




ERJU SYSTEM PILLAR

System Concept_TCCS-Catalogue of Symbols



System Concept_TCCS-Catalogue of Symbols

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Abstract	This document addresses the goal of standardizing the visualization of different users in the railway industry with varying interests. As the unification of vocabulary progresses, the goal is to base the visualization on a single source of truth for the vocabulary concept. The ERA Ontology currently offers a growing number of concepts for the railway industry, and based on it, different data models are being developed to serve various use cases. One of these data models is CCSTMS, which is entirely based on ERA terminologies and targets use cases such as ETCS L2 automated engineering, ATO segment profile generation, Balise telegram generation, route compatibility checks, and more. The Catalogue of Symbols is built on CCSTMS and, accordingly, the ERA Ontology.
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Figure 1. Catalogue of Symbols current development approach

Figure 2. Sample Information link across elements for Switch

Figure 3. CCSTMS and Catalogue of Symbols as middleware

Figure 4. Figure Visualization levels using CCSTMS and Catalogue of Symbols

Figure 5. Catalogue of Symbols integration in a visualization system

Figure 6. Colour philosophy depending on supervision status

Figure 7. Overview of the main objects in the speed and supervision areas

1.1 Introduction

The issue of the different visualization implementations of railway industry systems leads to problems with training time as well as tool development. Across Europe, several stakeholders have a great interest in visualizing and monitoring railway operations, which involve tracks, assets, and more. The railway industry has common assets and operational concepts across Europe due to its historical development and the exchange of concepts over the years. However, few efforts have been directed toward standardizing the visual representation of these concepts. The neglect of these efforts leads to isolated visualization standards and, consequently, the duplication of development and training efforts for the implementation and usage of these standards.

1.2 Purpose

This document addresses the goal of standardizing the visualization of different users in the railway industry with varying interests. As the unification of vocabulary progresses, the goal is to base the visualization on a single source of truth for the vocabulary concept. The ERA Ontology currently offers a growing number of concepts for the railway industry, and based on it, different data models are being developed to serve various use cases. One of these data models is CCSTMS, which is entirely based on ERA terminologies and targets use cases such as ETCS L2 automated engineering, ATO segment profile generation, Balise telegram generation, route compatibility checks, and more. The Catalogue of Symbols is built on CCSTMS and, accordingly, the ERA Ontology.

1.3 Approach

The Catalogue of Symbols approach is to expand per domain through the continuous development of visualization concepts based on user contributions and needs. As the ERA Ontology, is flexible to expand, a back-propagation approach can be applied upon request. Document updates can be based on the following figure. This approach ensures that standardization concepts remain clear and based on standardized terminologies.

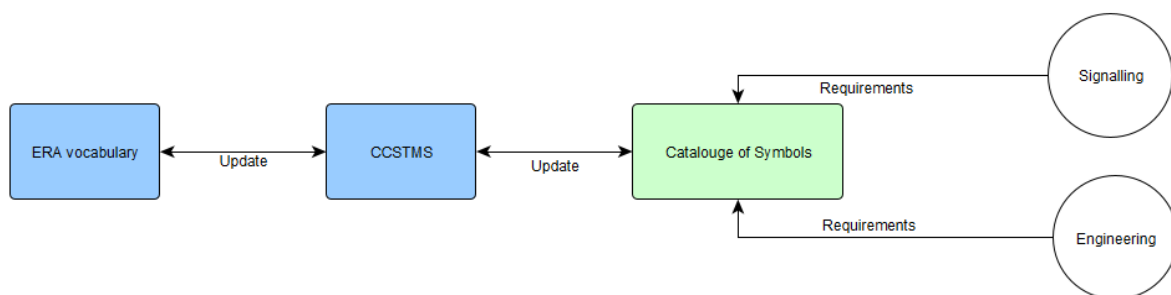


Figure 1 Catalogue of Symbols current development approach

[SPT2TS-130361]



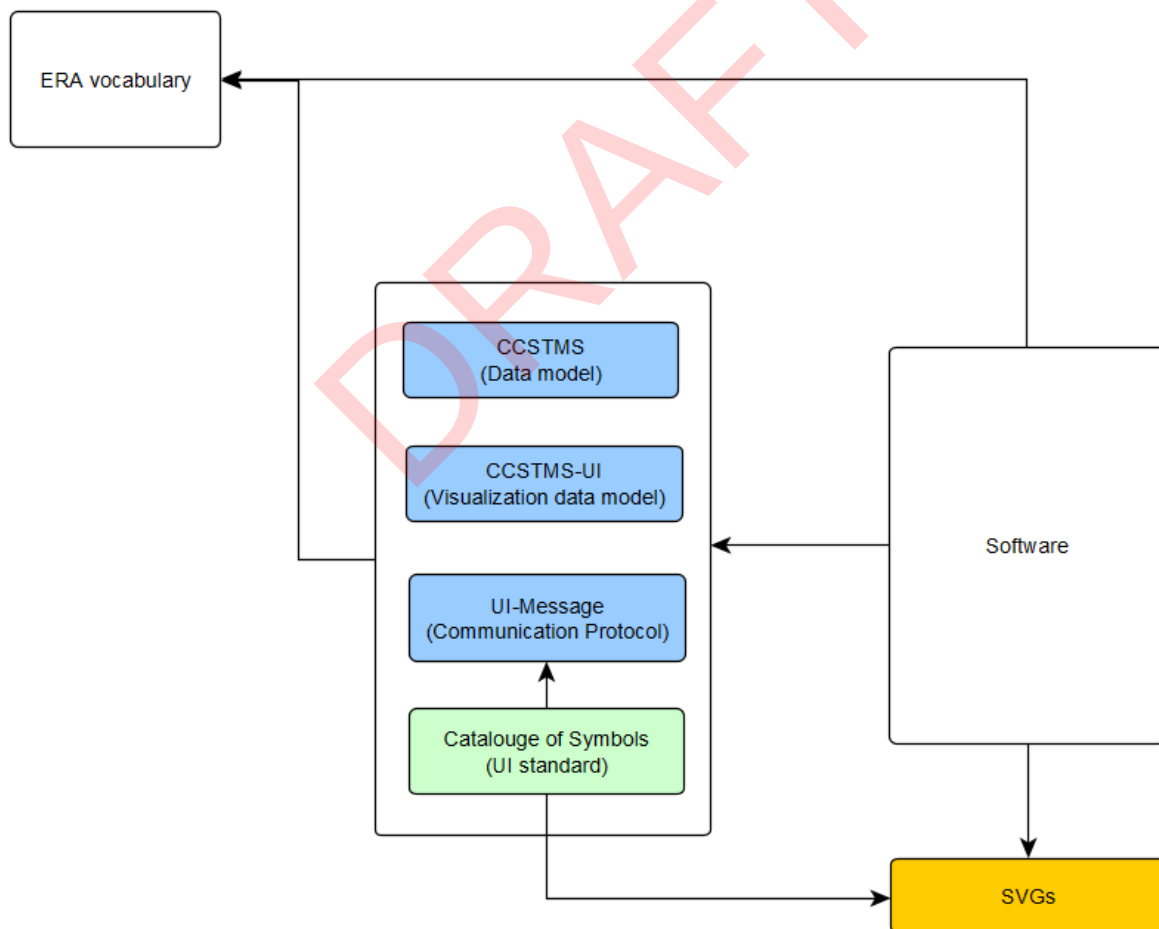
[SPT2TS-130346]

Figure 2 Sample Information link across elements for Switch

1.4 How to use

The Catalogue of Symbols addresses not only the standardization of the visual aspects of assets but also their dynamic operations, if applicable. Hence, the Catalogue of Symbols is not only linked to object names but also to their properties and values. A sample use case is the signaling operation screen, where assets change colors and shapes according to their states. The Catalogue of Symbols document can be considered the user-interface end use, but it is linked to other documents that ensure the required visualization. These artifacts include:

- CCSTMS data file (XML, JSON) for topological and geometrical aspects of tracks and asset locations.
- UI-Message (XML, JSON), which provides a standard communication specification between different systems and assets.
- CCSTMS-UI extension for visualization.



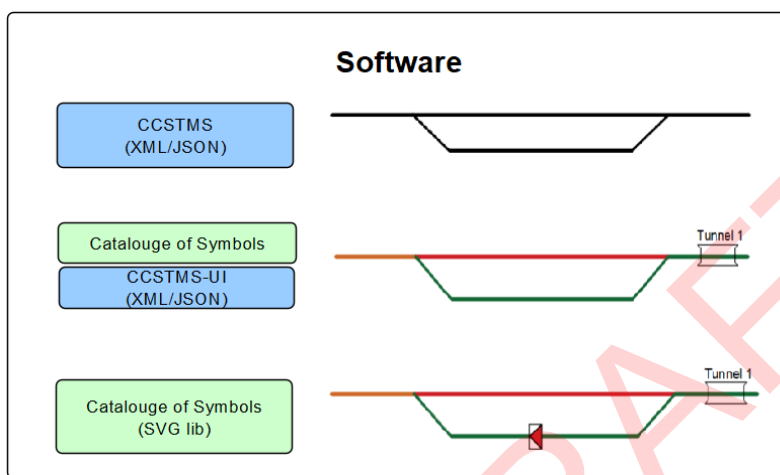
[SPT2TS-130348]

Figure 3 CCSTMS and Catalogue of Symbols as middleware

The product development approach requires the integration of CCSTMS in any required available format, as well as the UI extension. Both serve as configuration files for the visualization system, providing infrastructure information and an initial foundation for visualization. The CCSTMS-UI extension is linked to the Catalogue of Symbols through Id references, where the Catalogue of Symbols offers direct mapping between ERA Ontology information and visualization aspects.

The following figure illustrates the levels of information required to achieve the visualization goal:

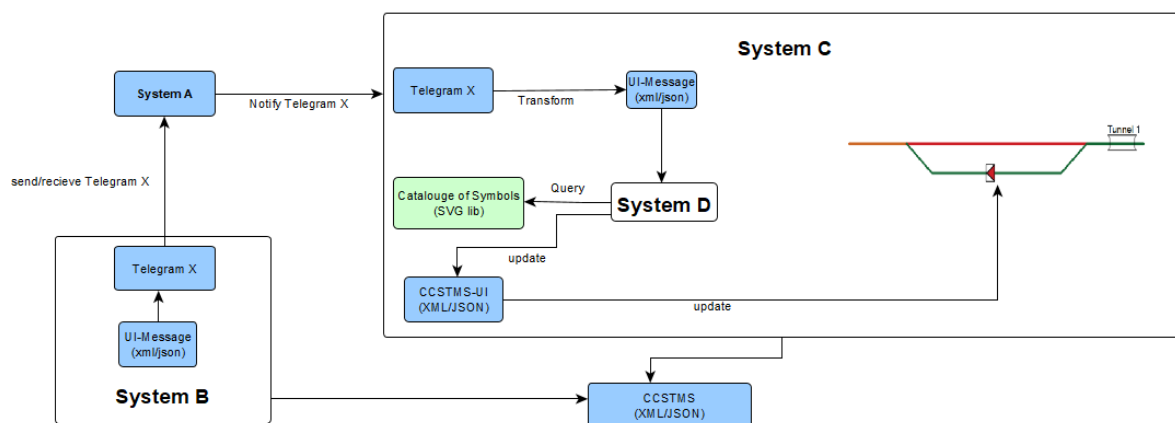
- CCSTMS provides base infrastructure information, including topology and geometry, stored in a map subset.
- CCSTMS-UI adds higher-level information regarding the status of elements by offering styling information and visualizing linear-based CCSTMS elements.
- CCSTMS-UI extension references the Catalogue of Symbols SVG library, which includes point objects.



[SPT2TS-130350]

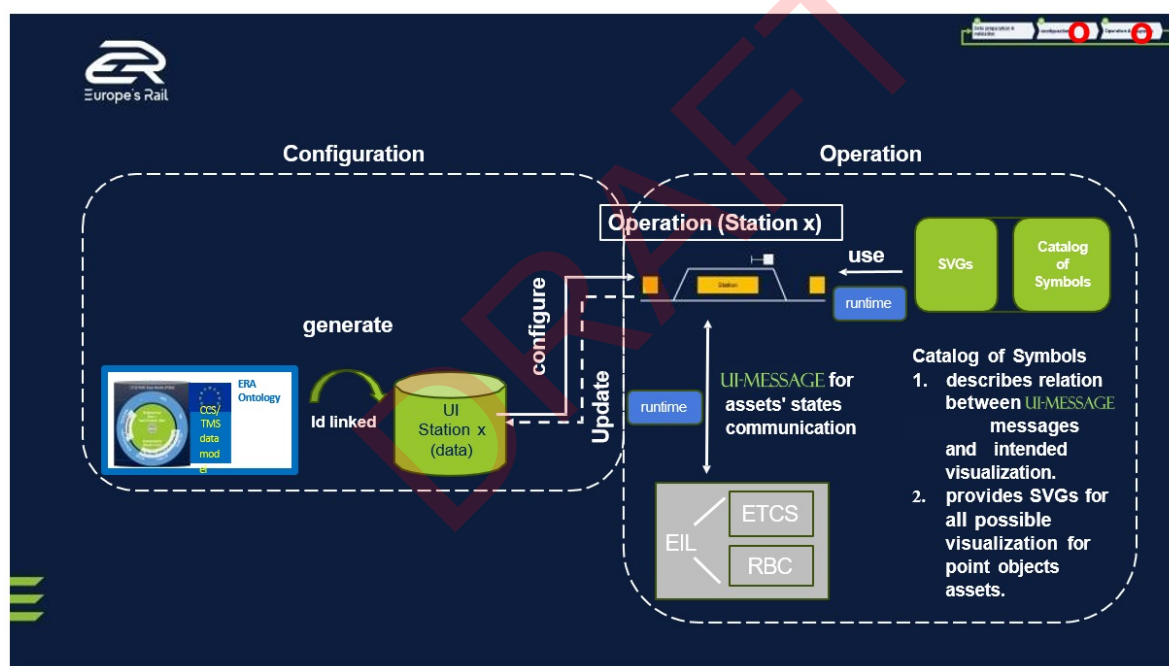
Figure 4 Figure Visualization levels using CCSTMS and Catalogue of Symbols

The Catalogue of Symbols could be used by different users to achieve their visualization goals. An example use case is monitoring the states of different elements in the field by interfacing with a desired system that uses UI-Message as a communication messaging standard. With knowledge of the communicated telegram content and the help of the Catalogue, the states of elements would be updated by mapping the telegram content to the Catalogue of Symbols. Figure 5 provides insights into how this process works. The operation screen use case is further illustrated in Figure 6, where domain-specific information, such as Signaling or Engineering, can be adapted by implementing different views with different CCSTMS Map data.



[SPT2TS-130352]

Figure 5 Catalogue of Symbols integration in a visualization system



[SPT2TS-130354]

1.4.1 Figure # Sample use-case for Operation

Variable	Description
!=	Not Equal to
&&	AND
	OR

Variable	Description
<	Less than
<=	Less than or equal to
' ==	Equal to
>	Greater than
>=	Greater than or equal to
A29_PROCEDURE	Status information for procedure A29 in the ETCS system.
A41_PROCEDURE	Status information for procedure A41 in the ETCS system.
A5_PROCEDURE_STATUS	Status information for procedure A5 in the ETCS system.
A6_PROCEDURE_STATUS	Status information for procedure A6 in the ETCS system.
ABOVE	Vertical offset direction - Up
ACCEPTED	A status flag indicating the value was approved or received.
ACCEPTED_DATA_VALUE	indicating the system-approved data value.
acknowledge	action to confirm receipt or recognition of value
ACKNOWLEDGEMENT_ERTMS_ETCS_LEVEL_ANNOUNCEMENT	Ertms Etcs Level Announcement driver acknowledgement
activate	to enable or turn something on.
ACTIVE	Condition is active
ACTIVE_INPUT_FIELD	Represents if only one input field is active and presented
AD	Application Down
ADHESION_BUTTON_PRESSED	Indicates whether the adhesion button has been pressed
ADHESION_ENTRY_COMPLETE	Indicates whether the adhesion entry process has been completed successfully in the system.
ADHESION_MODIFICATION_PERMISSION	Denotes whether the system allows modifications to the adhesion settings.
ADHESION_ST02	

Variable	Description
	Refers to a specific adhesion status identified by the code ST02 within the system.
ADHESION_STATUS	Indicates whether the driver is allowed to modify the adhesion setting.
ADHESION_WINDOW	Refers to the adhesion window object of the currently active sub-window.
ALIGNMENT	Refers to the proper alignment of the UI components within the system for correct display and interaction.
ALL_BUTTONS	Refers to a state where all relevant buttons in the system have been interacted with.
ALL_INPUT_FIELDS_HAVE_DATA	Checks whether all the input fields in the system or user interface have been filled with valid data.
ALPHA_NUMERIC	Refers to a variable that checks or accepts alphanumeric characters (letters and numbers) for input validation.
ANSWER_PART	Object(answer part)
ANY_KEY	Represents any key pressed on the system's input interface.
ATO	Refers to the Automatic Train Operation system responsible for automating train driving tasks.
ATO_BUTTON	Represents the button used to activate the Automatic Train Operation (ATO) system.
ATO_INFORMATION POSITION	Indicates the position of information relevant to the ATO system.
ATO_SELECTOR	Refers to a selector switch used to choose the operational mode of the Automatic Train Operation (ATO) system.
ATO_SELECTOR_WINDOW	determines the operational mode of the Automatic Train Operation (ATO) system
ATO_WINDOW	Refers to the Automatic Train Operation (ATO) window object

Variable	Description
	of the currently active sub-window.
ATO03_DISPLAY	Refers to the specific display for ATO mode 03 within the system, showing operational information for this mode.
ATO04_DISPLAY	Represents the display for ATO mode 04, showing the status or information specific to this mode.
ATO17_DISPLAY	Refers to the display for ATO mode 17, providing details on the operational status in this mode.
ATO19_DISPLAY	Indicates the display showing status or information for ATO mode 19.
AUTOMATED_DRIVING_MODE	variable representing whether the automatic driving mode is active
AVAILABLE	Status flag indicating the value is ready for use.
AVAILABLE_GSMR_NETWORK_LIST	Represents the list of GSM-R networks detected and available for selection.
BACKGROUND	The visual or functional layer behind the main content of an application.
BACKGROUND_COLOUR	Background colour of the display
BAR	A display style representing speed as a bar
BELOW	Vertical offset direction - Down
BELOW_INPUT_FIELD	Position indicator to place content beneath the input field.
BELOW_INPUT_FIELD_3	half grid array
BELOW_INPUT_FIELD_4	total grid array
BLACK	Style indicator to set the color of an element to black.
BMM_REACTION_INHIBITION_BUTTON	A control used to input or activate the BMM (Brake Management Mode) reaction inhibition function

Variable	Description
BMM_INHIBITION_BUTTON_PRESSED	Status flag indicating that the BMM inhibition button has been pressed.
BORDER	Display style that shows a value within a bordered frame or outline.
BRAKE_RELEASE_CONDITIONS	Conditions required for brake release (e.g., being at standstill)
BRIGHTNESS_BUTTON	Represents the button used to adjust the brightness level of the display or interface.
BRIGHTNESS_WINDOW	Refers to the window in the UI that allows the user to adjust the brightness settings.
BTM_ALARM_REACTION_INIHIBITION	Indicates whether automatic reaction to BTM (Balise Transmission Module) alarms is currently inhibited.
BUTTON_LABEL	Defines the text displayed on the button
BUTTON_SELECTION	Represents the button or soft-key currently selected by the driver.
CAB_ACTIVE	Indicates that the current driving cab is active and authorized for control.
CAPTION_TEXT	Refers to the text displayed as a caption in the UI, often providing contextual information or titles.
CAPTION_TEXT_DISPLAYED	Indicates if caption text is displayed separately
CENTER	Refers to the center alignment of UI elements or content within the window.
CHANGE_WINDOWS_LAYOUT	Represents the action to change the layout of the windows in the user interface.
choose	Action to select a value from available options.
CIRCULAR_SELECTION	Predefined value for TYPE which gives selection menu in a loop kind of way
CLEAR	Command to erase mentioned input values from a field
close	

