



EULYNX Initiative

Requirements specification for SCI-CC

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Contents

1	Introduction	1
1.1	Release Information	1
1.2	Impressum	1
1.3	Purpose	1
1.4	Applicable standards and regulations	1
1.5	Applicable documents	1
1.6	Terms and abbreviations	1
1.7	Variability Management	1
1.8	Definition of object types	2
1.9	Modelling	2
2	Conditions of use	2
3	Functional requirements specification	2
3.1	SCI-CC - Logical Viewpoint	2
3.1.1	SCI-CC - Logical Context	2
3.2	SCI-CC - Information Flows	2
3.2.1	Priority commands	4
3.2.2	Route functions	4
3.2.3	Generic element functions	4
3.2.4	Signal functions	5
3.2.5	Other element functions	5
3.2.6	Area functions	7
3.2.7	Operational train related functions	7
3.2.8	ERTMS train related functions	8
3.2.9	TSR Functions	8
3.2.10	Command handling functions	8
3.2.11	Safe screen functions	9
3.2.12	Status updates functions	9
3.2.13	Remote control functions	9
3.2.14	Auxiliary generic functions	10
3.3	SCI-CC - Functional Viewpoint	10
3.3.1	SCI-CC - Functional Context	10

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1	Head	1 Introduction		Default
Eu.CC.889	Head	1.1 Release Information		Default
Eu.CC.903	Info	[Eu.Doc.49] Requirements specification for SCI-CC CENELEC Phase: 4 Version: 4.2 (1.A) Approval date:		Default
Eu.CC.904	Info	Version history		Default
Eu.CC.1940	Info	version number: 4.0 (0.A) date: 16.05.2022 author: Dominik Smajgl, Filip Giering model version: 18 Generic interface and subsystem requirements for SCI version: 1.0 (0.A) review: CCB changes: EUCC-225, EUCC-226, EUCC-227, EUCC-228, EUCC-229, EUCC-230, EUCC-231, EUCC-238, EUCC-239		Default
Eu.CC.2079	Info	version number: 4.1 (0.A) date: 16.03.2023 author: Dominik Smajgl, Filip Giering, Philipp Wolber model version: 21 Generic interface and subsystem requirements for SCI version: 1.0 (0.A) review: - changes: EUCC-240, EUCC-242, EUCC-243, EUCC-246, EUCC-247, EUCC-248, EUCC-250, EUCC-251, EUCC-253, EUCC-255, EUCC-260		Default
Eu.CC.2085	Info	version number: 4.2 (0.A) date: 26.06.2023 author: Dominik Smajgl, Filip Giering model version: 22 Generic interface and subsystem requirements version: 4.0 (3.A) Generic interface and subsystem requirements for SCI version: 1.0 (3.A) review: CCB changes: EUCC-261, EUCC-262, EUCC-263, EUCC-265, EUCC-267, EUCC-269		Default
Eu.CC.2086	Info	version number: 4.2 (1.A) date: 15.12.2023 author: Dominik Smajgl, Filip Giering model version: 25 Generic interface and subsystem requirements for SCI version: 1.0 (4.A) review: M&T changes: EUCC-272, EUCC-273, EUCC-274, EUCC-275, EUCC-276		Default
Eu.CC.890	Head	1.2 Impressum		Default
Eu.CC.906	Info	Publisher: EULYNX Initiative A full list of the EULYNX Partners can be found on www.eulynx.eu/index.php/members .		Default
Eu.CC.907	Info	Responsible for this document: EULYNX Project Management Office www.eulynx.eu		Default
Eu.CC.908	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.		Default
Eu.CC.891	Head	1.3 Purpose		Default
Eu.CC.909	Info	The purpose of this document is the specification of functional requirements for the interface SCI-CC for the developoment of the EULYNX System.		Default
Eu.CC.910	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		Default
Eu.CC.911	Info	This document is the basis for the implementation by the supplier and for approval by the infrastructure manager.		Default
Eu.CC.892	Head	1.4 Applicable standards and regulations		Default
Eu.CC.912	Info	The applicable standards and regulations used in EULYNX are listed in the EULYNX Reference Document List [Eu.Doc.12].		Default
Eu.CC.893	Head	1.5 Applicable documents		Default
Eu.CC.913	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].		Default
Eu.CC.895	Head	1.6 Terms and abbreviations		Default
Eu.CC.915	Info	The terms and abbreviations are listed in the EULYNX Glossary [Eu.Doc.9].		Default
Eu.CC.897	Head	1.7 Variability Management		Default
Eu.CC.919	Info	The applicability column (Appl.) indicates the applicability of the requirement or information object per EULYNX partner. The value "Default" means the object applies to all EULYNX partners. The value "IM code" means the object applies specifically to the stated EULYNX partner. IM codes follow the pattern "abcdyz", where abcd is the UIC numeric code for railway companies and yz is by default "00".		Default

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.898	Head	1.8 Definition of object types		Default
Eu.CC.920	Info	The following definition for object types is applied in this document:		Default
Eu.CC.921	Info	<ul style="list-style-type: none">"Req" - This denotes a mandatory requirement.		Default
Eu.CC.2088	Info	<ul style="list-style-type: none">"Def" - This denotes referenceable model elements that are used in the model-based creation of requirements		Default
Eu.CC.922	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.		Default
Eu.CC.923	Info	<ul style="list-style-type: none">"Head" - This denotes chapter headings.		Default
Eu.CC.896	Head	1.9 Modelling		Default
Eu.CC.916	Info	The section "Functional requirements specification" follows a model based systems engineering process using Systems Modelling Language (SysML) and defines the information objects (stimuli and responses) exchanged over the SCI-CC interface.		Default
Eu.CC.918	Info	The diagrams presented in this document are modelled in SysML [SysML].		Default
Eu.CC.1417	Info	The rules for the interpretation of the model based parts of specification are defined in [Eu.Doc.29].		Default
Eu.CC.1418	Info	In chapter 3 "Functional requirements specification" 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.		Default
Eu.CC.1419	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.		Default
Eu.CC.1420	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".		Default
Eu.CC.1421	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".		Default
Eu.CC.2087	Info	State machines or several state machines linked together in a Functional Architecture define the totality of all functional requirements of an SUS or an SIUS in a coherent and consistent manner. State diagrams of a corresponding state machine are marked with the object type "Req". For the later design and implementation, it is not the description language SysML that is binding, but the domain-specific meaning expressed by it. The specified behavior can be converted into a vendor specific language but must retain the domain specific meaning describing the functional requirements. The specific model elements are additionally specified and defined by object type "Def" to allow for traceability to supplier designs or test cases. The compliance of products to the specifications must be demonstrated by testing against EULYNX test cases, which are derived from the functionality specified by the models.		Default
Eu.CC.3	Head	2 Conditions of use		Default
Eu.CC.4	Info	The specifications defined in this document shall follow the requirements of the EULYNX System Architecture Specification [Eu.Doc.16].		Default
Eu.CC.1537	Req	The specifications defined in this document shall be complemented by the generic requirements specified in Generic interface and subsystem requirements for SCI [Eu.Doc.119].		Default
Eu.CC.1629	Req	All references to Eu.Doc.119 refer to version 1.0 (4.A) of that document.		Default
Eu.CC.1568	Info	SCI-CC is applied to connect the Traffic Control System to the Subsystem - Electronic interlocking. SCI-CC can also be applied for connecting the Traffic Control System directly to the following adjacent systems: <ul style="list-style-type: none">the Radio Block Centrethe Centralised ETCS L1 Controller SCI-CC can also be applied for connecting the Trackworker Safety System directly to the following adjacent systems: <ul style="list-style-type: none">the Radio Block Centre In such case the functional apportionment must be completed from the perspective of the adjacent system, similar to the functional apportionment between the EULYNX System and the Traffic Control System.		Default
Eu.CC.1631	Info	SCI-CC is applied to connect the Traffic Control System or the Trackworker Safety System to the Subsystem - Electronic interlocking. The functional scope of SCI-CC depends on the type of adjacent system (Traffic Control System or the Trackworker Safety System) connected to the EULYNX System via SCI-CC. The functional scope and related use cases and information flows are defined by national specifications and are reflected in the marking of IM applicability. Note: Wherever this specification mentions the actor 'Traffic Control System', this may be interpreted as referring to the actor 'Trackworker Safety System'.		Default
Eu.CC.768	Head	3 Functional requirements specification		Default
Eu.CC.770	Head	3.1 SCI-CC - Logical Viewpoint		Default
Eu.CC.2075	Head	3.1.1 SCI-CC - Logical Context		Default
Eu.CC.786	Def	[Package] SCI-CC - Logical Context [Logical Viewpoint - Interface Definition - Logical Context] <pre>graph LR subgraph "«logical structural entity» SCI-CC" direction TB subgraph "EULYNX System::Subsystem Electronic Interlocking" direction TB subgraph "«logical structural entity» Subsystem Electronic Interlocking" direction TB SCI-CC1[1 SCI-CC] end end subgraph "EULYNX System::Adjacent Systems and System Actors" direction TB subgraph "«environmental structural entity» Traffic Control System" direction TB SCI-CC2[1 SCI-CC] end end SCI-CC1 -- SCI-CC --> SCI-CC2 end</pre>	The SCI-CC shall provide the technical interfaces shown in the [Package] SCI-CC - Logical Context [Logical Viewpoint - Interface Definition - Logical Context]. Each interface shall allow the connection to the corresponding actors shown in the quantities defined in the multiplicities.	Default
Eu.CC.1652	Head	3.2 SCI-CC - Information Flows		Default

