




EU-RAIL SYSTEM PILLAR

Release note ESPR1.1

Version: 2.0



Release Note ESPR1.1

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2.0 2026-05-04		Released version based on Review 1.1

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1 Preamble

1.1 Purpose

This aim of this System Pillar Release is to provide a set of specifications ready for referencing in tenders. [SPP-38361]

The type of baseline is :

Draft	
Internal SP Release	
External SP Release	X
Milestone SP Release	

[SPP-38362]

1.2 Intended Audience

The specifications part of this Release are intended to any Railway Actor for its own purpose, They are considered mature for tendering processes, and any stakeholder in procurement phase is invited to reference them in its tender. [SPP-43878]

1.3 Document Context

The System Pillar is the “generic system integrator” for the Europe’s Rail Joint Undertaking (EU-Rail), and the architect of the future EU’s railway system. For more information, see EU-RAIL website: <https://rail-research.europa.eu/> [SPP-38366]

This Release Note describes an external delivery from System Pillar covering EU-Rail Cybersecurity specifications and Trackside Assets specifications. [SPP-38367]

The list of deliverables is specified in the sections dedicated to each domain or task. In addition, the release contains a .xls file named *SPCoregroupPublic_Release note_Appendix_Deliverable_List* which gives the list of all the deliverables of the release referenced both with the title of the document and with the name of the file. [SPP-38364]

This release identifies the STIP items that are addressed. The STIP version that has been used is STIP V2. [SPP-38365]

1.4 Glossary

No specific term in this Release note. The SP Glossary is provided along with TACS and Cybersecurity deliverables. [SPP-43866]

1.5 Legal information

The release is delivered under the above copyright and disclaimer information. [SPP-43867]

2 Cybersecurity

2.1 Release Content

As the previous release, this release is implementing the requirements from EU regulations and directives (NIS2, CSA, CRA, RED) and international standards (ISO 27001, IEC 62443, CENELEC TS 50701 / IEC PT 63452). This simplifies achieving compliance to these standards significantly. The requirements are implemented by four main specifications (Secure Component Specification, Secure Communication Specification, Shared Cybersecurity Services Specification, Secure Program Requirements) and nine supporting documents. [SPP-37483]

2.2 Restrictions of use and Application conditions

The Cybersecurity specification have following restrictions: [SPP-37484]

- Compliance tracing to IEC PT 63452 uses an intermediate draft version from Jan 2025. The final standard is expected to be released end of 2026. The Cybersecurity specification will be updated once the standard is finalised.
- For EU CRA regulation (Cyber Resilience Act), harmonised standards are being developed. Once draft and final version will be available, an update of the Cybersecurity specification is foreseen.
- Cybersecurity certification aspects and EU CE conformity requirements are not included in this version of the specifications. This aspect will be investigated in future work of the Cybersecurity domain.

2.3 Capabilities addressed by the release

See § Release content. [SPP-37477]

2.4 STIP items addressed by the release

The STIP items addressed by this release are:

STIP item	Coverage (full partial)	Comment
STIP_2_0_175	full	Enhancement proposal for TSI

[SPP-37478]








































2.5 Main Enhancements from the previous release

This release contains mostly error corrections and general improvements. Furthermore, it includes two new documents: the Detailed Risk Assessment and the Migration Guideline. In total, the Security domain processed 123 change requests:

- 103 were implemented in this release (27 editorial, 49 clarifications, 9 new functions, 18 error corrections)
- 20 were moved to the next release

The diff version of the documents is also provided to highlight the changes since the previous release ESPR1.0. [SPP-37479]