Variable	Description
	Action to exit or dismiss a window, dialog, or element.
CLOSE_BUTTON	Refers to the button in the user interface used to close the current window or dialog.
COLOUR	Variable to store color value
COLOUR_TARGET	Color requested for target speed elements
COMMUNICATION_SESSION	Refers to the object holding state for the current ETCS communication session.
COMPLETE	Indicates whether a particular process or task has been completed successfully.
CONFIRMED_TRAIN_LENGTH_INFO	Represents train length information that has been verified and confirmed.
CONNECTING	Represents the state where the system is in the process of establishing a connection.
CONNECTION_LOST	Indicates the safe radio connection has been lost
CONNECTION_UP	Indicates that the safe radio connection is active and functioning
CONTACT_LAST_RBC	Button identifier that lets the driver re-establish contact with the most recently used RBC.
CONTACT_LAST_RBC_PRESSED	Represents the state to re-establish contact with the most recently used RBC has been pressed.
CONTINUE_IN_SM_BUTTON	Refers to the button used to continue the process in the SM of the system.
CROSS_CHECK_RULE	Indicates whether the entered data complies with the cross-check rule
CSG	Circular Speed Gauge
CSG_DISPLAY	Circular Speed Gauge display
CSM	Ceiling Speed mode
CSM_TARGET_INFO	CSM (with target information)**

Variable	Description
CURRENT_ERTMS_LEVEL	ERTMS level currently active
CURRENT_ERTMS_LEVEL_VALID	Indicates whether the current ETCS/ERTMS level has been verified as valid.
CURRENT_INPUT_FIELD_VALUE	Variable storing the currently displayed (unaccepted) input
CURRENT_PROCEDURE	Defines the currently running operational or data-entry procedure.
CURRENT_TRAIN_LENGTH	Refers to the length of the train as currently measured or configured.
CURRENT_WINDOWS_LAYOUT	Indicates the arrangement of all active DMI windows at this moment.
CURSOR	Object defining the cursor
D7_RADIO_CONDITIONS_FULFILLED	Indicates that the set of radio conditions labelled "D7" have been met.
D9_RADIO_CONDITIONS_FULFILLED	Indicates that the radio pre-conditions labelled "D9" are satisfied.
DARK_BLUE	Colour dark blue
DARK_GREY	Colour dark grey
ENTERED_VALUE	The value input by the user in a input field.
DATA_ENTRY	Input field used for entering data.
DATA_ENTRY_PROCESS	Process of entering and handling input data.
DATA_FIELD	Predefined value for TYPE which specifies the data field
DATA_VALUE	Variable representing the current input value
DELAY	Timer value in seconds
delete	Action to remove a value or item.
DELETE_BUTTON	Button used to trigger the deletion of a value or item.
deselect	Action to unselect a previously selected value or item.

Variable	Description
disable	Disabled state of an object or a function
DISABLE_SENSITIVITY	Function to disable sensitivity in touchscreen areas
DISPLAY	Display object
DISPLAY_DIGITAL	Digital Display of variables
DISPLAY_FRAME	in which area frame should be displayed
DISPLAY_LAYOUT	Defines the overall DMI display layout being rendered.
DISTANCE_TO_TARGET_BAR	Display element for distance to target shown as a bar
DMI	Driver Machine Interface
document 5.4	Refers to the positioning and dimension specifications for objects when using document 5.4
DOWN	Represents the "Scale Down" action
DOWN_BUTTON	A button object representing 'Down' navigation
DOWNHILL	Indicates an downward gradient
DRIVER_ID	Field used to store the unique identifier of the driver.
DRIVER_ACKNOWLEDGEMENT	Represents the driver's acknowledgement response that has been given.
DRIVER_ACKNOWLEDGEMENT_REQUIRED	Indicates that a driver acknowledgement is awaiting input.
DRIVER_ACKNOWLEDGEMENT_REQUIRED_BRAKE_RELEASE	Condition indicating whether driver acknowledgment is required for brake intervention
DRIVER_ENTERED_NETWORK_TYPE	Indicates that the driver has confirmed a network type selection.
DRIVER_ID_BUTTON_PRESSED	Status flag indicating whether the driver ID button has been pressed.
DRIVER_ID_MODIFICATION_RUNNING	Indicates whether the driver ID is currently in the process of being modified.

Variable	Description
DRIVER_ID_STATUS	Indicates whether the driver ID has been successfully entered and validated.
DRIVER_ID_WINDOW	Refers to the window used for entering or editing the driver ID.
DRIVER_SET_VBC_CAPACITY	Indicates the Virtual Balise Cover (VBC) capacity value as set by the driver.
EACH_INPUT_FIELD	Refers to the loop or iterator traversing every input field of the train-data form.
EMPTY	Empty or null
enable	Enabled state of an object or a function
ENABLE_SENSITIVITY	Function to enable sensitivity in specific areas
END_POSITION	Ending position of a variable
ENHANCED_NUMERIC	A type of keyboard layout
ENTER_KEY	Key used to confirm or submit input.
ENTER_RBC_DATA_BUTTON_PRESSED	Button identifier that opens the data-entry window for manual RBC contact information.
ENTERED	Indicates that a value has been input or submitted.
ENTRY_COMPLETE_CHECK_WINDOW	Represents the window where the completion status of an entry process is checked.
EOA	Refers to the End of Authority, a marker in the railway system that indicates the end of the train's operational authority.
EOA_button	Refers to the button used to confirm or interact with the End of Authority (EOA) in the system.
ERTMS	European Rail Traffic Management System
ERTMS/ETCS_LEVEL_WINDOW	Refers to the window for selecting or displaying the ETCS level
ERTMS_ATO_REQUEST_TRAIN_HOLD	ERTMS/ATO onboard request to display "Train Hold"

Variable	Description
ERTMS_ETCS_LEVEL_ANNOUNCEMENT	Ertms Etcs Level Announcement
ERTMS_ETCS_LEVEL_ANNOUNCEMENT_DISPLAY	Represents the display for showing the ETCS level announcement in the ERTMS system.
ETCS	European Train Control System
ETCS _LEVEL_WINDOW	Refers to the window for selecting or displaying the ETCS level within the system.
EXISTS	Indicates that a value, session, or item is present or available.
exit	Action to leave or close a process or session.
EXIT_SHUNTING_BUTTON_PRESSED	Represents the state when the button to exit shunting mode has been pressed.
EXIT_SM_BUTTON_PRESSED	Refers to the button pressed to exit the current SM process.
FAILED	the failure status or condition within the system. Status indicating a session or process did not complete successfully.
FIRST_AVAILABLE_AREA	Refers to the first available space or area that is empty
FIRST_SELECTION_LIST	Represents the first selection in a list of options or choices presented in the user interface.
FIXED_TRAIN_DATA_ENTRY	Flags that only fixed (non-editable) train data entry is permitted.
FLASHING_STYLE	Type or style of flashing
FLASHING_STYLE	Selected flashing style for indicators or buttons
FLEXIBLE_TRAIN_DATA_ENTRY	Flags that flexible (driver-editable) train data entry is permitted.
FOREGROUND	The active or visible layer in front of the background.
FRMCS	Represents the presence or status of the Future Railway Mobile Communication System stack.

Variable	Description
FRMCS + GSMR	Indicates that both FRMCS and GSM-R capabilities are available or selected simultaneously.
FRMCS_CONNECTION_TIME_ELAPSED	Indicates that the maximum allowed time for an FRMCS connection attempt has expired.
FRMCS_NETWORK	Refers to the specific FRMCS network object currently addressed.
FRMCS_NETWORK_REGISTRATION_STATUS	Status indicator showing the registration state of the FRMCS (Future Railway Mobile network).
FRMCS_REGISTERED_RADIO_NETWORK	Indicates the FRMCS network to which the onboard radio has successfully registered
FS	Full supervision
FULL	Indicates that the capacity or value has reached its maximum limit.
GEO_POSITION	geographical position of the train
GEO_POSITION_STATUS	geographical position of the train is known
GRADIENT_DIRECTION	The direction of the gradient
GRADIENT_ELEMENT	The element representing the gradient
GRADIENT_NUMBER	Represents the gradient or slope of the track, often used to calculate speed and braking requirements.
GSMR	Refers to the Global System for Mobile Communications – Railway, the standardized radio communication system used for ETCS/ERTMS Level 2 and 3 train control.
GSMR Network ID	Refers to the identifier for the GSM-R (Global System for Mobile Communications – Railway) network used for communication between train and trackside systems.
GSMR_CONNECTION_TIME_ELAPSED	Indicates that the maximum allowed time for a GSM-R connection attempt has expired.

Variable	Description
GSMR_NETWORK	Refers to the GSM-R network object currently in use.
GSMR_NETWORK_ID_ENTERED	Indicates that the driver has entered a GSM-R network ID.
GSMR_NETWORK_ID_WINDOW	Refers to the window for manual entry of the GSM-R network ID.
GSMR_NETWORK_LIST	Refers to the current GSM-R network list object (same purpose as above but different tag).
GSMR_NETWORK_REGISTRATION	Indicates the status of GSM-R network registration
GSMR_TERMINAL_1_REGISTRATION	Indicates whether GSM-R terminal 1 is registered to a network.
GSMR_TERMINAL_2_REGISTRATION	Indicates whether GSM-R terminal 2 is registered to a network.
GSMR_TERMINALS_REGISTERED	Indicates the number of GSM-R terminals onboard that are successfully registered to the selected GSM-R network.
HEIGHT	Height of any object
HOOK	Object(hook)
HOOK_AND_BAR	Style where both a hook and a bar are displayed
HOOK_HEIGHT	Height of reference hook
HOOK_ONLY	Style where only the hook (marker) is displayed
HOOK_POSITION	Hook Position Value
HOOK_V_PERMIT	Hook of permitted speed
HOOK_V_TARGET	Hook of target speed
HOOK_WIDTH	Width of reference hook
HOOKS_OVERLAP	Condition to check if two or more hooks overlap
ICON	A small graphical symbol representing an action, object, or status.
ICON_DISPLAYED	Indicates if only icon is displayed

Variable	Description
ICON_TEXT_DISPLAYED	Indicates if text upon icon is to be displayed
INACTIVE	condition is inactive
INDENT	Indentation value
INDICATION_MARKER	Represents a visual marker or symbol used to indicate a specific status or condition in the system.
INFINITE	Represents a value that is infinite or undefined, often used in contexts like time or distance where no limit is imposed.
INITIAL_KEY	Refers to the key used to initialize a system, process, or secure communication.
INITIATE_SM_BUTTON	Represents the button used to initiate a SM process or transition.
INPUT_FIELD	Represents a field in the user interface where the user can enter data or select an option.
INPUT_FIELD_CHANGED_BY_EXTERNAL_INTERFACE	Indicates whether an input field has been modified or updated by an external interface.
INPUT_FIELD_SELECTION	Represents the currently selected input field and its associated type
INPUT_FIELD_STATE	Variable tracking user interaction with a field which can either be selected or not selected. Variable tracking the state of the input field
INPUT_FIELD_VALUE_ACCEPTED	Boolean flag indicating if entered data is accepted
INTS	Intervention Status Information
INVALID	Indicates that the given data or condition is not valid or does not meet the required criteria.
IS	Isolation
IS_MODE	Isolation mode

Variable	Description
KEYBOARD	Refers to the on-screen keyboard or physical keyboard used for entering data in the system.
KEYBOARD_KEY_1	Represents the first key on the keyboard interface.
KEYBOARD_KEY_10	Refers to the tenth key on the keyboard interface.
KEYBOARD_KEY_11	Represents the eleventh key on the keyboard interface.
KEYBOARD_KEY_12	Refers to the twelfth key on the keyboard interface.
KEYBOARD_KEY_2	Represents the second key on the keyboard interface.
KEYBOARD_KEY_3	Refers to the third key on the keyboard interface.
KEYBOARD_KEY_4	Represents the fourth key on the keyboard interface.
KEYBOARD_KEY_5	Refers to the fifth key on the keyboard interface.
KEYBOARD_KEY_6	Represents the sixth key on the keyboard interface.
KEYBOARD_KEY_7	Refers to the seventh key on the keyboard interface.
KEYBOARD_KEY_8	Represents the eighth key on the keyboard interface.
KEYBOARD_KEY_9	Refers to the ninth key on the keyboard interface.
KEYBOARD_LIMIT	Property indicating if input is restricted to a Yes/No keyboard
KEYBOARD_TYPE	Represents the keyboard type (numeric, enhanced numeric, alphanumeric, etc.) shown based on the selected input field
KEYBOARD_TYPE_SELECTIONS	Represents the available selections or types of keyboards available for use.
L_VALUE_V	Length of speed variable
LANGUAGE BUTTON	Refers to the button used to change or select the system language.
LANGUAGE_WINDOW	Represents the window in the user interface that displays

Variable	Description
	available language options or settings.
LENGTH_GRADIENT_ELEMENT	Refers to the length of a gradient element used in track or operational calculations, influencing speed and braking.
LEVEL_BUTTON_PRESSED	Indicates whether the button to select or change the ETCS level has been pressed by the driver.
LEVEL_ENTRY_VALIDATION	Indicates whether the driver's ETCS level entry has passed the system's validation checks.
LEVEL_PRIORITY_TABLE_BUTTON	Represents the button used to access or modify the level priority table in the system.
LS	Limited Supervision
LSSMA	Last Safe Speed Related to the Movement Authority
LSSMA_CONDITION	to check if LSSMA display is required (returns TRUE/FALSE)
LSSMA_NUMBER	LSSMA numeric value
[s]s	Time in seconds
[m]m:ss	Time in minutes and seconds
M_COLOUR_BACKGROUND	Defines the input field's background color
M_COLOUR_data	Defines the text color in the input field
M_COLOUR_DN	Color of Digital Number
M_COLOUR_LABEL	Refers to the color label associated with a specific parameter or status in the system.
M_SP	Represents a specific parameter related to speed or position.
MAIN_WINDOW	Refers to the primary DMI window currently displayed.
MAINTAIN_SHUNTING_BUTTON	Represents the button used to maintain or toggle shunting mode in the system.

Variable	Description
MAINTAIN_SHUNTING_BUTTON_PRESSED	Indicates whether the button to maintain or toggle shunting mode has been pressed.
MAX_SR_DISTANCE	Refers to the maximum distance allowed for the safe running of the trains.
MEDIUM_GREY	Colour Medium Grey
MENU_SELECTION	Variable tracking the total number of selectable menu items
MENU_SELECTIONS	Represents the number of predefined choices available in a dedicated keyboard
MIDDLE	Indicates the central position within a frame or window.
MIN_LENGTH_FOR_GRADIENT_DIRECTION	The minimum length required for the gradient element to display the gradient direction
MIN_LENGTH_FOR_GRADIENT_NUMBER	The minimum length required for the gradient element to display the gradient number
MISSION_WITH_ONE_RADIO_BUTTON	Button identifier that starts the "mission with one radio system" procedure, enabling single radio communication for the mission.
MISSION_WITH_ONE_RADIO_SYSTEM_BUTTON_PRESSED	Button identifier that starts the "mission with one radio system" procedure.
MISSION_WITH_ONE_RADIO_WINDOW	Refers to the window shown when a mission requires only one radio connection.
MISSION_WITH_ONLY_ONE_RADIO_SYSTEM_WINDOW	Represents the window shown when the system is operating with only one radio system
MO18_DISPLAYED	Refers to the display or status indicating that the MO18 (Mode 18) is currently shown or active in the system.
MODE	Defines the current operational mode of the onboard unit according to ETCS specifications.
MODE_ACKNOWLEDGEMENT	Acknowledgement of current mode

Variable	Description
MODE_ACKNOWLEDGEMENT_POSITION	Refers to the position in the system where the mode acknowledgement status is displayed or confirmed.
MODE_SWITCH	Refers to the control or action used to switch between different operational modes in the system.
MODIFIED_INPUT_FIELD_DATA_STATUS	Indicates the status of the modified data in the input field
MORE_BUTTON	Button used to display additional options or information.
NEW_ERTMS_LEVEL	Represents a newly selected or proposed ETCS level awaiting confirmation.
NEXT	Variable defining the next empty value
NEXT_BUTTON	A button object representing 'Next' navigation
NEXT_INPUT_FIELD	Variable defining the next field in input
NEXT_INPUT_FIELD_DATA_STATUS	Represents the status of the next input field data
NEXT_LINE	Refers to the window for manual entry of the GSM-R network ID.
NEXT_RELATED_INPUT_FIELD	Whether a next window with related input fields exists (YES)
NEXT_TOPIC_WINDOW	Indicates if a next window exists for the same data view topic (TRUE)
NL	National Line
NO	Refers to the current GSM-R network list object
NO_BUTTON	Button used to indicate a negative response or to decline an action.
NO_COMPATIBLE_VERSION	Indicates that no compatible software version exists between the RBC (Radio Block Centre) and the OBU (On-Board Unit).
NO_CONNECTION	Indicates there is no active connection

Variable	Description
NO_RESPONSE_FROM_RBC	Indicates that no communication or reply was received from the Radio Block Centre (RBC).
NON_LEADING	ERTMS/ETCS on-board equipment mode when it is connected to an active cab which is not in the leading engine of the train.
NON_LEADING_BUTTON_PRESSED	Status flag indicating the non-leading mode button has been pressed.
NON_LEADING_SIGNAL	Represents whether the train is receiving signal information not intended for the leading vehicle.
NON_SLIPPERY_RAIL	Indicates normal track adhesion; no slippery rail conditions detected or active.
NONE	Indicates the absence of a value, selection, or condition.
NOS	Normal Status Information
NOT_AVAILABLE	Indicates that the requested information or resource is currently unavailable.
NOT_REGISTERED	Indicates that the system or device is not registered on the network.
NOT_SELECTED	Indicates that an input field or value has not been chosen or activated.
NOT_CONSISTANT	Variable indicating that data value is not consistent
NTC	National Train Control
NTC_BUTTON	NTC buttons
NTC_INDICATOR	NTC indicators
NTC_LEVEL	National Train Control ERTMS Level
NUMERIC	Type of Keyboard layout
OBJECT	The requested item, entity, or element within the system.
OBJECTS_2	Refers to the group of display objects excluding keyboard keys, echo texts, and 'data entry

Variable	Description
	complete' objects, following Table 23
OBJECTS_3	Refers to the group of display objects excluding keyboard keys, echo texts, and 'data entry complete' objects, following Table 23
OBJECTS_EXCLUDING_KEYBOARD	Refers to all objects displayed excluding keyboard keys
ONBOARD_DEFAULT_LEVELS_BUTTON	Button used to access or manage default ERTMS/ETCS levels stored onboard the train.
ONBOARD_EMERGENCY_STOP	Represents the status of any emergency stop command issued from within the train.
ONBOARD_EMERGENCY_STOP	Represents the status of any emergency stop command issued from within the train.
ONBOARD_MODE	one of the modes
ONBOARD_RADIO_SYSTEM	Indicates which radio subsystem is currently active on the train.
ONBOARD_VBC	Indicates whether Virtual Balise Cover (VBC) functionality is supported and active onboard.
ongoing	Indicates that a given process or validation is still in progress.
ONLY_ONE_RADIO_MISSION	Indicates that the current mission permits control through only a single radio path.
ONLY_ONE_RADIO_MISSION_BUTTON	Represents a button in the user interface that reveals additional options or information when pressed.
open	Action to launch or make a window, session, or element visible and active.
OPERATIONAL_CROSS_CHECK_RULE	Indicates if the entered data fails the operational cross-check rule
OPERATIONAL_PERMITTED_RANGE_CHECK	Indicates whether the entered data is within the operational range defined for the input field
OPERATIONAL_RANGE_CHECK	Indicates if the entered data fails the operational range check
OS	On sight