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1653	Def	<div><div>[Package] SCI-CC - Information Flows [Interface Requirements - Directions Of Exchanged Information Objects]</div><div><div><div><div>«information flow» SCI_CC_Area</div><div>reqd «signal» Cd_Manage_A_By-pass_Area reqd «signal» Cd_Manage_A_Local_Shunting_Area reqd «signal» Cd_Manage_A_Working_Area reqd «signal» Cd_Manage_An_Emergency_Stop_Area reqd «signal» Cd_Manage_An_Overhead_Line (OHL)_Groupset reqd «signal» Cd_Manage_Automatic_Route_Setting_For_An_Area prov «signal» Msg_Automatic_Route_Setting_Area_Status prov «signal» Msg_By-pass_Area_Status prov «signal» Msg_Emergency_Stop_Area_Status prov «signal» Msg_Emergency_Stop_Message_Response prov «signal» Msg_Local_Shunting_Area_Status prov «signal» Msg_Request_Luminosity_Change prov «signal» Msg_Signal_Area_Status prov «signal» Msg_Signal_Luminosity_Group_Status prov «signal» Msg_Working_Area_Status</div></div><div><div>«information flow» SCI_CC_Auxiliary_Generic</div><div>reqd «signal» Cd_Release_For_Normal_Operation reqd «signal» Cd_Reset_The_Release_Safety_Command reqd «signal» Cd_Set_Interlocking_Time_and_Date</div></div><div><div>«information flow» SCI_CC_Command_Handling</div><div>reqd «signal» Cd_Abort_Command reqd «signal» Cd_Confirmation_Of_A_Command_With_Safety_Codes prov «signal» Msg_Command_Accepted prov «signal» Msg_Command_Rejected prov «signal» Msg_Request_Confirmation_Of_Command prov «signal» Msg_Request_Confirmation_Of_Command_With_Safety_Codes</div></div><div><div>«information flow» SCI_CC_ERTMS</div><div>reqd «signal» Cd_Operational_Reversing reqd «signal» Cd_Release_Movement_Authority reqd «signal» Cd_Remove_Emergency_Stop_For_The_Train reqd «signal» Cd_Enter_Event_Text prov «signal» Msg_Train_Data_Report prov «signal» Msg_Train_Position_Speed_And_Status_Report prov «signal» Msg_Train_Request</div></div><div><div>«information flow» SCI_CC_Operational_Train</div><div>reqd «signal» Cd_Manual_Deletion_Of_Train_Data reqd «signal» Cd_Update_Train_Running_Number prov «signal» Msg_Train_Definition_Deleted</div></div></div><div><div><div>«information flow» SCI_CC_Generic_Element</div><div>reqd «signal» Cd_Acknowledge_Alarm_Or_Alert reqd «signal» Cd_Apply_EC_Route_Blocking reqd «signal» Cd_Cancel_Residual_Route reqd «signal» Cd_Display_All_Reminders_And_Blocking_Set_On_A_Route_Element_Or_On_A_Route reqd «signal» Cd_Remove_EC_Route_Blocking reqd «signal» Cd_Manage_field_element_PDI_connection prov «signal» Msg_EC_Blocking_Text prov «signal» Msg_Raise_Alarm_Or_Alert_Or_Event prov «signal» Msg_Released_Status prov «signal» Msg_Field_element_PDI_connection_status</div></div><div><div>«information flow» SCI_CC_TSR</div><div>reqd «signal» Cd_Define_A_Temporary_Speed_Restriction reqd «signal» Cd_Manage_A_Temporary_Speed_Restriction reqd «signal» Cd_Status_Request_For_All_TSR_Within_A_Defined_Area reqd «signal» Cd_Update_A_Temporary_Speed_Restriction prov «signal» Msg_Request_To_Activate_TSR prov «signal» Msg_TSR_Status_Report</div></div></div><div><div><div>«information flow» SCI_CC_Other_Element</div><div>reqd «signal» Cd_Manage_A_Level_Crossing reqd «signal» Cd_Manage_A_Line_Block_Between_Signalling_Areas reqd «signal» Cd_Manage_A_Point_Heater reqd «signal» Cd_Manage_A_Powered_Moveable_Element reqd «signal» Cd_Manage_A_Static_Lockable_Device reqd «signal» Cd_Manage_A_Track_Section reqd «signal» Cd_Manage_A_TVP_Section reqd «signal» Cd_Manage_An_Auxiliary_Object reqd «signal» Cd_Operate_A_Level_Crossing reqd «signal» Cd_Operate_A_Moveable_Lockable_Device reqd «signal» Cd_Operate_A_Powered_Moveable_Element reqd «signal» Cd_Set_Predefined_Obstruction prov «signal» Cd_Generic_Latches_/ _Bit_States prov «signal» Msg_Auxiliary_Object_Status prov «signal» Msg_Diamond_Crossing_Status prov «signal» Msg_Generic_Latches_/ _Bit_States prov «signal» Msg_Indicator_Status prov «signal» Msg_Level_Crossing_Status prov «signal» Msg_Line_Block_Status prov «signal» Msg_Moveable_Lockable_Device_Status prov «signal» Msg_Point_Heater_Status prov «signal» Msg_Powered_Moveable_Element_Status prov «signal» Msg_Predefined_Obstruction_Status prov «signal» Msg_Static_Lockable_Device_Status prov «signal» Msg_Track_Section_Status prov «signal» Msg_TVP_Section_Status</div></div><div><div>«information flow» SCI_CC_Status_Updates</div><div>reqd «signal» Cd_Request_Update_Of_All_Statuses reqd «signal» Cd_Update_The_Disturbance_And_Fault_Reports prov «signal» Msg_Update_Of_All_Statuses_Completed prov «signal» Msg_Update_Of_All_Statuses_Started prov «signal» Msg_Update_The_Disturbance_And_Fault_Reports_Completed prov «signal» Msg_Update_The_Disturbance_And_Fault_Reports_Started</div></div><div><div>«information flow» SCI_CC_Remote_Control</div><div>reqd «signal» Cd_Manage_Local_Or_Remote_Control prov «signal» Msg_Local_Or_Remote_Control</div></div><div><div>«information flow» SCI_CC_Priority_Commands</div><div>reqd «signal» Cd_Barrier_Stop reqd «signal» Cd_Set_A_Signal / Signalling_Point / Area_To_Stop_Aspect reqd «signal» Cd_Unconditional_Emergency_Stop_For_A_Train</div></div><div><div>«information flow» SCI_CC_Safe_Screen</div><div>«signal» Cd_Abort_Safe_Screen «signal» Cd_Failed_Safe_Screen «signal» Cd_Safe_Screen_Update_Checksum (Encrypted) «signal» Cd_Safe_Screen_Update_Checksum (Unencrypted) «signal» Msg_Failed_Safe_Screen «signal» Msg_Safe_Screen_Update_Process_Completed «signal» Msg_Safe_Screen_Update_Process_Initiated</div></div><div><div>«information flow» SCI_CC_Signal</div><div>reqd «signal» Cd_Manage_A_Signal / _Signalling_Point / _Area reqd «signal» Cd_Manage_Overrun_Detection prov «signal» Msg_Overrun_Alarm prov «signal» Msg_Signal_Status</div></div><div><div>«information flow» SCI_CC_Route</div><div>reqd «signal» Cd_Authorise_SH_Mode_For_Train reqd «signal» Cd_Cancel_A_Route reqd «signal» Cd_Cancel_Or_Extend_An_Overlap reqd «signal» Cd_Set_A_Route reqd «signal» Cd_Cancel_Route_With_Co-operative_Shortening_Of_Movement_Authority reqd «signal» Cd_Apply_TW_Safe_Sys_Protec prov «signal» Msg_Co-operative_Shortening_Status prov «signal» Msg_Route_Status prov «signal» Msg_Sub-Route_Status</div></div></div></div></div>		Default