2.6 Deliverables

Document Status	Document ID	Document Name	Name of Document Baseline in Polarion
 Released	SP-SEC-MigGuide	 Migration Guideline	851570 -  Version 1.1 - Released
 Released	SP-SEC-PrdDocTmpl	 Product Documentation Template	851571 -  Version 1.1 - Released
 Released	SP-SEC-RegCompl	 Regulatory Compliance	851572 -  Version 1.1 - Released
 Released	SP-SEC-SuppEssFunc	 Support for Essential Functions	851573 -  Version 1.1 - Released
 Released	SP-SEC-SysDesc	 System Description	851575 -  Version 1.1 - Released
 Released	SP-SEC-Taxonomy-References	 Taxonomy and References	851577 -  Version 1.1 - Released
 Released	SP-SEC-ThreatCat	 Threat Catalogue	851578 -  Version 1.1 - Released
 Open	SP-SEC-DetRiskAss	 Detailed Risk Assessment	851566 -  Version 1.1 - Released
 Open	SP-SEC-InitRiskAss	 Initial Risk Assessment	851568 -  Version 1.1 - Released
 Open	SP-SEC-CommSpec	 Secure Communication Specification	851557 -  Version 1.1 - Released
 Open	SP-SEC-CompSpec	 Secure Component Specification	851559 -  Version 1.1 - Released
 Open	SP-SEC-PrgmReq	 Security Program Requirements	851563 -  Version 1.1 - Released
 Open	SP-SEC-ServSpec	 Shared Cybersecurity Services Specification	851564 -  Version 1.1 - Released

[SPP-37481]

2.7 More information

2.7.1 Document Maintenance

After release, the released documents immediately enter the maintenance phase. Maintenance includes error corrections and general improvement of the documents. Please send your change requests to the following email address:

cybersecurity.review@ertms.be [SPP-37486]

2.8 Problems Fixed

All problems identified during the change request process were addressed. [SPP-39619]

2.9 Known open problems, issues

This specification does not include a solution for expired signer certificates. A solution is currently being discussed and will be included in the next release. [SPP-39616]

This release does not define how to handle security incidents. A guideline will be added in the next release. [SPP-39617]

This release does not specify the onboard security architecture (see [SP-SEC-Serv-3.4]). The Shared Cybersecurity Services specification will be updated in the next release. [SPP-39618]

3 Task 2 (CCS) - Trackside Assets domain

3.1 Release content

This SP release contains the EU-Rail Trackside Asset Specification, which is a subset of EULYNX Baseline Set 4 Release 4 (SP/EULYNX BL4R4). [SPP-37504]

EU-Rail and EULYNX have published a common documentation release EU-Rail Trackside Asset Specification (SP/EULYNX BL4R4). This release has been prepared in close collaboration with the European rail control-command and signalling (CCS) sector under the organisation of EU-Rail System Pillar, bringing the Trackside Assets part of the EULYNX development under technical authority of the EU-Rail System Pillar.

The EU-Rail Trackside Asset Specification is a documentation update release within the EULYNX Baseline Set 4, continuing the development based on previous releases. The primary focus of this release is to incorporate remaining feedback from the industry and reach a stable maturity level on those limited topics where this was not yet fully reached in the previous releases. The release is fully integrated into the EU-Rail System Pillar. All specifications related to trackside assets and transversal functions are applicable for both the current EULYNX architecture and the future rail target architecture, agreed in the framework of the EU-Rail System Pillar, therefore published as a single set of specifications under a common publication by EULYNX and EU-Rail, delivering in total 25 specification documents. The EU-Rail System Pillar takes the role of the technical authority for the documents of the common publication and will ensure their maintenance.

[SPP-37505]

3.2 Restrictions of use and Application conditions

No restrictions. [SPP-37496]

3.3 Capabilities addressed by the release

This release covers the full capabilities of the Trackside Assets subsystems. [SPP-37497]

3.4 STIP items addressed by the release

The STIP items covered by this release are:

STIP item	Coverage (full partial)	Comment
STIP_2.0_176	Full	Eu.Doc.20 Generic interface and subsystem requirements. Eu.Doc.119 Generic interface and subsystem requirements for SCI. Eu.Doc.120 Generic interface and subsystem requirements for SMI. Eu.Doc.92 Interface definition SCI. Eu.Doc.93 Interface specification SCI Generic. Eu.Doc.32 Requirements specification for subsystem Light Signal.
