Variable	Description
OTHER_INPUT_FIELDS	Refers to additional input areas aside from the primary one, used for entering various data.
OVERLAY	to overlay one object ove other
Override_button	Button used to bypass or manually override an automatic system or function.
OVERRIDE_FUNCTION_ACTIVE	indicating whether the override function is active
OVERRIDE_TRRIGER_SPEED_LIMIT	Represents the speed threshold above which an override cannot be triggered.
OVERRIDE_WINDOW	Refers to the window in the user interface that allows the driver to initiate or interact with the override function.
OVERRIDE_WINDOW_S0	Refers to a specific override window state or mode (S0), typically representing an initial or default override configuration.
OVERRIDE_WINDOW_S1	Refers to a specific override window state or mode (S1), likely representing a different level or configuration for override.
OVERRULE	Allows the driver to override the operational range check rule
OVS	Over-speed Status Information
PARENT_WINDOW	Refers to the parent window object of the currently active sub-window.
PASSIVE_SHUNTING_SIGNAL	Refers to a detected passive shunting signal relevant to the current track segment.
PERMITTED_RANGE_CHECK	Indicates whether the entered data is within the permitted range
PERMITTED	Refers to whether an action or entry is permitted within the system's defined rules and restrictions.
PL23	Refers to a specific procedure or rule defined by the ETCS system, denoted by PL23

Variable	Description
PL37	Refers to a specific procedure or rule defined by the ETCS system, denoted by PL37
PLANNING_INFORMATION	Contains planning information e.g. PASP, Distance scale..
POINTER	Actual Speed
POSITION	Position value of a object
POSITION_BOX	Position inside QUESTION_BOX
POSITION_VALIDATION	Refers to the process of validating the current position of the vehicle within the system.
POSITION_VALIDATION_RECIEVED	Indicates whether the position validation data has been successfully received and processed by the system.
PREDEFINED	Refers to a predefined setting or value that is set by the system or configuration.
PREDEFINED_CHOICES	Represents the predefined options or choices available to the user.
press	Action to push or activate a button.
PRESSED_KEY	Refers to the key that has been pressed by the user on the system's keyboard or input device.
PREVIOUS_PROCEDURE	Represents the last procedure or step that was executed in the system
PREVIOUS_BUTTON	A button object representing 'Previous' navigation
PREVIOUS_LEVEL	Stores the ETCS/NTC level that was active immediately before the current one.
PREVIOUS_PROCEDURE	Refers to the procedure that was active immediately before the current one.
PREVIOUS_RELATED_INPUT_FIELDS	Whether a previous window with related input fields exists (YES or NONE)
PROCEDURE	Refers to a specific operational sequence or set of steps that

Variable	Description
	the system follows to achieve a particular task or result.
PT	Post-Trip
Q_DISPLAY_SBI	Speed at Service Brake Intervention
QUESTION_BOX	Object(question box)
RADIO_DATA_BUTTON	Represents the button used to access or modify radio data settings in the system.
RADIO_NETWORK_TYPE	Refers to the type of radio network being used, such as GSM-R or other communication protocols.
RADIO_CONDITIONS_FULFILLED	Indicates whether the necessary conditions for radio communication are fulfilled and the system is ready for radio operations.
RADIO_DATA_BUTTON_PRESSED	Represents the state when the button to modify or access radio data settings has been pressed.
RADIO_DATA_WINDOW	Refers to the DMI window used for entering or viewing radio parameters.
RADIO_NETWORK_ID_BUTTON	Button identifier that opens the window for entering or selecting a GSM-R network ID.
RADIO_NETWORK_ID_BUTTON_PRESSED	Indicates that the button to access the GSM-R network ID input window has been pressed.
RADIO_NETWORK_TYPE	Defines the selected radio network category in use (e.g., GSM-R, FRMCS).
RADIO_NETWORK_TYPE_BUTTON	Button identifier that opens the dialogue for selecting the desired radio-network type. Refers to the window where the driver selects the network type for RBC communication.
RADIO_NETWORK_TYPE_BUTTON_PRESSED	Indicates that the button for selecting the radio network type has been pressed.
RADIO_NETWORK_TYPE_WINDOW	Refers to the window where the driver can select the radio

Variable	Description
	network type for RBC communication.
RBC_CONTACT_INFO	Represents the contact information of the RBC (Radio Block Center), used for communication purposes.
RBC_CONTACT_INFO_STATUS	Refers to the status of the RBC contact information, indicating whether it is valid or unavailable.
RBC_CONTACT_INFO_VALID	Indicates whether the RBC contact information is valid and usable for communication.
RBC_DATA_ENTRY_COMPLETE	Indicates that all required RBC data have been successfully entered.
RBC_DATA_WINDOW	Refers to the window in the DMI where the driver can view or enter RBC-related data.
RBC_MA_RECEIVED	Indicates that the Movement Authority (MA) message from the RBC has been successfully received.
RBC_MESSAGE	Refers to a message received from the RBC, often related to movement authority, track conditions, or communication status.
RBC_MESSAGE_RECEIVED	Indicates that an RBC message has been successfully received and processed by the system.
RBC_REQUEST_WAIT_TIMEOUT	Represents the timeout period for waiting for a response from the Radio Block Center (RBC) after a request is made.
RBC_SESSION	Indicates whether a communication session with the Radio Block Center is currently established.
RBC_SH_REFUSED	Refers to the status indicating that a request for SH has been refused by the RBC.
RBC_SM_AUTH_RECEIVED	Indicates that a SM authorization message has been received from the RBC.
RBC_SM_REFUSED	Represents the status indicating that a SM request has been refused by the RBC.

Variable	Description
RBC_SR_AUTH_RECEIVED	Refers to the authorization message received from the RBC related to the SR mode.
RBC_TRAIN_	Represents the identification of a train in the context of the RBC communication system.
RBC_TRAIN_.POSITION_VALIDATION	Represents the onboard flag that a position validation request was sent to the RBC.
RBC_TRAIN_.POSITION_VALIDATION_RECIEVED	Indicates that a position-validation response has been received from the RBC (typo in name preserved).
RBC_TRANSITION_ORDER_ONBOARD	Indicates that a transition order to a different RBC is stored onboard.
RECIEVED	Indicates that the data or message has been received by the system.
RED	Colour red
REJECTED	Indicates that a request or message has been rejected by the system or the receiving component.
REMAINING_DISTANCE_TO_TARGET_DIGITAL	Digital display of remaining distance to target
REMAINING_TIME	Available time
REMOVE_VBC	Refers to the action or command to remove the VBC in the system.
REMOVE_SYMBOL	Represents the action to remove a specific symbol from the display or user interface.
REMOVE_VB_BUTTON	Refers to the button used to remove or deactivate a Virtual Balise (VB) in the system.
REMOVE_VBC_VALIDATION_WINDOW	Refers to the removal or deactivation of a Virtual Balise Command (VBC) in the system
REQUESTED	Indicates that a value, mode, or frame has been asked for but not yet confirmed or activated.
RESET	to return a system, value, or setting to its initial state.

Variable	Description
RESOLUTION_CHECK	Verifies if the data meets the resolution constraints
REVALIDATE	Indicates a command or flag to re-validate the data currently displayed.
REVALIDATED	Value has been revalidated
REVERSING_AREA	Area where the train could potentially reverse
REVOKE_BMM_BUTTON	Refers to the button used to revoke or disable the BMM in the system.
REVOKE_BMM_BUTTON_PRESSED	Indicates that the button to revoke the BMM has been pressed.
RIGHT	Refers to the direction "right", used for navigation, movement, or operational purposes within the system.
RSM	Release Speed Monitoring
RV	Reversing mode
S5-4_RADIO_CONDITIONS_FULFILLED	Indicates whether the required radio conditions for communication are fulfilled according to the S5-4 procedure, ensuring reliable radio communication.
SAFE_CONSIST_LENGTH_INFO	Refers to the information about the train's safe consist length received or calculated.
SAFE_CONSIST_LENGTH_INFO_STATUS	Indicates the status of the safe consist length information (e.g., valid, pending, or invalid).
SAFE_RADIO_CONNECTION_STATUS	Status of the safe radio connection
SAME_KEY_PRESSED_IN_2_S	Indicates that the same key has been pressed within a 2-second time window.
SB	Stand By
SCREEN_TECHNOLOGY	Using Touch screen or Soft key
SECOND_INPUT_FIELD	Represents the second input field in the user interface, where the user can enter or select data.

Variable	Description
SELECTION_LIST	Refers to a list of options from which the user can select a specific value or choice in the system.
select	Action to choose a value or activate a button.
SELECTED	Indicates that a specific item, input field, or option has been selected in the user interface.
SELECTED_IF_VALUE_DATA	State where the input field is selected, and the entered or displayed data is the current valid value.
SELECTED_IF_VALUE_OF_PRESSED_KEY	Indicates that the input field is selected and contains a valid value based on the pressed key
SELECTED_TEXT	Represents the text that has been selected in the system
SELECTION_TYPE	Defines the type of input field selection, such as numeric, enhanced numeric, alphanumeric, or dedicated choice-based keyboard
send	Action to transmit or submit a value.
SESSION_OPENING_STATUS	Represents the progress or result of the communication-session opening attempt.
SET_VBC	Refers to the action or command to set or configure the Virtual Balise Command (VBC) within the system.
SET_PROCEDURE	Represents the current Set procedure state (e.g., Set VBC, Set Data).
SET_VB_BUTTON	Refers to the button used to set or configure a Virtual Balise (VB) in the system.
SET_VBC_VALIDATION_WINDOW	Represents the window used for validating the configuration or setup of the Virtual Balise Command (VBC).
SET_VBC_WINDOW	Refers to the window in the user interface used for setting up or configuring the Virtual Balise Command (VBC).

Variable	Description
SETTINGS_BUTTON	Refers to the button that opens or interacts with the settings menu or configuration window.
SETTINGS_WINDOW	Represents the window that displays system or operational settings.
SETTINGS_WINDOW_STATUS	Indicates whether the Settings window is open, closed, or in background.
SETUP_FAILED	Represents the state where the system setup or configuration process has failed.
SF	System Faliure
SF_MODE	System Faliure mode
SH	Shunting Mode
show	Action to display or make an object or element visible in the interface.
SHUNTING	Refers to the operational mode where the train is moving in a limited or controlled manner
SHUNTING_BUTTON	Represents the button used to activate or toggle the shunting mode
SHUNTING_BUTTON_PRESSED	Indicates that the shunting button has been pressed to initiate or toggle shunting mode.
SHUNTING_DIALOGUE_SEQUENCE	Refers to the sequence of dialogue or prompts shown to the user when engaging in shunting mode
SLIPPERY_RAIL	Indicates a condition where the rail is slippery, potentially due to weather or environmental factors
SM	Sleeping Mode
SM_DIALOGUE_SEQUENCE	Represents the dialogue sequence used to interact with the operator during the Sleeping Mode (SM) process or transition.
SN	Speed National
SOFT_KEY_TECHNOLOGY	Indicator for whether soft key technology is used

Variable	Description
SOFT_KEY_TECHNOLOGY GEO_POSITION_STATUS	Represents the status of the geo-positioning system when using soft key technology, indicating the current position of the train.
SOM_POSITION_REPORT	Refers to a report detailing the position of the train.
SOM_POSITION_REPORT_INVALID_POSITION	Indicates that the position report received from the system is invalid, possibly due to errors in position detection.
SOM_POSITION_REPORT_SAFE_CONSIST_LENGTH	Refers to the position report indicating the safe consist length of the train, ensuring safe operation within track limits.
SOM_POSITION_REPORT_UNKNOWN_POSITION	Indicates that the position of the train is unknown or cannot be determined at the moment.
SPECIAL_BUTTON	Represents a button in the system that has a special or unique function
SPECIAL_WINDOW	Refers to a window in the user interface designed for special functions or settings
SR	Staff Responsible
SR_DISTANCE_ONBOARD	Represents the distance measurement on board the train
SR_DISTANCE_VALUE	Represents the specific value of the distance related to staff responsibilities or operational checks.
SR_SPEED_DISTANCE	Refers to the calculated or monitored speed-distance parameter related to the staff responsible (SR) mode.
SR_SPEED_DISTANCE_BUTTON	Represents the button used to interact with or configure the SR speed-distance settings.
SR_SPEED_DISTANCE_BUTTON_PRESSED	Indicates that the SR speed-distance button has been pressed to activate or change the settings.
SR_SPEED_DISTANCE_WINDOW	Refers to the window in the system that displays or allows interaction with the SR speed-distance settings.

Variable	Description
SR_SPEED_VALUE	Represents the specific speed value associated with the SR mode or parameter.
STANDARD_10	Refers to a standard procedure or parameter defined as "10"
STANDSTILL	Indicates that the train is not moving
start	Action to initiate a process or session.
START_BUTTON	Represents the button used to initiate the start process
START_BUTTON_PRESSED	Indicates that the start button has been pressed, signaling the initiation of the start process.
START_OF_MISSION	Represents the beginning of a mission
START_OF_MISSION_INITIATION_CONDITIONS	Indicates whether all prerequisites for Start-of-Mission have been satisfied.
START_POSITION	Starting position of a variable
START_UP_DIALOGUE_SEQUENCE	Refers to the sequence of prompts or dialogue shown to the user when starting up a system or procedure.
STATUS_INFORMATION	Train speed or safety conditions
STM	Specific Transfer Module
STM_CUSTOM_DMI	Indicates if the STM uses a customizable Driver Machine Interface
STM_INFO	STM supervision information state
STM_NATIONAL_TRIP	Refers to a trip or journey specific to national regulations or configurations
STM_REQUEST_DISPLAY_MODE	Display mode requested by the STM (e.g., BAR)
STM_REQUEST_ICON	Request from STM for displaying an icon
STM_UNIFIED_DMI	Indicates usage of unified DMI service
STM_V_SUPERVISION_DISPLAY	STM Request to Display Speed in Bar style

Variable	Description
stop	Refers to the action or process of stopping the system
STYLE	Defines the visual appearance or format of a displayed element.
SUCCESS	Status indicating a process, action, or session completed successfully.
SUPERVISION_STATUS	represents the current supervision status being applied by a train control system
SWITCH_BUTTON	Represents the button used to switch or change between different entry modes in the system.
SWITCH_BUTTON_PRESSED	Flags that the driver pressed a "Switch" button to change entry mode or source.
SWITCHABLE_TRAIN_DATA_ENTRY	Indicates that the operator can switch between fixed and flexible entry modes.
SX	Shunting Mode
SYSTEM_VERSION	Refers to the version of the system being used by the train
SYSTEM_VERSION_BUTTON	Represents the button used to access or display the system version information in the interface.
TABLE_22_SPECIFICATION	Refers to the positioning and dimension specifications for objects when using Table 22
TABLE_23_SPECIFICATION	Refers to the positioning and dimension specifications for objects when using Table 23
TABLE_9	Refers to the positioning and dimension specifications for objects when using Table 9
TECHNICAL_CROSS_CHECK	Variable representing the state of the technical cross-check rule
TECHNICAL_RANGE_CHECK	Validates whether entered data meets technical range requirements
TECHNICAL_RESOLUTION_CHECK	Indicates whether the entered data meets the pre-configured technical resolution

Variable	Description
terminate	Action to end a session or process.
TERMINATED	Status indicating a session or process has ended.
TERMINATED_NO_COMPATIBLE_VERSION	Indicates that the session was terminated because no compatible protocol version was found.
TERMINATION_REASON	Represents the reason or cause for the termination of a session or process
TEXT_MESSAGES	Text Messages
TOGGLED_OFF	Display is hidden/inactive
TOUCH_SCREEN_TECHNOLOGY	Indicator for whether touchscreen technology is used
TOUCH_SCREEN_TECHNOLOGY GEO_POSITION_STATUS	Represents the geo-positioning status when using touchscreen technology
TOUCH_SCREEN_TECHNOLOGY ONBOARD_MODE	Refers to the onboard mode settings or configurations when touchscreen technology is in use
TOUCH_SCREEN_TECHNOLOGY TUNNEL_STOPPING_AREA	Refers to the touchscreen-based interface or display that shows tunnel stopping area information
TR	Trip
TRACKSIDE_LEVELS_PRIORITY_TABLE	Refers to the priority table for ETCS/STM track-side level information transmitted to the cab.
Train Data	Refers to the data related to the train's configuration
Train Integrity	Represents the verification or status of the train's composition
Train Running Number	Refers to the unique identifier or number assigned to a specific train
TRAIN_ACCEPTED	Indicates that the RBC has accepted the train for mission continuation.
TRAIN_DATA_ACK	Indicates that the previously entered train data has been

Variable	Description
	acknowledged by the onboard system.
TRAIN_DATA_ACK_RECEIVED	Indicates reception of the train-data acknowledgement from trackside
TRAIN_DATA_ACKNOWLEDGED	Indicates that the train data has been successfully acknowledged by the system
TRAIN_DATA_AVAILABLE	Indicates that a set of train data is already stored and ready for use.
TRAIN_DATA_BUTTON_PRESSED	Refers to the button pressed by the operator to enter, update, or confirm train data in the system.
TRAIN_DATA_ENTRY_COMPLETE	Indicates that all required train-data fields have been completed.
TRAIN_DATA_INPUT_FIELD	Represents the input field where train data can be entered or modified by the operator.
TRAIN_DATA_STATUS_VALID	Indicates that the stored train data set is valid
TRAIN_DATA_VALID	Represents whether the onboard system has received and accepted complete train data.
TRAIN_DATA_VALIDATION_ENTERED_REVALIDATED	Indicates that the driver has re-validated previously entered train data.
train_data_validation_process	Refers to the process that validates the train data entered into the system
TRAIN_DATA_VALIDATION_WINDOW	Refers to the window that displays or requests confirmation of entered train data.
TRAIN_DATA_VALUE_EXTERNAL	Represents a value obtained from an external source
TRAIN_DATA_VALUE_ONBOARD	Represents a value sourced from existing onboard configuration.
TRAIN_DATA_VALUE_PRECONFIGURED	Represents a value sourced from pre-configured defaults.
TRAIN_DATA_WINDOW	Refers to the window in the user interface where train data is displayed, entered, or modified.

Variable	Description
TRAIN_INTEGRITY_BUTTON	Represents the button used to check or confirm the integrity of the train, ensuring all components are properly connected.
TRAIN_INTEGRITY_BUTTON_PRESSED	Indicates that the button for checking or confirming train integrity has been pressed.
TRAIN_NUMBER	Refers to the unique identifier or number assigned to a specific train
TRAIN_NUMBER_VALID	Specifies whether the entered train number has been accepted as valid by the system.
TRAIN_POSITION_DATA	Refers to the data representing the train's position
TRAIN_POSITION_DATA_STATUS	Indicates validity status of the current train-position data block.
TRAIN_POSITION_LRBG	Refers to the train's most recent valid position relative to the Last Relevant Balise Group (LRBG).
TRAIN_POSITION_LRBG_DATA	Refers to position data computed relative to the last relevant balise group.
TRAIN_POSITION_LRBG_DATA_VALID	Indicates whether the train's position data related to the Last Relevant Balise Group (LRBG) is valid and accurate.
TRAIN_POSITION_VALID	Indicates that the current train position has been determined and is valid.
TRAIN_RUNNING_NUMBER	Represents the train running number value stored onboard.
TRAIN_RUNNING_NUMBER_BUTTON_PRESSED	Represents the action of pressing the button to enter or confirm the train running number.
TRAIN_RUNNING_NUMBER_PRESSED	Status flag indicating the train running number button was pressed.
TRAIN_RUNNING_NUMBER_STATUS	Represents the current status of the train running number
TRAIN_RUNNING_NUMBER_VALID	Indicates whether the entered or selected train running number is valid and meets the system's requirements.

