
Eu.Gen-SCI.222	Head	3.1.1.3 SCI-XX EfeS - Functional Viewpoint	
Eu.Gen-SCI.437	Head	3.1.1.3.1 Definition of time values	
Eu.Gen-SCI.438	Req	Con_tmax_PDI_Connection	<p>If the establishment of the PDI connection, measured from the sending of Cd_PDI_Version_Check to the receipt of Msg_Initialisation_Completed, is not completed within Con_tmax_PDI_Connection, the safe communication shall be terminated. A diagnostic message shall be issued. The Safe communication is then re-established. The default value for Con_tmax_PDI_Connection is 20 s.</p>
Eu.Gen-SCI.439	Head	3.1.1.3.2 SCI-XX EfeS - Functional Context	
Eu.Gen-SCI.555	Info	<p>[Package] SCI-XX EfeS - Functional Context [Interface Definition - UseCases]</p> <p>uc [Package] SCI-XX EfeS - Functional Context [Interface Definition - UseCases]</p>  <pre> classDiagram class Subsystem_Electronic_Interlocking class EULYNX_field_element_Subsystem class SCI_XX_EfeS_IFUC1_1_Establish_PDI_connection class SCI_XX_EfeS_IFUC1_2_Close_PDI_connection Subsystem_Electronic_Interlocking -- SCI_XX_EfeS_IFUC1_1_Establish_PDI_connection Subsystem_Electronic_Interlocking -- SCI_XX_EfeS_IFUC1_2_Close_PDI_connection EULYNX_field_element_Subsystem -- SCI_XX_EfeS_IFUC1_1_Establish_PDI_connection EULYNX_field_element_Subsystem -- SCI_XX_EfeS_IFUC1_2_Close_PDI_connection </pre>	
Eu.Gen-SCI.440	Info	SCI-XX EfeS IFUC1.1: Establish PDI connection	<p>The Subsystem-UseCase SCI-XX EfeS IFUC1.1: Establish PDI connection defines the process to establish a PDI connection between Subsystem - Electronic Interlocking and EULYNX field element Subsystem.</p>

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.444	Info	<p>SCI-XX EfeS IF SD 1.1.1</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.1 Establish PDI connection - Main Success Scenario [SCI-XX EfeS IF SD 1.1.1]</p> <p>Main Success Scenario: Establish PDI connection Precondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. The SCP connection is established. Ready to establish PDI connection.</p> <p>Interaction 1.1.1.A:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to verify the match between the transmitted PDIVer and the PDIVer present in the EULYNX field element Subsystem. The PDIVer transmitted by the Subsystem - Electronic Interlocking matches the own PDIVer. The EULYNX field element Subsystem reports to the Subsystem - Electronic Interlocking the used PDIVer and newly calculated CSS. <p>Interaction 1.1.1.B:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to transmit the status. The EULYNX field element Subsystem notifies the Subsystem - Electronic Interlocking of the transmission of the status information. The EULYNX field element Subsystem reports the status information to Subsystem - Electronic Interlocking. The EULYNX field element Subsystem notifies the Subsystem - Electronic Interlocking that the transmission of the status information is complete. <p>Postcondition: The EULYNX field element Subsystem is in state OPERATIONAL. The PDI connection is ESTABLISHED.</p> 	<p>This use case scenario [Interaction] Report status [SD 1.3.1] is defined in the corresponding requirements specification of the specific field element.</p>
Eu.Gen-SCI.445	Info	<p>SCI-XX EfeS IF SD 1.1.2</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.1 PDI version unequal, no retry - Alternative Scenario [SCI-XX EfeS IF SD 1.1.2]</p> <p>Alternative Scenario: PDI version is unequal, no retry Precondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. The SCP connection is established. Ready to establish PDI connection.</p> <p>Interaction 1.1.2.A:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to verify the match between the transmitted PDIVer and the PDIVer present in the EULYNX field element Subsystem. The PDIVer transmitted by the Subsystem - Electronic Interlocking does not match the own PDIVer. The EULYNX field element Subsystem notifies the Subsystem - Electronic Interlocking that the PDIVer does not match and send its own PDIVer. The Subsystem - Electronic Interlocking has no other PDI version to request. The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to release the PDI connection for maintenance. <p>Postcondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_DATA_UPDATE. The PDI connection is SUSPENDED.</p> 	<p>The postcondition is only valid in case the EULYNX field element Subsystem is configured to use MDM during initialisation. If the MDM is not used, the postcondition is the substate WAITING_FOR_NO_MAINTENANCE_TIMEOUT instead.</p>

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.446	Info	<p>SCI-XX EfeS IF SD 1.1.3</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.1 PDI version unequal, retry - Alternative Scenario [SCI-XX EfeS IF SD 1.1.3]</p> <p>Alternative Scenario: PDI version is unequal, retry</p> <p>Precondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. The SCP connection is established. Ready to establish PDI connection.</p> <p>Interaction 1.1.3.A:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to verify the match between the transmitted PDIVer and the PDIVer present in the EULYNX field element Subsystem. The PDIVer transmitted by the Subsystem - Electronic Interlocking does not match the own PDIVer. The EULYNX field element Subsystem notifies the Subsystem - Electronic Interlocking that the PDIVer does not match and send its own PDIVer. The Subsystem - Electronic Interlocking has another PDI version to request. The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to close the PDI connection. <p>Postcondition: ---</p> 	<p>After this scenario is finished, Subsystem - Electronic Interlocking continues trying. This means that either [Interaction] SCI-XX EfeS IFUC1.1 PDI version unequal, retry - Alternative Scenario [SCI-XX EfeS IF SD 1.1.3] will occur again, or [Interaction] SCI-XX EfeS IFUC1.1 PDI version unequal, no retry - Alternative Scenario [SCI-XX EfeS IF SD 1.1.2] will occur.</p>
Eu.Gen-SCI.441	Info	<p>SCI-XX EfeS IF SD 1.1.4</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.1 CSS unequal - Alternative Scenario [SCI-XX EfeS IF SD 1.1.4]</p> <p>Alternative Scenario: CSS is unequal</p> <p>Precondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. The SCP connection is established. Ready to establish PDI connection.</p> <p>Interaction 1.1.4.A:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to verify the match between the transmitted PDIVer and the PDIVer present in the EULYNX field element Subsystem. The EULYNX field element Subsystem detects that the PDIVer transmitted by the Subsystem - Electronic Interlocking matches the own PDIVer. The EULYNX field element Subsystem reports to the Subsystem - Electronic Interlocking the used PDIVer and newly calculated CSS. The Subsystem - Electronic Interlocking detects that the newly calculated CSS does not match the own CSS. The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to release the PDI connection for maintenance. <p>Postcondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_DATA_UPDATE. The PDI connection is SUSPENDED.</p> 	<p>The postcondition is only valid in case the EULYNX field element Subsystem is configured to use MDM during initialisation. If the MDM is not used, the postcondition is the substate WAITING_FOR_NO_MAINTENANCE_TIMEOUT instead.</p>
Eu.Gen-SCI.443	Info	<p>SCI-XX EfeS IF SD 1.1.5</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.1 EfeS unavailable - Alternative Scenario [SCI-XX EfeS IF SD 1.1.5]</p> <p>Alternative Scenario: EfeS not available</p> <p>Precondition: The EULYNX field element Subsystem is not ready to establish PDI connection. The SCP connection has been established.</p> <p>Interaction 1.1.5.A:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to verify the match between the transmitted PDIVer and the PDIVer present in the EULYNX field element Subsystem. The EULYNX field element Subsystem notifies the Subsystem - Electronic Interlocking that the EULYNX field element Subsystem is not available. <p>Postcondition: The PDI connection is SUSPENDED.</p> 	<p>In this sequence it is assumed, that the PDI version check cannot be performed because the EULYNX field element Subsystem is not available for PDI connection. The precondition can correspond to several states of the EULYNX field element Subsystem: NO_OPERATING_VOLTAGE BOOTING FALLBACK_MODE INITIALISING, in substate WAITING_FOR_NO_MAINTENANCE_TIMEOUT INITIALISING, in substate WAITING_FOR_DATA_UPDATE</p> <p>The postcondition can correspond to several states of the EULYNX field element Subsystem: NO_OPERATING_VOLTAGE BOOTING FALLBACK_MODE INITIALISING, in substate WAITING_FOR_NO_MAINTENANCE_TIMEOUT INITIALISING, in substate WAITING_FOR_DATA_UPDATE</p>

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.442	Info	<p>SCI-XX EfeS IF SD 1.1.6</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.1 EfeS PDI unavailability revoked - Alternative Scenario [SCI-XX EfeS IF SD 1.1.6]</p>  <p>Alternative Scenario: PDI unavailability Revoked</p> <p>Precondition: The EULYNX field element Subsystem is in state BOOTING or INITIALISING, in substate WAITING_FOR_DATA_UPDATE or INITIALISING, in substate WAITING_FOR_NO_MAINTENANCE_TIMEOUT. The SCP connection is established. The PDI connection is SUSPENDED.</p> <p>Interaction 1.1.6.A:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem enters substate WAITING_FOR_PDI_OR_MAINTENANCE. - The EULYNX field element Subsystem reports availability for PDI connection to the Subsystem - Electronic Interlocking. <p>Postcondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. Ready to establish PDI connection.</p>	<p>In this sequence it is assumed, that the EULYNX field element Subsystem becomes ready for PDI connection again and reports its availability to Subsystem - Electronic Interlocking.</p>
Eu.Gen-SCI.447	Info	<p>SCI-XX EfeS IFUC1.2: Close PDI connection</p>	
Eu.Gen-SCI.453	Info	<p>SCI-XX EfeS IF SD 1.2.1</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.2 Planned maintenance - Alternative Scenario [SCI-XX EfeS IF SD 1.2.1]</p>  <p>Alternative Scenario: Release field element for maintenance</p> <p>Precondition: The EULYNX field element Subsystem is in OPERATIONAL state and the PDI connection is in state ESTABLISHED or the EULYNX field element Subsystem is in INITIALISING state, in substate WAITING_FOR_PDI and the PDI connection is in state ESTABLISHING.</p> <p>Interaction 1.2.1.A:</p> <ol style="list-style-type: none"> - The Subsystem - Electronic Interlocking detects that it is requested to release the EULYNX field element Subsystem for maintenance. - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to release the PDI connection for maintenance. <p>Postcondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_DATA_UPDATE. The PDI connection is SUSPENDED.</p>	<p>The postcondition is only valid in case the EULYNX field element Subsystem is configured to use MDM during initialisation. If the MDM is not used, the postcondition is the substate WAITING_FOR_NO_MAINTENANCE_TIMEOUT instead.</p>