STIP item	Coverage (full partial)	Comment
		Eu.Doc.33 Interface specification SCI-LS. Eu.Doc.36 Requirements specification for subsystem Point. Eu.Doc.38 Interface specification SCI-P. Eu.Doc.45 Requirements specification for subsystem Generic IO. Eu.Doc.46 Interface specification SCI-IO. Eu.Doc.43 Requirements specification for subsystem TDS. Eu.Doc.44 Interface specification SCI-TDS. Eu.Doc.108 Requirements specification for subsystem Level Crossing. Eu.Doc.109 Interface specification SCI-LC. Eu.Doc.18 Maintenance and data management specification. Eu.Doc.76 Interface definition and specification SMI. Eu.Doc.77 Interface definition SDI. Eu.Doc.78 Interface specification SDI-LS. Eu.Doc.94 Interface specification SDI Generic. Eu.Doc.80 Interface specification SDI-P. Eu.Doc.82 Interface specification SDI-IO. Eu.Doc.81 Interface specification SDI-TDS. Eu.Doc.110 Interface specification SDI-LC. Eu.Doc.100 Specification of Point of Service - Signalling.

[SPP-37498]







3.5 Main enhancements from the previous release

The enhancements are traced through Change Requests provided in [SPP-37464 - TACS modifications](#) [SPP-37500]

3.6 Deliverables


Document Status	Document ID	Document Name	Name of Document Baseline in Polarion
 Released	Generic interface and subsystem requirements	 Generic interface and subsystem requirements	711639 -  Version 4.0 (7.A) - Released
 Released	Generic interface and subsystem requirements for SCI	 Generic interface and subsystem requirements for SCI	711652 -  Version 1.1 (2.A) - Released
 Released	Generic interface and subsystem requirements for SMI	 Generic interface and subsystem requirements for SMI	711660 -  Version 1.2 (1.A) - Released
 Released	Interface definition and specification SMI	 Interface definition and specification SMI	712568 -  Version 2.3 (1.A) - Released
 Released	Interface definition SCI	 Interface definition SCI	712573 -  Version 4.3 (1.A) - Released

Document Status	Document ID	Document Name	Name of Document Baseline in Polarion
 Released	Interface definition SDI	 Interface definition SDI	712578 -  Version 3.3 (1.A) - Released
 Released	Interface specification SCI Generic	 Interface specification SCI Generic	712583 -  Version 3.3 (1.A) - Released
 Released	Interface specification SCI-IO	 Interface specification SCI-IO	712595 -  Version 4.0 (4.A) - Released
 Released	Interface specification SCI-LC	 Interface specification SCI-LC	712609 -  Version 2.2 (1.A) - Released
 Released	Interface specification SCI-LS	 Interface specification SCI-LS	712620 -  Version 4.3 (1.A) - Released
 Released	Interface specification SCI-P	 Interface specification SCI-P	712630 -  Version 4.2 (2.A) - Released
 Released	Interface specification SCI-TDS	 Interface specification SCI-TDS	712639 -  Version 4.1 (1.A) - Released
 Released	Interface specification SDI Generic	 Interface specification SDI Generic	883425 -  Version 4.3 (2.A) - Released
 Released	Interface specification SDI-IO	 Interface specification SDI-IO	883438 -  Version 4.2 (2.A) - Released
 Released	Interface specification SDI-LC	 Interface specification SDI-LC	883449 -  Version 3.3 (2.A) - Released
 Released	Interface specification SDI-LS	 Interface specification SDI-LS	883431 -  Version 4.3 (2.A) - Released
 Released	Interface specification SDI-P	 Interface specification SDI-P	712685 -  Version 4.3 (1.A) - Released
 Released	Interface specification SDI-TDS	 Interface specification SDI-TDS	883444 -  Version 4.2 (2.A) - Released
 Released	Maintenance and data management specification	 Maintenance and data management specification	711667 -  Version 4.1 (1.A) - Released
 Released	Requirements specification for subsystem Generic IO	 Requirements specification for subsystem Generic IO	711676 -  Version 4.3 (1.A) - Released
 Released	Requirements specification for subsystem Level Crossing	 Requirements specification for subsystem Level Crossing	711682 -  Version 2.3 (2.A) - Released
 Released	Requirements specification for subsystem Light Signal	 Requirements specification for subsystem Light Signal	883411 -  Version 4.3 (2.A) - Released
 Released	Requirements specification for subsystem Point	 Requirements specification for subsystem Point	883403 -  Version 4.5 (2.A) - Released