Variable	Description
TRAIN_RUNNING_NUMBER_WINDOW	Refers to the window for inputting the train running number
TRAIN_STATUS	Variable representing the current status of the train
TSM	Target Speed Monitoring
TUNNEL_STOPPING_AREA	Area on screen indicating stop in a tunnel.
TYPE	Defines the mode, format or classification of a component
TYPE_OF_INCONSISTANCY	Specifies the category or nature of a detected mismatch or error.
UN	Unfitted
UNKNOWN	Any other value apart from the specified set of values
UNLINKED_BALISE_GROUP	Indicates a balise group not linked to a predefined track location.
UP	Represents the "Scale Up" action
Up_button	Predefined value for TYPE which specifies up button: A button object representing 'Up' navigation
UPHILL	Indicates an upward gradient
UPPER_LIMIT	The maximum value allowed or displayed for an item.
USE_SHORT_NUMBER_BUTTON	Button identifier that lets the driver dial the RBC via a short (abbreviated) number.
USE_SHORT_NUMBER_BUTTON_PRESSED	Indicates that the "Use Short Number" button has been pressed.
V	Current Train Speed
V_RELEASE_STYLE	Specifies the display style of the release speed bar
V_SBI	Service Braking Intervention speed.
V_STYLE	Specifies the display style of the supervision speed bar
V_SUPERVISION	Supervision mode speeds


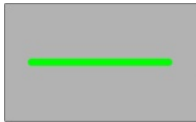
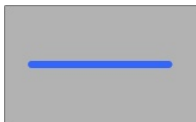
Variable	Description
VAILD_ERTMS_LEVEL	Checks if CURRENT_ERTMS_LEVEL is vaild
VALID_BUTTON_ACTIVATION	Boolean flag indicating whether the driver has performed a valid button activation on a delay-type button.
VALID_COMM_RBC_SESSION_VERSION_GT_2_2	Indicates whether a valid communication session with the RBC is established using a version greater than 2.2.
VALIDATED	Indicates that a specific item, value, or process has been successfully checked and confirmed as valid.
VALIDATED_LEVEL	Represents the ETCS level that has been confirmed as valid by wayside and onboard.
VALIDATION_PROCESS	Refers to the process used to verify and confirm the validity of certain system data or parameters.
VALIDATION_PROCESS_DATA	Represents the data involved in the validation process
VALIDATION_WINDOW	Refers to the window in the user interface that displays or interacts with the data being validated.
VALUE_FROM_PREVIOUS_S3_1	Refers to a value taken from a previous state or procedure (S3-1)
VALUE_FROM_PREVIOUS_S6-1	Refers to a value taken from a previous state or procedure (S6-1)
VALUE_FROM_PREVIOUS_S7-1	Represents a value taken from a previous state or procedure (S7-1)
VALUE_PROPOSED	Indicates a value that has been proposed or suggested for use
VBC_REMOVE_CODE	Refers to the code used to remove or deactivate a Virtual Balise Command (VBC) in the system.
VBC_REMOVE_VALUE	Represents the value associated with the removal or deactivation of a Virtual Balise Command (VBC).


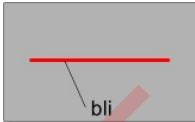


Variable	Description
VBC_SET_CODE	Refers to the code used to set or activate a Virtual Balise Command (VBC) within the system.
VBC_VALIDATE_VALUE	Represents the value used to validate the settings or configuration of a Virtual Balise Command (VBC).
VERTICAL_CENTRE	Refers to the vertical alignment or center position in a user interface
VOLUME	Represents the system's audio or sound level
VOLUME_BUTTON	Represents the button used to adjust the volume level in the system.
VOLUME_WINDOW	Refers to the window or interface where the user can adjust or view the volume settings.
wait	halts execution until the given condition becomes true
WAS	Warning Status Information
WHITE	Colour White
WHOLE_AREA	Flashing style where the entire object toggles visibility
WIDTH	Width of any object
window	Window screen
window_grid_areas	Represents the specific areas of the screen/grid that the window covers
window_text_label	Refers to the window's title text label
WINDOW_TITLE	Title of the Window
YELLOW	Colour Yellow
YELLOW_FRAME	Flashing style where a yellow frame surrounds the object
Yes_button	Button object for the [Yes] button
yes_no_choice	Variable indicating whether input is Yes/No type



Variable	Description
ZOOM_AREA	Function related to zoom area
FALSE	If condition is false
TRUE	If condition is true

1.5 Operational Screen

1.5.1 TrackEdgeSection

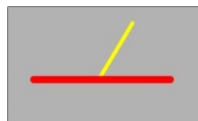
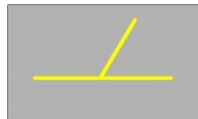

Description	UI-Message	Symbol	SVG file
Secured free track section	11392.current_status_data=true		No
Secured free track section with train route set	11392.route_marking_and_occupancy=1		No
Secured free track section with shunting route set	11392.route_marking_and_occupancy=2		No

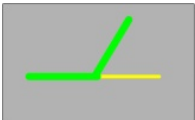
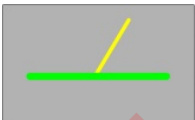
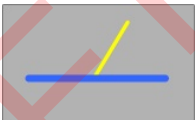

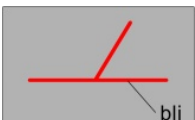
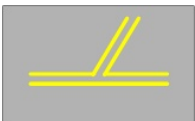
Description	UI-Message	Symbol	SVG file
Secured occupied track section	11392.route_marking_and_occupancy =3		No
Track section without current state data	11392.current_status_data=false		No
Secured free track section, traffic is blocked	11392.current_status_data=true AND 11392.locked =true		No
Secured occupied track section, traffic is blocked	11392.route_marking_and_occupancy =3 AND 11392.locked =true		No


Description	UI-Message	Symbol	SVG file
Secured free track section with train route set, traffic is blocked	11392.route_marking_and_occupancy =1 AND 11392.locked =true		No
Secured free track section with shunting route set, traffic is blocked	11392.route_marking_and_occupancy =2 AND 11392.locked =true		No

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1.5.2 SimplePoint

Description	UI-Message	Symbol	SVG file
Occupied, right	11403.position =true AND 11403.route_marking_and_occupancy =3		No
Free	(11403.position =false OR 11403.position =true) AND 11403.current_status_data=true		No
Occupied, Left	11403.position =false AND 11403.route_marking_and_occupancy		No


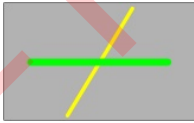
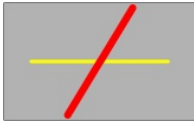
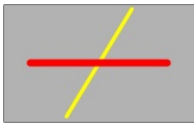
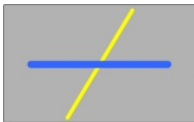

Description	UI-Message	Symbol	SVG file
	=3		
Occupied, left, train route set	11403.position =false AND 11403.route_markin g_and_occupancy =1		No
Occupied, right, train route set	11403.position =true AND 11403.route_markin g_and_occupancy =1		No
Occupied, right, shunting route set	11403.position =true AND 11403.route_markin g_and_occupancy =2		No
Occupied, left, shunting route set	11403.position =false AND 11403.route_markin g_and_occupancy =2		No
Without current state data	11403.current_status_data=false		No
Free, traffic blocked	(11403.position =false OR 11403.position =true) AND 11403.current_status_data=true AND 11403.locked=true		No

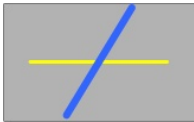
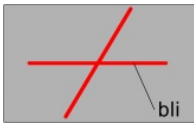

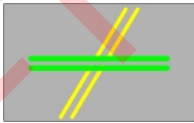
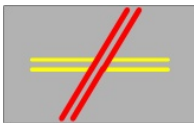
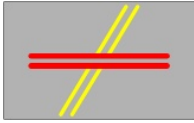
Description	UI-Message	Symbol	SVG file
Occupied, Left, traffic blocked	11403.position =false AND 11403.route_markin g_and_occupancy =3 AND 11403.locked=true		No
Occupied, right, traffic blocked	11403.position =true AND 11403.route_markin g_and_occupancy =3 AND 11403.locked=true		No
Occupied, right, train route set, traffic blocked	11403.position =true AND 11403.route_markin g_and_occupancy =1 AND 11403.locked =true		No
Occupied, left, shunting route set, traffic blocked	11403.position =false AND 11403.route_markin g_and_occupancy =2 AND 11403.locked =true		No
Occupied, right, shunting route set, traffic blocked	11403.position =1 AND 11403.route_marking_ and_occupancy =2 AND 11403.locked =true		No
Occupied, left, train route set, traffic blocked	11403.position =false AND 11403.route_markin g_and_occupancy		No

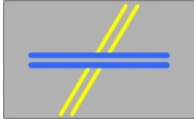


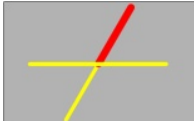
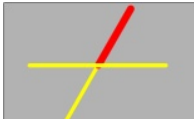
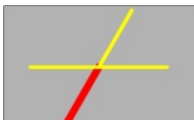
Description	UI-Message	Symbol	SVG file
	=true		

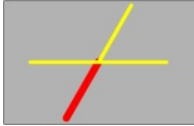
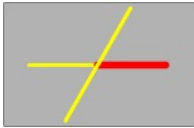

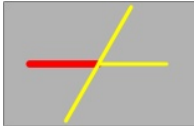

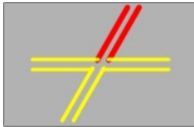
[SPT2TS-130355]

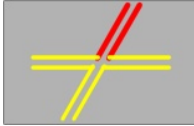
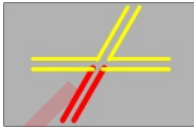
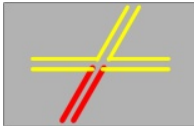
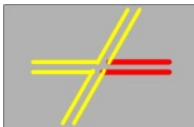
1.5.3 Crossing


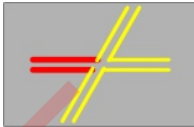
Description	UI-Message	Symbol	SVG file
Free	11393.current_status_data=true		No
Occupied, right, train route set	11393.position=true AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=1		No
Occupied, Left	11393.position=false AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=3		No
Occupied, right	11393.position=true AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=3		No
Occupied, right, shunting route set	11393.position=true AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=2		No
Occupied, left, train route set	11393.position=false AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=1		No

Description	UI-Message	Symbol	SVG file
Occupied, left, shunting route set	11393.position=false AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=1		No
Without current state data,	11393.current_status_data=false		No
Free, traffic blocked	11393.current_status_data=true AND 11393.locked=true		No
Occupied, right, train route set, traffic blocked	11393.position=true AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=1 AND 11393.locked=true		No
Occupied, left, traffic blocked	11393.position=false AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=3 AND 11393.locked=true		No
Occupied, right, traffic blocked	11393.position=true AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=3 AND 11393.locked=true		No

Description	UI-Message	Symbol	SVG file
Occupied, right, shunting route set, traffic blocked	11393.position=true AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=2 AND 11393.locked=true		No
Occupied, left, train route set, traffic blocked	11393.position=false AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=1 AND 11393.locked=true		No
Occupied, left, shunting route set, traffic blocked	11393.position=false AND 11393.current_status_data=true AND 11393.route_marking_and_occupancy=2 AND 11393.locked=true		No
Free, train route set, above occupied	11393.current_status_data=true AND 11393.position=false AND 11393.occupancy_right_part=1		No
Free, train route set, above occupied	11393.current_status_data=true AND 11393.position=true AND 11393.occupancy_right_part=1		No
Free, train route set, below occupied	11393.current_status_data=true AND 11393.position=false AND 11393.occupancy_left_part=1		No

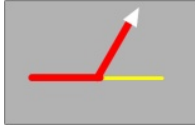
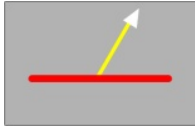
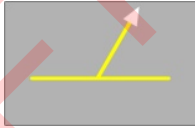
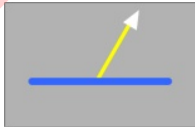
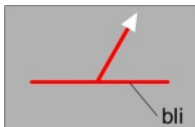
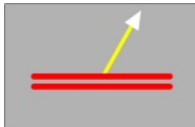
Description	UI-Message	Symbol	SVG file
Free, train route set, below occupied	11393.current_status_data=true AND 11393.position=true AND 11393.occupancy_left_part=1		No
Free, train route set, right occupied	11393.current_status_data=true AND 11393.position=false AND 11393.occupancyright_part_postive=1		No
Free, train route set, right occupied	11393.current_status_data=true AND 11393.position=true AND 11393.occupancyright_part_postive=1		No
Free, train route set, left occupied	11393.current_status_data=true AND 11393.position=true AND 11393.occupancy_left_part_postive=true		No
Free, train route set, left occupied	11393.current_status_data=true AND 11393.position=false AND 11393.occupancy_left_part_postive=true		No
Free, train route set, above occupied, traffic blocked	11393.current_status_data=true AND 11393.position=true AND 11393.OCCUPANCY_RIGHT_PART=-1 AND 11393.locked=true		No

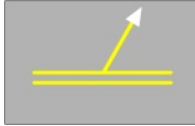
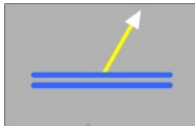

Description	UI-Message	Symbol	SVG file
Free, train route set, above occupied, traffic blocked	11393.current_status_data=true AND 11393.position=false AND 11393.OCCUPANCY_RIGHT_PART-=1 AND 11393.locked=true		No
Free, train route set, below occupied, traffic blocked	11393.current_status_data=true AND 11393.position=false AND 11393.OCCUPANCY_LEFT_PART-=1 AND 11393.locked=true		No
Free, train route set, below occupied, traffic blocked	11393.current_status_data=true AND 11393.position=true AND 11393.OCCUPANCY_LEFT_PART-=1 AND 11393.locked=true		No
Free, train route set, right occupied, traffic blocked	11393.current_status_data=true AND 11393.position=true AND 11393.occupancyright_part_postive=1 AND 11393.locked=true		No

Description	UI-Message	Symbol	SVG file
Free, train route set, right occupied, traffic blocked	11393.current_status_data=true AND 11393.position=false AND 11393.occupancyright_part_postive=1 AND 11393.locked=true		No
Free, train route set, left occupied, traffic blocked	11393.current_status_data=true AND 11393.position=true AND 11393.occupancy_left_part_postive=true AND 11393.locked=true		No
Free, train route set, left occupied, traffic blocked	11393.current_status_data=true AND 11393.position=false AND 11393.occupancy_left_part_postive=true AND 11393.locked=true		No

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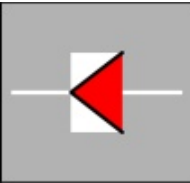
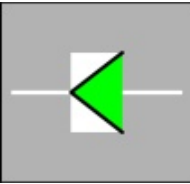
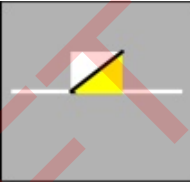
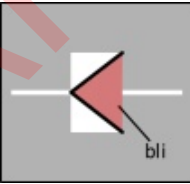
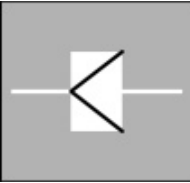
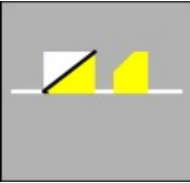
1.5.4 Derailer

Description	UI-Message	Symbol	SVG file
Occupied, put up	11403.position=false AND 11403.current_status_data=true AND 11403.route_marking_and_occupancy =3		No
Occupied, put down	11403.position=true AND 11403.current_status_data=true AND 11403.route_marking_and_occupancy =3		No
Free	11403.position=true AND 11403.current_status_data=true		No
Free, shunting route set, put down	11403.position =true AND 11403.current_status_data=true AND 11403.route_marking_and_occupancy =2		No
Without current state data.	11403.current_status_data=false		No
Occupied, put down, traffic blocked	11403.position =true AND 11403.current_status_data=true AND 11403.locked=true AND 11403.route_marking_and_occupancy =3		No

Description	UI-Message	Symbol	SVG file
Free, traffic blocked	11403.position=true AND 11403.current_status_data=true AND 11403.locked=true		No
Free, shunting route set, put down, traffic blocked	11403.position=true AND 11403.current_status_data=true AND 11403.locked=true AND 11403.route_marking_and_occupancy=2		No
Free, Occupied, put up, traffic blocked	11403.position=false AND 11403.current_status_data=true AND 11403.locked=true AND 11403.route_marking_and_occupancy=3		No

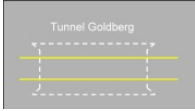
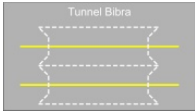
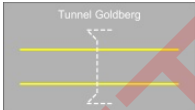



[SPT2TS-130351]

1.5.5 ETCSmarker

Description	UI-Message	Symbol	SVG file
ETCS Stop Marker Stop	11401.current_status_data =true		Yes
ETCS Stop Marker Go	11401.current_status_data =true and (11401.drive=1 or 11401. drive_and_stop_at_next_si gnal =true)		Yes
	11401.current_status_data =true and 11401.etcs_ma=true		Yes
Without status data	11401.current_status_data =false		Yes
Out-of-Service	11401.current_status_data =true and 11401.signal_unused=true		Yes
	11401.current_status_data =true and 11401.etcs_ma=true		Yes

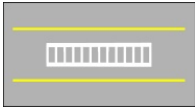
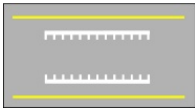

[SPT2TS-130349]

1.5.6 Tunnel

Description	Remarks	Symbol	SVG file
single-tube tunnel	length is variable tunnel follows track position		No
twin-tube tunnel	length is variable tunnel follows track position		No
single tube, tunnel portal, representation of a (example two-track)	length is variable		No
single tube, tunnel portal, representation of a (example single-track)	length is variable		No
twin-tube, tunnel portal	length is variable		No
Tunnel crossing	Width variable		No


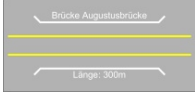
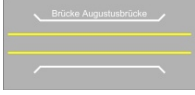
[SPT2TS-130347]

1.5.7 Platform

Description	Remarks	Symbol	SVG file
double-sided, rail-mounted platform edge	length is variable		No
double-sided, arrangement of a, platform edge with large, track spacing on the touching side.	length is variable		No
double-sided, rail-mounted edge,	length is variable		No

[SPT2TS-130345]

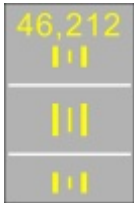
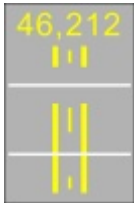
1.5.8 Bridge

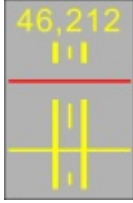


Description	Remarks	Symbol	SVG file
double-track bridge	length is variable		No
double-track bridge with naming and length	length is variable		No
double-track bridge with naming	length is variable		No

[SPT2TS-130344]

1.5.9 Level Crossing

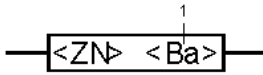

Description	UI-Message	Symbol	SVG file
	11414.current_status_data =true		No
Accessibility barrier set for track	11414.current_status_data =true		No
Accessibility barrier set for interference stop	11414.current_status_data =true		No
Without current status – Track related	(11413.current_status_data =false AND (11414.current_status_data =false OR 11414.replace ment_mode =false)) or (11413.current_status_data =false AND (11414.current_status_data =true AND 11414.replace ment_mode =true)) AND 11414.current_status_data =true		No