Eu.Gen-SCI.448	Info	<p>SCI-XX EfeS IF SD 1.2.2</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.2 Close PDI connection EIL request - Alternative Scenario [SCI-XX EfeS IF SD 1.2.2]</p>  <p>Alternative Scenario: Close PDI connection - EIL request</p> <p>Precondition: The EULYNX field element Subsystem is in OPERATIONAL state and the PDI connection is in state ESTABLISHED or the EULYNX field element Subsystem is in INITIALISING state, in substate WAITING_FOR_PDI and the PDI connection is in state ESTABLISHING.</p> <p>Interaction 1.2.2.A:</p> <ol style="list-style-type: none"> - The Subsystem - Electronic Interlocking detects that it is requested to disconnect the PDI connection with EULYNX field element Subsystem. - The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to close the PDI connection with reason NormalClose. <p>Postcondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. Ready to establish PDI connection.</p>	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.449	Info	<p>SCI-XX EfeS IF SD 1.2.3</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.2 Close PDI connection Timeout - Alternative Scenario [SCI-XX EfeS IF SD 1.2.3]</p>  <pre> sequenceDiagram actor Actor participant S as Subsystem - Electronic Interlocking participant E as :EULYNX field element Subsystem S->>E: Cd_Close_PDI </pre> <p>Alternative Scenario: Close PDI connection - Timeout of PDI establishment Precondition: The EULYNX field element Subsystem is in INITIALISING state, in substate WAITING_FOR_PDI and the PDI connection is in state ESTABLISHING. Interaction 1.2.3.A: 1. - The Subsystem - Electronic Interlocking detects that the timer Con_tmax_PDI_Connection expires. 2. The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to close the PDI connection with reason Timeout. Postcondition: The EULYNX field element Subsystem is in state INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. Ready to establish PDI connection.</p>	
Eu.Gen-SCI.450	Info	<p>SCI-XX EfeS IF SD 1.2.4</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.2 Communication Error detected by EfeS - Alternative Scenario [SCI-XX EfeS IF SD 1.2.4]</p>  <pre> sequenceDiagram actor Actor participant S as Subsystem - Electronic Interlocking participant E as :EULYNX field element Subsystem alt alt E->>S: Formal Telegram Error Detected else alt E->>S: Content Telegram Error else alt E->>S: Protocol Error end alt E->>S: Msg_Reset_PDI </pre> <p>Alternative Scenario: Communication Error Precondition: The EULYNX field element Subsystem is in OPERATIONAL state and the PDI connection is in state ESTABLISHED or the EULYNX field element Subsystem is in INITIALISING state, in substate WAITING_FOR_PDI and the PDI connection is in state ESTABLISHING. Interaction 1.2.4.A: alt 1. - The EULYNX field element Subsystem detects a communication error of the type Formal Telegram Error. else alt 2. - The EULYNX field element Subsystem detects a communication error of the type Content Telegram Error. else alt 3. - The EULYNX field element Subsystem detects a communication error of the type Protocol Error. end alt 4. The EULYNX field element Subsystem reports a reset of the PDI connection to the Subsystem - Electronic Interlocking. The information includes the type of communication error. Postcondition: The EULYNX field element Subsystem is in INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. Ready to establish PDI connection. The PDI connection is IMPERMISSIBLE.</p>	
Eu.Gen-SCI.451	Info	<p>SCI-XX EfeS IF SD 1.2.5</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.2 Communication Error detected by EIL - Alternative Scenario [SCI-XX EfeS IF SD 1.2.5]</p>  <pre> sequenceDiagram actor Actor participant S as Subsystem - Electronic Interlocking participant E as :EULYNX field element Subsystem alt alt S->>E: Formal Telegram Error Detected else alt S->>E: Content Telegram Error else alt S->>E: Protocol Error end alt S->>E: Cd_Close_PDI </pre> <p>Alternative Scenario: Communication Error Precondition: The EULYNX field element Subsystem is in OPERATIONAL state and the PDI connection is in state ESTABLISHED or the EULYNX field element Subsystem is in INITIALISING state, in substate WAITING_FOR_PDI and the PDI connection is in state ESTABLISHING. Interaction 1.2.5.A: alt 1. - The Subsystem - Electronic Interlocking detects a communication error of the type Formal Telegram Error. else alt 2. - The Subsystem - Electronic Interlocking detects a communication error of the type Content Telegram Error. else alt 3. - The Subsystem - Electronic Interlocking detects a communication error of the type Protocol Error. end alt 4. The EULYNX field element Subsystem receives from the Subsystem - Electronic Interlocking the request to close the PDI connection. Postcondition: The EULYNX field element Subsystem is in INITIALISING, in substate WAITING_FOR_PDI_OR_MAINTENANCE. Ready to establish PDI connection. The PDI connection is IMPERMISSIBLE.</p>	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.452	Info	<p>SCI-XX EfeS IF SD 1.2.6</p> <p>sd [Interaction] SCI-XX EfeS IFUC1.2 EfeS PD_i unavailability - Alternative Scenario [SCI-XX EfeS IF SD 1.2.6]</p>  <p>Alternative Scenario: EfeS PDI unavailability</p> <p>Precondition: The EULYNX field element Subsystem is in OPERATIONAL and the PDI connection is in state ESTABLISHED or the EULYNX field element Subsystem is in INITIALISING state, in substate WAITING_FOR_PDI and the PDI connection is in state ESTABLISHING.</p> <p>Interaction 1.2.6.A:</p> <ol style="list-style-type: none"> - The EULYNX field element Subsystem is no longer available for the PDI connection. The EULYNX field element Subsystem reports to Subsystem - Electronic Interlocking that it is not available. <p>Postcondition: The PDI connection is SUSPENDED.</p>	<p>Note: If it is technically not possible to send the telegram <code>Msg_PDI_Not_Available</code>, the secondary communication partner must terminate the safe communication protocol.</p> <p>The postcondition can correspond to several states of the EULYNX field element Subsystem: NO_OPERATING_VOLTAGE BOOTING FALLBACK_MODE</p>
Eu.Gen-SCI.399	Head	<p>3.1.1.3.3 SCI-XX EfeS - Functional Partitioning</p>	
Eu.Gen-SCI.400	Info	<p>[Package] SCI-XX EfeS - Functional Partitioning [Functional Viewpoint - Interface Requirements]</p> <p>bdd [Package] SCI-XX EfeS - Functional Partitioning [Functional Viewpoint - Interface Requirements]</p> 	
Eu.Gen-SCI.223	Head	<p>3.1.1.3.4 SCI-XX EfeS - Functional Architecture</p>	
Eu.Gen-SCI.224	Info	<p>SCI-XX EfeS</p>	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.225	Info	<p>[Block] SCI-XX EfeS [Functional Viewpoint - Interface Requirements - Functional Architecture]</p> <p>ibd [Block] SCI-XX EfeS [Functional Viewpoint - Interface Requirements - Functional Architecture]</p>	
Eu.Gen-SCI.226	Head	3.1.1.3.5 SCI-XX EfeS - Functional Entities	
Eu.Gen-SCI.303	Info	S_SCI_EfeS_Prim	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.304	Info	<p>[Block] S_SCI_EfeS_Prim [Functional Viewpoint - Interface Requirements - Functional Entity]</p> <p>ibd [Block] S_SCI_EfeS_Prim [Functional Viewpoint - Interface Requirements - Functional Entity]</p>  <pre> classDiagram class S_SCI_EfeS_Prim { <<block>> <<functional entity>> values Mem_Checksum_Data : String Mem_PDI_Version_Result : String Operation cOp1_init () ports D2in_Con_tmax_PDI_Connection : Integer D39in_Con_Last_PDI_Version : Boolean D3in_Con_PDI_Version : String D4in_Con_Checksum_Data : String T47in_Con_Other_PDI_Version_Available : PulsedIn T10in_SCP_Connection_Terminated : PulsedIn T5in_SCP_Connection_Established : PulsedIn T20in_Protocol_Error : PulsedIn T21in_Formal_Telegram_Error : PulsedIn T22in_Content_Telegram_Error : PulsedIn T44in_Initiate_Maintenance : PulsedIn T45in_Reset_Severe_Error : PulsedIn T48in_Disable_Or_Disconnect_PDI_EfeS : PulsedIn T49in_Enable_Or_Connect_PDI_EfeS : PulsedIn d60out_PDI_Close_Reason : String T46out_Con_Other_PDI_Version_Request : PulsedOut T6out_Establish_SCP_Connection : PulsedOut d50out_PDI_Connection_State : String T12out_Terminate_SCP_Connection : PulsedOut P1inout : ~SCI_GEN } </pre>	
Eu.Gen-SCI.305	Info	<p>d60out_PDI_Close_Reason := "No Error"; Mem_PDI_Version_Result := "unknown"; Mem_Checksum_Data := D4in_Con_Checksum_Data;</p>	cOp1_init
Eu.Gen-SCI.308	Info	D2in_Con_tmax_PDI_Connection	The port D2in_Con_tmax_PDI_Connection provides the time value Con_tmax_PDI_Connection.
Eu.Gen-SCI.310	Info	D3in_Con_PDI_Version	The port D3in_Con_PDI_Version provides the configured PDIVer.
Eu.Gen-SCI.311	Info	D4in_Con_Checksum_Data	The port D4in_Con_Checksum_Data provides the configured CSS.
Eu.Gen-SCI.306	Info	T5in_SCP_Connection_Established	The port T5in_SCP_Connection_Established represents the event of the established SCP connection.
Eu.Gen-SCI.326	Info	T6out_Establish_SCP_Connection	<p>The port T6out_Establish_SCP_Connection represents the event for the SCP to establish the SCP connection.</p> <p>Note: It is assumed that the implementation of the SCP connection handle each connection error by itself after sending the trigger on T6out_Establish_SCP_Connection. A retriggering of SCP connection is not in responsibility of SCI layer. In case of a successful established connection the trigger T5in_SCP_Connection_Established is expected.</p>
Eu.Gen-SCI.315	Info	T10in_SCP_Connection_Terminated	The port T10in_SCP_Connection_Terminated represents the event of the terminated SCP connection.
Eu.Gen-SCI.316	Info	T12out_Terminate_SCP_Connection	The port T12out_Terminate_SCP_Connection represents the event to terminate the SCP connection.
Eu.Gen-SCI.317	Info	T20in_Protocol_Error	The port T20in_Protocol_Error represents the event of a protocol error.
Eu.Gen-SCI.318	Info	T21in_Formal_Telegram_Error	The port T21in_Formal_Telegram_Error represents the event of a formal telegram error.
Eu.Gen-SCI.319	Info	T22in_Content_Telegram_Error	The port T22in_Content_Telegram_Error represents the event of a content telegram error.
Eu.Gen-SCI.309	Info	D39in_Con_Last_PDI_Version	The port D39in_Con_Last_PDI_Version indicates if this was the last possible PDI version for a new version check cycle.
Eu.Gen-SCI.320	Info	T44in_Initiate_Maintenance	
Eu.Gen-SCI.321	Info	T45in_Reset_Severe_Error	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.322	Info	T46out_Con_Other_PDI_Version_Request	
Eu.Gen-SCI.323	Info	T47in_Con_Other_PDI_Version_Available	
Eu.Gen-SCI.324	Info	T48in_Disable_Or_Disconnect_PDI_EfeS	
Eu.Gen-SCI.325	Info	T49in_Enable_Or_Connect_PDI_EfeS	
Eu.Gen-SCI.312	Info	d50out_PDI_Connection_State	The port d50out_PDI_Connection_State provides the status of the PDI connection.
Eu.Gen-SCI.313	Info	d60out_PDI_Close_Reason	
Eu.Gen-SCI.314	Info	P1inout	The port P1inout exchanges information objects according to SCI_GEN.