Document Status	Document ID	Document Name	Name of Document Baseline in Polarion
 Released	Requirements specification for subsystem TDS	 Requirements specification for subsystem TDS	883419 -  Version 4.2 (2.A) - Released
 Released	Specification of Point of Service-Signalling	 Specification of Point of Service-Signalling	711705 -  Version 2.2 (2.A) - Released

[SPP-37506]

The documents in this section are an error correction update to the set that has been previously published by Trackside Assets Domain as "EU-Rail Trackside Assets Specification (SP/EULYNX BL4R4)" in June 2025 and are considered authoritative.


- Specifically SCI and SDI specifications are authoritative.
- Specifically SMI specifications shall be analysed as option for projects which are setup in the SERA pre-phase - until SMI SP Standard interface specifications for Configuration Management (see  SPP-20956 - Task 2 (CCS) - Transversal CCS Components Domain) are finalised and published.

[SPP-37507]

3.7 More information

Additional specifications and supporting documents can be found on EULYNX website. These documents may provide further information but they are not under the Technical Authority of the EU-Rail System Pillar, neither part of the SP release. [SPP-37508]

3.8 Problems Fixed

The error corrections are traced through Change Requests provided in  SPP-37464 - TACS modifications [SPP-37501]

3.9 Known open problems, issues

No known problems and issues.

With this release, the specification documents of Baseline Set 4 have reached a stable maturity level. The current baseline set is closed for changes in functionality or new functions. Individual specifications may receive further updates due to error corrections or change requests. [SPP-37503]





4 APPENDIXES

4.1 TACS modifications

The modifications on the TACS specifications that have been made since the previous ESPR1.0 SP Release are traced through Change requests provided hereafter.


4.1.1 LS-Board

SDI-LS, correct OPC UA version numbers for BL4R4, impact of generic change




ID	SPT2TACS-10793
Local ID	EULS-495
Change Type	Error
Current State	BL4R4
Problem Description	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Proposed Solution	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Affected Specifications	IntSpec SCI-LS
Backwards Compatability	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Type	 Change Request

Correct missing package marking at logical context diagram

ID	SPT2TACS-9868
Local ID	EULS-493
Change Type	Error
Current State	BL4R4
Problem Description	In BL4 Release 3, a series of object was added under the logical context diagram writing out the multiplicities of each interface. The functional package marking is missing for these objects.
Proposed Solution	Add the following functional package marking. Object Eu.LS.8091: Option LS4 Object Eu.LS.8083: Option LS5 Objects Eu.LS.8082, Eu.LS.8084-8090, Eu.LS.8092: Basic LS
Affected Specifications	ReqSpec LS

Backwards Compatability	<p>Critical (are the specifications functionally inconsistent without the correction)?</p> <p>Yes, the specifications contain 11 'Req' objects without package marking</p> <p>This correction has no impact on PDI telegrams</p> <p>Error correction for BL4R4, BL4R3</p>
Type	 Change Request

