



ERJU SYSTEM PILLAR

01 System Requirement Specification ETPS - Annex A Traceability Report



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Preamble




















This report shows the linking between the System Requirement Specification ETPS and

















- System Architecture Description of the Traffic CS ("Coverage of System Functions")
- Risk assessment report for the System Architecture Traffic CS ("Coverage of System Functions")







In addition, the linking between Operational Constraints and System Requirements is shown ("Coverage of Operational Constraints")

Traceability Report















Coverage of Safety Constrains




















ETPS Function	Safety Constraint	System Safety Requirements
 SPMS-4871 - Aggregate movable object information	{C} SPRM-1736 - Integrity of received information for determining train motion state	
	{C} SPRM-1739 - Consistency between information for determining train motion state	
 SPMS-4883 - Authorise movement permissions	{C} SPRM-1444 - Requested track path is distinct from other authorised track paths	
	{C} SPRM-1447 - Maximum authorised distance ends ahead of occupied track	
	{C} SPRM-1561 - Movement permission is free of occupancies	 SPT2TRAFFIC-12351 - Respond to accepted Movement Permission Request via SCI_CMD
		 SPT2TRAFFIC-12359 - Send Movement Authority via I_SUBSET_026
		 SPT2TRAFFIC-16387 - Respond to rejected Movement Permission Request via SCI_CMD
	{C} SPRM-1562 - Movement permission is distinct from other Movement Permissions	 SPT2TRAFFIC-12351 - Respond to accepted Movement Permission Request via SCI_CMD
		 SPT2TRAFFIC-12359 - Send Movement Authority via I_SUBSET_026
		 SPT2TRAFFIC-16387 - Respond to rejected Movement Permission Request via SCI_CMD
	{C} SPRM-1563 - Authorised speed is less or equal to the maximum allowed track speed	 SPT2TRAFFIC-12351 - Respond to accepted Movement Permission Request via SCI_CMD
		 SPT2TRAFFIC-12359 - Send Movement Authority via I_SUBSET_026
		 SPT2TRAFFIC-16387 - Respond to rejected Movement Permission Request via SCI_CMD
	{C} SPRM-1758 - Requested track path adheres to train-side restrictions	
	{C} SPRM-1776 - Maximum authorised distance is within Movement Permission	 SPT2TRAFFIC-16349 - Respond to forwarded Cooperative Shortening Request via SCI_CMD
		 SPT2TRAFFIC-16352 - Forward request for Cooperative Shortening via I_SUBSET_026
	{C} SPRM-2312 - All STAs in the required path are in the required position	 SPT2TRAFFIC-12351 - Respond to accepted Movement Permission Request via SCI_CMD
		 SPT2TRAFFIC-12359 - Send Movement Authority via I_SUBSET_026
		 SPT2TRAFFIC-16387 - Respond to rejected Movement Permission Request via SCI_CMD
 SPMS-4888 - Observe point status		
 SPMS-4903 - Authorise target position of point	{C} SPRM-1699 - Point is free of occupancy	 SPT2TRAFFIC-11250 - Authorise point position
















ETPS Function	Safety Constraint	System Safety Requirements
		 SPT2TRAFFIC-11683 - Respond to accepted point position request via SCI-CMD
		 SPT2TRAFFIC-16390 - Respond to accepted Usage Restriction Request (activate manually operated point without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16391 - Respond to rejected Usage Restriction Request (activate manually operated point without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16467 - Respond to invalid Usage Restriction Request (activate manually operated point with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16469 - Respond to forwarded Usage Restriction Request (activate manually operated point with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16571 - Request signaller confirmation for Usage Restriction Request (activate manually operated point)
	{C} SPRM-1730 - Point position command is sent after performing the safety checks	
	{C} SPRM-1775 - Point is reserved for one movement permission	 SPT2TRAFFIC-11250 - Authorise point position
		 SPT2TRAFFIC-11683 - Respond to accepted point position request via SCI-CMD
		 SPT2TRAFFIC-16390 - Respond to accepted Usage Restriction Request (activate manually operated point without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16469 - Respond to forwarded Usage Restriction Request (activate manually operated point with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16571 - Request signaller confirmation for Usage Restriction Request (activate manually operated point)
 SPMS-4920 - Maintain European Trackside Protection System configuration data		
 SPMS-5724 - Authorise usage restriction areas	{C} SPRM-1701 - Activation process of usage restriction is completed	
	{C} SPRM-1740 - Confirmed usage restriction matches requested usage restriction	
	{C} SPRM-1747 - Requested usage restriction parameters adheres to infrastructure and train-side restrictions	 SPT2TRAFFIC-13994 - Respond to accepted Usage Restriction Request (activate temporary speed restriction without confirmation) via SCI-CMD
		 SPT2TRAFFIC-14335 - Respond to accepted Usage Restriction Request (activate temporary speed restriction) via I_Signaller
		 SPT2TRAFFIC-14373 - Respond to rejected Usage Restriction Request (activate temporary speed restriction) via I_Signaller