Eu.Gen-SCI.327	Info	S_SCI_EfeS_Prim - Behaviour	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.334	Req	when(T5in_SCP_Connection_Established)/{DISCONNECTED_NO_SCP - DISCONNECTED}	
Eu.Gen-SCI.335	Req	when(T49in_Enable_Or_Connect_PDI_EfeS)/{DISCONNECTED_NO_SCP - REQUESTED_NO_SCP}	
Eu.Gen-SCI.336	Info	IMPERMISSIBLE	
Eu.Gen-SCI.337	Req	entry/d50out_PDI_Connection_State := "IMPERMISSIBLE";{State-internal in IMPERMISSIBLE}	
Eu.Gen-SCI.338	Req	when(T10in_SCP_Connection_Terminated)/{IMPERMISSIBLE - IMPERMISSIBLE_NO_SCP}	
Eu.Gen-SCI.339	Req	when(T45in_Reset_Severe_Error)/{IMPERMISSIBLE - ACTIVE}	
Eu.Gen-SCI.340	Info	IMPERMISSIBLE_NO_SCP	
Eu.Gen-SCI.341	Req	entry/d50out_PDI_Connection_State := "IMPERMISSIBLE_NO_SCP";{State-internal in IMPERMISSIBLE_NO_SCP}	
Eu.Gen-SCI.342	Req	when(T5in_SCP_Connection_Established)/{IMPERMISSIBLE_NO_SCP - IMPERMISSIBLE}	
Eu.Gen-SCI.343	Req	when(T45in_Reset_Severe_Error)/{IMPERMISSIBLE_NO_SCP - REQUESTED_NO_SCP}	
Eu.Gen-SCI.345	Info	Initial0	
Eu.Gen-SCI.346	Req	/cOp1_init();{Initial0 - DISCONNECTED_NO_SCP}	
Eu.Gen-SCI.347	Info	REQUESTED_NO_SCP	
Eu.Gen-SCI.348	Req	entry/d50out_PDI_Connection_State := "REQUESTED_NO_SCP"; T6out_Establish_SCP_Connection := TRUE;{State-internal in REQUESTED_NO_SCP}	
Eu.Gen-SCI.349	Req	when(T5in_SCP_Connection_Established)/{REQUESTED_NO_SCP - ACTIVE}	
Eu.Gen-SCI.350	Req	when(T48in_Disable_Or_Disconnect_PDI_EfeS)/{REQUESTED_NO_SCP - DISCONNECTED_NO_SCP}	
Eu.Gen-SCI.360	Info	ACTIVE	
Eu.Gen-SCI.361	Info	ESTABLISHED	
Eu.Gen-SCI.362	Req	entry/d50out_PDI_Connection_State := "ESTABLISHED";{State-internal in ESTABLISHED}	
Eu.Gen-SCI.363	Info	ESTABLISHING	
Eu.Gen-SCI.364	Req	after(D2in_Con_tmax_PDI_Connection)/ send Cd_Close_PDI(Timeout) to P1inout; d60out_PDI_Close_Reason := "PDI Timeout";{ESTABLISHING - ESTABLISHING}	
Eu.Gen-SCI.365	Info	Initial2	
Eu.Gen-SCI.366	Req	/send Cd_PDI_Version_Check(D3in_Con_PDI_Version) to P1inout;{Initial2 - WAITING_FOR_VERSION_CHECK}	
Eu.Gen-SCI.367	Info	Junction0	
Eu.Gen-SCI.368	Req	[Result = "match"]/{Junction0 - Junction2}	
Eu.Gen-SCI.369	Req	[Result = "not match"]/{Junction0 - Junction3}	
Eu.Gen-SCI.373	Info	Junction2	
Eu.Gen-SCI.374	Req	[NOT (ChecksumData = D4in_Con_Checksum_Data)]/ send Cd_Release_PDI_for_Maintenance to P1inout;{Junction2 - SUSPENDED}	
Eu.Gen-SCI.375	Req	[ChecksumData = D4in_Con_Checksum_Data]/ send Cd_Initialisation_Request to P1inout;{Junction2 - WAITING_FOR_INITIALISATION}	
Eu.Gen-SCI.376	Info	RECEIVING_STATUS	
Eu.Gen-SCI.377	Req	Msg_Initialisation_Completed/{RECEIVING_STATUS - ESTABLISHED}	
Eu.Gen-SCI.378	Req	entry/d50out_PDI_Connection_State := "RECEIVING_STATUS";{State-internal in RECEIVING_STATUS}	
Eu.Gen-SCI.379	Info	WAITING_FOR_INITIALISATION	
Eu.Gen-SCI.380	Req	Msg_Start_Initialisation/{WAITING_FOR_INITIALISATION - RECEIVING_STATUS}	
Eu.Gen-SCI.381	Req	entry/d50out_PDI_Connection_State := "WAITING_FOR_INITIALISATION";{State-internal in WAITING_FOR_INITIALISATION}	
Eu.Gen-SCI.382	Info	WAITING_FOR_VERSION_CHECK	
Eu.Gen-SCI.383	Req	Msg_PDI_Version_Check/Mem_PDI_Version_Result := Result; Mem_Checksum_Data := ChecksumData;{WAITING_FOR_VERSION_CHECK - Junction0}	
Eu.Gen-SCI.384	Req	entry/d50out_PDI_Connection_State := "WAITING_FOR_VERSION_CHECK";{State-internal in WAITING_FOR_VERSION_CHECK}	
Eu.Gen-SCI.357	Info	Junction3	
Eu.Gen-SCI.358	Req	[D39in_Con_Last_PDI_Version = TRUE]/ send Cd_Release_PDI_for_Maintenance to P1inout;{Junction3 - SUSPENDED}	
Eu.Gen-SCI.359	Req	[D39in_Con_Last_PDI_Version = FALSE]/ T46out_Con_Other_PDI_Version_Request := TRUE; send Cd_Close_PDI(OtherVersionRequired) to P1inout; d60out_PDI_Close_Reason := "PDI Other Version Required";{Junction3 - OTHER_VERSION_REQUIRED}	
Eu.Gen-SCI.396	Info	OTHER_VERSION_REQUIRED	
Eu.Gen-SCI.397	Req	when(T47in_Con_Other_PDI_Version_Available)/{OTHER_VERSION_REQUIRED - ESTABLISHING}	
Eu.Gen-SCI.471	Req	entry/d50out_PDI_Connection_State := "OTHER_VERSION_REQUIRED";{State-internal in OTHER_VERSION_REQUIRED}	
Eu.Gen-SCI.385	Info	Initial1	

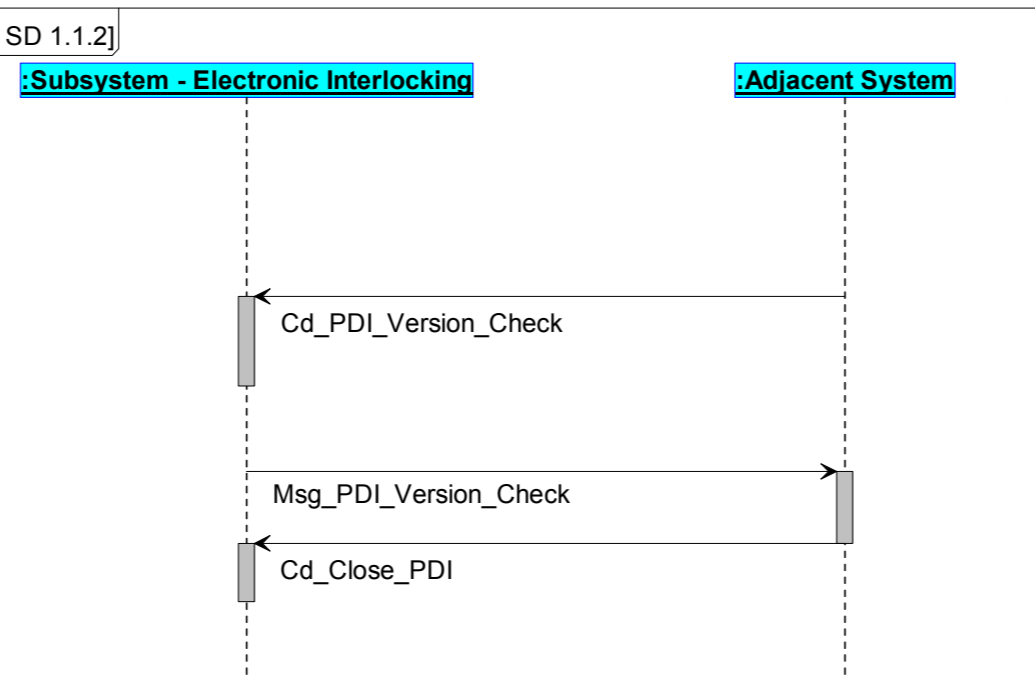
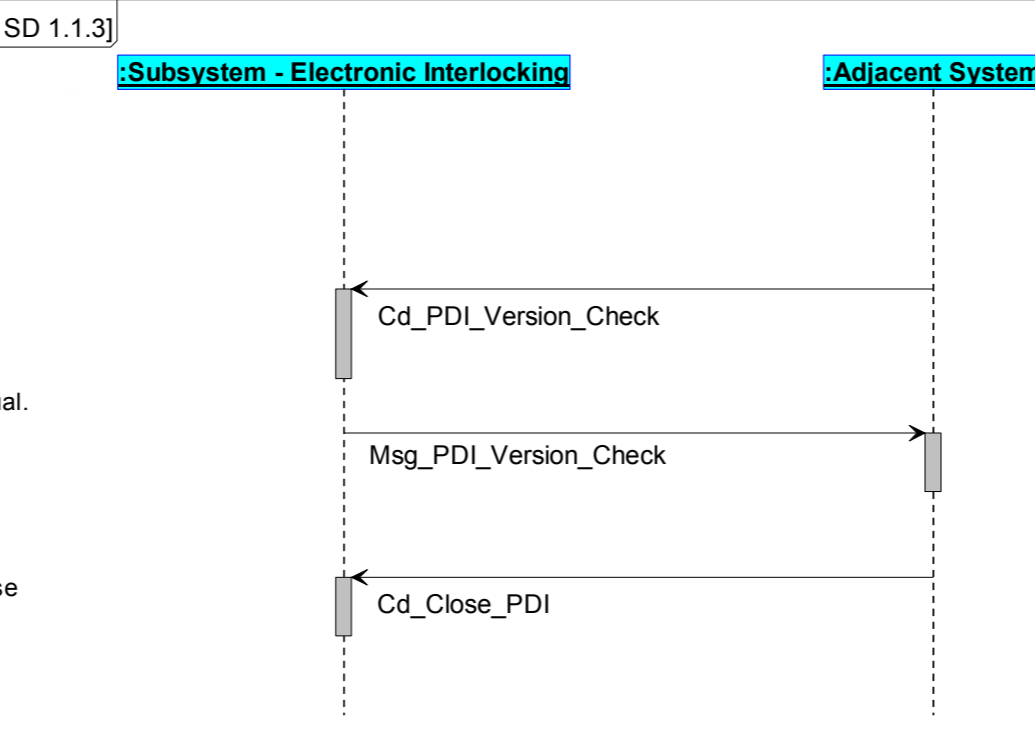
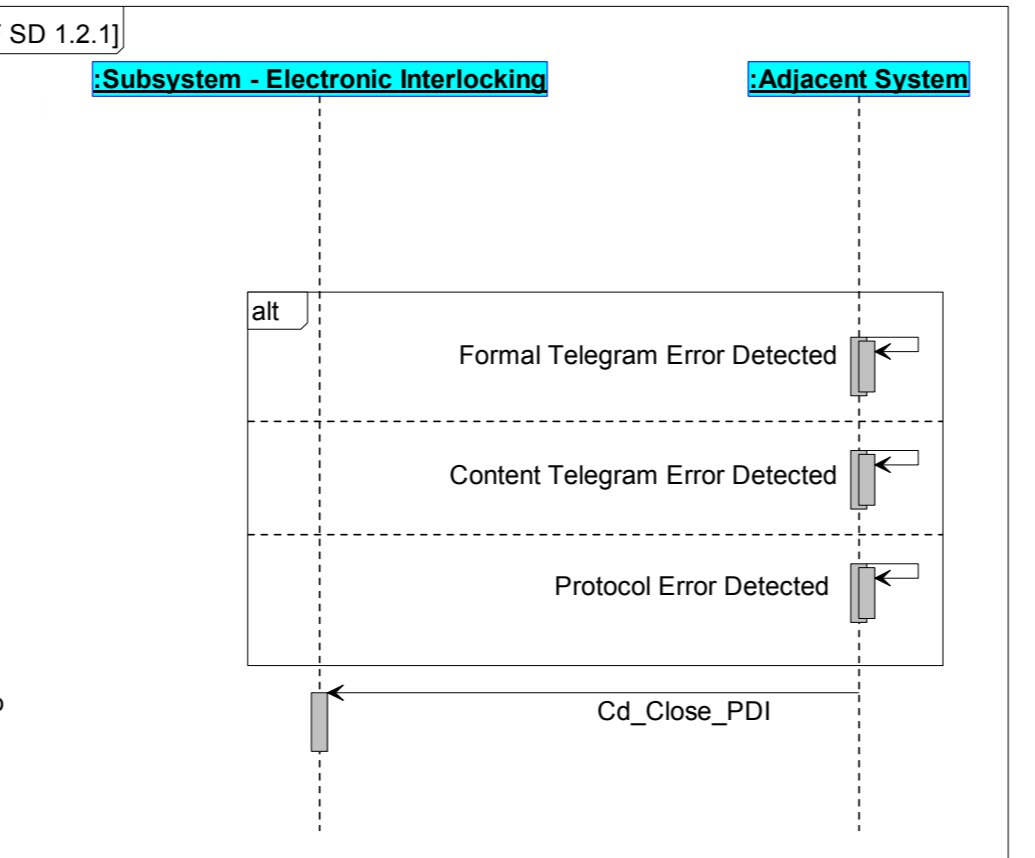
ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.386	Req	/{Initial1 - ESTABLISHING}	
Eu.Gen-SCI.387	Req	Msg_PDI_Not_Available/{ACTIVE - SUSPENDED}	
Eu.Gen-SCI.388	Req	Msg_Reset_PDI[ReportedResetReason = ProtocolError]/ d60out_PDI_Close_Reason := "EfeS Protocol Error";{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.389	Req	Msg_Reset_PDI[ReportedResetReason = ContentTelegramError]/ d60out_PDI_Close_Reason := "EfeS Content Telegram Error";{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.390	Req	Msg_Reset_PDI[ReportedResetReason = FormalTelegramError]/ d60out_PDI_Close_Reason := "EfeS Formal Telegram Error";{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.391	Req	when(T20in_Protocol_Error)/ d60out_PDI_Close_Reason := "EIL Protocol Error"; send Cd_Close_PDI(ProtocolError) to P1inout;{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.392	Req	when(T21in_Forma_Telegram_Error)/ d60out_PDI_Close_Reason := "EIL Formal Telegram Error"; send Cd_Close_PDI(FormalTelegramError) to P1inout;{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.393	Req	when(T22in_Content_Telegram_Error)/ d60out_PDI_Close_Reason := "EIL Content Telegram Error"; send Cd_Close_PDI(ContentTelegramError) to P1inout;{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.394	Req	when(T44in_Initiate_Maintenance)/ send Cd_Release_PDI_for_Maintenance to P1inout;{ACTIVE - SUSPENDED}	
Eu.Gen-SCI.395	Req	when(T48in_Disable_Or_Disconnect_PDI_EfeS)/ send Cd_Close_PDI(NormalClose) to P1inout; d60out_PDI_Close_Reason := "PDI Normal Close";{ACTIVE - DISCONNECTED}	
Eu.Gen-SCI.398	Req	when(T10in_SCP_Connection_Terminated){/}{ACTIVE - REQUESTED_NO_SCP}	
Eu.Gen-SCI.352	Info	SUSPENDED	
Eu.Gen-SCI.353	Req	Msg_PDI_Available/{SUSPENDED - ACTIVE}	
Eu.Gen-SCI.354	Req	entry/d50out_PDI_Connection_State := "SUSPENDED";{State-internal in SUSPENDED}	
Eu.Gen-SCI.472	Req	when(T10in_SCP_Connection_Terminated){/}{SUSPENDED - REQUESTED_NO_SCP}	
Eu.Gen-SCI.473	Req	when(T48in_Disable_Or_Disconnect_PDI_EfeS){/}{SUSPENDED - DISCONNECTED}	
Eu.Gen-SCI.227	Info	F_SCI_EfeS_Sec	
Eu.Gen-SCI.228	Info	[Block] F_SCI_EfeS_Sec [Functional Viewpoint - Interface Requirements - Functional Entity] <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> ibd [Block] F_SCI_EfeS_Sec [Functional Viewpoint - Interface Requirements - Functional Entity] <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> «block» «functional entity» F_SCI_EfeS_Sec values «BlockProperty» Mem_PDI_Version : String Operation «Operation» cOp1_init () </div> <div style="display: flex; flex-wrap: wrap; gap: 10px;"> <div style="display: flex; align-items: center;"> → D3in_Con_PDI_Version : String d50out_PDI_Connection_State : String → </div> <div style="display: flex; align-items: center;"> → D4in_Con_Checksum_Data : String T12out_Terminate_SCP_Connection : PulsedOut → </div> <div style="display: flex; align-items: center;"> → T20in_Protocol_Error : PulsedIn d60out_PDI_Close_Reason : String → </div> <div style="display: flex; align-items: center;"> → T21in_Forma_Telegram_Error : PulsedIn p2inout : EST_SCI_GEN → </div> <div style="display: flex; align-items: center;"> → T22in_Content_Telegram_Error : PulsedIn P1inout : SCI_GEN → </div> <div style="display: flex; align-items: center;"> → T5in_SCP_Connection_Established : PulsedIn p3inout : ~F_SCI_Specific → </div> <div style="display: flex; align-items: center;"> → T10in_SCP_Connection_Terminated : PulsedIn → </div> </div> </div>	
Eu.Gen-SCI.229	Info	Mem_PDI_Version := D3in_Con_PDI_Version;	cOp1_init
Eu.Gen-SCI.231	Info	D3in_Con_PDI_Version	The port D3in_Con_PDI_Version provides the configured PDIVer.