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1942	Info	The generic commands and messages through the SCI-CC are specified in [Eu.Doc.119].		Default
Eu.CC.2024	Head	3.2.1 Priority commands		Default
Eu.CC.2026	Def	Cd_Barrier_Stop	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking instructing level crossing barriers to stop moving.	007000
Eu.CC.2027	Def	Cd_Set_A_Signal/_Signalling_Point/_Area_To_Stop_Aspect	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to set a signal, signalling point, area or level crossing protecting signals to stop aspect.	Default
Eu.CC.2028	Def	Cd_Unconditional_Emergency_Stop_For_A_Train	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to send an unconditional emergency stop message to a train.	007000 007600
Eu.CC.2033	Head	3.2.2 Route functions		Default
Eu.CC.2035	Def	Cd_Apply_TW_Safe_Sys_Protec	Command (Cd) from the Traffic Control System to Subsystem - Electronic Interlocking to apply a Trackworker Safety System Protection.	007001
Eu.CC.2037	Def	Cd_Cancel_A_Route	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request a route be cancelled.	007000 007600 007900 310900
Eu.CC.2038	Def	Cd_Cancel_Or_Extend_An_Overlap	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request that an overlap be cancelled or extended.	007000 007600 310900
Eu.CC.2039	Def	Cd_Cancel_Route_With_Co-operative_Shortening_Of_Movement_Authority	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to cancel a route with co-operative shortening of the movement authority.	007000
Eu.CC.2040	Def	Cd_Set_A_Route	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request a route be set. Parameters include the route ID, route type, flank and overlap information.	007000 007600 007900 310900
Eu.CC.2041	Def	Msg_Co-operative_Shortening_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of co-operative shortening for a given train and route. Parameters include state of the process (such as ongoing, accepted, rejected, cancelled).	007000 007600
Eu.CC.2042	Def	Msg_Route_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given route. Parameters include the route type, route state (e.g. locked), overlap state and cancellation/release state.	007000 007001 007900 008700 310900
Eu.CC.2043	Def	Msg_Sub-Route_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given sub-route or sub-overlap. Parameters include whether locked or not locked.	007000 007900
Eu.CC.1982	Head	3.2.3 Generic element functions		Default
Eu.CC.1984	Def	Cd_Acknowledge_Alarm_Or_Alert	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to acknowledge a previously raised alarm or alert.	007000 007600 007900 310900
Eu.CC.1985	Def	Cd_Apply_EC_Route_Blocking	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to apply an EC type of route blocking to a given element. Parameters include the specific type of EC route blocking to apply and a text string related to its application (containing for example an operational reason).	999900
Eu.CC.1986	Def	Cd_Cancel_Residual_Route	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request a residual route be cancelled.	007600 007900 310900
Eu.CC.1987	Def	Cd_Display_All_Reminders_And_Blocking_Set_On_A_Route_Element_Or_On_A_Route	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request an update of all reminders and blocking set on a given route element or route.	007000 007900 310900
Eu.CC.1988	Def	Cd_Remove_EC_Route_Blocking	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to remove an EC type of route blocking that has previously been applied to a given element. Parameters include the specific type of EC route blocking to remove from the element.	999900