Description	UI-Message	Symbol	SVG file
Without current status – Level Crossing related	11414.current_status_data =false		No
Full barrier closure without GFR	11414.current_status_data =true AND (11414.caution_ message =true OR 11414.caution_message_fl ashing =true)		No
Hp-System double track, unclaimed, not technically secured	11414.current_status_data =true AND 11413.status_regarding_tr ack =0		No
Hp-System double track, lower track, technically secured	11414.current_status_data =true AND 11413.status_regarding_tr ack =0		No
Hp-System double track, both tracks technically secured	11414.current_status_data =true AND 11413.status_regarding_tr ack =0		No
Hp-System double track, upper track technically secured	11414.current_status_data =true AND 11413.status_regarding_tr ack =0		No

Description	UI-Message	Symbol	SVG file
Hp-System double track, upper track technically secured	11414.current_status_data =true AND 11413.status_regarding_track =3		No
	11414.current_status_data =true		No
	11414.current_status_data =true		No

[SPT2TS-130343]

1.5.10 Train Mode

Description	UI-Message	Symbol	SVG file
<p>-The operating mode [1] is displayed as part of the train number. It will be shown to the right of the train number with two letters separated by one space.</p> <p>-the box indicating train is running in ETCS encloses both the train number and the operating mode</p>	1 gn, ge, bl, rt, ws		
<p>- Not Running in ETCS</p> <p>- Operating mode not defined (National System)</p>	12410.m_mode = 13		No

Description	UI-Message	Symbol	SVG file
Automatic Driving			No
Full Supervision	12410.m_mode = 0		No
On Sight	12410.m_mode = 1		No
Reversing	12410.m_mode = 14		No
Shunting	12410.m_mode = 3		No
Supervised Maneuver	12410.m_mode = 12		No

Description	UI-Message	Symbol	SVG file
Staff Responsible	12410.m_mode = 2		No
Trip	12410.m_mode = 7		No
Post Trip	12410.m_mode = 8		No
Unfitted	12410.m_mode = 4		No
Sleeping	12410.m_mode = 5		No
Stand By	12410.m_mode = 6		No

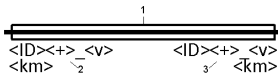
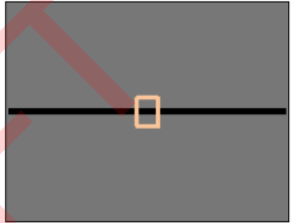


Description	UI-Message	Symbol	SVG file
System Failure	12410.m_mode = 9		No
Isolation	12410.m_mode = 10		No
No Power			No
Non Leading	12410.m_mode = 11		No
Passive Shunting	12410.m_mode = 15		No


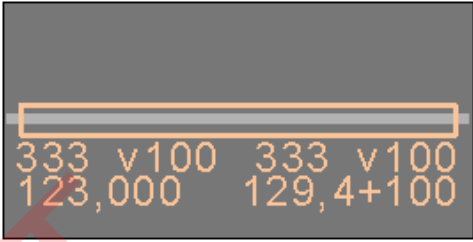
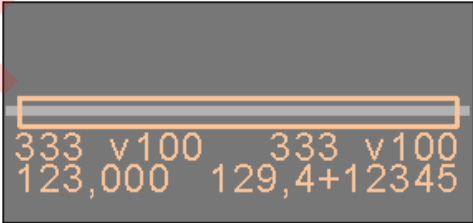
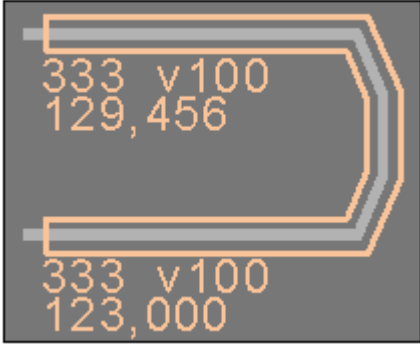
[SPT2TS-130342]

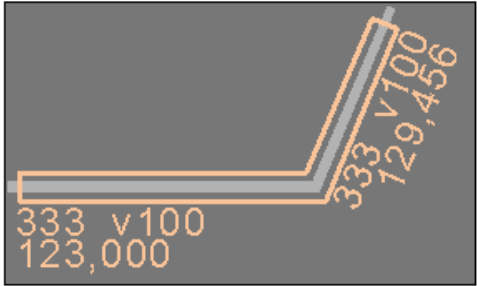
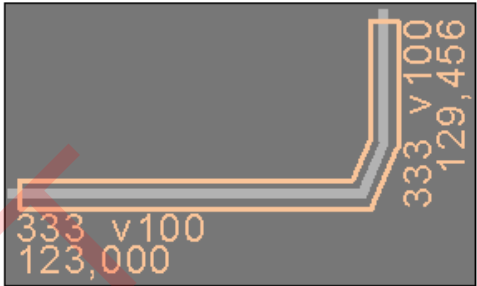
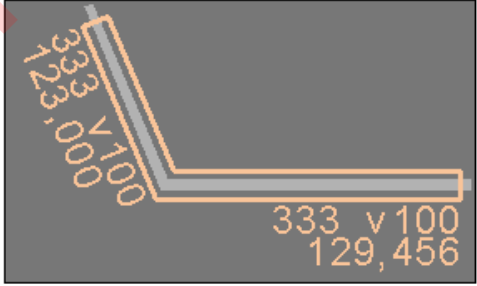

2 Operation

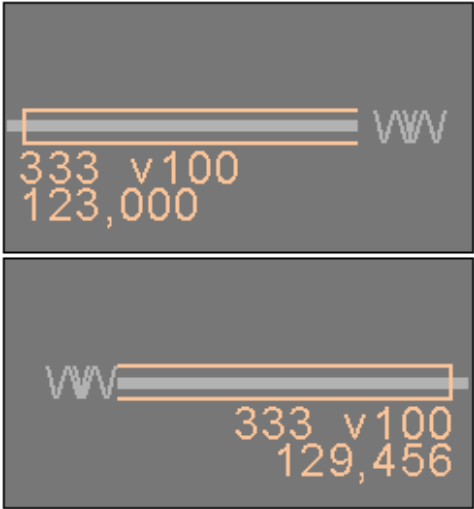
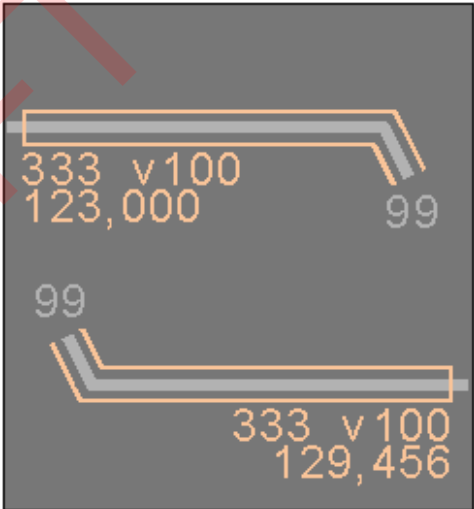
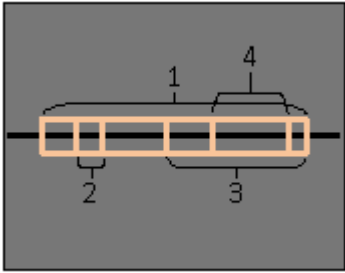
2.1 Temporary Speed Restrictions (TSR)





2.1.1 Representation of TSR

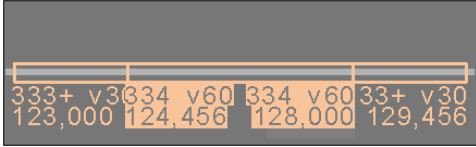
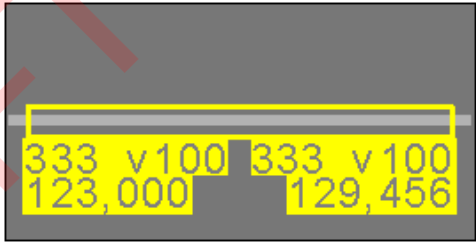
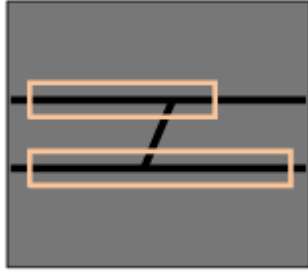
Colour and Restriction	Telegram	symbol Name	Symbol / description
[Black (lfst)]	112401.TypeOfRestriction = 6C667374	SPT2TS-123537	 <p>Special features of the inscription:</p> <ul style="list-style-type: none"> - For two-digit ID with leading zero - Numerical speed indications moving up to the leading "v" - For kilometre indications smaller than 1km, the location is still indicated in [km] (the leading zero is shown in front of the decimal point). <p>Display Temporary Speed Restrictions (TSR) on the ETCS view magnifier:</p> <ul style="list-style-type: none"> - The display symbol [1] of the TSR is a rectangle with fixed height and dynamic width - The labels [2] & [3] contain the ID, the optional overlay indicator "v", the kilometre marking and the speed indication - (" " as a placeholder for the space character) <p>pf active 1, 2, 3 ge not active</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Overview	 <p>Display minimum width of restrictions with dynamic expansion:</p> <ul style="list-style-type: none"> - Minimum width for the display of restrictions with dynamic expansion is the width of an alphanumeric character.
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom	 <p>Display in basic state, without special features:</p> <ul style="list-style-type: none"> - Labelling on both sides and below - Two-line lettering - ID three digits in the first line - TSR speed indication three-digit with leading "v" in the first line - Kilometres before and after the decimal point, each with three digits in the second line
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 2	 <p>Display short restriction:</p> <ul style="list-style-type: none"> - Labelling on left side only <p>Note: The right-bound text shall be suppressed if a minimum distance of two alphanumeric letters between two text elements can not be met.</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 3	

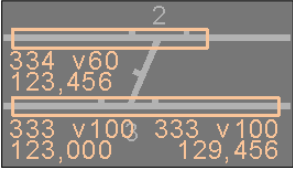
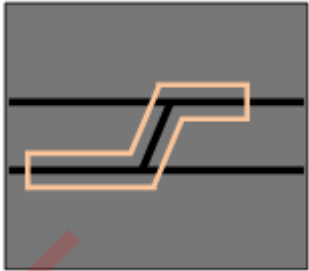
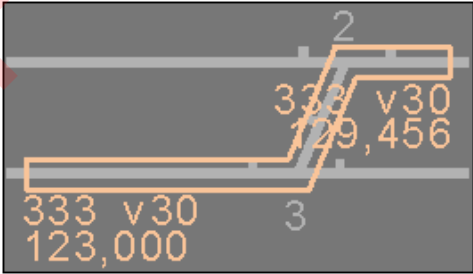
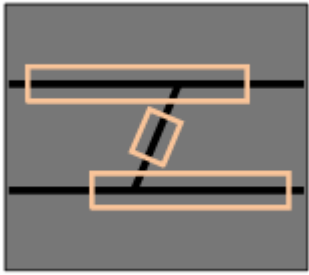
Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Special features of the inscription:</p> <ul style="list-style-type: none"> - For two-digit ID with leading zero - Numerical speed indication moving up to the leading "v" - For kilometre indications smaller than "1km, the location is still indicated in [km] (the leading zero is shown in front of the decimal point).
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 4	 <p>Display overlength:</p> <ul style="list-style-type: none"> - In the case of overlength, the kilometre figure after the decimal point is shown as a one-digit figure with "+" and the indication of the overlength.  <p>Display overlength - maximum indication of overlength:</p> <ul style="list-style-type: none"> - maximum permissible overlength is up to five numeric characters.  <p>Alignment of the inscription - complete rotation:</p> <ul style="list-style-type: none"> - Both parts of the caption are placed below the associated ends of the restriction <p>Mind the direction of reading!</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 5	

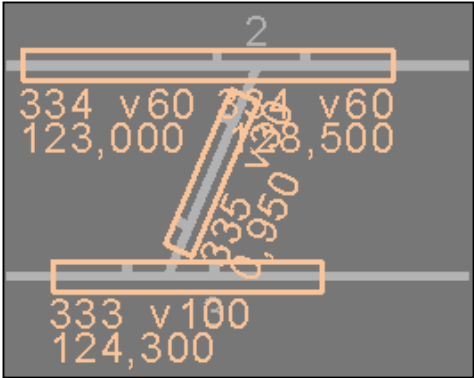
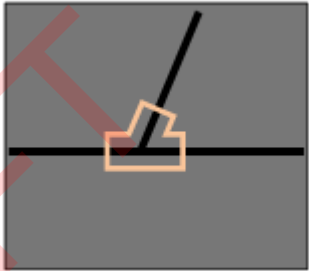
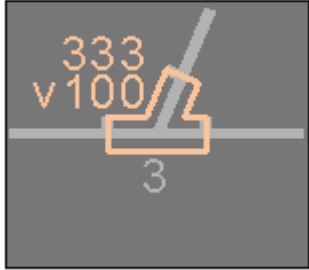
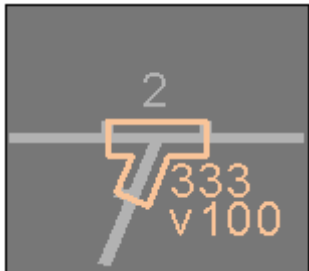
Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Alignment of the lettering - diagonally to the right; - Right-hand side labelling follows the restriction course.</p>  <p>Alignment of the lettering - horizontal right-hand side; - Right-hand side labelling follows the restriction course.</p>
[Orange (Ifst)]	112401.TypeOfRestriction = 6C667374	Zoom 6	 <p>Alignment of the lettering - diagonally to the left; - Left-hand labelling follows the restriction course.</p>
[Orange (Ifst)]	112401.TypeOfRestriction = 6C667374	Zoom 7	 <p>Alignment of the lettering - horizontal left-hand side; - Left-hand labelling arranges itself on the right-hand side of the restriction course.</p>
[Orange (Ifst)]	112401.TypeOfRestriction = 6C667374	Zoom 8	

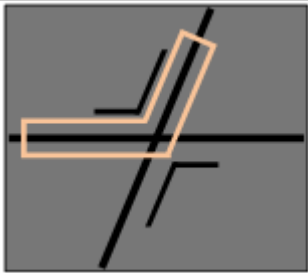
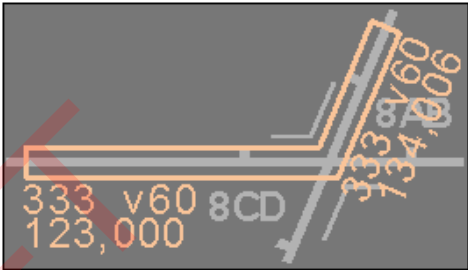
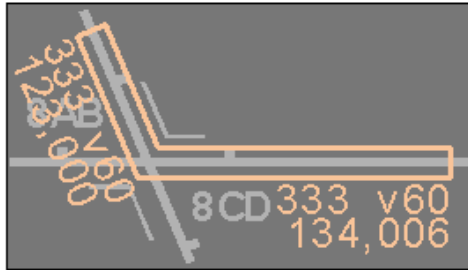
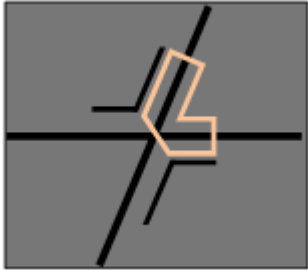
Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Display in the basic state, on the cross-display connector:</p> <ul style="list-style-type: none"> - Labelling on both sides and below at the ends of the restriction.
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 9	 <p>Display in basic status, connector in the same display screen:</p> <ul style="list-style-type: none"> - Labelling on both sides and below at the ends of the restriction.
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 10	 <p>Display overlay of restrictions TSR:</p> <ul style="list-style-type: none"> - Display of four overlapping restrictions (1 - 4) <p>Note: TSR are displayed on the overview in the order of line mileage.</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 12	

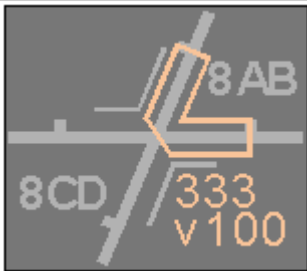
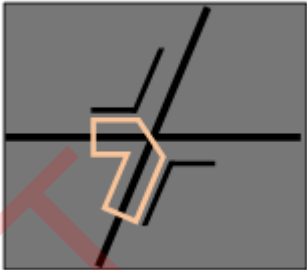


Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Display of overlays:</p> <ul style="list-style-type: none"> - ID three digits, with overlay indicator "+" following. <p>If a TSR overlays one or more shorter TSR of same priority, then "+" is shown. Also, if a more restrictive TSR is overlaying one or more TSR, then also a "+" is shown.</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 14	 <p>Display overlay without overlap:</p> <ul style="list-style-type: none"> - TSR ID333 with v60 - TSR ID334 with v30 <p>TSR ID334 shall be shown as TSR ID334 is more restrictive than ID333.</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 15	 <p>Display overlay with complete coverage:</p> <ul style="list-style-type: none"> - TSR ID333 with v30 - TSR ID334 with v60 <p>TSR ID334 is completely covered by TSR ID333 because TSR ID333 is more restrictive. TSR ID334 shall not be shown. For TSR ID333 a "+" shall be shown.</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 16	 <p>Display overlay with partial overlay:</p> <ul style="list-style-type: none"> - TSR ID333 with v30 starts at 123,000km and ends at 127,000km. - TSR ID334 with v60 starts at 125,000km and ends at 129,456km. <p>Indication of TSR ID334 is partially covered by TSR ID333, because TSR ID333 is more restrictive. The left text and symbols of TSR ID334 shall be covered. For short restrictions that are partially covered, the text shall be right- instead of leftbound.</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 17	

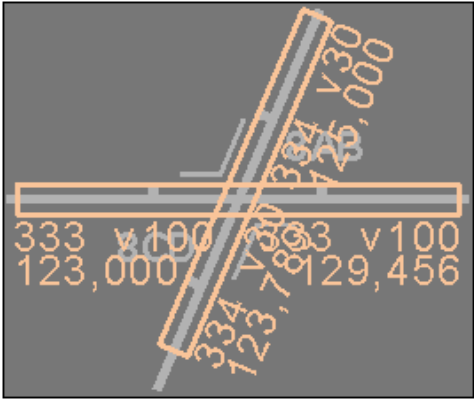
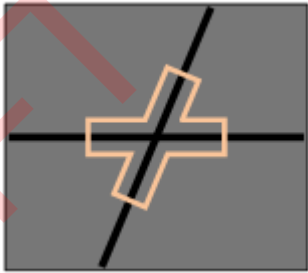
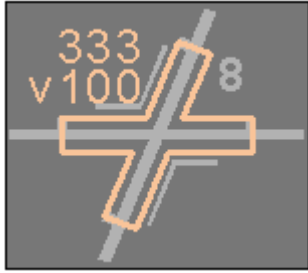
Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Highlight by "displaying" a completely covered line:</p> <ul style="list-style-type: none"> - TSR ID333 overlaps TSR ID334 - Highlighting the ID334 location using the "Show" function <p>Indication of TSR ID334 is completely covered, because TSR ID333 is more restrictive. Because of application of the function "indicate" on TSR ID334, symbol and text shall be shown again. For highlighting the text, the background shall be provided in the color of the relevant restriction: TSR = peach, ETCS blockage = red, BA/HA = blue, no active restriction = yellow.</p>
[Yellow (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 18	 <p>Highlighting by "displaying" non-active sites:</p> <ul style="list-style-type: none"> - TSR ID333 is not in active state - Highlighting of location ID333 through the "Show" function <p>Because of application of the function "indicate" on a non-active restriction, the following indications shall apply:</p> <ul style="list-style-type: none"> • Symbol and text shall be shown again <p>For highlighting the text, the background shall be shown in yellow</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 19	 <p>Display of two parallel restrictions:</p> <ul style="list-style-type: none"> - Course uninfluenced by each other
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom 20	