Eu.Gen-SCI.232	Info	D4in_Con_Checksum_Data	The port D4in_Con_Checksum_Data provides the configured CSS.
Eu.Gen-SCI.302	Info	T5in_SCP_Connection_Established	The port T5in_SCP_Connection_Established represents the event of the established SCP connection.
Eu.Gen-SCI.297	Info	T10in_SCP_Connection_Terminated	The port T10in_SCP_Connection_Terminated represents the event of the terminated SCP connection.
Eu.Gen-SCI.298	Info	T12out_Terminate_SCP_Connection	The port T12out_Terminate_SCP_Connection represents the event to terminate the SCP connection.
Eu.Gen-SCI.299	Info	T20in_Protocol_Error	The port T20in_Protocol_Error represents the event of a protocol error.

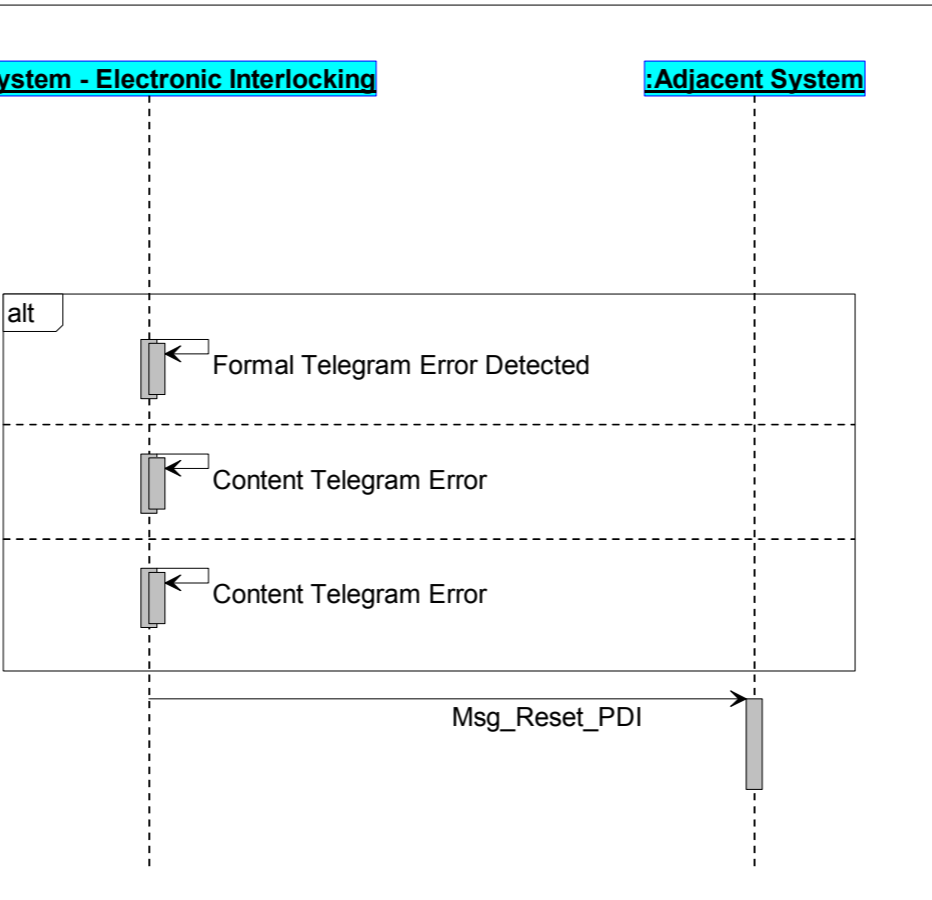
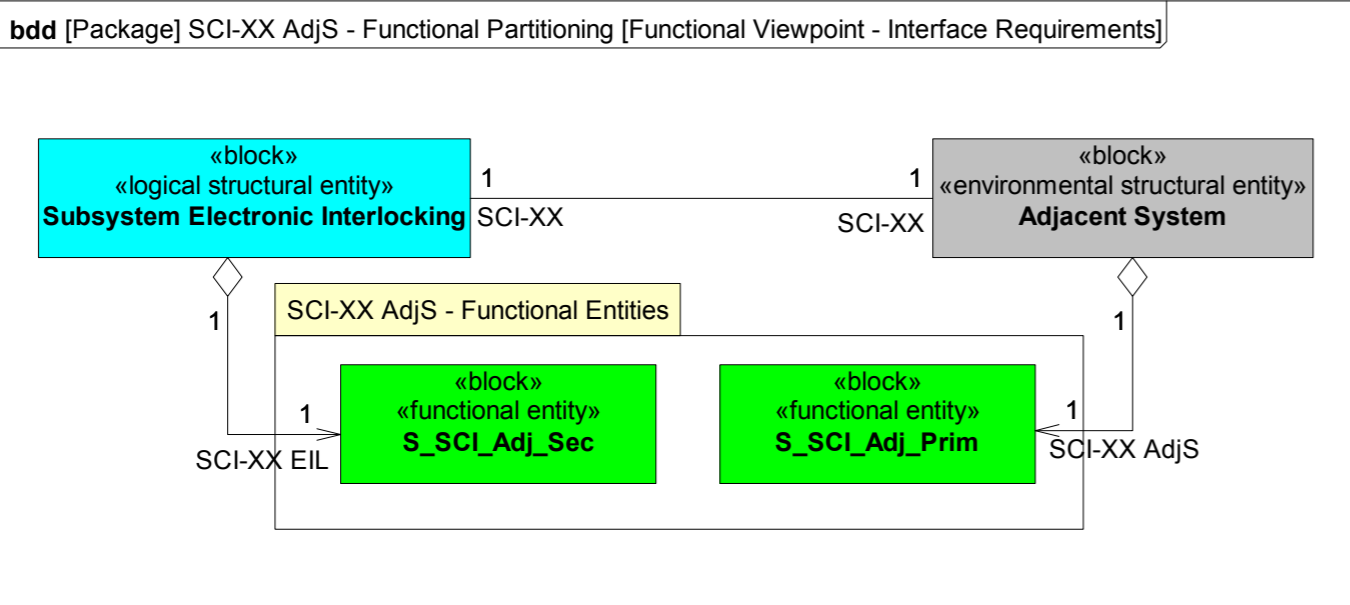
ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.300	Info	T21in_Formal_Telegram_Error	The port T21in_Formal_Telegram_Error represents the event of a formal telegram error.
Eu.Gen-SCI.301	Info	T22in_Content_Telegram_Error	The port T22in_Content_Telegram_Error represents the event of a content telegram error.
Eu.Gen-SCI.233	Info	d50out_PDI_Connection_State	The port d50out_PDI_Connection_State provides the status of the PDI connection.
Eu.Gen-SCI.505	Info	d60out_PDI_Close_Reason	
Eu.Gen-SCI.294	Info	p2inout	
Eu.Gen-SCI.295	Info	P1inout	The port P1inout exchanges information objects according to SCI_GEN.
Eu.Gen-SCI.296	Info	p3inout	
Eu.Gen-SCI.234	Info	F_SCI_EfeS_Sec - Behaviour	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.252	Info	Junction0	
Eu.Gen-SCI.254	Req	[Mem_PDI_Version = D3in_Con_PDI_Version]/ send Msg_PDI_Version_Check("match", D4in_Con_Checksum_Data,D3in_Con_PDI_Version) to P1inout;{Junction0 - READY_FOR_INITIALISATION}	
Eu.Gen-SCI.257	Req	[NOT (Mem_PDI_Version = D3in_Con_PDI_Version)]/ send Msg_PDI_Version_Check("not match",D4in_Con_Checksum_Data,D3in_Con_PDI_Version) to P1inout;{Junction0 - VERSION_UNEQUAL}	
Eu.Gen-SCI.261	Info	VERSION_UNEQUAL	
Eu.Gen-SCI.262	Req	entry/d50out_PDI_Connection_State := "VERSION_UNEQUAL";{State-internal in VERSION_UNEQUAL}	
Eu.Gen-SCI.263	Info	READY_FOR_INITIALISATION	
Eu.Gen-SCI.264	Req	Cd_Initialisation_Request/ send Msg_Start_Initialisation to P1inout;{READY_FOR_INITIALISATION - SENDING_STATUS}	
Eu.Gen-SCI.265	Req	entry/d50out_PDI_Connection_State := "READY_FOR_INITIALISATION";{State-internal in READY_FOR_INITIALISATION}	
Eu.Gen-SCI.266	Info	SENDING_STATUS	
Eu.Gen-SCI.267	Req	Status_Report_Completed/ send Msg_Initialisation_Completed to P1inout;{SENDING_STATUS - ESTABLISHED}	
Eu.Gen-SCI.268	Req	entry/d50out_PDI_Connection_State := "SENDING_STATUS"; send Start_Status_Report to p3inout;{State-internal in SENDING_STATUS}	
Eu.Gen-SCI.269	Info	Initial1	
Eu.Gen-SCI.270	Req	/{Initial1 - ESTABLISHING}	
Eu.Gen-SCI.271	Req	NotReady_For_PDI_Connection/ send Msg_PDI_Not_Available to P1inout;{ACTIVE - SUSPENDED}	Note: If it is technically not possible to send the telegram Msg_PDI_Not_Available, the secondary communication partner must terminate the safe communication protocol. This will cause a transition to the state 'NOT_READY_FOR_PDI_NO_SCP'.