ETPS Function	Safety Constraint	System Safety Requirements
		 SPT2TRAFFIC-14374 - Respond to rejected Usage Restriction Request (activate temporary speed restriction without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16466 - Respond to forwarded Usage Restriction Request (activate temporary speed restriction with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16468 - Respond to invalid Usage Restriction Request (activate temporary speed restriction with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16573 - Request signaller confirmation for Usage Restriction Request (activate temporary speed restriction)
 SPMS-6672 - Manage radio communication session with ETCS-OB		
 SPMS-7011 - Monitor+Store European Trackside Protection System asset state		






Coverage of Operational Constrains



























System Architecture Description Traffic CS	System Requirement Specification ETPS	System Requirement Specification ETPS
 SPMS-4871 - Aggregate movable object information		
 SPMS-4883 - Authorise movement permissions		
 SPMS-4888 - Observe point status		
 SPMS-4903 - Authorise target position of point	{C} SPT2TRAFFIC-16394 - Point is manually operated	 SPT2TRAFFIC-11250 - Authorise point position
	{C} SPT2TRAFFIC-16395 - Point is locked	 SPT2TRAFFIC-11250 - Authorise point position
		 SPT2TRAFFIC-16390 - Respond to accepted Usage Restriction Request (activate manually operated point without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16469 - Respond to forwarded Usage Restriction Request (activate manually operated point with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16571 - Request signaller confirmation for Usage Restriction Request (activate manually operated point)
 SPMS-4920 - Maintain European Trackside Protection System configuration data		
 SPMS-5724 - Authorise usage restriction areas	{C} SPT2TRAFFIC-16428 - Usage restriction area is reserved for one movement permission	 SPT2TRAFFIC-13752 - Respond to accepted Usage Restriction Request (activate track closure without confirmation) via SCI-CMD
		 SPT2TRAFFIC-13977 - Respond to accepted Usage Restriction Request (activate track closure) via I_Signaller
		 SPT2TRAFFIC-13994 - Respond to accepted Usage Restriction Request (activate temporary speed restriction without confirmation) via SCI-CMD

System Architecture Description Traffic CS	System Requirement Specification ETPS	System Requirement Specification ETPS
		 SPT2TRAFFIC-14335 - Respond to accepted Usage Restriction Request (activate temporary speed restriction) via I_Signaller
		 SPT2TRAFFIC-14358 - Respond to rejected Usage Restriction Request (activate track closure without confirmation) via SCI-CMD
		 SPT2TRAFFIC-14373 - Respond to rejected Usage Restriction Request (activate temporary speed restriction) via I_Signaller
		 SPT2TRAFFIC-14374 - Respond to rejected Usage Restriction Request (activate temporary speed restriction without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16463 - Respond to forwarded Usage Restriction Request (activate track closure with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16466 - Respond to forwarded Usage Restriction Request (activate temporary speed restriction with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16468 - Respond to invalid Usage Restriction Request (activate temporary speed restriction with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16472 - Respond to invalid Usage Restriction Request (activate track closure with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16570 - Request signaller confirmation for Usage Restriction Request (activate track closure)
		 SPT2TRAFFIC-16573 - Request signaller confirmation for Usage Restriction Request (activate temporary speed restriction)
	{C} SPT2TRAFFIC-16433 - The request is valid	 SPT2TRAFFIC-13752 - Respond to accepted Usage Restriction Request (activate track closure without confirmation) via SCI-CMD
		 SPT2TRAFFIC-13977 - Respond to accepted Usage Restriction Request (activate track closure) via I_Signaller
		 SPT2TRAFFIC-13978 - Respond to rejected Usage Restriction Request (activate manually operated point) via I_Signaller
		 SPT2TRAFFIC-14358 - Respond to rejected Usage Restriction Request (activate track closure without confirmation) via SCI-CMD
		 SPT2TRAFFIC-14369 - Respond to accepted Usage Restriction Request (activate manually operated point) via I_Signaller
		 SPT2TRAFFIC-14371 - Respond to rejected Usage Restriction Request (activate track closure) via I_Signaller
		 SPT2TRAFFIC-16349 - Respond to forwarded Cooperative Shortening Request via SCI_CMD
		 SPT2TRAFFIC-16352 - Forward request for Cooperative Shortening via I_SUBSET_026
		 SPT2TRAFFIC-16354 - Respond to invalid Cooperative Shortening Request via SCI_CMD