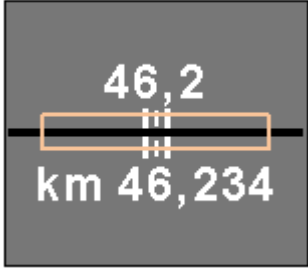

Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Display two parallel restrictions:</p> <ul style="list-style-type: none"> - Two-line lettering must fit between two parallel restrictions.
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	SPT2TS-123540 Overview	 <p>Display following across points:</p> <ul style="list-style-type: none"> - No labelling available
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom	 <p>Display following across points:</p> <ul style="list-style-type: none"> - The restriction follows the course of the track and points. - This may result in an overlap between the label and the display symbol.
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Overview	 <p>Superimposition of labels:</p> <ul style="list-style-type: none"> - No labelling available
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom	

Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Superimposition of labels:</p> <ul style="list-style-type: none"> - Partial overlapping of the labelling of TSR ID335 with the display symbol of TSR ID333 - Partial overlapping of the labelling of TSR ID334 with the labelling of TSR ID335
[Orange (Ifst)]	112401.TypeOfRestriction = 6C667374	Overview	 <p>Display with point reference, entire point:</p> <ul style="list-style-type: none"> - No labelling available
[Orange (Ifst)]	112401.TypeOfRestriction = 6C667374	Zoom	 <p>Display with point reference, entire point:</p> <ul style="list-style-type: none"> - Display for restriction on the "Point" mode. - Restriction is valid for the entire point. - Labelling is displayed at the larger angle of the branching track (here top left) - Regardless of the extension, only one label is displayed. - The labelling is displayed without overlapping. - The actual speed is indicated in the second line. - Without kilometre indication
[Orange (Ifst)]	112401.TypeOfRestriction = 6C667374		 <p>Display with point reference, entire point (ex. rotated):</p> <ul style="list-style-type: none"> - Representation of the inscription at the bottom right
		Overview	

Colour and Restriction	Telegram	symbol Name	Symbol / description
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374		 <p>Display restriction following the DKW course:</p> <ul style="list-style-type: none"> - Restriction follows the course of a branching strand of the DKW - No labelling available <p>Indication also valid for diamond point</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom	 <p>Display following the DKW course:</p> <ul style="list-style-type: none"> - Restriction follows the course of a branching strand of the DKW - Labelling follows the angle of a branching strand <p>Indication also valid for diamond point</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374		 <p>Display following the DKW course:</p> <ul style="list-style-type: none"> - Example for other angle <p>Indication also valid for diamond point</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Overview	 <p>Display with node reference point section AB of the DKW, entire point:</p> <ul style="list-style-type: none"> - No labelling available <p>Indication also valid for diamond point</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom	

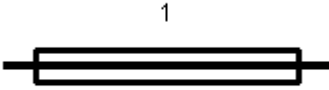
Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Display with node reference, point section AB of the DKW, entire point: - Restriction lies on entire point section AB</p> <p>Indication also valid for diamond point</p>
[Orange (lft)]	112401.TypeOfRestriction = 6C667374	Overview	 <p>Display with node reference, point part CD of the DKW, entire point: - No labelling available</p> <p>Indication also valid for diamond point</p>
[Orange (lft)]	112401.TypeOfRestriction = 6C667374	Zoom	 <p>Display with node reference, point part CD of the DKW, entire point: - Restriction lies on entire point section CD</p> <p>Indication also valid for diamond point</p>
[Orange (lft)]	112401.TypeOfRestriction = 6C667374	Overview	 <p>Display when restrictions are superimposed on a DKW: - No labelling available</p> <p>Indication also valid for crossings and single diamond point</p>
[Orange (lft)]	112401.TypeOfRestriction = 6C667374	Zoom	

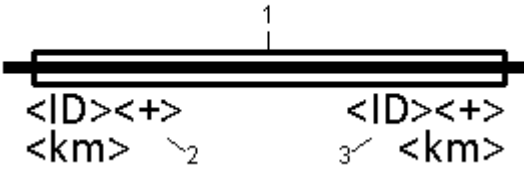

Colour and Restriction	Telegram	symbol Name	Symbol / description
			 <p>Display when restrictions are superimposed on a DKW:</p> <ul style="list-style-type: none"> - The restrictions ID333 and ID334 overlap but do not influence each other. <p>Indication also valid for crossings and single diamond point</p>
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Overview	
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom	 <p>Display with node reference, total intersection:</p> <ul style="list-style-type: none"> - Display for restriction on the "Crossing" node - Restriction is valid for the entire intersection - Labelling is displayed on the larger angle at the top left of the branching track - Regardless of the extension, only one label is displayed - The speed is indicated in the second line - Without kilometre indication

Colour and Restriction	Telegram	symbol Name	Symbol / description
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Overview	 <p>Display at the level crossing:</p> <ul style="list-style-type: none"> - No labelling available
[Orange (lfst)]	112401.TypeOfRestriction = 6C667374	Zoom	 <p>Display at the level crossing:</p> <ul style="list-style-type: none"> - Without special features

2.2 ETCS blockage

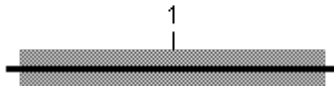
2.2.1.1 Indication

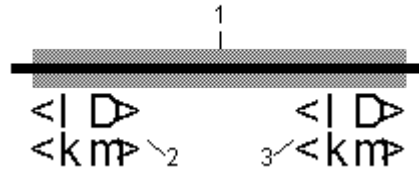
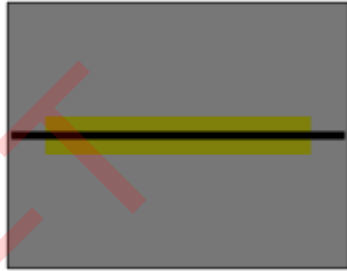
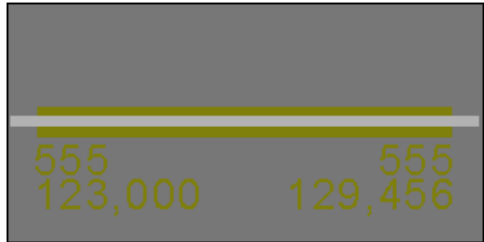
Colour and Restriction	Telegram	Symbol Name	Symbol / description
[Black (ES)]	112401.TypeOfRestriction = 45532020	Overview	 <p>Note: in the following chapters only the active restrictions are displayed, because there is no difference in showing active or non-active restrictions.</p>
[Black (ES)]	112401.TypeOfRestriction = 45532020	Zoom	

Colour and Restriction	Telegram	Symbol Name	Symbol / description
			 <p>Display ETCS lock (ES) on the ETCS view magnifier:</p> <p>1, 2, 3 r1 active ge not active</p> <p>-The display symbol [1] of the ES is a rectangle with fixed height and dynamic width -The labels [2] & [3] contain the ID, the optional overlay indicator "+" and the kilometre marking.</p>
			<p>Note: in the following chapters only the active restrictions are displayed, because there is no difference in showing active or non-active restrictions. Restrictions of type "ETCS blockage" follow the same rules than restrictions of type "TSR", therefore in the following only those indications are shown that deviate from the chapter "indication of TSR".</p>
[Red (ES)]	112401.TypeOfRestriction = 45532020	Zoom	 <p>Display in basic state, without special features:</p> <ul style="list-style-type: none"> - Labelling on both sides and below - Two-line labelling - ID three digits in the first line - Kilometres before and after the decimal point, each with three digits in the second line

2.3 Area of disturbed radio

2.3.1.1 Indication

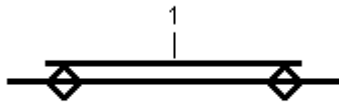
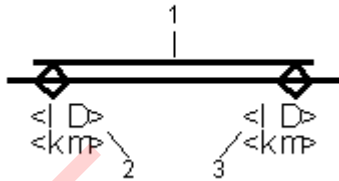
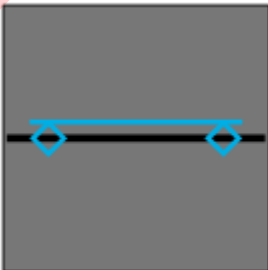
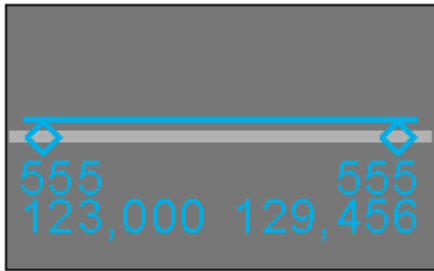
Colour and Restriction	Telegram	Symbol Name	Symbol / description
[Grey (BgF)]	112401.TypeOfRestriction = 42674620	Overview	 <p>Display of the area of radio interference (BgF) on the overview:</p> <p>1 ge_bgf active ge inactive</p> <p>-The display symbol [1] of the BgF is a rectangle with fixed height and dynamic width. -The representation is made as an area under the tracks</p>
			<p>Note: in the following chapters only the active restrictions are displayed, because there is no difference in showing active or non-active restrictions.</p>

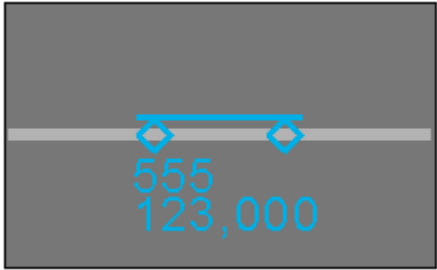
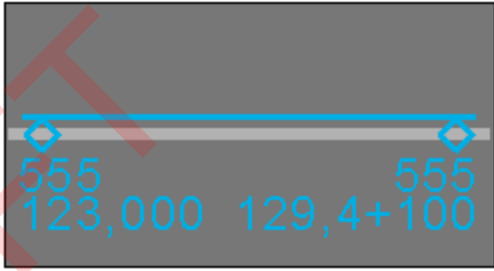
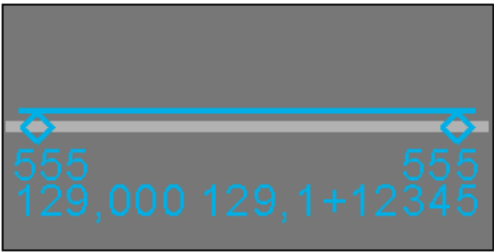
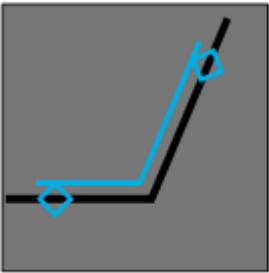
Colour and Restriction	Telegram	Symbol Name	Symbol / description
[Grey (BgF)]	112401.TypeOfRestriction = 42674620	Zoom	 <p>Display area of disturbed radio (BgF) on the ETCB view magnifier:</p> <ul style="list-style-type: none"> 1, 2, 3 ge_bgf active ge not active - The display symbol (1) of the BgF is a rectangle with fixed height and dynamic width. - The representation is made as an area under the tracks. - The labels (2) & (3) contain the ID and kilometres.
		Note: in the following chapters only the active restrictions are displayed, because there is no difference in showing active or non-active restrictions.	
[Yellow (BgF)]	112401.TypeOfRestriction = 42674620	Overview	 <p>Display in basic state, without special features:</p> <ul style="list-style-type: none"> - No labelling available
[Yellow (BgF)]	112401.TypeOfRestriction = 42674620	Zoom	 <p>Display in basic state, without special features:</p> <ul style="list-style-type: none"> - Labelling on both sides and below - Two-line lettering - ID three digits in the first line - Kilometres before and after the decimal point, each with three digits in the second line

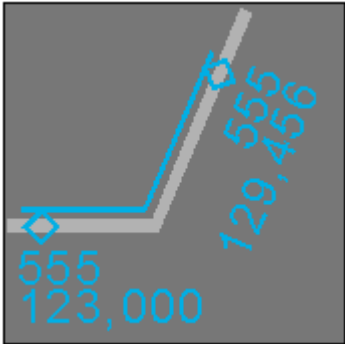
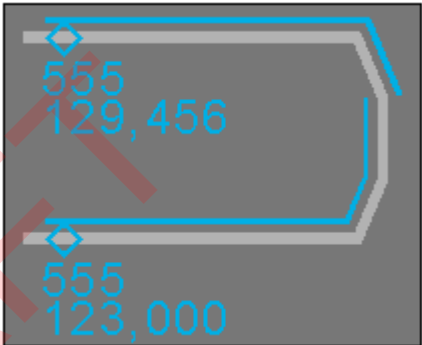

2.4 Pantograph down

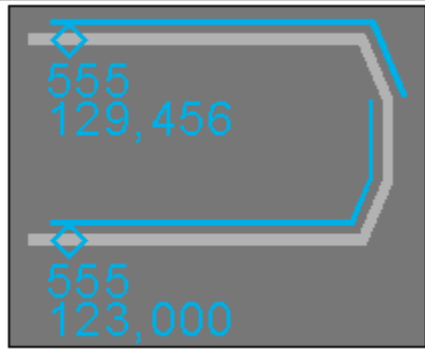
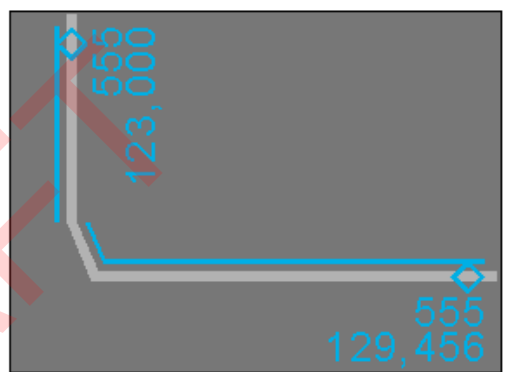
2.4.1.1 Indication

Colour and Restriction	Telegram	Symbol Name	Symbol / description
[Black (BA)]	112401.TypeOfRestriction = 42412020	overview	

Colour and Restriction	Telegram	Symbol Name	Symbol / description
			 <p>Display Pantograph down (BA) on the overview:</p> <p>1 bi active ge not active</p> <p>- The display symbol [1] BA consists of two diamonds with an overlying horizontal bar covering the entire width of the diamonds</p>
[Black (BA)]	112401.TypeOfRestriction = 42412020	zoom	 <p>Display Pantograph down (BA) on the ETCS view magnifier:</p> <p>1, 2, 3 bi active ge not active</p> <p>- The display symbol [1] BA consists of two diamonds with an overlying horizontal bar covering the entire width of the diamonds - The labels [2] & [3] contain the ID and kilometres</p>
		Note: in the following chapters only the active restrictions are displayed, because there is no difference in showing active or non-active restrictions.	
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Overview	 <p>Display in basic state, without special features:</p> <p>- No labelling available</p>
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Zoom	 <p>Display in basic state, without special features:</p> <p>- Labelling on both sides and below - Two-line lettering - ID three digits in the first line - Kilometres before and after the decimal point, each with three digits in the second line</p>
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Zoom	

Colour and Restriction	Telegram	Symbol Name	Symbol / description
			 <p>Display short restriction:</p> <ul style="list-style-type: none"> - Labelling on left side only
		The rightbound text shall be suppressed if a minimum distance of two alphanumeric signs cannot be ensured.	
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Zoom	 <p>Display overlength:</p> <ul style="list-style-type: none"> - In the case of overlength, the kilometre figure after the decimal point is shown as a one-digit figure with "+" and the indication of the overlength.
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Zoom	 <p>Display overlength - maximum indication of overlength:</p> <ul style="list-style-type: none"> - maximum permissible overlength is up to five numeric characters.
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Overview	 <p>Display on the sloping track:</p> <ul style="list-style-type: none"> - Display symbol follows the angle of the track edge. - No labelling available
[Blue (BA)]		Zoom	

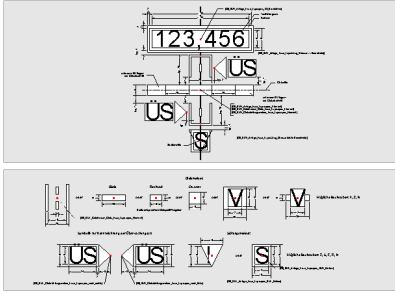
Colour and Restriction	Telegram	Symbol Name	Symbol / description
	112401.TypeOfRestriction = 42412020		 <p>Display on the sloping track:</p> <ul style="list-style-type: none"> - Display symbol and labelling follow the angle of the track edge.
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Zoom	 <p><u>Orientierungswechsel der Gleiskante – vollständige Drehung:</u></p> <ul style="list-style-type: none"> - Gemäß der Orientierung der Gleiskante, bleibt der Querbalken des Anzeigesymbols über dem Gleis - Beide Teile der Beschriftung sind unterhalb der zugehörigen Enden der Restriktion angeordnet
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Overview	 <p><u>Orientation change of the track edge - complete rotation:</u></p> <ul style="list-style-type: none"> - According to the orientation of the track edge, the cross bar of the display symbol remains above the track. - No labelling available
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Zoom	

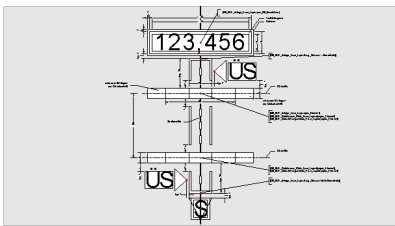
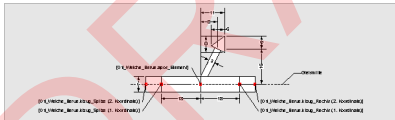
Colour and Restriction	Telegram	Symbol Name	Symbol / description
			 <p>Orientation change of the track edge - complete rotation:</p> <ul style="list-style-type: none"> - According to the orientation of the track edge, the cross bar of the display symbol remains above the track. - Both parts of the caption are placed below the associated ends of the restriction <p>Note : Mind the direction of reading!</p>
[Blue (BA)]	112401.TypeOfRestriction = 42412020	Zoom	 <p>Orientation change of the track edge - horizontal left side:</p> <ul style="list-style-type: none"> - According to the orientation of the track edge, the cross bar of the display symbol remains above the track. - Left-hand labelling arranges itself on the right-hand side of the restriction course. <p>Note: Mind the direction of reading!</p>

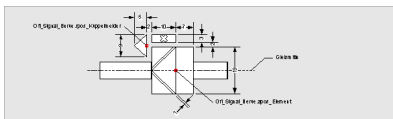
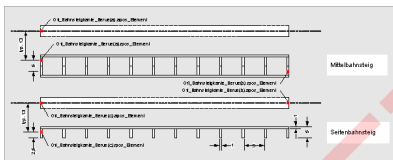
2.5 Technical specifications

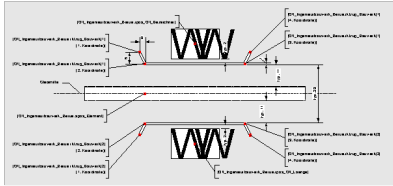
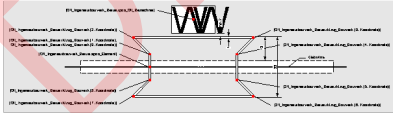
415.9070A03-28	-	2 Technical specifications
415.9070A03-45	-	2.1 Technical boundary conditions
415.9070A03-47	Must	All dimensions are shown in length units (LE). 1 LE corresponds to 1 atomic display unit (pixel) on the display medium.
415.9070A03-344	Must	Similar element parts (such as locking indicators) must be displayed in the same way in all elements.
415.9070A03-55	-	2.3 Design conventions
415.9070A03-230	-	2.3.1 Track spacing