Eu.Gen-SCI.272	Info	ESTABLISHED	
Eu.Gen-SCI.273	Req	entry/d50out_PDI_Connection_State := "ESTABLISHED"; send PDI_Connection_Established to p2inout;{State-internal in ESTABLISHED}	
Eu.Gen-SCI.276	Req	when(T20in_Protocol_Error)/ send Msg_Reset_PDI(ProtocolError) to P1inout; send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "EfeS Protocol Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.277	Req	when(T21in_Formal_Telegram_Error)/ send Msg_Reset_PDI(FormalTelegramError) to P1inout; send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "EfeS Formal Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.278	Req	when(T22in_Content_Telegram_Error)/ send Msg_Reset_PDI(ContentTelegramError) to P1inout; send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "EfeS Content Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.506	Req	Cd_Close_PDI[RequestedCloseReason = OtherVersionRequired]/ send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "PDI Other Version Required";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.507	Req	Cd_Close_PDI[RequestedCloseReason = Timeout]/ send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "PDI Timeout";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.508	Req	Cd_Close_PDI[RequestedCloseReason = FormalTelegramError]/ send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "EIL Formal Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.509	Req	Cd_Close_PDI[RequestedCloseReason = ContentTelegramError]/ send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "EIL Content Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.510	Req	Cd_Close_PDI[RequestedCloseReason = ProtocolError]/ send PDI_Connection_Closed to p2inout; d60out_PDI_Close_Reason := "EIL Protocol Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.556	Req	when(T10in_SCP_Connection_Terminated)/ send PDI_Connection_Closed to p2inout;{ACTIVE - READY_FOR_PDI_NO_SCP}	
Eu.Gen-SCI.279	Info	SUSPENDED	
Eu.Gen-SCI.280	Req	Ready_For_PDI_Connection/send Msg_PDI_Available to P1inout;{SUSPENDED - READY_FOR_PDI}	
Eu.Gen-SCI.281	Req	entry/d50out_PDI_Connection_State := "SUSPENDED"; send PDI_Released_For_Maintenance to p2inout;{State-internal in SUSPENDED}	
Eu.Gen-SCI.568	Req	when(T10in_SCP_Connection_Terminated)/{SUSPENDED - NOT_READY_FOR_PDI_NO_SCP}	
Eu.Gen-SCI.283	Info	READY_FOR_PDI	
Eu.Gen-SCI.284	Req	Cd_PDI_Version_Check/ Mem_PDI_Version := PDI_Version; send PDI_Connection_Started to p2inout;{READY_FOR_PDI - ACTIVE}	
Eu.Gen-SCI.285	Req	NotReady_For_PDI_Connection/{READY_FOR_PDI - NOT_READY_FOR_PDI}	
Eu.Gen-SCI.286	Req	entry/d50out_PDI_Connection_State := "READY_FOR_PDI";{State-internal in READY_FOR_PDI}	
Eu.Gen-SCI.563	Req	when(T10in_SCP_Connection_Terminated)/{READY_FOR_PDI - READY_FOR_PDI_NO_SCP}	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.288	Info	NOT_READY_FOR_PDI	
Eu.Gen-SCI.289	Req	Cd_PDI_Version_Check/send Msg_PDI_Not_Available to P1inout;{NOT_READY_FOR_PDI - SUSPENDED}	
Eu.Gen-SCI.290	Req	Ready_For_PDI_Connection/{NOT_READY_FOR_PDI - READY_FOR_PDI}	
Eu.Gen-SCI.291	Req	entry/d50out_PDI_Connection_State := "NOT_READY_FOR_PDI";{State-internal in NOT_READY_FOR_PDI}	
Eu.Gen-SCI.558	Req	when(T10in_SCP_Connection_Terminated){NOT_READY_FOR_PDI - NOT_READY_FOR_PDI_NO_SCP}	
Eu.Gen-SCI.559	Info	NOT_READY_FOR_PDI_NO_SCP	
Eu.Gen-SCI.560	Req	Ready_For_PDI_Connection/{NOT_READY_FOR_PDI_NO_SCP - READY_FOR_PDI_NO_SCP}	
Eu.Gen-SCI.561	Req	entry/d50out_PDI_Connection_State := "NOT_READY_FOR_PDI_NO_SCP";{State-internal in NOT_READY_FOR_PDI_NO_SCP}	
Eu.Gen-SCI.562	Req	when(T5in_SCP_Connection_Established){NOT_READY_FOR_PDI_NO_SCP - NOT_READY_FOR_PDI}	
Eu.Gen-SCI.564	Info	READY_FOR_PDI_NO_SCP	
Eu.Gen-SCI.565	Req	NotReady_For_PDI_Connection/{READY_FOR_PDI_NO_SCP - NOT_READY_FOR_PDI_NO_SCP}	
Eu.Gen-SCI.566	Req	entry/d50out_PDI_Connection_State := "READY_FOR_PDI_NO_SCP";{State-internal in READY_FOR_PDI_NO_SCP}	
Eu.Gen-SCI.567	Req	when(T5in_SCP_Connection_Established){READY_FOR_PDI_NO_SCP - READY_FOR_PDI}	
Eu.Gen-SCI.512	Head	3.1.1.4 SCI-XX EfeS - General Infos and Assumptions	
Eu.Gen-SCI.455	Info	When a termination of the SCP connection occurs while the PDI connection is suspended, the PDI connection is no longer considered suspended.	
Eu.Gen-SCI.456	Info	The termination or establishment of the SCP connection does not change the impermissibility of the PDI Connection to a specific EULYNX field element Subsystem.	
Eu.Gen-SCI.459	Info	The termination or establishment of the SCP connection does not change the disconnection of the PDI Connection to a specific EULYNX field element Subsystem.	
Eu.Gen-SCI.461	Info	The termination or establishment of the SCP connection does not change the availability of the EULYNX field element Subsystem for PDI Connection.	
Eu.Gen-SCI.513	Info	When the impermissibility of the PDI connection to a specific EULYNX field element Subsystem is reset while the SCP connection is available, the PDI connection will be re-established.	
Eu.Gen-SCI.514	Info	When the impermissibility of the PDI connection to a specific EULYNX field element Subsystem is reset while no SCP connection is available, the PDI connection will be re-established when the SCP connection becomes available.	
Eu.Gen-SCI.515	Info	When the PDI connection to a specific EULYNX field element Subsystem is enabled while the SCP connection is available, the PDI connection will be established.	
Eu.Gen-SCI.516	Info	When the PDI connection to a specific EULYNX field element Subsystem is enabled while no SCP connection is available, the PDI connection will be established when the SCP connection becomes available.	
Eu.Gen-SCI.517	Info	If the PDI connection to a specific EULYNX field element Subsystem is not disconnected nor impermissible, and no SCP connection is available, the primary communication partner establishes the SCP connection.	
Eu.Gen-SCI.454	Head	3.1.2 SCI-XX EfeS - Internal Behaviour of Subsystem - Electronic Interlocking	
Eu.Gen-SCI.457	Req	It shall be possible to reset the impermissibility of the PDI connection to a specific EULYNX field element Subsystem by a trigger to the Subsystem - Electronic Interlocking.	
Eu.Gen-SCI.458	Req	It shall be possible to disable or disconnect the PDI connection to a specific EULYNX field element Subsystem by a trigger to the Subsystem - Electronic Interlocking. Note: The SCP connection is not affected when PDI connection is disconnected.	
Eu.Gen-SCI.460	Req	It shall be possible to enable or connect the PDI connection to a specific EULYNX field element Subsystem by a trigger to the Subsystem - Electronic Interlocking.	
Eu.Gen-SCI.474	Head	3.1.3 SCI-XX EfeS - Internal Information Flows	
Eu.Gen-SCI.475	Info	[Package] SCI-XX EfeS - Internal Information Flows [Internal Interface Requirements - Direction of Information Objects] <pre> bdd [Package] SCI-XX EfeS - Internal Information Flows [Internal Interface Requirements - Direction of Information Objects] interfaceBlock «information flow» F_SCI_Specific prov «signal» Start_Status_Report reqd «signal» Status_Report_Completed </pre> 	
Eu.Gen-SCI.477	Info	Start_Status_Report	
Eu.Gen-SCI.478	Info	Status_Report_Completed	
Eu.Gen-SCI.39	Head	3.2 Adjacent systems interfaces	
Eu.Gen-SCI.601	Info	This chapter is not part of the EU-Rail System Pillar scope in the current release.	
Eu.Gen-SCI.40	Head	3.2.1 Interface between Subsystem - Electronic Interlocking and AdjS (SCI-XX AdjS)	
Eu.Gen-SCI.217	Head	3.2.1.1 SCI-XX AdjS - Logical Viewpoint	
Eu.Gen-SCI.218	Head	3.2.1.1.1 SCI-XX AdjS - Logical Context	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.219	Info	<p>[Package] SCI-XX AdjS - Logical Context [Logical Viewpoint - Interface Definition]</p> <pre> bdd [Package] SCI-XX AdjS - Logical Context [Logical Viewpoint - Interface Definition] classDiagram class SCI_XX_AdjS["«block»\n«logical structural entity»\nSCI-XX AdjS"] class Subsystem_Electronic_Interlocking["«block»\n«logical structural entity»\nSubsystem Electronic Interlocking"] class Adjacent_System["«block»\n«environmental structural entity»\nAdjacent System"] SCI_XX_AdjS "1" -.- "1" Subsystem_Electronic_Interlocking SCI_XX_AdjS "1" -.- "1" Adjacent_System </pre>	
Eu.Gen-SCI.200	Head	3.2.1.2 SCI-XX AdjS - Information Flows	
Eu.Gen-SCI.201	Info	<p>[Package] SCI-XX AdjS - Information Flows [Interface Requirements - Direction of Information Objects]</p> <pre> bdd [Package] SCI-XX AdjS - Information Flows [Interface Requirements - Direction of Information Objects] classDiagram class PDI_GEN_ADJ["«interfaceBlock»\n«information flow»\nPDI_GEN_ADJ"] class Adj_SCI_XX_AdjS["«interfaceBlock»\n«information flow»\nAdj SCI-XX AdjS"] class Adj_SCI_XX_EIL["«interfaceBlock»\n«information flow»\nAdj SCI-XX EIL"] PDI_GEN_ADJ --> Adj_SCI_XX_AdjS : «ProxyPort» P1inout : PDI_GEN_ADJ Adj_SCI_XX_EIL --> Adj_SCI_XX_AdjS : «ProxyPort» P1inout : PDI_GEN_ADJ </pre>	
Eu.Gen-SCI.202	Info	<p>[Package] SCI-XX AdjS - Information Flows [Interface Requirements - Information Objects]</p> <pre> bdd [Package] SCI-XX AdjS - Information Flows [Interface Requirements - Information Objects] classDiagram class Cd_PDI_Version_Check["«information object»\nsignal\nCd_PDI_Version_Check"] class Msg_Initialisation_Completed["«information object»\nsignal\nMsg_Initialisation_Completed"] class Msg_Status_Report_Completed["«information object»\nsignal\nMsg_Status_Report_Completed"] class Cd_Initialisation_Request["«information object»\nsignal\nCd_Initialisation_Request"] class Msg_Reset_PDI["«information object»\nsignal\nMsg_Reset_PDI"] class Cd_Close_PDI["«information object»\nsignal\nCd_Close_PDI"] class Msg_Start_Initialisation["«information object»\nsignal\nMsg_Start_Initialisation"] class Msg_PDI_Version_Check["«information object»\nsignal\nMsg_PDI_Version_Check"] class ResetReason["«valueType (enumeration)»\nResetReason"] class CloseReason["«valueType (enumeration)»\nCloseReason"] Cd_PDI_Version_Check --> Cd_Initialisation_Request Cd_Initialisation_Request --> Msg_Reset_PDI Msg_Reset_PDI --> Cd_Close_PDI Cd_Close_PDI --> Msg_Status_Report_Completed Msg_Start_Initialisation --> Msg_Initialisation_Completed Msg_PDI_Version_Check --> Cd_PDI_Version_Check ResetReason -- > Msg_Reset_PDI CloseReason -- > Cd_Close_PDI </pre>	
Eu.Gen-SCI.216	Info	The referenced information objects for this Interface can be found in SCI-XX - Information Flows.	
Eu.Gen-SCI.41	Head	3.2.1.3 SCI-XX AdjS - Functional Viewpoint	
Eu.Gen-SCI.198	Head	3.2.1.3.1 Definition of time values	
Eu.Gen-SCI.199	Req	Con_tmax_PDI_Connection	If the establishment of the PDI connection, measured from the sending of Cd_PDI_Version_Check to the receipt of Msg_Initialisation_Completed, is not completed within Con_tmax_PDI_Connection, the PDI connection shall be terminated. A diagnostic message shall be issued. The PDI connection is then re-established. The default value for Con_tmax_PDI_Connection is 20 s.