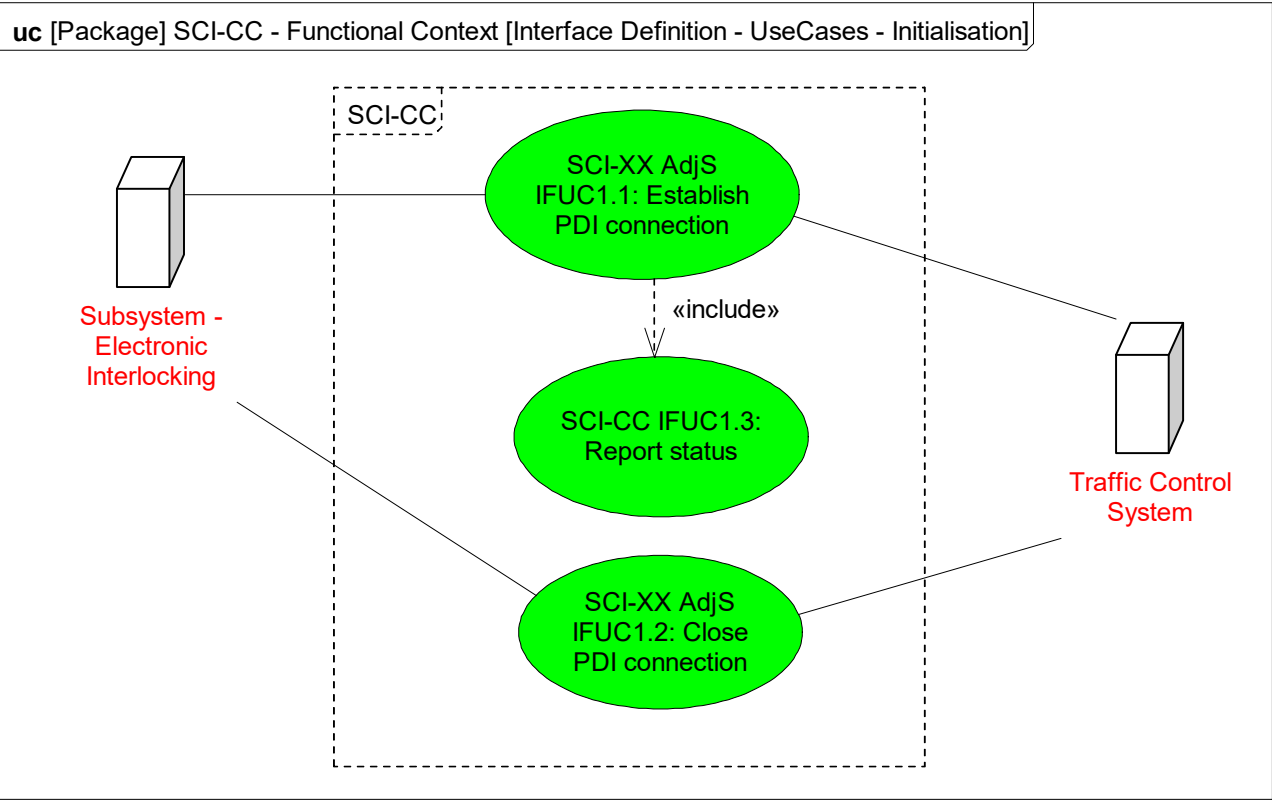
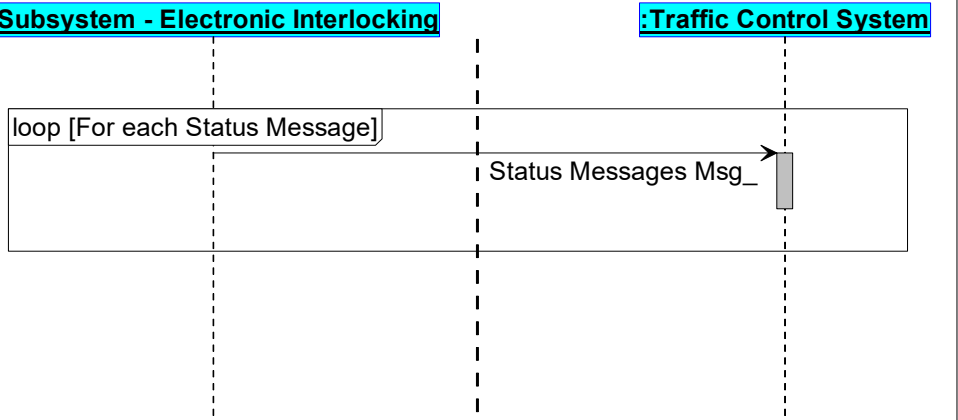
ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.2082	Def	Cd_Manage_field_element_PDI_connection	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a field element PDI connection.	007000 007001 007900 310900
Eu.CC.1989	Def	Msg_EC_Blocking_Text	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the text related to an EC type of route blocking where that route blocking has been applied to an element.	999900
Eu.CC.1990	Def	Msg_Raise_Alarm_Or_Alert_Or_Event	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with details of an alarm or alert. Parameters include a fault code.	007000 007001 007600 007900 310900
Eu.CC.1991	Def	Msg_Released_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing about the status of release for normal operation.	007600
Eu.CC.2083	Def	Msg_Field_element_PDI_connection_status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing about the status of the field element PDI connection.	007000 007001 007900 310900
Eu.CC.2053	Info	3.2.4 Signal functions		Default
Eu.CC.2055	Def	Cd_Manage_A_Signal/_Signalling_Point/_Area	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a signal, signalling point or area. Parameters include the ability to apply or remove blocking and to set modes such as automatic operation.	007000 007600 007900 310900
Eu.CC.2056	Def	Cd_Manage_Overrun_Detection	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage overrun protection for a given signal, signalling point or area. Parameters include the ability to apply or remove inhibits.	007000
Eu.CC.2057	Def	Msg_Overrun_Alarm	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing that an overrun has been detected at a signal. Parameters include the affected signal and TVP identities.	007000
Eu.CC.2058	Def	Msg_Signal_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given signal. Parameters include the aspect, mode, route type, route state (e.g. locked), overlap and blocking states.	Default
Eu.CC.1997	Head	3.2.5 Other element functions		Default
Eu.CC.1999	Def	Cd_Manage_A_Level_Crossing	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a level crossing and associated equipment such as CCTV and lighting. Parameters include the ability to enable or disable functions and set the mode.	007000 310900
Eu.CC.2000	Def	Cd_Manage_A_Line_Block_Between_Signalling_Areas	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a line block between signalling areas. Parameters include the ability to apply or remove blocking, to set direction and to enable or disable.	007600 007900 310900
Eu.CC.2001	Def	Cd_Manage_A_Point_Heater	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a point heater. Parameters include the power level.	007000 310900
Eu.CC.2002	Def	Cd_Manage_A_Powered_Moveable_Element	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a powered moveable element. Parameters include the ability to apply or remove blocking and to set certain associated states.	007000 007600 007900 310900
Eu.CC.2003	Def	Cd_Manage_A_Static_Lockable_Device	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a lockable device. Parameters include the ability to apply or remove blocking and to release or cancel the release.	007000 007600 007900 310900
Eu.CC.2004	Def	Cd_Manage_A_Track_Section	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking to manage a track section.	007600 310900
Eu.CC.2005	Def	Cd_Manage_A_TVP_Section	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a TVP section. Parameters include the ability to apply or remove blocking/reminders and to Force Clear an occupied section.	007000 007600 007900 310900

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.2006	Def	Cd_Manage_An_Auxiliary_Object	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage an auxiliary object. Parameters include the required mode.	007600 310900
Eu.CC.2007	Def	Cd_Operate_A_Level_Crossing	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to operate a level crossing. Parameters include the ability to apply or remove blocking and to request activation or deactivation.	007000 007600 007900 310900
Eu.CC.2008	Def	Cd_Operate_A_Moveable_Lockable_Device	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a moveable lockable device. Parameters include the required position.	007600 310900
Eu.CC.2009	Def	Cd_Operate_A_Powered_Moveable_Element	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to operate a powered moveable element. Parameters include the direction of movement.	007000 007600 007900 310900
Eu.CC.2010	Def	Cd_Set_Predefined_Obstruction	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking to set a predefined Obstruction.	007000
Eu.CC.2084	Def	Cd_Generic_Latches/_Bit_States	Command (Cd) from Traffic Control System to the Subsystem - Electronic Interlocking with the states of a generic latch for Solid State Interlocking (SSI). Parameters includes whether the latch is set or unset.	007000 310900
Eu.CC.2011	Def	Msg_Auxiliary_Object_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given auxiliary object. Parameters include the state of the detected positions and modes of the auxiliary object.	007600
Eu.CC.2012	Def	Msg_Diamond_Crossing_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given diamond crossing. Parameters include the direction and associated route and flank information.	007900 310900
Eu.CC.2013	Def	Msg_Generic_Latches/_Bit_States	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a generic latch for Solid State Interlocking (SSI). Parameters includes whether the latch is set or unset.	007000 310900
Eu.CC.2014	Def	Msg_Indicator_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given indicator. Parameters include the whether the indicator is on, off or other related states.	007000 007900
Eu.CC.2015	Def	Msg_Level_Crossing_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given level crossing. Parameters include blocking status, mode, barrier position, activation status, protection status and status of associated equipment such as road lights and power supplies.	007000 007600 007900 310900
Eu.CC.2016	Def	Msg_Line_Block_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a line block. Parameters include locking, direction and blocking states.	007600 007900 310900
Eu.CC.2017	Def	Msg_Moveable_Lockable_Device_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given moveable lockable device. Parameters include blocking status and whether the device is locked or released and contains requests from the lockable device (such as a request to release).	007600 310900
Eu.CC.2018	Def	Msg_Point_Heater_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given point heater. Parameters include the power level.	007000 310900
Eu.CC.2019	Def	Msg_Powered_Moveable_Element_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given powered moveable element. Parameters include the commanded and detected position, blocking status, flank and foul information.	Default
Eu.CC.2020	Def	Msg_Predefined_Obstruction_Status	Message (Msg) from Subsystem - Electronic Interlocking to Traffic Control System informing that the status of an Obstruction.	007000
Eu.CC.2021	Def	Msg_Static_Lockable_Device_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the static status of a given lockable device. Parameters include blocking status and whether the device is locked or released and contains requests from the lockable device (such as a request to release).	007000 007600 007900 310900
Eu.CC.2022	Def	Msg_Track_Section_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given track section (without TVP). Parameters include the blocking status, flank and fragmentation information.	007000 007600 310900