SDI-LS, check and align use of value 0 for Unknown in enumerations

ID	SPT2TACS-10797
Local ID	EULS-496
Change Type	Enhancement - Clarification
Current State	BL4R4
Problem Description	see  SPT2TACS-10082 - SDI-XX, check and align use of value 0 for Unknown in enumerations
Proposed Solution	<p>see  SPT2TACS-10082 - SDI-XX, check and align use of value 0 for Unknown in enumerations</p> <p>LampWireRole, LightSignalAdjacentTrainControlSystem : add 0: Unknown</p>
Affected Specifications	SDI-LS
Backwards Compatability	<p>Error correction for BL4R3 and BL4R4.</p> <p>- Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction.</p> <p>- Critical error: No</p>
Type	 Change Request

4.1.2 Reference Architecture-Board

SDI-XX, correct inconsistent data type, trigger values and unused enumerations

ID	SPT2TACS-10160
Local ID	EUAR-816
Change Type	Error
Current State	BL4R4
Problem Description	Several inconsistencies were found in the diagnostic model after publication of BL4R4.

<p>Proposed Solution</p>	<p>InputValue [Eu.SDI-XX.1033]: Change Attribute Type to 'diagnosis' OutputValue [Eu.SDI-XX.1035]: Change Attribute Type to 'diagnosis' error [Eu.SDI-XX.432]: Change Trigger to 'On event' eventNotification [Eu.SDI-XX.433]: Change Trigger to 'On event'</p> <p>LogSeverityLevel [Eu.SDI-XX.616]: Remove enumeration, with its values ConnectionStatus [Eu.SDI-XX.501]: Remove enumeration, with its values</p> <p>ProtectionFacilityStatus [Eu.SDI-LC.235]: Change Attribute Type to 'diagnosis' timeoutstatus [Eu.SDI-LC.333]: Remove enumeration, with its values</p>
<p>Affected Specifications</p>	<p>IntSpec SDI-XX IntSpec SDI-LC</p>
<p>Backwards Compatability</p>	<p>Error correction for BL4R3 and BL4R4. - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction. - Critical error: No</p>

SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change

<p>ID</p>	<p>SPT2TACS-10083</p>
<p>Local ID</p>	<p>EUAR-812</p>
<p>Change Type</p>	<p>Error</p>
<p>Current State</p>	<p>BL4R4</p>
<p>Problem Description</p>	<p>The version handling and OPC UA version numbers for both BL4R3 and BL4R4 SDI and SMI models were defined in EUAR-790. As there is a content and version difference between BL4R3 and BL4R4 in the SDI-XX generic model (as documented in EUAR-790), it is not possible to have an identical version number for BL4R3 and BL4R4 for the EfeS specific diagnostic models. They also must have a different version number, as the specific models include the generic model.</p>

<p>Proposed Solution</p>	<p>Correction changes needed:</p> <p><u>In IntSpec SDI-LC</u> NEW Req object in section 2. The version number of the OPC UA Information model as described in this document is 1.1.0. [error correction BL4R4]</p> <p><u>In IntSpec SDI-LS</u> NEW Req object in section 2. The version number of the OPC UA Information model as described in this document is 1.1.0. [error correction BL4R4]</p> <p><u>In IntSpec SDI-IO</u> NEW Req object in section 2. The version number of the OPC UA Information model as described in this document is 1.1.0. [error correction BL4R4]</p> <p><u>In IntSpec SDI-TDS</u> NEW Req object in section 2. The version number of the OPC UA Information model as described in this document is 1.1.0. [error correction BL4R4]</p>
<p>Affected Specifications</p>	<p>SDI-LC SDI-LS SDI-IO SDI-TDS</p>
<p>Backwards Compatability</p>	<p>Error correction for BL4R4. - Is this a non-compatible change in OPC UA? > Yes - Critical error: Yes</p> <p>It is needed to increase OPC UA version number (that's the sole purpose of the error CR)</p>