Eu.Gen-SCI.45	Head	3.2.1.3.2 SCI-XX AdjS - Functional Context	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.47	Info	<p>SCI-XX AdjS IF SD 1.1.2</p> <p>sd [Interaction] SCI-XX AdjS IFUC1.1 - Alternative Scenario [SCI-XX AdjS IF SD 1.1.2]</p>  <p>Alternative Scenario: PDI version is unequal</p> <p>Precondition: The SCP connection is established.</p> <p>Interaction 1.1.2.A:</p> <ol style="list-style-type: none"> - Subsystem - Electronic Interlocking receives from Adjacent System the request to verify the match between the transmitted PDIVer and the PDIVer present in the Subsystem - Electronic Interlocking. Subsystem - Electronic Interlocking evaluates that the PDI versions are unequal. Subsystem - Electronic Interlocking reports to Adjacent System that PDIVer does not match. Adjacent System requests from Subsystem - Electronic Interlocking to close the PDI connection. <p>Postcondition: The PDI connection is impermissible.</p>	
Eu.Gen-SCI.48	Info	<p>SCI-XX AdjS IF SD 1.1.3</p> <p>sd [Interaction] SCI-XX AdjS IFUC1.1 - Alternative Scenario [SCI-XX AdjS IF SD 1.1.3]</p>  <p>Alternative Scenario: CSS is unequal</p> <p>Precondition: The SCP connection is established.</p> <p>Interaction 1.1.3.A:</p> <ol style="list-style-type: none"> - Subsystem - Electronic Interlocking receives from Adjacent System the request to verify the match between the transmitted PDIVer and the PDIVer present in the Subsystem - Electronic Interlocking. Subsystem - Electronic Interlocking evaluates that the PDI versions are equal. Subsystem - Electronic Interlocking reports to Adjacent System the used PDIVer and newly calculated CSS. Adjacent System evaluates that the received CSS is unequal to the configured value for the communication partner. Adjacent System requests from Subsystem - Electronic Interlocking to close the PDI connection. <p>Postcondition: The PDI connection is impermissible.</p>	
Eu.Gen-SCI.50	Info	<p>SCI-XX AdjS IFUC1.2: Close PDI connection</p>	<p>The UseCase SCI-XX AdjS IFUC1.2: Close PDI connection defines the process to close a PDI connection between Subsystem - Electronic Interlocking and Adjacent System.</p>
Eu.Gen-SCI.51	Info	<p>SCI-XX AdjS IF SD 1.2.1</p> <p>sd [Interaction] SCI-XX AdjS IFUC1.2 - Alternative Scenario [SCI-XX AdjS IF SD 1.2.1]</p>  <p>Alternative Scenario: Communication Error</p> <p>Precondition: The PDI connection is in state ESTABLISHED or in state ESTABLISHING.</p> <p>Interaction 1.2.1.A:</p> <p>alt</p> <ol style="list-style-type: none"> - The Adjacent System detects a communication error of the type Formal Telegram Error. <p>else alt</p> <ol style="list-style-type: none"> - The Adjacent System detects a communication error of the type Content Telegram Error. <p>else alt</p> <ol style="list-style-type: none"> - The Adjacent System detects a communication error of the type Protocol Error. <p>end alt</p> <ol style="list-style-type: none"> The Adjacent System requests from Subsystem - Electronic Interlocking to close the PDI connection. <p>Postcondition: The PDI connection is impermissible.</p>	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.52	Info	<p>SCI-XX AdjS IF SD 1.2.2</p> <p>sd [Interaction] SCI-XX AdjS IFUC1.2 - Alternative Scenario [SCI-XX AdjS IF SD 1.2.2]</p>  <p>Alternative Scenario: Communication Error</p> <p>Precondition: The PDI connection is in state ESTABLISHED or in state ESTABLISHING.</p> <p>Interaction 1.2.2.A:</p> <pre> alt 1. - The Subsystem - Electronic Interlocking detects a communication error of the type Formal Telegram Error. else alt 2. - The Subsystem - Electronic Interlocking detects a communication error of the type Content Telegram Error. else alt 3. - The Subsystem - Electronic Interlocking detects a communication error of the type Protocol Error. end alt 4. The Subsystem - Electronic Interlocking reports a reset of the PDI connection to the Adjacent System. The information includes the type of communication error. </pre> <p>Postcondition: The PDI connection is impermissible.</p>	
Eu.Gen-SCI.196	Head	<p>3.2.1.3.3 SCI-XX AdjS - Functional Partitioning</p>	
Eu.Gen-SCI.197	Info	<p>[Package] SCI-XX AdjS - Functional Partitioning [Functional Viewpoint - Interface Requirements]</p> <p>bdd [Package] SCI-XX AdjS - Functional Partitioning [Functional Viewpoint - Interface Requirements]</p>  <pre> classDiagram class Subsystem["«block» «logical structural entity» Subsystem Electronic Interlocking"] class Adjacent["«block» «environmental structural entity» Adjacent System"] class S_SCI_Adj_Sec["«block» «functional entity» S_SCI_Adj_Sec"] class S_SCI_Adj_Prim["«block» «functional entity» S_SCI_Adj_Prim"] class FunctionalEntities["SCI-XX AdjS - Functional Entities"] Subsystem "1" -- "1" Adjacent : SCI-XX Subsystem "1" o-- "1" FunctionalEntities FunctionalEntities "1" -- "1" S_SCI_Adj_Sec : SCI-XX EIL FunctionalEntities "1" -- "1" S_SCI_Adj_Prim : SCI-XX AdjS </pre>	
Eu.Gen-SCI.42	Head	<p>3.2.1.3.4 SCI-XX AdjS - Functional Architecture</p>	
Eu.Gen-SCI.43	Info	<p>SCI-XX AdjS</p>	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.44	Info	<p>[Block] SCI-XX AdjS [Functional Viewpoint - Interface Requirements - Functional Architecture]</p> <p>ibd [Block] SCI-XX AdjS [Functional Viewpoint - Interface Requirements - Functional Architecture]</p>	
Eu.Gen-SCI.53	Head	<p>3.2.1.3.5 SCI-XX AdjS - Functional Entities</p>	
Eu.Gen-SCI.54	Info	<p>S_SCI_Adj_Prim</p>	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.55	Info	<p>[Block] S_SCI_Adj_Prim [Functional Viewpoint - Interface Requirements - Functional Entity]</p> <p>ibd [Block] S_SCI_Adj_Prim [Functional Viewpoint - Interface Requirements - Functional Entity]</p>	
Eu.Gen-SCI.56	Info	Mem_PDI_Version_Check_Result := "unknown"; Mem_PDI_Version_ChecksumData := D4in_Con_Checksum_Data;	cOp1_init
Eu.Gen-SCI.58	Info	D2in_Con_tmax_PDI_Connection	The port D2in_Con_tmax_PDI_Connection provides the time value Con_tmax_PDI_Connection.
Eu.Gen-SCI.59	Info	D3in_Con_PDI_Version	The port D3in_Con_PDI_Version provides the configured PDIVer.
Eu.Gen-SCI.60	Info	D4in_Con_Checksum_Data	The port D4in_Con_Checksum_Data provides the configured CSS.
Eu.Gen-SCI.128	Info	T5in_SCP_Connection_Established	The port T5in_SCP_Connection_Established represents the event of the established SCP connection.
Eu.Gen-SCI.129	Info	T6out_Establish_SCP_Connection	The port T6out_Establish_SCP_Connection represents the event for the SCP to establish the SCP connection. Note: It is assumed that the SCP layer handle each connection error by itself after sending the trigger on T6out_Establish_SCP_Connection. A retriggering of SCP connection is not in responsibility of SCI layer. In case of a successful established connection the trigger T5in_SCP_Connection_Established is expected.
Eu.Gen-SCI.121	Info	T10in_SCP_Connection_Terminated	The port T10in_SCP_Connection_Terminated represents the event of the terminated SCP connection.
Eu.Gen-SCI.122	Info	T20in_Protocol_Error	The port T20in_Protocol_Error represents the event of a protocol error. Definition can be found in Eu.SAS.1567.
Eu.Gen-SCI.123	Info	T21in_Formal_Telegram_Error	The port T21in_Formal_Telegram_Error represents the event of a formal telegram error. Definition can be found in Eu.SAS.1567.
Eu.Gen-SCI.124	Info	T22in_Content_Telegram_Error	The port T22in_Content_Telegram_Error represents the event of a content telegram error. Definition can be found in Eu.SAS.1567.
Eu.Gen-SCI.125	Info	t25in_Sec_Status_Report_Complete	
Eu.Gen-SCI.126	Info	t27out_Check_Sec_Status	
Eu.Gen-SCI.127	Info	T45in_Reset_Severe_Error	The port T45in_Reset_Severe_Error represents the event of a reset of severe errors.
Eu.Gen-SCI.61	Info	D50out_PDI_Connection_State	The port D50out_PDI_Connection_State provides the status of the PDI connection.
Eu.Gen-SCI.62	Info	d60out_PDI_Close_Reason	
Eu.Gen-SCI.63	Info	P1inout	The port P1inout exchanges information objects according to PDI_GEN_ADJ.
Eu.Gen-SCI.64	Info	p2inout	

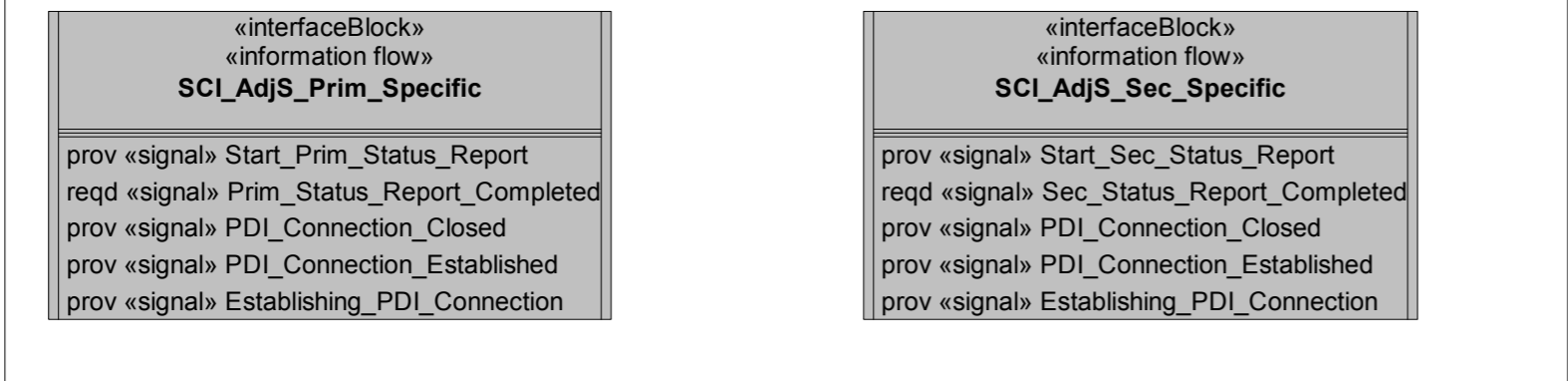
ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.65	Info	S_SCI_AdjS_Prim - Behaviour	