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.2023	Def	Msg_TVP_Section_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given TVP section. Parameters include the occupancy status, blocking status, state of any associated restrictions or reminders, state of any associated Force Clear process and information about routes using the TVP.	007000 007001 007600 007900 008700 310900
Eu.CC.1943	Head	3.2.6 Area functions		Default
Eu.CC.1945	Def	Cd_Manage_A_By-pass_Area	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a by-pass area. Parameters include the ability to apply or remove blocking and to activate or deactivate the by-pass area.	007000 007600 007900 310900
Eu.CC.1946	Def	Cd_Manage_A_Local_Shunting_Area	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a local shunting area. Parameters include the ability to enable or disable the local shunting area.	007000 007600 007900 310900
Eu.CC.1947	Def	Cd_Manage_A_Working_Area	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a working area. Parameters include the ability to lock or unlock, secure or unsecure the working area and to permit shunt mode within the area.	007600 008700
Eu.CC.1948	Def	Cd_Manage_An_Emergency_Stop_Area	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage an emergency stop area. Parameters include the ability to activate or deactivate the emergency stop area.	007000 007600
Eu.CC.1949	Def	Cd_Manage_An_Overhead_Line_(OHL)_Groupset	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage an overhead line group. Parameters include the ability to set or remove an access restriction.	999900
Eu.CC.1950	Def	Cd_Manage_Automatic_Route_Setting_For_An_Area	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage automatic route setting for a given area. Parameters include the ability to apply or remove blocking and for both manual and system requests to enable and disable.	007000 007900 310900
Eu.CC.1951	Def	Msg_Automatic_Route_Setting_Area_Status	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage automatic route setting for a given area. Parameters include the ability to apply or remove blocking and for both manual and system requests to enable and disable.	007000 007900 310900
Eu.CC.1952	Def	Msg_By-pass_Area_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given by-pass area.	007000 007600 007900 310900
Eu.CC.1953	Def	Msg_Emergency_Stop_Area_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given emergency stop area. Parameters include whether the emergency stop area is activated or deactivated.	007000 007600
Eu.CC.1954	Def	Msg_Emergency_Stop_Message_Response	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the response of a train to an emergency stop area (such as acknowledged or not acknowledged).	007600
Eu.CC.1955	Def	Msg_Local_Shunting_Area_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a local shunting area. Parameters include blocking states, enabled/disabled and initiated/not-initiated.	007000 007600 007900 310900
Eu.CC.1956	Def	Msg_Request_Luminosity_Change	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System to request a change in the luminosity level within a given area. Parameters include the intensity level required (e.g. day-to-night or night-to-day).	007900
Eu.CC.1957	Def	Msg_Signal_Area_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given signal area. Parameters include the auto status.	007900 310900
Eu.CC.1958	Def	Msg_Signal_Luminosity_Group_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a given signal group. Parameters include the mode and lamp intensity setting.	007900 310900
Eu.CC.1959	Def	Msg_Working_Area_Status	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the status of a working area. Parameters include whether the working area is enabled or activated and whether shunt mode is permitted within it.	007600 008700
Eu.CC.1992	Head	3.2.7 Operational train related functions		Default
Eu.CC.1994	Def	Cd_Manual_Deletion_Of_Train_Data	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to delete the data associated with a train.	007600

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1995	Def	Cd_Update_Train_Running_Number	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to update a train running number.	007000
Eu.CC.1996	Def	Msg_Train_Definition_Deleted	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with confirmation that the train data held for a given train has been deleted.	007000 007600
Eu.CC.1974	Head	3.2.8 ERTMS train related functions		Default
Eu.CC.1976	Def	Cd_Operational_Reversing	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to permit reversing for a given train.	007000 007600
Eu.CC.1977	Def	Cd_Release_Movement_Authority	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking to release a Movement Authority.	007000
Eu.CC.1978	Def	Cd_Remove_Emergency_Stop_For_The_Train	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to remove a previously applied emergency status for a train.	007000 007600
Eu.CC.1962	Def	Cd_Enter_Event_Text	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to send a text string associated with an event for recording.	007600 007900
Eu.CC.2036	Def	Cd_Authorise_SH_Mode_For_Train	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to authorise shunt mode for a train.	007000 007600
Eu.CC.1979	Def	Msg_Train_Data_Report	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the data for a given train.	007000 007600
Eu.CC.1980	Def	Msg_Train_Position_Speed_And_Status_Report	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the position, speed and status of a given train.	007000 007001 007600 008700
Eu.CC.1981	Def	Msg_Train_Request	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with a request from a train, such as a request to start a mission or enter shunt mode.	007000 007600
Eu.CC.2067	Head	3.2.9 TSR Functions		Default
Eu.CC.2069	Def	Cd_Define_A_Temporary_Speed_Restriction	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to define a temporary speed restriction. Includes the ability to define the relevant parameters relating to the TSR (such as start point, end point, speed and applicable train data).	007000 007600 310900
Eu.CC.2070	Def	Cd_Manage_A_Temporary_Speed_Restriction	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage a temporary speed restriction. Includes the ability to activate, deactivate or delete a pre-defined TSR.	007000 007600 310900
Eu.CC.2071	Def	Cd_Status_Request_For_All_TSR_Within_A_Defined_Area	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request a status report of all temporary speeds restrictions within a given area.	007000 310900
Eu.CC.2072	Def	Cd_Update_A_Temporary_Speed_Restriction	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to update a temporary speed restriction. Includes the ability to define the relevant parameters relating to the TSR (such as start point, end point, speed and applicable train data).	310900
Eu.CC.2073	Def	Msg_Request_To_Activate_TSR	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with a request to activate a defined temporary speed restriction.	310900
Eu.CC.2074	Def	Msg_TSR_Status_Report	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the parameters of a defined temporary speed restriction.	007000 007600 310900
Eu.CC.1966	Head	3.2.10 Command handling functions		Default
Eu.CC.1968	Def	Cd_Abort_Command	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking to abort a command.	007000 007600 007900 310900
Eu.CC.1969	Def	Cd_Confirmation_Of_A_Command_With_Safety_Codes	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking to confirm a command with safety codes.	007600
Eu.CC.1970	Def	Msg_Command_Accepted	Message (Msg) from the Subsystem - Electronic Interlocking to the Traffic Control System to confirm the acceptance of a 'safe' command.	007600

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1971	Def	Msg_Command_Rejected	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing that a previously received command has been rejected. Parameters include a reason.	007000 007600 007900 008700 310900
Eu.CC.1972	Def	Msg_Request_Confirmation_Of_Command	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System to request that confirmation is sent for a previously received command.	007000 007900 310900
Eu.CC.1973	Def	Msg_Request_Confirmation_Of_Command_With_Safety_Codes	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System to request that the full content of a previously received command is confirmed. Parameters include the full content of the command previously received from the Traffic Control System.	007600
Eu.CC.2044	Head	3.2.11 Safe screen functions		Default
Eu.CC.2046	Def	Cd_Abort_Safe_Screen	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking aborting the 'safe' screen update process.	999900
Eu.CC.2047	Def	Cd_Failed_Safe_Screen	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking informing that the 'safe' screen update process has failed.	999900
Eu.CC.2048	Def	Cd_Safe_Screen_Update_Checksum (Encrypted)	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking containing the encrypted checksum for the safe screen update process.	999900
Eu.CC.2049	Def	Cd_Safe_Screen_Update_Checksum (Unencrypted)	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking containing the unencrypted checksum for the safe screen update process.	999900
Eu.CC.2050	Def	Msg_Failed_Safe_Screen	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing that the 'safe' screen update process has failed (for example due to an error in checksum comparisons).	999900
Eu.CC.2051	Def	Msg_Safe_Screen_Update_Process_Completed	Message (Msg) from Subsystem - Electronic Interlocking to Traffic Control System informing that the safe screen update process has completed.	999900
Eu.CC.2052	Def	Msg_Safe_Screen_Update_Process_Initiated	Message (Msg) from Subsystem - Electronic Interlocking to Traffic Control System informing that the safe screen update process is initiated.	999900
Eu.CC.2059	Head	3.2.12 Status updates functions		Default
Eu.CC.2061	Def	Cd_Request_Update_Of_All_Statuses	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request an update of all statuses.	007000 007600 007900 310900
Eu.CC.2062	Def	Cd_Update_The_Disturbance_And_Fault_Reports	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to request an update of all disturbance and fault reports.	310900
Eu.CC.2063	Def	Msg_Update_Of_All_Statuses_Completed	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing that an update of all Status Messages has completed.	007000 007600 007900 310900
Eu.CC.2064	Def	Msg_Update_Of_All_Statuses_Started	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing that an update of all Status Messages follows.	007000 007600 007900 310900
Eu.CC.2065	Def	Msg_Update_The_Disturbance_And_Fault_Reports_Completed	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing that an update of all disturbance and fault reports has completed.	310900
Eu.CC.2066	Def	Msg_Update_The_Disturbance_And_Fault_Reports_Started	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System informing that an update of all disturbance and fault reports follows.	310900
Eu.CC.2029	Head	3.2.13 Remote control functions		Default
Eu.CC.2031	Def	Cd_Manage_Local_Or_Remote_Control	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to manage local or remote control. Parameters include the ability to request control, take control or give control.	007900 310900
Eu.CC.2032	Def	Msg_Local_Or_Remote_Control	Status Message (Msg) from Subsystem - Electronic Interlocking to the Traffic Control System with the ability to request, take or offer control.	007900 310900