SDI-XX, check and align use of value 0 for Unknown in enumerations

<p>ID</p>	<p>SPT2TACS-10082</p>
<p>Local ID</p>	<p>EUAR-811</p>
<p>Change Type</p>	<p>Enhancement - Clarification</p>
<p>Current State</p>	<p>BL4R4</p>

<p>Problem Description</p>	<p>Several comments raised during review of OPC UA model files, by Siemens</p> <p>Please use Unknown instead of na for the value 0</p> <p>A check is needed on the consistent use of the value 0 for Unknown in the current diagnostic models.</p> <ul style="list-style-type: none"> - Is it needed to have the value 'Unknown' for attributes that are of the type 'Configuration'? <p>This Excel sheet shows an overview of all enumerations used in the diagnostic models: https://eeigertms.sharepoint.com/:x:/r/sites/SC2.1Task23212/Gedeelde%20documenten/Trackside%20Assets%20Control%20and%20Supervision/Domain%20WGs/RefArch/Diagnostics%20Task%20Force/Meetings/20251020%20web/EUAR-811%20Use%20of%20Unknown%20in%20enumerations.xlsx?d=wa0ebd3d98d8e4436b2f40ca80f52d160&csf=1&web=1&e=7wGPbd</p>
<p>Proposed Solution</p>	<p><u>Agreed in SDI Task Force 20251020</u></p> <ul style="list-style-type: none"> - Current value diagnosis: Should have 0 Unknown value. This is used at startup, when the status information is not yet available in the diagnostic model. - Current value configuration: Should have 0 Unknown value. This can be used at startup, when the full configuration information may not yet be available in the diagnostic model. - On event attributes: No need for 0 Unknown value. The full information must be available when the event-based diagnostics are created. <p>Changes to individual enumerations are listed in column H: https://eeigertms.sharepoint.com/:x:/r/sites/SC2.1Task23212/Gedeelde%20documenten/Trackside%20Assets%20Control%20and%20Supervision/Domain%20WGs/RefArch/Diagnostics%20Task%20Force/Meetings/20251020%20web/EUAR-811%20Use%20of%20Unknown%20in%20enumerations.xlsx?d=wa0ebd3d98d8e4436b2f40ca80f52d160&csf=1&web=1&e=7wGPbd</p> <p>To be defined after analysis.</p> <p>Is it needed to add or remove the value '0: Unknown' as certain enumerations for consistency?</p>
<p>Affected Specifications</p>	<p>SDI-XX SDI-IO SDI-LS SDI-TDS</p>
<p>Backwards Compatability</p>	<p>Error correction for BL4R3 and BL4R4.</p> <ul style="list-style-type: none"> - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction. - Critical error: No

4.1.3 TDS-Board

SDI-TDS, correct OPC UA version numbers for BL4R4, impact of generic change

ID	SPT2TACS-10795
Local ID	EUTDS-542
Change Type	Error
Current State	BL4R4
Problem Description	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Proposed Solution	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Affected Specifications	IntSpec SDI-TDS
Backwards Compatability	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change

SDI-TDS, correct missing value for powerSupplyStatus


ID	SPT2TACS-10081
Local ID	EUTDS-540
Change Type	Error
Current State	BL4R4
Problem Description	<p>Enumeration value for "NotApplicable" should be added to the enumeration value type</p> <p>It is possible to have a SubS TDS with track circuits that does not have a Power On Monitoring (or not at every TVP section). In the SCI-TDS telegrams this is covered with value 0xFF in byte 47. An equivalent is missing in the SDI-TDS model.</p> <p>The diagnostic model contains 2 attributes POMFailureStatus and powerSupplyStatus. The first attribute is Optional, so it doesn't need a 'not applicable' value. The second attribute is mandatory, so it is needed.</p>
Proposed Solution	<p>Add value to enumerations TvpSectionPowerSupplyStatus for attribute powerSupplyStatus in class TvpSectionTrackCircuit.</p> <p>3: Status of the power supply for the TVPS is not applicable</p>
Affected Specifications	SDI-TDS
Backwards Compatability	<p>Error correction for BL4R3 and BL4R4.</p> <ul style="list-style-type: none"> - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction. - Critical error: No