Eu.Gen-SCI.66	Info	<p>Functional Viewpoint - Interface Requirements - Functional Entity</p> <p>stm [State Machine] S_SCI_AdjS_Prim - Behaviour [Functional Viewpoint - Interface Requirements - Functional Entity]</p> <pre> stateDiagram-v2 [*] --> REQUESTED_NO_SCP : /cOp1_init() state REQUESTED_NO_SCP { Entry/D50out_PDI_Connection_State := "REQUESTED_NO_SCP"; T6out_Establish_SCP_Connection := TRUE; } REQUESTED_NO_SCP --> ACTIVE : when(T10in_SCP_Connection_Established) / REQUESTED_NO_SCP --> IMPERMISSIBLE_NO_SCP : when(T45in_Reset_Severe_Error) / state ACTIVE { state ESTABLISHING { [*] --> ESTABLISHING : Initial1 ESTABLISHING --> WAITING_FOR_VERSION_CHECK : /send Establishing_PDI_Connection to p2inout; send Cd_PDI_Version_Check (D3in_Con_PDI_Version) to P1inout; state WAITING_FOR_VERSION_CHECK { Entry/D50out_PDI_Connection_State := "WAITING_FOR_VERSION_CHECK"; } WAITING_FOR_VERSION_CHECK --> WAITING_FOR_INITIALISATION : Msg_PDI_Version_Check[Result = "match" AND ChecksumData = D4in_Con_Checksum_Data] / send Cd_Initialisation_Request to P1inout; state WAITING_FOR_INITIALISATION { Entry/D50out_PDI_Connection_State := "WAITING_FOR_INITIALISATION"; } WAITING_FOR_INITIALISATION --> RECEIVING_SEC_STATUS : Msg_Start_Initialisation / state RECEIVING_SEC_STATUS { Entry/D50out_PDI_Connection_State := "RECEIVING_SEC_STATUS"; } RECEIVING_SEC_STATUS --> CHECKING_SEC_STATUS : Msg_Status_Report_Completed / state CHECKING_SEC_STATUS { Entry/t27out_Check_Sec_Status := TRUE; D50out_PDI_Connection_State := "CHECKING_SEC_STATUS"; } CHECKING_SEC_STATUS --> SENDING_PRIM_STATUS : when(t25in_Sec_Status_Report_Complete) / state SENDING_PRIM_STATUS { Entry/send Start_Prim_Status_Report to p2inout; D50out_PDI_Connection_State := "SENDING_PRIM_STATUS"; } SENDING_PRIM_STATUS --> WAITING_FOR_INIT_COMPLETION : Prim_Status_Report_Completed / state WAITING_FOR_INIT_COMPLETION { Entry/send Msg_Status_Report_Completed to P1inout; D50out_PDI_Connection_State := "WAITING_FOR_INIT_COMPLETION"; } WAITING_FOR_INIT_COMPLETION --> ESTABLISHED : Msg_Initialisation_Completed / WAITING_FOR_INIT_COMPLETION --> IMPERMISSIBLE : after(D2in_Con_tmax_PDI_Connection) / send PDI_Connection_Closed to p2inout; send Cd_Close_PDI (Timeout) to P1inout; d60out_PDI_Close_Reason := "PDI Timeout"; } ACTIVE --> REQUESTED_NO_SCP : when(T10in_SCP_Connection_Terminated) / ACTIVE --> IMPERMISSIBLE : when(T22in_Content_Telegram_Error) / ACTIVE --> IMPERMISSIBLE : when(T20in_Protocol_Error) / ACTIVE --> IMPERMISSIBLE : when(T21in_Formal_Telegram_Error) / ACTIVE --> IMPERMISSIBLE : when(T45in_Reset_Severe_Error) / ACTIVE --> IMPERMISSIBLE : Msg_Reset_PDI[ReportedResetReason = ContentTelegramError] / ACTIVE --> IMPERMISSIBLE : Msg_Reset_PDI[ReportedResetReason = ProtocolError] / ACTIVE --> IMPERMISSIBLE : Msg_Reset_PDI[ReportedResetReason = FormalTelegramError] / } state IMPERMISSIBLE_NO_SCP { Entry/D50out_PDI_Connection_State := "IMPERMISSIBLE_NO_SCP"; } IMPERMISSIBLE_NO_SCP --> IMPERMISSIBLE : when(T10in_SCP_Connection_Terminated) / state IMPERMISSIBLE { Entry/D50out_PDI_Connection_State := "IMPERMISSIBLE"; } IMPERMISSIBLE --> REQUESTED_NO_SCP : when(T5in_SCP_Connection_Established) / IMPERMISSIBLE --> IMPERMISSIBLE_NO_SCP : when(T45in_Reset_Severe_Error) / IMPERMISSIBLE --> IMPERMISSIBLE : when(T45in_Reset_Severe_Error) / IMPERMISSIBLE --> IMPERMISSIBLE : Msg_Reset_PDI[ReportedResetReason = ContentTelegramError] / IMPERMISSIBLE --> IMPERMISSIBLE : Msg_Reset_PDI[ReportedResetReason = ProtocolError] / IMPERMISSIBLE --> IMPERMISSIBLE : Msg_Reset_PDI[ReportedResetReason = FormalTelegramError] / </pre>	
Eu.Gen-SCI.67	Info	Initial0	
Eu.Gen-SCI.68	Req	/cOp1_init();{Initial0 - REQUESTED_NO_SCP}	
Eu.Gen-SCI.69	Info	REQUESTED_NO_SCP	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.70	Req	entry/D50out_PDI_Connection_State := "REQUESTED_NO_SCP"; T6out_Establish_SCP_Connection := TRUE;{State-internal in REQUESTED_NO_SCP}	
Eu.Gen-SCI.71	Req	when(T5in_SCP_Connection_Established){REQUESTED_NO_SCP - ACTIVE}	
Eu.Gen-SCI.72	Info	IMPERMISSIBLE	
Eu.Gen-SCI.73	Req	entry/D50out_PDI_Connection_State := "IMPERMISSIBLE";{State-internal in IMPERMISSIBLE}	
Eu.Gen-SCI.74	Req	when(T10in_SCP_Connection_Terminated){IMPERMISSIBLE - IMPERMISSIBLE_NO_SCP}	
Eu.Gen-SCI.75	Req	when(T45in_Reset_Severe_Error){IMPERMISSIBLE - ACTIVE}	
Eu.Gen-SCI.76	Info	IMPERMISSIBLE_NO_SCP	
Eu.Gen-SCI.77	Req	entry/D50out_PDI_Connection_State := "IMPERMISSIBLE_NO_SCP";{State-internal in IMPERMISSIBLE_NO_SCP}	
Eu.Gen-SCI.78	Req	when(T45in_Reset_Severe_Error){IMPERMISSIBLE_NO_SCP - REQUESTED_NO_SCP}	
Eu.Gen-SCI.79	Req	when(T5in_SCP_Connection_Established){IMPERMISSIBLE_NO_SCP - IMPERMISSIBLE}	
Eu.Gen-SCI.83	Info	ACTIVE	
Eu.Gen-SCI.84	Info	ESTABLISHING	
Eu.Gen-SCI.85	Req	after(D2in_Con_tmax_PDI_Connection)/ send PDI_Connection_Closed to p2inout; send Cd_Close_PDI(Timeout) to P1inout; d60out_PDI_Close_Reason := "PDI Timeout";{ESTABLISHING - ESTABLISHING}	
Eu.Gen-SCI.86	Info	CHECKING_SEC_STATUS	
Eu.Gen-SCI.87	Req	entry/t27out_Check_Sec_Status := TRUE; D50out_PDI_Connection_State := "CHECKING_SEC_STATUS";{State-internal in CHECKING_SEC_STATUS}	
Eu.Gen-SCI.88	Req	when(t25in_Sec_Status_Report_Complete){CHECKING_SEC_STATUS - SENDING_PRIM_STATUS}	
Eu.Gen-SCI.89	Info	Initial2	
Eu.Gen-SCI.90	Req	/send Establishing_PDI_Connection to p2inout; send Cd_PDI_Version_Check(D3in_Con_PDI_Version) to P1inout;{Initial2 - WAITING_FOR_VERSION_CHECK}	
Eu.Gen-SCI.91	Info	RECEIVING_SEC_STATUS	
Eu.Gen-SCI.92	Req	Msg_Status_Report_Completed/{RECEIVING_SEC_STATUS - CHECKING_SEC_STATUS}	
Eu.Gen-SCI.93	Req	entry/D50out_PDI_Connection_State := "RECEIVING_SEC_STATUS";{State-internal in RECEIVING_SEC_STATUS}	
Eu.Gen-SCI.94	Info	SENDING_PRIM_STATUS	
Eu.Gen-SCI.95	Req	Prim_Status_Report_Completed/{SENDING_PRIM_STATUS - WAITING_FOR_INIT_COMPLETION}	
Eu.Gen-SCI.96	Req	entry/send Start_Prim_Status_Report to p2inout; D50out_PDI_Connection_State := "SENDING_PRIM_STATUS";{State-internal in SENDING_PRIM_STATUS}	
Eu.Gen-SCI.97	Info	WAITING_FOR_INIT_COMPLETION	
Eu.Gen-SCI.98	Req	Msg_Initialisation_Completed/{WAITING_FOR_INIT_COMPLETION - ESTABLISHED}	
Eu.Gen-SCI.99	Req	entry/send Msg_Status_Report_Completed to P1inout; D50out_PDI_Connection_State := "WAITING_FOR_INIT_COMPLETION";{State-internal in WAITING_FOR_INIT_COMPLETION}	
Eu.Gen-SCI.100	Info	WAITING_FOR_INITIALISATION	
Eu.Gen-SCI.101	Req	Msg_Start_Initialisation/{WAITING_FOR_INITIALISATION - RECEIVING_SEC_STATUS}	
Eu.Gen-SCI.102	Req	entry/D50out_PDI_Connection_State := "WAITING_FOR_INITIALISATION";{State-internal in WAITING_FOR_INITIALISATION}	
Eu.Gen-SCI.103	Info	WAITING_FOR_VERSION_CHECK	
Eu.Gen-SCI.105	Req	Msg_PDI_Version_Check[Result = "not match"]/ d60out_PDI_Close_Reason := "PDI Other Version Required"; send Cd_Close_PDI(OtherVersionRequired) to P1inout;{WAITING_FOR_VERSION_CHECK - IMPERMISSIBLE}	
Eu.Gen-SCI.106	Req	Msg_PDI_Version_Check[Result = "match" AND ChecksumData = D4in_Con_Checksum_Data]/ send Cd_Initialisation_Request to P1inout;{WAITING_FOR_VERSION_CHECK - WAITING_FOR_INITIALISATION}	
Eu.Gen-SCI.107	Req	Msg_PDI_Version_Check[Result = "match" AND NOT (ChecksumData = D4in_Con_Checksum_Data)]/ d60out_PDI_Close_Reason := "PDI Checksum Mismatch"; send Cd_Close_PDI(ChecksumMismatch) to P1inout;{WAITING_FOR_VERSION_CHECK - IMPERMISSIBLE}	
Eu.Gen-SCI.108	Req	entry/D50out_PDI_Connection_State := "WAITING_FOR_VERSION_CHECK";{State-internal in WAITING_FOR_VERSION_CHECK}	
Eu.Gen-SCI.109	Info	Initial1	
Eu.Gen-SCI.110	Req	{Initial1 - ESTABLISHING}	
Eu.Gen-SCI.111	Req	Msg_Reset_PDI[ReportedResetReason = ProtocolError]/ d60out_PDI_Close_Reason := "Sec Protocol Error";{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.112	Req	Msg_Reset_PDI[ReportedResetReason = FormalTelegramError]/ d60out_PDI_Close_Reason := "Sec Formal Telegram Error";{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.113	Req	Msg_Reset_PDI[ReportedResetReason = ContentTelegramError]/ d60out_PDI_Close_Reason := "Sec Content Telegram Error";{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.114	Info	ESTABLISHED	
Eu.Gen-SCI.115	Req	entry/D50out_PDI_Connection_State := "ESTABLISHED"; send PDI_Connection_Established to p2inout;{State-internal in ESTABLISHED}	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.491	Req	exit/send PDI_Connection_Closed to p2inout;{State-internal in ESTABLISHED}	
Eu.Gen-SCI.116	Req	when(T20in_Protocol_Error)/ d60out_PDI_Close_Reason := "Prim Protocol Error"; send Cd_Close_PDI(ProtocolError) to P1inout;{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.117	Req	when(T21in_Formal_Telegram_Error)/ d60out_PDI_Close_Reason := "Prim Formal Telegram Error"; send Cd_Close_PDI(FormalTelegramError) to P1inout;{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.118	Req	when(T22in_Content_Telegram_Error)/ d60out_PDI_Close_Reason := "Prim Content Telegram Error"; send Cd_Close_PDI(ContentTelegramError) to P1inout;{ACTIVE - IMPERMISSIBLE}	
Eu.Gen-SCI.120	Req	when(T10in_SCP_Connection_Terminated)/{ACTIVE - REQUESTED_NO_SCP}	
Eu.Gen-SCI.130	Info	S_SCI_Adj_Sec	
Eu.Gen-SCI.131	Info	<p>[Block] S_SCI_Adj_Sec [Functional Viewpoint - Interface Requirements - Functional Entity]</p>	
Eu.Gen-SCI.132	Info	Mem_PDI_Version := D3in_Con_PDI_Version;	cOp1_init
Eu.Gen-SCI.134	Info	D3in_Con_PDI_Version	The port D3in_Con_PDI_Version provides the configured PDIVer.
Eu.Gen-SCI.135	Info	D4in_Con_Checksum_Data	The port D4in_Con_Checksum_Data provides the configured CSS.
Eu.Gen-SCI.194	Info	T5in_SCP_Connection_Established	The port T5in_SCP_Connection_Established represents the event of the established SCP connection.
Eu.Gen-SCI.195	Info	t25in_Prim_Status_Report_Complete	
Eu.Gen-SCI.187	Info	T10in_SCP_Connection_Terminated	The port T10in_SCP_Connection_Terminated represents the event of the terminated SCP connection.
Eu.Gen-SCI.188	Info	T11out_PDI_Connection_Established	The port T11out_PDI_Connection_Established represents the event of the established PDI connection.
Eu.Gen-SCI.189	Info	T17out_PDI_Connection_Closed	The port T17out_PDI_Connection_Closed represents the event of the closed PDI connection.
Eu.Gen-SCI.190	Info	T20in_Protocol_Error	The port T20in_Protocol_Error represents the event of a protocol error.
Eu.Gen-SCI.191	Info	T21in_Formal_Telegram_Error	The port T21in_Formal_Telegram_Error represents the event of a formal telegram error.
Eu.Gen-SCI.192	Info	T22in_Content_Telegram_Error	The port T22in_Content_Telegram_Error represents the event of a content telegram error.
Eu.Gen-SCI.193	Info	t27out_Check_Prim_Status	
Eu.Gen-SCI.136	Info	D50out_PDI_Connection_State	The port d50out_PDI_Connection_State provides the status of the PDI connection.
Eu.Gen-SCI.525	Info	d60_PDI_Close_Reason	
Eu.Gen-SCI.185	Info	P1inout	The port P1inout exchanges information objects according to PDI_GEN_ADJ.