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1960	Head	3.2.14 Auxiliary generic functions		Default
Eu.CC.1963	Def	Cd_Release_For_Normal_Operation	Command (Cd) from the Traffic Control System to the Subsystem - Electronic Interlocking to release for normal operation.	007600 310900
Eu.CC.1964	Def	Cd_Reset_The_Release_Safety_Command	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to reset a multi-stage process (e.g. after initiation but before providing confirmation).	999900
Eu.CC.1965	Def	Cd_Set_Interlocking_Time_and_Date	Command (Cd) from Traffic Control System to Subsystem - Electronic Interlocking to set the time and date of the Subsystem - Electronic Interlocking.	007600 007900 310900
Eu.CC.787	Head	3.3 SCI-CC - Functional Viewpoint		Default
Eu.CC.1562	Info	The generic requirements are specified in [Eu.Doc.119].		Default
Eu.CC.851	Head	3.3.1 SCI-CC - Functional Context		Default
Eu.CC.1023	Info	<div><div>[Package] SCI-CC - Functional Context [Interface Definition - UseCases - Initialisation]</div><div>uc [Package] SCI-CC - Functional Context [Interface Definition - UseCases - Initialisation]</div><div></div></div>		Default
Eu.CC.1563	Info	The generic UseCases SCI-XX AdjS IFUC1.1: Establish PDI connection and SCI-XX AdjS IFUC1.2: Close PDI connection are specified in [Eu.Doc.119].		Default
Eu.CC.1051	Info	SCI-CC IFUC1.3: Report status	Defines the process for the Subsystem - Electronic Interlocking providing the SCI-CC with an update of all status messages.	Default
Eu.CC.1052	Req	<div><div>[Interaction] SCI-CC IFUC1.3 - Main Success Scenario: Report status [SCI-CC IF SD 1.3.1]</div><div>sd [Interaction] SCI-CC IFUC1.3 - Main Success Scenario: Report status [SCI-CC IF SD 1.3.1]</div><div><div><div>Main Success Scenario: Report status</div><div>loop [For each Status Message]</div><div>1. The Subsystem - Electronic Interlocking sends all relevant Status Messages to the Traffic Control System.</div><div>end loop</div></div><div></div></div></div>	Defines the process for the Subsystem - Electronic Interlocking or Radio Block Centre providing the SCI-CC with an update of all status messages. This SD is part of [SCI-XX AdjS IF SD 1.1.1] in Eu.Doc.119.	Default

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.854	Info	<div><div>[Package] SCI-CC - Functional Context [Interface Definition - UseCases - Operation]</div><div>uc [Package] SCI-CC - Functional Context [Interface Definition - UseCases - Operation]</div><div></div></div>		Default
Eu.CC.855	Info	SCI-CC IFUC2.1: Receive a Command from the TCS	The Interface-UseCase "SCI-CC IFUC2.1: Receive a Command from the TCS" defines in general how the Subsystem - Electronic Interlocking receives a command from the Traffic Control System (TCS). The behaviour will be defined in the following UseCases: SCI-CC IFUC2.1.1: Receive a 'Safe' command from the TCS SCI-CC IFUC2.1.2: Reject a command SCI-CC IFUC2.1.3: Receive a command with corresponding status change	Default
Eu.CC.1070	Info	SCI-CC IFUC2.1.1: Receive a 'Safe' command from the TCS	The Subsystem - Electronic Interlocking receives a 'safe' command from the Traffic Control System (TCS)	Default
Eu.CC.1071	Req	<div><div>[Interaction] SCI-CC IFUC2.1.1 - Main Success Scenario: [SCI-CC IF SD 2.1.1.1]</div><div>sd [Interaction] SCI-CC IFUC2.1.1 - Main Success Scenario: [SCI-CC IF SD 2.1.1.1]</div><div></div><div><p>Main Success Scenario: Generic case of receiving a 'safe' command that requires confirmation.</p><p>Precondition: The PDI connection is established.</p><p>Interaction 2.1.1.1.A:</p><ol style="list-style-type: none">- The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.The Subsystem - Electronic Interlocking receives the command from the Traffic Control System, determines that the command is a 'safe' command and requests confirmation.The Traffic Control System sends confirmation of the command to the Subsystem - Electronic Interlocking within a nationally configured timeout.The Subsystem - Electronic Interlocking determines that the command availability check is positive, accepts the command CD(confirmation)_ and sends confirmation to the Traffic Control System.<p>Postcondition: The Subsystem - Electronic Interlocking has received a command and confirmation of that command from the Traffic Control System and has accepted the command.</p></div></div>	Defines the generic process for handling 'safe' Commands which require confirmation.	007000 007900 310900

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1577	Req	<div><div>[Interaction] SCI-CC IFUCC2.1.1 - Alternative Scenario: [SCI-CC IF SD 2.1.1.4]</div><div><div>sd [Interaction] SCI-CC IFUCC2.1.1 - Alternative Scenario: [SCI-CC IF SD 2.1.1.4]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div>:Traffic Control System</div></div><div><p>Main Success Scenario: Generic case of Subsystem - Electronic Interlocking receiving a 'safe' command that requires confirmation with safety codes.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.1.1.4.A:</p><p>1. - The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.</p><p>2. The Subsystem - Electronic Interlocking receives the command from the Traffic Control System, determines that the command is a 'safe' command and requests confirmation.</p><p>Interaction 2.1.1.4.B:</p><p>3. - The Traffic Control System checks the Message safety code, generates a Confirmation safety code and sends a confirmation of the command to the Subsystem - Electronic Interlocking.</p><p>4. The Subsystem - Electronic Interlocking accepts the command Cd_Confirmation_Of_A_Command_With_Safety_Codes and sends confirmation to the Traffic Control System.</p><p>Postcondition:</p><p>The Subsystem - Electronic Interlocking has received a command and confirmation of that command with safety codes from the Traffic Control System and has accepted the command.</p></div></div></div></div>	Defines the generic process for receiving a 'safe' Commands which require confirmation with safety codes.	007600
Eu.CC.1589	Req	<div><div>[Interaction] SCI-CC IFUC2.1.1 - Alternative Scenario: [SCI-CC IF SD 2.1.1.5]</div><div><div>sd [Interaction] SCI-CC IFUC2.1.1 - Alternative Scenario: [SCI-CC IF SD 2.1.1.5]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div>:Traffic Control System</div></div><div><p>Alternative Scenario: Generic case of Subsystem - Electronic Interlocking receiving a 'safe' command that requires confirmation with safety codes but Traffic Control System aborts the process.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.1.1.5.A:</p><p>1. - The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.</p><p>2. The Subsystem - Electronic Interlocking receives the command from the Traffic Control System, determines that the command is a 'safe' command and generates a Message safety code.</p><p>3. The Traffic Control System aborts the 'safe' command process and sends a status message to the Subsystem - Electronic Interlocking informing it of this.</p><p>Postcondition:</p><p>The 'safe' command process has been aborted before confirmation has been given. The command is not executed.</p></div></div></div></div>	Defines the generic process for aborting the process of handling 'safe' Commands which require confirmation with safety codes.	007600
Eu.CC.1520	Req	<div><div>[Interaction] SCI-CC IFUCC2.1.1 - Alternative Scenario [SCI-CC IF SD 2.1.1.6]</div><div><div>sd [Interaction] SCI-CC IFUCC2.1.1 - Alternative Scenario [SCI-CC IF SD 2.1.1.6]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div>:Traffic Control System</div></div><div><p>Alternative Scenario: Timeout occurs in the generic case of Subsystem - Electronic Interlocking receiving a 'safe' command that requires confirmation.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.1.1.6.A:</p><p>1. - The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.</p><p>2. The Subsystem - Electronic Interlocking receives the command from the Traffic Control System, determines that the command is a 'safe' command and requests confirmation.</p><p>3. The Traffic Control System fails to send confirmation of the command to the Subsystem - Electronic Interlocking within a nationally configured timeout.</p><p>Postcondition:</p><p>The command is not executed.</p></div></div></div></div>	Defines the generic process for handling 'safe' commands which require confirmation.	007000 007900 310900