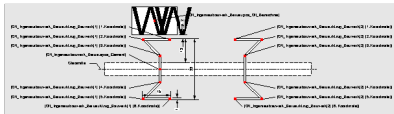
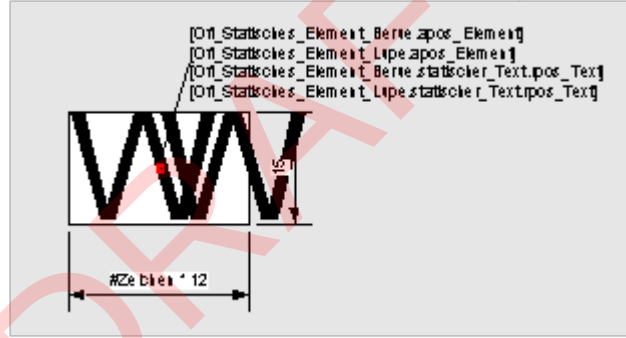
415.9070A03-28	-	2 Technical specifications
415.9070A03-56	Must	The minimum track spacing is 32 LE.
415.9070A03-231	-	2.3.2 Angle
415.9070A03-58	Must	The pitch ratio for branching strands is 1:2 in the x to y direction.
415.9070A03-232	-	2.3.3 Text
415.9070A03-59	Must	For each individual character of a text representation, an area of 12 LE x 15 LE (W*H) is provided.
415.9070A03-360	Must	Unless otherwise defined for a specific element, the coordinates for text fields always describe the geometric centre of the text field. Unless otherwise defined for a specific element, texts are entered centred in the text fields.
415.9070A03-233	-	2.3.4 Line types
415.9070A03-102	Must	Unless otherwise described in the element-specific geometries, the following line types are used: ·pulled through (standard): ·Line display without interruption ·dashed: ·The dash-dash line is designed in the division 8-4-8 LE (dash-dash-space-dash). ·dotted ·The dot-dot line is designed in a 2-2-2 LE (dot-space-dot) layout. ·semicolon ·The semicolon line is divided into 8-2-2-2-8 LE (dash-space-dot-space-dash).
415.9070A03-44	-	3 element geometries ESTW, ZN and ZL
415.9070A03-74	-	3.4 Level crossing systems
415.9070A03-283	Must	The road symbol on the level crossing is shown and hidden depending on the configuration in the event of a switch-on message.
415.9070A03-116	-	3.4.1 Level crossing, single-track

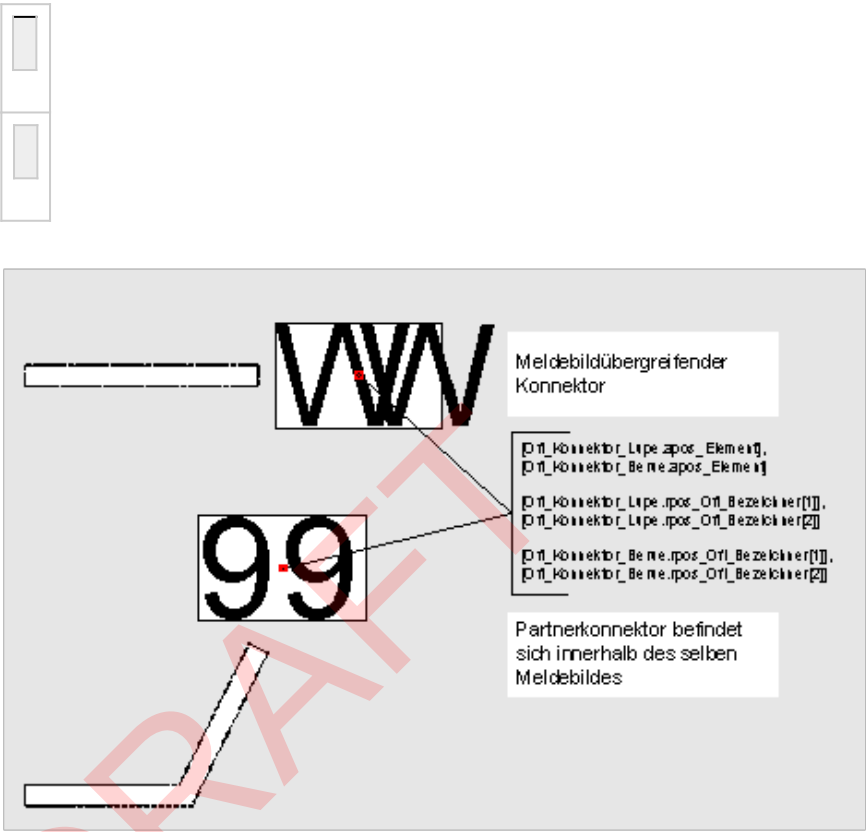
415.9070A03-28	-	2 Technical specifications
415.9070A03-538	Must	 <p>This drawing shows a national solution, which needs to be adjusted for the final specification.</p>
415.9070A03-279	-	3.4.3 Level crossing, multi-track

415.9070A03-28	-	2 Technical specifications
415.9070A03-321	Must	 <p>This drawing shows a national solution, which needs to be adjusted for the final specification.</p>
415.9070A03-208	-	3.7.2 Derailer
415.9070A03-209	Must	
415.9070A03-80	-	3.10 Signals
415.9070A03-284	-	3.10.16 ETCS Stop Marker

415.9070A03-28	-	2 Technical specifications
415.9070A03-285	Must	
415.9070A03-99	-	3.11.3 Platform edge
415.9070A03-111	Must	
415.9070A03-100	-	3.11.4 Bridge
415.9070A03-103	Must	<p>The bridge is represented by two continuous lines.</p> <p>Note: The edge course of the can contain further coordinates to specify non-trivial edge courses.</p>

415.9070A03-28	-	2 Technical specifications
415.9070A03-452	Must	 <p>If planned, the length must be specified in whole metres and supplemented with a space and the letter "m".</p>
415.9070A03-98	-	3.11.5 Tunnel
415.9070A03-101	Must	<p>The tunnel is represented by a dashed line (see ID 415.9070A03-102). The tunnel portal must be shown at both ends of the tunnel.</p> <p>Note: The edge course of the can contain further coordinates to specify non-trivial edge courses.</p>
415.9070A03-460	Must	 <p>Tunnel</p> <p>Note: The positioning of the identifier and, if applicable, the length specification is based on the respective local conditions and the project planning specifications. If planned, the length must be specified in whole metres and supplemented with a space and the letter "m".</p>

415.9070A03-28	-	2 Technical specifications
415.9070A03-470	Must	 <p>Tunnel portal</p> <p>Note: The positioning of the identifier and, if applicable, the length specification is based on the respective local conditions and the project planning specifications. If planned, the length must be specified in whole metres and supplemented with a space and the letter "m".</p>
415.9070A03-243	-	3.11.8 Static text
415.9070A03-245	Must	 <p>Note: For multi-line text fields, only the first rpos_Text matches apos_Element.</p>

415.9070A03-28	-	2 Technical specifications
415.9070A03-248	-	3.11.9 Connector
415.9070A03-250	Must	 <p>The diagram illustrates a connector symbol (WW) and a partner connector symbol (99). The WW symbol is a stylized 'W' with a red dot. The 99 symbol is the number '99' with a red dot. A text box on the right contains the following text:</p> <p>Meldebildübergreifender Konnektor</p> <p>[Ort_Konnektor_Lage.apos_Element], [Ort_Konnektor_Bezeichnung_Element]</p> <p>[Ort_Konnektor_Lage.pos_Ort_Bezeichnung(1)], [Ort_Konnektor_Lage.pos_Ort_Bezeichnung(2)]</p> <p>[Ort_Konnektor_Bezeichnung.pos_Ort_Bezeichnung(1)], [Ort_Konnektor_Bezeichnung.pos_Ort_Bezeichnung(2)]</p> <p>Partnerkonnektor befindet sich innerhalb des selben Meldebildes</p>

2.6 Ongoing - ETCS Driver Machine Interface (DMI)

2.6.1 Glossary

2.6.1.1 Subset 058 terminologies

Commands	Description
D_EST	Estimated value of a measured distance
D_ESTODO_BG	Estimated distance reference of the balise group
D_MAX	Upper bound of the confidence interval of a measured distance
D_MIN	Lower bound of the confidence interval of a measured distance
D_RES	Distance resolution
D_STMSYS	STM system distance
D_TARGET	Target distance
L_CAPTION	Length of caption text string in bytes for button, indicator and data.
L_MESSAGE	Message length
L_PACKET	Packet length
L_TEXT	Length of text string in bytes
L_VALUE	Length of text string in bytes for value used for data value, default value of data and for dedicated keyboard values.
M_BIEB_CMD	Emergency brake command
M_BIEB_STATUS	Emergency brake availability status
M_BISB_CMD	Service brake command
M_BISB_STATUS	Service brake availability status
M_BRAKE_PERCENTAGE_STM	Brake percentage
M_BUT_ATTRIB	Attributes for buttons.
M_COLOUR_IS	Colour for intervention speed
M_COLOUR_PS	Colour for permitted speed
M_COLOUR_RS	Colour for release speed
M_COLOUR_SP	Colour for speed pointer

Commands	Description
M_COLOUR_TS	Colour for target speed
M_DATA	Data
M_DATAENTRYFLAG	Specific NTC Data Entry flag
M_FREQ	Sound segment frequency
M_IND_ATTRIB	Attributes for indicators
M_TESTOK	STM Test result
M_TICAB_STATUS	Cab status on Train Interface
M_TIDIR_STATUS	Direction handle train interface status
M_TIEDCBEB_CMD	Train interface for Eddy Current Brake for Emergency Brake command
M_TIEDCBSB_CMD	Train interface for Eddy Current Brake for Service Brake command
M_TIEDCBEB_CMD_AVAIL	Train interface for Eddy Current Brake for Emergency Brake command availability
M_TIEDCBSB_CMD_AVAIL	Train interface for Eddy Current Brake for Service Brake command availability
M_TIFLAP_CMD	Air tightness/Flap control train interface command
M_TIFLAP_CMD_AVAIL	Air tightness train interface command availability
M_TIMS_CMD	Main switch/Circuit breaker train interface command
M_TIMS_CMD_AVAIL	Main switch/Circuit breaker train interface command availability
M_TIMSH_CMD	Magnetic brake system train interface command
M_TIMSH_CMD_AVAIL	Magnetic shoe brake train interface command availability
M_TIPANTO_CMD	Pantograph train interface command
M_TIPANTO_CMD_AVAIL	Pantograph train interface command availability
M_TIRB_CMD	Regenerative brake train interface command
M_TIRB_CMD_AVAIL	Regenerative brake train interface command availability
M_TITR_C_CMD	Traction cut off train interface command

Commands	Description
M_TITR_C_CMD_AVAIL	Traction cut-off train interface command availability
M_TITR_STATUS	Traction status on Train Interface
M_TRAINTYPE	Train type
M_XATTRIBUTE	Text message attribute
N_VERMAJOR	FFFIS STM version major number X
N_VERMINOR	FFFIS STM version minor number Y
N_ADDR_BI	Address of BIU Function
N_ADDR_DMI_CHANNEL1	Address of DMI channel 1
N_ADDR_DMI_CHANNEL2	Address of DMI channel 2
N_ADDR_DMI_CHANNEL3	Address of DMI channel 3
N_ADDR_DMI_CHANNEL4	Address of DMI channel 4
N_ADDR_JD	Address of JD Function
N_ADDR_ODO	Address of the Odometer Function
N_ADDR_TI	Address of TIU Function
N_LITER	Number of iterations of a data set following this variable in a packet
NID_ANTENNA_BTM	Valid Antenna/BTM ID
NID_BUTPOS	Button Position Identifier
NID_BUTTON	Button Identifier
NID_DATA	Identifier of a Specific NTC Data
NID_DMICHANNEL	Button Position Identifier
NID_DRV_LANG	Driver language Identifier
NID_ICON	Icon Identifier
NID_INDICATOR	Indicator Identifier
NID_INDPOS	Indicator Position Identifier
NID_PACKET	Packet Identifier

Commands	Description
NID_SOUND	Sound Identifier
NID_STM	STM identity
NID_STMSTATE	Current STM state
NID_STMSTATEORDER	DMI channel Identifier
NID_STMSTATEREQUEST	STM state request
NID_TEST	STM Test Identity
NID_XMESSAGE	Text message Identifier
Q_ACK	Acknowledgement qualifier
Q_ADDR_BI	Safety level of Brake Interface connection
Q_ADDR_DMI_CHANNEL1	Safety level of DMI channel 1 connection
Q_ADDR_DMI_CHANNEL2	Safety level of DMI channel 2 connection
Q_ADDR_DMI_CHANNEL3	Safety level of DMI channel 3 connection
Q_ADDR_DMI_CHANNEL4	Safety level of DMI channel 4 connection
Q_ADDR_JD	Safety level/Availability of JD connection
Q_ADDR_ODO	Safety level of Odometer connection
Q_ADDR_TI	Safety level of Train Interface connection
Q_ANTN_BTMM_ACTIVE	Qualifier indicating if there is an active Antenna/BTM
Q_BMM_ANNOUNCED	Big Metal Mass announced
Q_BTMM_ALARM	BTM alarm
Q_BUTTON	Button Event
Q_CHECKNEEDED	Qualifier for need of checking the Interface 'K' Antenna/BTM ID
Q_DATAENTRY	Need for Specific NTC Data Entry
Q_DISPLAY_IS	Display mode for intervention speed
Q_DISPLAY_PS	Display mode for permitted speed
Q_DISPLAY_RS	Display mode for Release Speed

Commands	Description
Q_DISPLAY_TD	Display mode for Target Distance
Q_DISPLAY_TS	Display mode for target speed
Q_FOLLOWING	Indicate a following request
Q_OVR_STATUS	ETCS Override status
Q_SOUND	Sound qualifier
T_BUTTONEVENT	Time stamping of a button event
T_EB_MAXDELAY	Brake interface maximum emergency brake command issue time
T_JD	Time stamping of a JD message
T_ODO	Time stamping of an odometer measurement
T_ODOCYCLE	Typical cycle time of ERTMS/ETCS on-board Odometer Function
T_ODOMAXPROD	Maximum production delay time
T_SB_MAXDELAY	Brake interface maximum service brake command issue time
T_SOUND	Sound segment duration
V_EST	Estimated value of a measured speed
V_INTERV	Intervention speed
V_MAX	Brake interface maximum service brake command issue time
V_MIN	Lower bound of the functional confidence interval of a measured speed
V_PERMIT	Permitted speed
V_RELEASE	Release speed
V_STMMAX	STM max speed
V_STMSYS	STM system speed
V_TARGET	Target speed
X_CAPTION	Caption text byte

Commands	Description
X_TEXT	Text byte
X_VALUE	Value byte

Term	Description	Explanation
MSRP	Most Restrictive Speed Profile	
TI Command	Train Interface command	
CSM	Ceiling speed monitoring	the speed supervision in the area where the train can run without the need to brake to a target.
TSM	Target speed monitoring	the speed and distance supervision in the area where the specific information related to a target is displayed to the driver and within which the train brakes to a target.
RSM	Release speed monitoring	the speed and distance supervision in the area close to the EOA where the train is allowed to run with release speed to approach the EOA.

[SPT2TS-130371]

[SPT2TS-130476]

2.6.2 Colours schema

Colour name	Red	Green	Blue
white	255	255	255
black	0	0	0
grey	195	195	195
medium grey	150	150	150
dark grey	85	85	85

Colour name	Red	Green	Blue
dark blue (background)	3	17	34
shadow	8	24	57
yellow	223	223	0
orange	234	145	0
red	191	0	2
PASP dark	33	49	74
PASP light	41	74	107

[SPT2TS-130373]

2.6.3 Description

the on-board equipment generates braking commands, traction cut-off commands and relevant information to the driver. There are three types of monitoring :

- Ceiling speed monitoring (CSM)
- Target speed monitoring (TSM)
- Release speed monitoring (RSM)

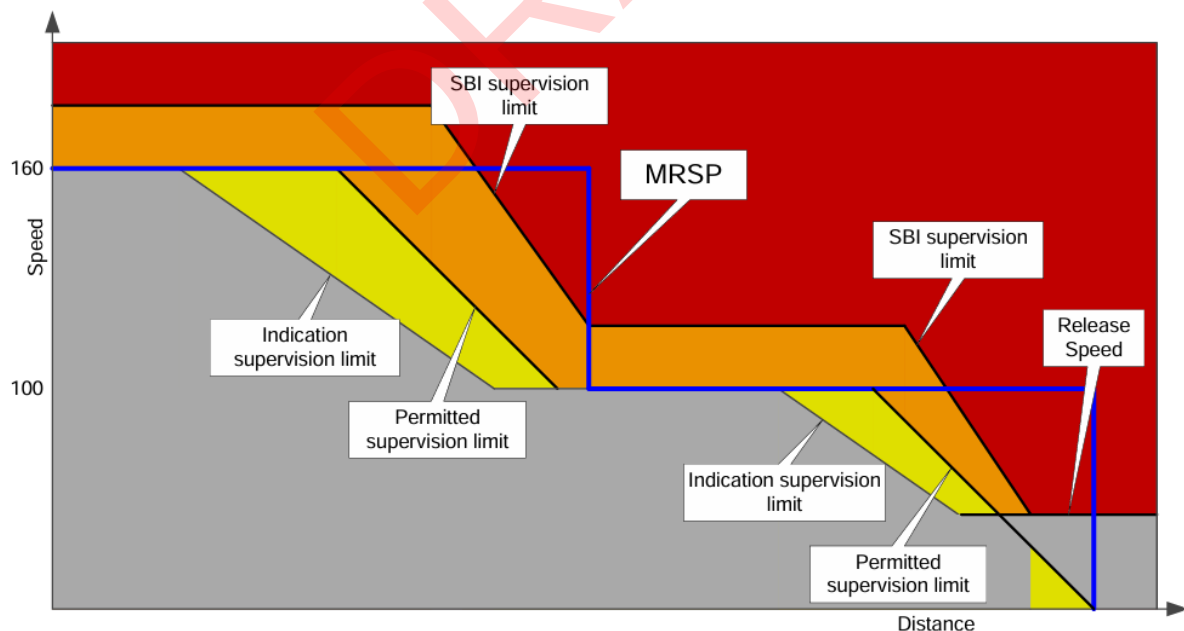





Figure 6 Colour philosophy depending on supervision status


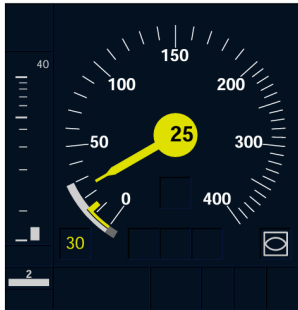


Figure 7 Overview of the main objects in the speed and supervision areas

2.6.4 Information activation

Information status	Data change	UI-Message	Sample view
Ceiling Speed Monitoring (CSM) -Normal Status information (NoS) - active	$V \leq$ PERMITTED_ SUPERVISIO N_LIMIT (P)		
Ceiling Speed Monitoring (CSM) -Over-speed Status information (OvS) - active	$V >$ PERMITTED_ SUPERVISIO N_LIMIT (P)		
Ceiling Speed Monitoring (CSM) - Over-speed Status information (OvS) - deactive	$V <$ PERMITTED_ SUPERVISIO N_LIMIT (P)		
Ceiling Speed Monitoring (CSM) -Warning Status information (WaS) - active	$V >$ WARNING_S UPERVISION_ LIMIT (W)		






Information status	Data change	UI-Message	Sample view
Ceiling Speed Monitoring (CSM) -Warning Status information (WaS) - deactive	$V <$ PERMITTED_ SUPERVISIO N_LIMIT (P)		
Ceiling Speed Monitoring (CSM) -Intervention Status information (IntS) -active	$V >$ SBI_SUPERVI SION_LIMIT(S BI)		
Ceiling Speed Monitoring (CSM)- Intervention Status information (IntS) -deactive	service == empty ! emergency brake command		
Target Speed Monitoring (TSM) -Indication Status information (IndS) - active	$V \leq$ PERMITTED_ SUPERVISIO N_LIMIT (P)		
Target Speed Monitoring (TSM) -Over-speed Status information (OvS) -active	$V >$ PERMITTED_ SUPERVISIO N_LIMIT (P)		
Target Speed Monitoring (TSM) -Over-speed Status information (OvS) -deactive	$V \leq$ PPERMITTED_ SUPERVISIO N_LIMIT (P)		
Target Speed Monitoring (TSM) -Warning Status information (WaS) -active	$V >$ WARNING_S UPERVISION_ LIMIT (W)		