System Architecture Description Traffic CS	System Requirement Specification ETPS	System Requirement Specification ETPS
		 SPT2TRAFFIC-16390 - Respond to accepted Usage Restriction Request (activate manually operated point without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16391 - Respond to rejected Usage Restriction Request (activate manually operated point without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16409 - Respond to rejected Usage Restriction Request (activate non-switchability without confirmation) via SCI-CMD
		 SPT2TRAFFIC-16411 - Respond to rejected Usage Restriction Request (activate non-switchability) via I_Signaller
		 SPT2TRAFFIC-16463 - Respond to forwarded Usage Restriction Request (activate track closure with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16467 - Respond to invalid Usage Restriction Request (activate manually operated point with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16469 - Respond to forwarded Usage Restriction Request (activate manually operated point with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16470 - Respond to invalid Usage Restriction Request (activate non-switchability with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16471 - Respond to forwarded Usage Restriction Request (activate non-switchability with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16472 - Respond to invalid Usage Restriction Request (activate track closure with confirmation) via SCI-CMD
		 SPT2TRAFFIC-16570 - Request signaller confirmation for Usage Restriction Request (activate track closure)
		 SPT2TRAFFIC-16571 - Request signaller confirmation for Usage Restriction Request (activate manually operated point)
		 SPT2TRAFFIC-16572 - Request signaller confirmation for Usage Restriction Request (activate non-switchability)
 SPMS-6672 - Manage radio communication session with ETCS-OB		
 SPMS-7011 - Monitor+Store European Trackage Protection System asset state		

Coverage of System Functions

System Architecture Description Traffic CS	System Requirement Specification ETPS
 SPMS-4871 - Aggregate movable object information	 SPT2TRAFFIC-11902 - Report Train Object information based on trackside detection systems
	 SPT2TRAFFIC-11903 - Report Train Object information based on train position reports
 SPMS-4883 - Authorise movement permissions	 SPT2TRAFFIC-12351 - Respond to accepted Movement Permission Request via SCI_CMD

System Architecture Description Traffic CS	System Requirement Specification ETPS
	 SPT2TRAFFIC-12359 - Send Movement Authority via I_SUBSET_026
	 SPT2TRAFFIC-12360 - Send Shorten Movement Authority
	 SPT2TRAFFIC-12818 - Respond to Shorten Movement Permission Request
	 SPT2TRAFFIC-13278 - Forward request to shorten Movement Authority
	 SPT2TRAFFIC-13940 - Respond to Shortened Movement Permission Request - rejected
	 SPT2TRAFFIC-16350 - Respond to accepted Cooperative Shortening Request via SCI-CMD
	 SPT2TRAFFIC-16356 - Respond to rejected Cooperative Shortening Request via SCI-CMD
 SPMS-4888 - Observe point status	 SPT2TRAFFIC-11771 - Report point position
 SPMS-4903 - Authorise target position of point	 SPT2TRAFFIC-11250 - Authorise point position
	 SPT2TRAFFIC-11683 - Respond to accepted point position request via SCI-CMD
	 SPT2TRAFFIC-16438 - Respond to rejected point position request via SCI-CMD
 SPMS-4920 - Maintain European Trackside Protection System configuration data	
 SPMS-5724 - Authorise usage restriction areas	 SPT2TRAFFIC-13752 - Respond to accepted Usage Restriction Request (activate track closure without confirmation) via SCI-CMD
	 SPT2TRAFFIC-13977 - Respond to accepted Usage Restriction Request (activate track closure) via I_Signaller
	 SPT2TRAFFIC-13978 - Respond to rejected Usage Restriction Request (activate manually operated point) via I_Signaller
	 SPT2TRAFFIC-13994 - Respond to accepted Usage Restriction Request (activate temporary speed restriction without confirmation) via SCI-CMD
	 SPT2TRAFFIC-14358 - Respond to rejected Usage Restriction Request (activate track closure without confirmation) via SCI-CMD
	 SPT2TRAFFIC-14379 - Respond to accepted Usage Restriction Request (deactivation) via I_Signaller
	 SPT2TRAFFIC-14380 - Respond to rejected Usage Restriction Request (deactivate track closure) via I_Signaller
	 SPT2TRAFFIC-14384 - Respond to accepted Usage Restriction Request (deactivate temporary speed restriction) via I_Signaller
	 SPT2TRAFFIC-14385 - Respond to rejected Usage Restriction Request (deactivate temporary speed restriction) via I_Signaller
 SPMS-6672 - Manage radio communication session with ETCS-OB	
 SPMS-7011 - Monitor+Store European Trackside Protection System asset state	