ID	Type	Requirement Part 1		Requirement Part 2	Appl.	
Eu.CC.1200	Info	SCI-CC IFUC2.1.2: Reject a command			The Subsystem - Electronic Interlocking rejects a command previously received from the Traffic Control System (TCS)	Default
Eu.CC.1201	Req	<div><div>[Interaction] SCI-CC IFUC2.1.2 - Alternative Scenario: [SCI-CC IF SD 2.1.2.1]</div><div><div>sd [Interaction] SCI-CC IFUC2.1.2 - Alternative Scenario: [SCI-CC IF SD 2.1.2.1]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div>:Traffic Control System</div></div><div><p>Alternative Scenario: Generic case of Subsystem - Electronic Interlocking receiving a command and rejecting it.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.1.2.1.A:</p><p>1. - The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.</p><p>2. The Subsystem - Electronic Interlocking determines that the command availability check is negative and rejects the command Cd_.</p><p>3. The Traffic Control System receives a status message from the Subsystem - Electronic Interlocking informing that the previously received command was rejected.</p><p>Postcondition:</p><p>The command has been rejected and will not be executed.</p></div></div></div></div> <div><p>Defines the generic process for rejecting a previously received Command.</p></div> <td>Default</td>			Default	
Eu.CC.1601	Req	<div><div>[Interaction] SCI-CC IFUC2.1.2 - Alternative Scenario: [SCI-CC IF SD 2.1.2.2]</div><div><div>sd [Interaction] SCI-CC IFUC2.1.2 - Alternative Scenario: [SCI-CC IF SD 2.1.2.2]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div>:Traffic Control System</div></div><div><p>Alternative Scenario: Generic case of Subsystem - Electronic Interlocking receiving a command and rejecting it.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.1.2.2.A:</p><p>1. - The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.</p><p>2. The Subsystem - Electronic Interlocking receives the command from the Traffic Control System, determines that the command is a 'safe' command and requests confirmation.</p><p>3. The Traffic Control System sends confirmation of the command to the Subsystem - Electronic Interlocking within a nationally configured timeout.</p><p>Interaction 2.1.2.2.B:</p><p>4. - The Subsystem - Electronic Interlocking determines that the command availability check is negative and rejects the command Cd(confirmation)_.</p><p>5. The Traffic Control System receives a status message from the Subsystem - Electronic Interlocking informing that the previously received command was rejected.</p><p>Postcondition:</p><p>The command has been rejected and will not be executed.</p></div></div></div></div> <div><p>Defines the generic process for rejecting a previously received Command.</p></div> <td>007000 007900 310900</td>			007000 007900 310900	

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1614	Req	<div><div>[Interaction] SCI-CC IFUC2.1.2 - Alternative Scenario: [SCI-CC IF SD 2.1.2.3]</div><div><div>sd [Interaction] SCI-CC IFUC2.1.2 - Alternative Scenario: [SCI-CC IF SD 2.1.2.3]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div><div>:Traffic Control System</div></div></div><div><p>Alternative Scenario: Generic case of Subsystem - Electronic Interlocking receiving a safe command with safety codes and rejecting it.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.1.2.3.A:</p><p>1. - The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.</p><p>2. The Subsystem - Electronic Interlocking receives the command from the Traffic Control System, determines that the command is a 'safe' command and requests confirmation.</p><p>3. The Traffic Control System checks the Message safety code, generates a Confirmation safety code and sends a confirmation of the command to the Subsystem - Electronic Interlocking.</p><p>Interaction 2.1.2.3.B:</p><p>4. - The Subsystem - Electronic Interlocking determines that the command availability check is negative and rejects the command Cd_Confirmation_Of_A_Command_With_Safety_Codes.</p><p>5. The Traffic Control System receives a status message from the Subsystem - Electronic Interlocking informing that the previously received command was rejected.</p><p>Postcondition:</p><p>The command has been rejected and will not be executed.</p></div></div></div></div>	Defines the generic process for rejecting a previously received safe Command with safety codes.	007600
Eu.CC.1632	Info	SCI-CC IFUC2.1.3: Receive a command with corresponding status change	The Subsystem - Electronic Interlocking receives a command from the Traffic Control System (TCS) with the corresponding status change.	Default
Eu.CC.1633	Req	<div><div>[Interaction] SCI-CC IFUC2.1.3 - Main Success Scenario: [SCI-CC IF SD 2.1.3.1]</div><div><div>sd [Interaction] SCI-CC IFUC2.1.3 - Main Success Scenario: [SCI-CC IF SD 2.1.3.1]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div><div>:Traffic Control System</div></div></div><div><p>Main Scenario: Generic case of Subsystem - Electronic Interlocking receiving a command.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.1.3.1.A:</p><p>1. - The Traffic Control System sends a command to the Subsystem - Electronic Interlocking.</p><p>2. The Subsystem - Electronic Interlocking determines that the command availability check is positive, accepts the command CD_ and sends confirmation to the Traffic Control System.</p><p>3. The Subsystem - Electronic Interlocking executes the accepted command.</p><p>Interaction 2.1.3.1.B:</p><p>4. - The Subsystem - Electronic Interlocking has changed the status based on the executed command.</p><p>5. The Subsystem - Electronic Interlocking sends the corresponding status message to the Traffic Control System.</p><p>Postcondition:</p><p>The Subsystem - Electronic Interlocking has received the command and send out the corresponding status message to the Traffic Control System.</p></div></div></div></div>	Defines the generic process for receiving a command.	Default
Eu.CC.870	Info	SCI-CC IFUC2.2: Send a Status Message to the TCS	The Subsystem - Electronic Interlocking sends a status message to the Traffic Control System (TCS) relating to the state of logical and physical elements	Default