Eu.Gen-SCI.186	Info	p2inout	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.137	Info	S_SCI_AdjS_Sec - Behaviour	
Eu.Gen-SCI.138	Info	<p>Functional Viewpoint - Interface Requirements - Functional Entity</p> <p>stm [State Machine] S_SCI_AdjS_Sec - Behaviour [Functional Viewpoint - Interface Requirements - Functional Entity]</p> <pre> stateDiagram-v2 [*] --> REQUESTED_NO_SCP : Initial0 /cOp1_init() REQUESTED_NO_SCP --> ACTIVE : when(T5in_SCP_Connection_Established) / ACTIVE --> REQUESTED_NO_SCP : when(T10in_SCP_Connection_Terminated) / ACTIVE --> ESTABLISHING : /send Establishing_PDI_Connection to p2inout; state ACTIVE { [*] --> ESTABLISHING : Initial1 state ESTABLISHING { [*] --> VERSION_UNEQUAL : Initial2 VERSION_UNEQUAL --> JUNCTION0 : [NOT (Mem_PDI_Version = D3in_Con_PDI_Version)] / send Msg_PDI_Version_Check ("not match", D4in_Con_Checksum_Data, D3in_Con_PDI_Version) to P1inout; JUNCTION0 --> READY_FOR_INITIALISATION : [Mem_PDI_Version = D3in_Con_PDI_Version] / send Msg_PDI_Version_Check ("match", D4in_Con_Checksum_Data, D3in_Con_PDI_Version) to P1inout; READY_FOR_INITIALISATION --> SENDING_SEC_STATUS : Cd_Initialisation_Request / send Msg_Start_Initialisation to P1inout; SENDING_SEC_STATUS --> RECEIVING_PRIM_STATUS : Sec_Status_Report_Completed / RECEIVING_PRIM_STATUS --> CHECKING_PRIM_STATUS : Msg_Status_Report_Completed / CHECKING_PRIM_STATUS --> ESTABLISHED : when(t25in_Prim_Status_Report_Complete) / send Msg_Initialisation_Completed to P1inout; } ESTABLISHED --> ACTIVE : Exit/send PDI_Connection_Closed to p2inout; } ACTIVE --> READY_FOR_PDI : Cd_Close_PDI[RequestedCloseReason = Timeout] / d60_PDI_Close_Reason := "PDI Timeout"; ACTIVE --> READY_FOR_PDI : Cd_Close_PDI[RequestedCloseReason = ChecksumMismatch] / d60_PDI_Close_Reason := "PDI Checksum Mismatch"; ACTIVE --> READY_FOR_PDI : Cd_Close_PDI[RequestedCloseReason = OtherVersionRequired] / d60_PDI_Close_Reason := "PDI Other Version Required"; ACTIVE --> READY_FOR_PDI : Cd_Close_PDI[RequestedCloseReason = ProtocolError] / d60_PDI_Close_Reason := "Prim Protocol Error"; ACTIVE --> READY_FOR_PDI : Cd_Close_PDI[RequestedCloseReason = FormalTelegramError] / d60_PDI_Close_Reason := "Prim Formal Telegram Error"; ACTIVE --> READY_FOR_PDI : Cd_Close_PDI[RequestedCloseReason = ContentTelegramError] / d60_PDI_Close_Reason := "Prim Content Telegram Error"; ACTIVE --> READY_FOR_PDI : Cd_PDI_Version_Check/Mem_PDI_Version := PDI_Version; ACTIVE --> READY_FOR_PDI : when(T22in_Content_Telegram_Error) / send Msg_Reset_PDI (ContentTelegramError) to P1inout; d60_PDI_Close_Reason := "Sec Content Telegram Error"; ACTIVE --> READY_FOR_PDI : when(T21in_Formal_Telegram_Error) / send Msg_Reset_PDI (FormalTelegramError) to P1inout; d60_PDI_Close_Reason := "Sec Formal Telegram Error"; ACTIVE --> READY_FOR_PDI : when(T20in_Protocol_Error) / send Msg_Reset_PDI (ProtocolError) to P1inout; d60_PDI_Close_Reason := "Sec Protocol Error"; READY_FOR_PDI --> REQUESTED_NO_SCP : when(T10in_SCP_Connection_Terminated) / </pre>	
Eu.Gen-SCI.139	Info	Initial0	
Eu.Gen-SCI.140	Req	/cOp1_init();{Initial0 - REQUESTED_NO_SCP}	
Eu.Gen-SCI.141	Info	REQUESTED_NO_SCP	
Eu.Gen-SCI.142	Req	entry/D50out_PDI_Connection_State := "REQUESTED_NO_SCP";{State-internal in REQUESTED_NO_SCP}	
Eu.Gen-SCI.143	Req	when(T5in_SCP_Connection_Established){REQUESTED_NO_SCP - READY_FOR_PDI}	
Eu.Gen-SCI.144	Info	ACTIVE	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.145	Req	Cd_Close_PDI[RequestedCloseReason = Timeout]/ d60_PDI_Close_Reason := "PDI Timeout";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.146	Info	ESTABLISHING	
Eu.Gen-SCI.147	Info	CHECKING_PRIM_STATUS	
Eu.Gen-SCI.148	Req	entry/D50out_PDI_Connection_State := "CHECKING_PRIM_STATUS"; t27out_Check_Prim_Status := TRUE;{State-internal in CHECKING_PRIM_STATUS}	
Eu.Gen-SCI.149	Req	when(t25in_Prim_Status_Report_Complete)/ send Msg_Initialisation_Completed to P1inout;{CHECKING_PRIM_STATUS - ESTABLISHED}	
Eu.Gen-SCI.150	Info	Initial2	
Eu.Gen-SCI.151	Req	/{Initial2 - Junction0}	
Eu.Gen-SCI.152	Info	Junction0	
Eu.Gen-SCI.153	Req	[NOT (Mem_PDI_Version = D3in_Con_PDI_Version)]/ send Msg_PDI_Version_Check("not match", D4in_Con_Checksum_Data, D3in_Con_PDI_Version) to P1inout;{Junction0 - VERSION_UNEQUAL}	
Eu.Gen-SCI.154	Req	[Mem_PDI_Version = D3in_Con_PDI_Version]/ send Msg_PDI_Version_Check("match", D4in_Con_Checksum_Data, D3in_Con_PDI_Version) to P1inout;{Junction0 - READY_FOR_INITIALISATION}	
Eu.Gen-SCI.161	Info	VERSION_UNEQUAL	
Eu.Gen-SCI.162	Req	entry/D50out_PDI_Connection_State := "VERSION_UNEQUAL";{State-internal in VERSION_UNEQUAL}	
Eu.Gen-SCI.163	Info	READY_FOR_INITIALISATION	
Eu.Gen-SCI.164	Req	Cd_Initialisation_Request/ send Msg_Start_Initialisation to P1inout;{READY_FOR_INITIALISATION - SENDING_SEC_STATUS}	
Eu.Gen-SCI.165	Req	entry/D50out_PDI_Connection_State := "READY_FOR_INITIALISATION";{State-internal in READY_FOR_INITIALISATION}	
Eu.Gen-SCI.166	Info	RECEIVING_PRIM_STATUS	
Eu.Gen-SCI.167	Req	Msg_Status_Report_Completed/{RECEIVING_PRIM_STATUS - CHECKING_PRIM_STATUS}	
Eu.Gen-SCI.168	Req	entry/D50out_PDI_Connection_State := "RECEIVING_PRIM_STATUS"; send Msg_Status_Report_Completed to P1inout;{State-internal in RECEIVING_PRIM_STATUS}	
Eu.Gen-SCI.169	Info	SENDING_SEC_STATUS	
Eu.Gen-SCI.170	Req	Sec_Status_Report_Completed/{SENDING_SEC_STATUS - RECEIVING_PRIM_STATUS}	
Eu.Gen-SCI.171	Req	entry/D50out_PDI_Connection_State := "SENDING_SEC_STATUS"; send Start_Sec_Status_Report to p2inout;{State-internal in SENDING_SEC_STATUS}	
Eu.Gen-SCI.172	Info	Initial1	
Eu.Gen-SCI.173	Req	/send Establishing_PDI_Connection to p2inout;{Initial1 - ESTABLISHING}	
Eu.Gen-SCI.174	Info	ESTABLISHED	
Eu.Gen-SCI.175	Req	entry/D50out_PDI_Connection_State := "ESTABLISHED"; send PDI_Connection_Established to p2inout;{State-internal in ESTABLISHED}	
Eu.Gen-SCI.176	Req	exit/send PDI_Connection_Closed to p2inout;{State-internal in ESTABLISHED}	
Eu.Gen-SCI.177	Req	when(T10in_SCP_Connection_Terminated)/{ACTIVE - REQUESTED_NO_SCP}	
Eu.Gen-SCI.178	Req	when(T20in_Protocol_Error)/ send Msg_Reset_PDI (ProtocolError) to P1inout; d60_PDI_Close_Reason := "Sec Protocol Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.179	Req	when(T21in_Formal_Telegram_Error)/ send Msg_Reset_PDI (FormalTelegramError) to P1inout; d60_PDI_Close_Reason := "Sec Formal Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.180	Req	when(T22in_Content_Telegram_Error)/ send Msg_Reset_PDI (ContentTelegramError) to P1inout; d60_PDI_Close_Reason := "Sec Content Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.492	Req	Cd_Close_PDI[RequestedCloseReason = ContentTelegramError]/ d60_PDI_Close_Reason := "Prim Content Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.493	Req	Cd_Close_PDI[RequestedCloseReason = FormalTelegramError]/ d60_PDI_Close_Reason := "Prim Formal Telegram Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.494	Req	Cd_Close_PDI[RequestedCloseReason = ProtocolError]/ d60_PDI_Close_Reason := "Prim Protocol Error";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.495	Req	Cd_Close_PDI[RequestedCloseReason = OtherVersionRequired]/ d60_PDI_Close_Reason := "PDI Other Version Required";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.496	Req	Cd_Close_PDI[RequestedCloseReason = ChecksumMismatch]/ d60_PDI_Close_Reason := "PDI Checksum Mismatch";{ACTIVE - READY_FOR_PDI}	
Eu.Gen-SCI.181	Info	READY_FOR_PDI	
Eu.Gen-SCI.182	Req	Cd_PDI_Version_Check/Mem_PDI_Version := PDI_Version;{READY_FOR_PDI - ACTIVE}	
Eu.Gen-SCI.183	Req	entry/D50out_PDI_Connection_State := "READY_FOR_PDI";{State-internal in READY_FOR_PDI}	
Eu.Gen-SCI.184	Req	when(T10in_SCP_Connection_Terminated)/{READY_FOR_PDI - REQUESTED_NO_SCP}	
Eu.Gen-SCI.497	Head	3.2.1.4 SCI-XX AdjS - General Infos and Assumptions	

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.426	Info	The termination or establishment of the SCP connection does not change the impermissibility of the PDI Connection to a specific EULYNX field element Subsystem.	
Eu.Gen-SCI.498	Info	When the impermissibility of the PDI connection is reset while the SCP connection is available, the PDI connection will be re-established.	
Eu.Gen-SCI.499	Info	When the impermissibility of the PDI connection is reset while no SCP connection is available, the PDI connection will be re-established when the SCP connection becomes available.	
Eu.Gen-SCI.500	Info	If the PDI connection is not disconnected nor impermissible, and no SCP connection is available, the primary communication partner re-establishes the SCP connection.	
Eu.Gen-SCI.425	Head	3.2.2 SCI-XX AdJS - Internal behaviour of Adjacent Systems	
Eu.Gen-SCI.427	Req	It shall be possible to reset the impermissibility of the PDI connection to the Subsystem - Electronic Interlocking by a trigger to the Adjacent system.	
Eu.Gen-SCI.428	Head	3.2.3 SCI-XX AdJS - Internal Information Flows	
Eu.Gen-SCI.429	Info	<p>[Package] Adjacent Systems - Internal Information Flows [Internal Interface Requirements - Direction of Information Objects]</p> <p>bdd [Package] Adjacent Systems - Internal Information Flows [Internal Interface Requirements - Direction of Information Objects]</p>  <pre> classDiagram class SCI_AdJS_Prim_Specific { <<interfaceBlock>> <<information flow>> +prov «signal» Start_Prim_Status_Report +reqd «signal» Prim_Status_Report_Completed +prov «signal» PDI_Connection_Closed +prov «signal» PDI_Connection_Established +prov «signal» Establishing_PDI_Connection } class SCI_AdJS_Sec_Specific { <<interfaceBlock>> <<information flow>> +prov «signal» Start_Sec_Status_Report +reqd «signal» Sec_Status_Report_Completed +prov «signal» PDI_Connection_Closed +prov «signal» PDI_Connection_Established +prov «signal» Establishing_PDI_Connection } </pre>	
Eu.Gen-SCI.463	Info	Establishing_PDI_Connection	
Eu.Gen-SCI.464	Info	PDI_Connection_Closed	
Eu.Gen-SCI.465	Info	PDI_Connection_Established	
Eu.Gen-SCI.466	Info	Prim_Status_Report_Completed	
Eu.Gen-SCI.467	Info	Sec_Status_Report_Completed	
Eu.Gen-SCI.468	Info	Start_Prim_Status_Report	
Eu.Gen-SCI.469	Info	Start_Sec_Status_Report	
Eu.Gen-SCI.412	Head	3.3 SCI-XX - Information Flows	
Eu.Gen-SCI.479	Info	Cd_Close_PDI	Command (Cd) from primary communication partner to secondary communication partner to close the PDI connection.
Eu.Gen-SCI.480	Info	Cd_Initialisation_Request	Command (Cd) from primary communication partner to secondary communication partner to transmit the status information of the secondary communication partner.
Eu.Gen-SCI.481	Info	Cd_PDI_Version_Check	Command (Cd) from primary communication partner to secondary communication partner to check the compatibility of parameter PDIVer.
Eu.Gen-SCI.482	Info	Cd_Release_PDI_for_Maintenance	Command (Cd) from primary communication partner to secondary communication partner to release the PDI connection for maintenance. This is only applicable to field element interfaces.
Eu.Gen-SCI.483	Info	Msg_Initialisation_Completed	Message (Msg) from secondary communication partner to primary communication partner that transmission of status information is complete.
Eu.Gen-SCI.484	Info	Msg_PDI_Available	Message (Msg) from secondary communication partner to primary communication partner that the PDI connection is available. This is only applicable to field element interfaces.
Eu.Gen-SCI.485	Info	Msg_PDI_Not_Available	Message (Msg) from secondary communication partner to primary communication partner that the PDI connection is not available. This is only applicable to field element interfaces.
Eu.Gen-SCI.486	Info	Msg_PDI_Version_Check	Message (Msg) from secondary communication partner to primary communication partner that the transmitted PDIVer is either equal or unequal. In case of equality the secondary communication partner additionally sends the configured value PDIVer and the newly calculated CSS. Otherwise, only the configured value PDIVer is sent.
Eu.Gen-SCI.487	Info	Msg_Reset_PDI	Message (Msg) from secondary communication partner to primary communication partner to inform about a detected communication error to reset the PDI connection.
Eu.Gen-SCI.488	Info	Msg_Start_Initialisation	Message (Msg) from secondary communication partner to primary communication partner that transmission of status information will start.

ID	Type	Requirement Part 1	Requirement Part 2
Eu.Gen-SCI.489	Info	Msg_Status_Report_Completed	Message (Msg) from secondary communication partner to primary communication partner that status message transmission of one partner is completed. This is only applicable to adjacent system interfaces.