Clarify and correct multiplicity of maintainer interface TDS6

ID	SPT2TACS-9869
Local ID	EUTDS-539
Change Type	Enhancement - Clarification
Current State	BL4R4
Problem Description	The intended multiplicity of the TDS6 interface to the maintainer is not clear. There is inconsistency between the diagram in Eu.TDS.1113 and the explicit textual requirement in Eu.TDS.7375.
Proposed Solution	<p>Part 1: Align the text in Eu.TDS.7375 with the diagram in Eu.TDS.1113.</p> <p>Part 2 (updated after agreement in TDS WG 20251013) Correct the in the diagram in Eu.TDS.1113 from * to 1..* (between 1 and any number)</p> <p>Earlier questions: Is the multiplicity on the diagram in Eu.TDS.1113 correct as intended? The * means between 0 and any number. Is it indeed intended to allow a SubS TDS without any maintainer interface? Or should the diagram show 1..* (between 1 and any number)?</p>
Affected Specifications	ReqSpec TDS
Backwards Compatability	<p>Error correction for BL4R4, BL4R3 (part 1) BL4R4, BL4R3, BL4R2, BL4R1, BL4R8 (part 2)</p> <p>Critical (are the specifications functionally inconsistent without the correction)? Yes (part 1) Critical (are the specifications functionally inconsistent without the correction)? No (part 2) No impact on PDI telegrams > No PDI version increase needed.</p>

SDI-TDS, check and align use of value 0 for Unknown in enumerations

ID	SPT2TACS-10798
Local ID	EUTDS-543
Change Type	Enhancement - Clarification
Current State	BL4R4
Problem Description	see  SPT2TACS-10082 - SDI-XX, check and align use of value 0 for Unknown in enumerations

Proposed Solution	<p>see  SPT2TACS-10082 - SDI-XX, check and align use of value 0 for Unknown in enumerations</p> <p>add 0: Unknown AbilityToFCStatus ChangeTrigger OccupancyStatus</p> <p>remove 0: Unknown UnitReceiverSignal UnitTransmitterSignal</p>
Affected Specifications	SDI-TDS
Backwards Compatability	<p>Error correction for BL4R3 and BL4R4.</p> <ul style="list-style-type: none"> - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction. - Critical error: No

4.1.4 P-Board




Correct missing package marking at logical context diagram

ID	SPT2TACS-9867
Local ID	EUP-589
Change Type	Error
Current State	BL4R4
Problem Description	In BL4 Release 3, a series of object was added under the logical context diagram writing out the multiplicities of each interface. The functional package marking is missing for these objects.
Proposed Solution	Add the following functional package marking. Objects Eu.P.7479-7486: All 4 basic packages.
Affected Specifications	ReqSpec Point
Backwards Compatability	<p>Critical (are the specifications functionally inconsistent without the correction)?</p> <p>Yes, the specifications contain 8 'Req' objects without package marking</p> <p>This correction has no impact on PDI telegrams</p> <p>Error correction for BL4R4, BL4R3</p>

4.1.5 IO-Board

SDI-IO, correct OPC UA version numbers for BL4R4, impact of generic change



ID	SPT2TACS-10794
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Local ID	EUIO-447
Change Type	Error
Current State	BL4R4
Problem Description	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Proposed Solution	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Affected Specifications	IntSpec SDI-IO
Backwards Compatability	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change