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1185	Req	<div><div>[Interaction] SCI-CC IFUC2.2 - Main Success Scenario: [SCI-CC IF SD 2.2.1]</div><div><div>sd [Interaction] SCI-CC IFUC2.2 - Main Success Scenario: [SCI-CC IF SD 2.2.1]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div>:Traffic Control System</div></div><div><p>Main Success Scenario: Generic case of Subsystem - Electronic Interlocking sending a status message.</p><p>Precondition:</p><p>The PDI connections are established.</p><p>Interaction 2.2.1.A:</p><p>1. - The Subsystem - Electronic Interlocking sends a Status message to the Traffic Control System.</p><p>2. The Traffic Control System receives a Status message from the Subsystem - Electronic Interlocking.</p><p>Postcondition:</p><p>The Traffic Control System has received a Status message from the Subsystem - Electronic Interlocking.</p></div><div><div>1Status Message Msg_</div><div>2Receive Status Msg</div></div></div></div></div>	Defines the generic process for sending a Status Message (Msg_).	Default
Eu.CC.1132	Info	SCI-CC IFUC2.2.1: Send a 'safe' screen update to the TCS	The Subsystem - Electronic Interlocking sends a 'safe' screen update to the Traffic Control System (TCS)	999900
Eu.CC.1297	Req	<div><div>[Interaction] SCI-CC IFUC2.2.1 - Main Success Scenario: [SCI-CC IF SD 2.2.1.1]</div><div><div>sd [Interaction] SCI-CC IFUC2.2.1 - Main Success Scenario: [SCI-CC IF SD 2.2.1.1]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div>:Traffic Control System</div></div><div><p>Main Success Scenario: Subsystem - Electronic Interlocking provides a 'safe' screen update.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.2.1.1.A:</p><p>1. - The Subsystem - Electronic Interlocking initiates the 'safe' screen update process (which may be in response to a previously received command) and informs the Traffic Control System.</p><p>2. The Traffic Control System sends a command to the Subsystem - Electronic Interlocking to request all states for a given screen.</p><p>3. The Subsystem - Electronic Interlocking informs the Traffic Control System that an update of all relevant statuses will follow.</p><p>4. The Subsystem - Electronic Interlocking sends all relevant Status Messages to the Traffic Control System unencrypted. <<include>> SCI-CC IFUC1.3: Report status.</p><p>5. The Subsystem - Electronic Interlocking sends all relevant Status Messages to the Traffic Control System encrypted. <<include>> SCI-CC IFUC1.3: Report status.</p><p>6. The Subsystem - Electronic Interlocking informs the Traffic Control System that the sending of all relevant status updates has completed.</p><p>7. The Traffic Control System sends an unencrypted checksum to the Subsystem - Electronic Interlocking.</p><p>8. The Traffic Control System sends an encrypted checksum to the Subsystem - Electronic Interlocking.</p><p>9. The Subsystem - Electronic Interlocking sends confirmation to the Traffic Control System that the display has been updated and is valid for a given time.</p><p>Postcondition:</p><p>The Traffic Control System has received status updates for a given screen from the Subsystem - Electronic Interlocking and remains in a 'safe' state for a given time.</p></div><div><div>1Msg_Safe_Screen_Update_Process_Initiated</div><div>2Cd_Request_Update_Of_All_Statuses</div><div>3Msg_Update_Of_All_Statuses_Started</div><div>4SCI-CC IFUC1.3: Report status</div><div>5SCI-CC IFUC1.3: Report status</div><div>6Msg_Update_Of_All_Statuses_Completed</div><div>7Cd_Safe_Screen_Update_Checksum (Unencrypted)</div><div>8Cd_Safe_Screen_Update_Checksum (Encrypted)</div><div>9Msg_Safe_Screen_Update_Process_Completed</div></div></div></div></div>	Defines the process for Subsystem - Electronic Interlocking to send a 'safe' screen update.	999900

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1329	Req	<div><div>[Interaction] SCI-CC IFUC2.2.1 - Alternative Scenario: [SCI-CC IF SD 2.2.1.2]</div><div><div>sd [Interaction] SCI-CC IFUC2.2.1 - Alternative Scenario: [SCI-CC IF SD 2.2.1.2]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div><div>:Traffic Control System</div></div></div><div><p>Alternative Scenario: Traffic Control System aborts the 'safe' screen update process.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.2.1.2.A:</p><p>1. - The Subsystem - Electronic Interlocking initiates the 'safe' screen update process (which may be in response to a previously received command) and informs the Traffic Control System.</p><p>2. The Traffic Control System sends a command to the Subsystem - Electronic Interlocking to abort the current process.</p><p>Postcondition:</p><p>The 'safe' screen update process has been aborted before completion.</p></div></div></div></div> <div>Defines the process for the SCI-CC to abort the 'safe' screen update process.</div> <div>999900</div>		
Eu.CC.1344	Req	<div><div>[Interaction] SCI-CC IFUC2.2.1 - Alternative Scenario: [SCI-CC IF SD 2.2.1.3]</div><div><div>sd [Interaction] SCI-CC IFUC2.2.1 - Alternative Scenario: [SCI-CC IF SD 2.2.1.3]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div><div>:Traffic Control System</div></div></div><div><p>Alternative Scenario: Traffic Control System determines that the 'safe' screen update process has failed following its initiation.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.2.1.3.A:</p><p>1. - The Subsystem - Electronic Interlocking initiates the 'safe' screen update process (which may be in response to a previously received command) and informs the Traffic Control System.</p><p>2. The Traffic Control System determines that the process has failed and informs the Subsystem - Electronic Interlocking of this.</p><p>Postcondition:</p><p>The 'safe' screen update process has failed before any status message updates have been given.</p></div></div></div></div> <div>Defines the process where the 'safe' screen update fails following initiation.</div> <div>999900</div>		
Eu.CC.1359	Req	<div><div>[Interaction] SCI-CC IFUC2.2.1 - Alternative Scenario: [SCI-CC IF SD 2.2.1.4]</div><div><div>sd [Interaction] SCI-CC IFUC2.2.1 - Alternative Scenario: [SCI-CC IF SD 2.2.1.4]</div><div><div><div>:Subsystem - Electronic Interlocking</div><div><div>:Traffic Control System</div></div></div><div><p>Alternative Scenario: Subsystem - Electronic Interlocking determines that the 'safe' screen update process has failed before completion.</p><p>Precondition:</p><p>The PDI connection is established.</p><p>Interaction 2.2.1.4.A:</p><p>1. - The Subsystem - Electronic Interlocking initiates the 'safe' screen update process (which may be in response to a previously received command) and informs the Traffic Control System.</p><p>2. The Traffic Control System sends a command to the Subsystem - Electronic Interlocking to request all states for a given screen.</p><p>3. The Subsystem - Electronic Interlocking informs the Traffic Control System that an update of all relevant statuses will follow.</p><p>4. The Subsystem - Electronic Interlocking sends all relevant Status Messages to the Traffic Control System unencrypted. <<include>> SCI-CC IFUC1.3: Report status.</p><p>5. The Subsystem - Electronic Interlocking sends all relevant Status Messages to the Traffic Control System encrypted. <<include>> SCI-CC IFUC1.3: Report status.</p><p>6. The Subsystem - Electronic Interlocking informs the Traffic Control System that the sending of all relevant status updates has completed.</p><p>7. The Traffic Control System sends a an unencrypted checksum to the Subsystem - Electronic Interlocking.</p><p>8. The Traffic Control System sends a an encrypted checksum to the Subsystem - Electronic Interlocking.</p><p>9. The Subsystem - Electronic Interlocking determines that the process has failed and sends a status message to the Traffic Control System informing it of this.</p><p>Postcondition:</p><p>The Traffic Control System has received status updates for a given screen from the Subsystem - Electronic Interlocking but the updated screen is not confirmed as being 'safe'.</p></div></div></div></div> <div>Defines the process where the 'safe' screen update from the Subsystem - Electronic Interlocking fails before completion.</div> <div>999900</div>		

ID	Type	Requirement Part 1	Requirement Part 2	Appl.
Eu.CC.1167	Info	SCI-CC IFUC2.2.2: Update all statuses	The Subsystem - Electronic Interlocking sends an update of all status messages to the Traffic Control System (TCS)	Default
Eu.CC.1168	Req	<p>[Interaction] SCI-CC IFUC2.2.2 - Main Success Scenario: [SCI-CC IF SD 2.2.2.1]</p> <pre>sd [Interaction] SCI-CC IFUC2.2.2 - Main Success Scenario: [SCI-CC IF SD 2.2.2.1]</pre> <p>Main Success Scenario: Subsystem - Electronic Interlocking provides an update of all Status Messages.</p> <p>Precondition: The PDI connection is established.</p> <p>Interaction 2.2.2.1.A:</p> <ol style="list-style-type: none"> - The Subsystem - Electronic Interlocking receives a command from the Traffic Control System requesting an update of all Status Messages. The Subsystem - Electronic Interlocking sends a message to the Traffic Control System informing that the update of all statuses will follow. The Subsystem - Electronic Interlocking sends an update of all Status Messages to the Traffic Control System. <<include>> SCI-CC IFUC1.3: Report status. The Subsystem - Electronic Interlocking sends a message to the Traffic Control System informing that the update of all statuses has completed. <p>Postcondition: The Traffic Control System has received an update of all Status Messages.</p>	Defines the process for sending an update of all Status Messages.	007000 007600 007900 310900