SDI-IO, correction of multiplicities for PhysicalChannelConnection

ID	SPT2TACS-933
Local ID	EUIO-439
Change Type	Error
Current State	BL4R3
Problem Description	The multiplicities between LogicalInputChannelTwoChannels, PhysicalChannelConnection and PhysicalInput are incorrect. Also valid for the multiplicities between LogicalOutputChannelTwoChannels, PhysicalChannelConnection and PhysicalOutput.
Proposed Solution	See figure.
Affected Specifications	SDI-IO, only diagram.
Backwards Compatability	Error correction for BL4R3. Also error correction for BL4R4, as implementation of the agreed correction was omitted




SDI-IO, check and align use of value 0 for Unknown in enumerations

ID	SPT2TACS-10796
Local ID	EUIO-448
Change Type	Enhancement - Clarification
Current State	BL4R4
Problem Description	see  SPT2TACS-10082 - SDI-XX, check and align use of value 0 for Unknown in enumerations
Proposed Solution	see  SPT2TACS-10082 - SDI-XX, check and align use of value 0 for Unknown in enumerations PhysicalChannelTwoChannelsType - add 0: Unkown
Affected Specifications	SDI-IO

Backwards Compatability	<p>Error correction for BL4R3 and BL4R4.</p> <ul style="list-style-type: none"> - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction. - Critical error: No
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4.1.6 LX-Board

SDI-LC, correct OPC UA version numbers for BL4R4, impact of generic change



ID	SPT2TACS-10792
Local ID	EULX-655
Change Type	Error
Current State	BL4R4
Problem Description	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Proposed Solution	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change
Affected Specifications	IntSpec SDI-LC
Backwards Compatability	See EUAR-812  SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change

SDI-LC, correct diagnostics for WarningLamp

ID	SPT2TACS-10080
Local ID	EULX-654
Change Type	Error
Current State	BL4R4
Problem Description	<p>The class 'LightPoint' must in in the SDI-LS model, not in SDI-Gen. The association from the SDI-LC model will need re-discussion in the SDI Task Force.</p> <p>Is doesn't make sense to refer from the SDI-LC model to the SDI-LS model for diagnostics for Warning Lamps. The functional and physical charateristics of a warning lamp of the LCPF are not comparable to the LightPoint in SubS LS. Instead, the diagnostic attributes for the LC WarningLamp must be defined independently.</p>

Proposed Solution	<p><u>Updated as agreed in SDI Task Force 20251006</u></p> <p>No change is SDI-LS model, all classes and attributes stay as published in BL4R4.</p> <p>Changes in SDI-LC:</p> <ul style="list-style-type: none"> - Remove reference to class LightPoint as defined in SDI-LS. - Create new abstract class LightPointLCPF in SDI-LC, with same attributes, excluding counterLightDurationDay/Night. - Create new instantiation class LightPointSingleLED, with same attributes - To confirm by ProRail: Create new instantiation class LightPointMatrix, with same attributes (confirmed!) - Proposed by SBB: Create new instantiation class LightPointSingleLamp, with same attributes. Also create associated class LightPointSingleFilament (confirmed!)
Affected Specifications	SDI-LC
Backwards Compatability	<p>Error correction for BL4R3 and BL4R4.</p> <ul style="list-style-type: none"> - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction. - Critical error: No

SDI-LC, correct inconsistent data type, trigger values and unused enumerations

ID	SPT2TACS-10799
Local ID	EULX-656
Change Type	Error
Current State	BL4R4
Problem Description	see  SPT2TACS-10160 - SDI-XX, correct inconsistent data type, trigger values and unused enumerations
Proposed Solution	<p>see  SPT2TACS-10160 - SDI-XX, correct inconsistent data type, trigger values and unused enumerations</p> <p>ProtectionFacilityStatus [Eu.SDI-LC.235]: Change Attribute Type to 'diagnosis'</p> <p>timeoutstatus [Eu.SDI-LC.333]: Remove enumeration, with its values</p>
Affected Specifications	SDI-LC
Backwards Compatability	<p>Error correction for BL4R3 and BL4R4.</p> <ul style="list-style-type: none"> - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction. - Critical error: No