Information status	Data change	UI-Message	Sample view
Target Speed Monitoring (TSM) -Warning Status information (WaS) -deactive	V <= WARNING_S UPERVISION_ LIMIT (W)		
Target Speed Monitoring (TSM) -Intervention Status information (IntS) -active	V > SBI_SUPERVI SION_LIMIT(S BI)		
Target Speed Monitoring (TSM) -Intervention Status information (IntS) -deactive	AUTOMATED _DRIVING_M ODE = TRUE && V > SBI_SUPERVI SION_LIMIT(S BI)		
Target Speed Monitoring (TSM) -Intervention Status information (IntS) -deactive	service == empty ! emergency brake command		
Release Speed Monitoring (RSM)-Indication Status information (IndS) -active	V < Q_DISPLAY_ RS		
Release Speed Monitoring (RSM)-Intervention Status information (IntS) - active	V > Q_DISPLAY_ RS		
Release Speed Monitoring (RSM)-Intervention Status information (IntS) - deactive	service == empty ! emergency		




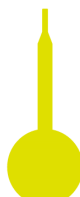



Information status	Data change	UI-Message	Sample view
	brake command		








[SPT2TS-130376]








2.6.5 Current speed pointer








Data change	UI-Message (SUBSET-058)	Symbol	SVG
MODE == FS SM OS && SUPERVISORIN_STATUS == CSM_NoS && $0 \leq \text{HOOK} \leq \text{V_PERMIT}$	STM-43.M_COLOUR_ SP = grey		yes
MODE == FS SM OS && SUPERVISORIN_STATUS == CSM-OvS && $\text{HOOK} > \text{V_PERMIT}$ (in CSM or TSM) $> \text{V_RELEASE}$ (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == FS SM OS && SUPERVISION_STATUS == CSM-WaS && $\text{HOOK} > \text{V_PERMIT}$ (in CSM or TSM) $> \text{V_RELEASE}$ (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == FS SM OS && SUPERVISION_STATUS == CSM-IntS && $0 \text{ km/h} \leq \text{HOOK} \leq \text{V_PERMIT}$	STM-43.M_COLOUR_ SP = grey		yes
MODE == FS SM OS && SUPERVISION_STATUS == CSM-IntS && $\text{HOOK} > \text{V_PERMIT}$ (in CSM or TSM) $> \text{V_RELEASE}$ (in RSM)	STM-43.M_COLOUR_ SP = red		yes








Data change	UI-Message (SUBSET-058)	Symbol	SVG
MODE == FS SM OS && SUPERVISION_STATUS == CSM_TARGET_INFO**-NoS && V_TARGET ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = white		yes
MODE == FS SM OS && SUPERVISION_STATUS == CSM_TARGET_INFO**-OvS && HOOK >V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == FS SM OS && SUPERVISION_STATUS == CSM_TARGET_INFO**-WaS && HOOK >V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == FS SM OS && SUPERVISION_STATUS == CSM_TARGET_INFO**-IntS && V_TARGET ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = white		yes
MODE == FS SM OS && SUPERVISION_STATUS == CSM_TARGET_INFO**-IntS && HOOK >V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == FS SM OS && SUPERVISION_STATUS == TSM-IndS && V_TARGET ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = yellow		yes
MODE == FS SM OS && SUPERVISION_STATUS == TSM-OvS && HOOK >V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == FS SM OS && SUPERVISION_STATUS == TSM-WaS && HOOK >V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes








Data change	UI-Message (SUBSET-058)	Symbol	SVG
RSM)			
MODE == FS SM OS && SUPERVISION_STATUS == TSM-IntS && V_TARGET ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = yellow		yes
MODE == FS SM OS && SUPERVISION_STATUS == TSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == FS SM OS && SUPERVISION_STATUS == RSM-IndS && 0 km/h ≤ HOOK ≤ V_RELEASE*(when Vrelease exists)	STM-43.M_COLOUR_ SP = yellow		yes
MODE == FS SM OS && SUPERVISION_STATUS == RSM-IntS && 0 km/h ≤ HOOK ≤ V_RELEASE*(when Vrelease exists)	STM-43.M_COLOUR_ SP = yellow		yes
MODE == FS SM OS && SUPERVISION_STATUS == RSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == AD && SUPERVISION_STATUS == CSM-NoS && 0 km/h ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = grey		yes
MODE == AD && SUPERVISION_STATUS == CSM-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in	STM-43.M_COLOUR_ SP = grey		yes








Data change	UI-Message (SUBSET-058)	Symbol	SVG
RSM)			
MODE == AD && SUPERVISION_STATUS == CSM-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = grey		yes
MODE == AD && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-NoS && 0 km/h ≤ HOOK < V_TARGET	STM-43.M_COLOUR_ SP = grey		yes
MODE == AD && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-NoS && V_TARGET ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = white		yes
MODE == AD && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = white		yes
MODE == AD && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-WaS && && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = white		yes
MODE == AD && SUPERVISORIN_STATUS == TSM-IndS && 0 km/h ≤ HOOK < V_TARGET	STM-43.M_COLOUR_ SP = grey		yes
MODE == AD && SUPERVISORIN_STATUS == TSM-IndS &&	STM-43.M_COLOUR_ SP = white		yes








Data change	UI-Message (SUBSET-058)	Symbol	SVG
$V_TARGET \leq HOOK \leq V_PERMIT$			
MODE == AD && SUPERVISORIN_STATUS == TSM-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = white		yes
MODE == AD && SUPERVISORIN_STATUS == TSM-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = white		yes
MODE == AD && SUPERVISORIN_STATUS == RSM-IndS && 0 km/h ≤ HOOK ≤ V_RELEASE*(when Vrelease exists)	STM-43.M_COLOUR_ SP = white		yes
MODE == LS && SUPERVISORIN_STATUS == CSM-NoS && 0 km/h ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = grey		yes
MODE == LS && SUPERVISORIN_STATUS == CSM-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == LS && SUPERVISORIN_STATUS == CSM-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == LS && SUPERVISORIN_STATUS == CSM-IntS &&	STM-43.M_COLOUR_ SP = grey		yes



Data change	UI-Message (SUBSET-058)	Symbol	SVG
$0 \text{ km/h} \leq \text{HOOK} \leq \text{V_PERMIT}$			
MODE == LS && SUPERVISORIN_STATUS == CSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == LS && SUPERVISORIN_STATUS == TSM-IndS && $0 \text{ km/h} \leq \text{HOOK} < \text{V_TARGET}$	STM-43.M_COLOUR_ SP = grey		yes
MODE == LS && SUPERVISORIN_STATUS == TSM-IndS && $\text{V_TARGET} \leq \text{HOOK} \leq \text{V_PERMIT}$	STM-43.M_COLOUR_ SP = grey		yes
MODE == LS && SUPERVISORIN_STATUS == TSM-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == LS && SUPERVISORIN_STATUS == TSM-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == LS && SUPERVISORIN_STATUS == TSM-IntS && $0 \text{ km/h} \leq \text{HOOK} < \text{V_TARGET}$	STM-43.M_COLOUR_ SP = grey		yes
MODE == LS && SUPERVISORIN_STATUS == TSM-IntS &&	STM-43.M_COLOUR_ SP = grey		yes

Data change	UI-Message (SUBSET-058)	Symbol	SVG
$V_TARGET \leq HOOK \leq V_PERMIT$			
MODE == LS && SUPERVISORIN_STATUS == TSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == LS && SUPERVISORIN_STATUS == RSM-IntS && 0 km/h ≤ HOOK ≤ V_RELEASE*(when Vrelease exists)	STM-43.M_COLOUR_ SP = yellow		yes
MODE == LS && SUPERVISORIN_STATUS == RSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM-NoS && 0 km/h ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = grey		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM-IntS &&	STM-43.M_COLOUR_ SP = grey		yes

Data change	UI-Message (SUBSET-058)	Symbol	SVG
$0 \text{ km/h} \leq \text{HOOK} \leq \text{V_PERMIT}$			
MODE == SR UN && SUPERVISORIN_STATUS == CSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-NoS && $0 \text{ km/h} \leq \text{HOOK} \leq \text{V_TARGET}$	STM-43.M_COLOUR_ SP = grey		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-NoS && $\text{V_TARGET} \leq \text{HOOK} \leq \text{V_PERMIT}$	STM-43.M_COLOUR_ SP = white		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-IntS && $0 \text{ km/h} \leq \text{HOOK} \leq \text{V_TARGET}$	STM-43.M_COLOUR_ SP = grey		yes
MODE == SR UN && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-IntS &&	STM-43.M_COLOUR_ SP = white		yes

Data change	UI-Message (SUBSET-058)	Symbol	SVG
$V_TARGET \leq HOOK \leq V_PERMIT$			
MODE == SR UN && SUPERVISORIN_STATUS == CSM_TARGET_INFO**-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == SR UN && SUPERVISORIN_STATUS == TSM-IndS && 0 km/h ≤ HOOK ≤ V_TARGET	STM-43.M_COLOUR_ SP = grey		yes
MODE == SR UN && SUPERVISORIN_STATUS == TSM-IndS && V_TARGET ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = yellow		yes
MODE == SR UN && SUPERVISORIN_STATUS == TSM-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SR UN && SUPERVISORIN_STATUS == TSM-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SR UN && SUPERVISORIN_STATUS == TSM-IntS && 0 km/h ≤ HOOK ≤ V_TARGET	STM-43.M_COLOUR_ SP = grey		yes
MODE == SR UN && SUPERVISORIN_STATUS == TSM-IntS &&	STM-43.m_colour_sp = yellow		yes

Data change	UI-Message (SUBSET-058)	Symbol	SVG
$V_TARGET \leq HOOK \leq V_PERMIT$			
MODE == SR UN && SUPERVISORIN_STATUS == TSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == SH RV && SUPERVISORIN_STATUS == CSM-NoS && 0 km/h ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = grey		yes
MODE == SH RV && SUPERVISORIN_STATUS == CSM-OvS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SH RV && SUPERVISORIN_STATUS == CSM-WaS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = orange		yes
MODE == SH RV && SUPERVISORIN_STATUS == CSM-IntS && 0 km/h ≤ HOOK ≤ V_PERMIT	STM-43.M_COLOUR_ SP = grey		yes
MODE == SH RV && SUPERVISORIN_STATUS == CSM-IntS && HOOK > V_PERMIT (in CSM or TSM) > V_RELEASE (in RSM)	STM-43.M_COLOUR_ SP = red		yes
MODE == NL SB PT && SUPERVISORIN_STATUS == CSM-- &&	STM-43.M_COLOUR_ SP = grey		yes

Data change	UI-Message (SUBSET-058)	Symbol	SVG
$0 \text{ km/h} \leq \text{HOOK} \leq \text{V_PERMIT}$			
$\text{MODE} == \text{TR} \ \&\&$ $\text{SUPERVISOR_STATUS} == \text{CSM--} \ \&\&$ $\text{HOOK} > \text{V_PERMIT} \text{ (in CSM or TSM)} \ > \text{V_RELEASE} \text{ (in RSM)}$	STM-43.M_COLOUR_SP = red		yes

[SPT2TS-130362]

2.6.6 Circular speed gauge

Data change	UI-Message (SUBSET-058)	Color	SVG
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM-NOS} \ \&\&$ $0 \text{ km/h} \leq \text{CSG} \leq \text{V}$		dark grey	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM-OvS} \ \&\&$ $0 \text{ km/h} \leq \text{CSG} \leq \text{V_PERMIT}$		dark grey	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM-OvS} \ \&\&$ $\text{V_PERMIT} < \text{CSG} \leq \text{V_SBI}$		orange	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM-WaS} \ \&\&$ $0 \text{ km/h} \leq \text{CSG} \leq \text{V_PERMIT}$		dark grey	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM-WaS} \ \&\&$ $\text{V_PERMIT} < \text{CSG} \leq \text{V_SBI}$		orange	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM-IntS} \ \&\&$ $0 \text{ km/h} \leq \text{CSG} \leq \text{V_PERMIT}$		dark grey	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM-IntS} \ \&\&$ $\text{V_PERMIT} < \text{CSG} \leq \text{V_SBI}$		red	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM_TARGET-NoS} \ \&\&$ $0 \text{ km/h} \leq \text{CSG} < \text{V_TARGET}$		dark grey	no
$\text{MODE} == \text{FS} \ \&\&$ $\text{SUPERVISION_STATUS} == \text{CSM_TARGET-NoS} \ \&\&$ $\text{V_TARGET} \leq \text{CSG} \leq \text{V_PERMIT}$		white	no

Data change	UI-Message (SUBSET-058)	Color	SVG
MODE == FS && SUPERVISION_STATUS == CSM_TARGET-OvS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET-OvS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET*-OvS && V_PERMIT < CSG ≤ V_SBI		orange	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET*-WaS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET-WaS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET*-WaS && V_PERMIT < CSG ≤ V_SBI		orange	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET-IntS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET-IntS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == FS && SUPERVISION_STATUS == CSM_TARGET*-IntS && V_PERMIT < CSG ≤ V_SBI		red	no
MODE == FS && SUPERVISION_STATUS == TSM-IndS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == FS && SUPERVISION_STATUS == TSM-IndS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == FS && SUPERVISION_STATUS == TSM-IndS && V_TARGET ≤ CSG ≤ V_PERMIT		yellow	no
MODE == FS && SUPERVISION_STATUS == TSM-OvS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == FS && SUPERVISION_STATUS == TSM-OvS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == FS && SUPERVISION_STATUS == TSM-OvS && V_TARGET ≤ CSG ≤ V_PERMIT		yellow	no

Data change	UI-Message (SUBSET-058)	Color	SVG
MODE == FS && SUPERVISION_STATUS== TSM-OvS && V_PERMIT < CSG ≤ V_SBI		orange	no
MODE == FS && SUPERVISION_STATUS== TSM-WaS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == FS && SUPERVISION_STATUS== TSM-WaS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == FS && SUPERVISION_STATUS== TSM-WaS && V_TARGET ≤ CSG ≤ V_PERMIT		yellow	no
MODE == FS && SUPERVISION_STATUS== TSM-WaS && V_PERMIT < CSG ≤ V_SBI		orange	no
MODE == FS && SUPERVISION_STATUS== TSM-IntS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == FS && SUPERVISION_STATUS== TSM-IntS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == FS && SUPERVISION_STATUS== TSM-IntS && V_TARGET ≤ CSG ≤ V_PERMIT		yellow	no
MODE == FS && SUPERVISION_STATUS== TSM-IntS && V_PERMIT < CSG ≤ V_SBI		red	no
MODE == FS && SUPERVISION_STATUS== RSM-IntS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == FS && SUPERVISION_STATUS==RSM-IntS && V_TARGET ≤ CSG ≤ V_PERMIT		yellow	no
MODE == FS && SUPERVISION_STATUS==RSM-IntS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == FS && SUPERVISION_STATUS==RSM-IntS && V_TARGET ≤ CSG ≤ V_PERMIT		yellow	no
MODE == AD && SUPERVISION_STATUS == CSM-NoS && 0 km/h ≤ CSG ≤ V_PERMIT		dark grey	no
MODE == AD && SUPERVISION_STATUS == CSM-OvS && 0 km/h ≤ CSG ≤ V_PERMIT		dark grey	no
			no

Data change	UI-Message (SUBSET-058)	Color	SVG
MODE == AD && SUPERVISION_STATUS == CSM-OvS && V_PERMIT < CSG ≤ V_SBI		dark grey	
MODE == AD && SUPERVISION_STATUS == CSM-WaS && 0 km/h ≤ CSG ≤ V_PERMIT		dark grey	no
MODE == AD && SUPERVISION_STATUS == CSM-WaS && V_PERMIT < CSG ≤ V_SBI		dark grey	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-NoS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-NoS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-OvS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-OvS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-OvS && V_PERMIT < CSG ≤ V_SBI		white	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-WaS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-WaS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == AD && SUPERVISION_STATUS == CSM_TARGET**-WaS && V_PERMIT < CSG ≤ V_SBI		white	no
MODE == AD && SUPERVISION_STATUS == TSM-IndS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == AD && SUPERVISION_STATUS == TSM-IndS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == AD && SUPERVISION_STATUS == TSM-IndS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == AD && SUPERVISION_STATUS == TSM-OvS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
			no

Data change	UI-Message (SUBSET-058)	Color	SVG
MODE == AD && SUPERVISION_STATUS == TSM-OvS && 0 km/h ≤ CSG < V_TARGET		dark grey	
MODE == AD && SUPERVISION_STATUS == TSM-OvS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == AD && SUPERVISION_STATUS == TSM-OvS && V_PERMIT < CSG ≤ V_SBI		white	no
MODE == AD && SUPERVISION_STATUS == TSM-WaS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == AD && SUPERVISION_STATUS == TSM-WaS && 0 km/h ≤ CSG < V_TARGET		dark grey	no
MODE == AD && SUPERVISISON_STATUS == TSM-WaS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no
MODE == AD && SUPERVISION_STATUS == TSM-WaS && V_PERMIT < CSG ≤ V_SBI		white	no
MODE == AD && SUPERVISION_STATUS == RSM-IndS && 0 km/h ≤ CSG ≤ V_RELEASE*(when Vrelease exists)		medium grey	no
MODE == AD && SUPERVISION_STATUS == RSM-IndS && V_TARGET ≤ CSG ≤ V_PERMIT		white	no

[SPT2TS-130366]

2.6.7 Basic Speed Hook(s)

Data change	Command (SUBSET-058)	Color	SVG
MODE == SM OS* SR* && SUPERVISION_STATUS == CSM-AIIS	M_COLOUR_SP = 0	HOOK_V_PERMIT == white && HOOK_V_TARGET == -	no
MODE == SM OS* SR* && SUPERVISION_STATUS == CSM_TARGET_INFO**-AIIS	M_COLOUR_SP = 0 M_COLOUR_SP = 2	HOOK_V_PERMIT == white && HOOK_V_TARGET == medium_grey	no
MODE == SM OS* SR* && SUPERVISION_STATUS == TSM-AIIS	M_COLOUR_SP = 0 M_COLOUR_SP = 2	HOOK_V_PERMIT == white && HOOK_V_TARGET == medium_grey	no
	M_COLOUR_SP = 0		no

Data change	Command (SUBSET-058)	Color	SVG
MODE == SM OS* SR* && SUPERVISION_STATUS== RSM (not applicable for SR)-AIIIS	M_COLOUR_SP = 2	hook at Vperm == white && hook at Vtarget == medium grey	
MODE == SH* && SUPERVISION_STATUS == CSM- AIIIS	M_COLOUR_SP = 0	HOOK_V_PERMIT== white && HOOK_V_TARGET== -	no
MODE == RV && SUPERVISION_STATUS == CSM- AIIIS	M_COLOUR_SP = 0	HOOK_V_PERMIT== white && HOOK_V_TARGET== -	no

[SPT2TS-130368]

2.6.8 Release speed digital

Data change	Command (SUBSET-058)	Color	SVG
MODE == FS SM OS* LS && SUPERVISION_STATUS== CSM-AIIIS	STM-43.M_COLOUR_RS	-	no
MODE == FS SM OS* LS && SUPERVISION_STATUS== CSM_TARGET_INFO- AIIIS	STM-43.M_COLOUR_RS	-	no
MODE == FS SM OS* LS && SUPERVISION_STATUS== TSM-AIIIS	STM-43.M_COLOUR_RS= 4	yellow	no
MODE == FS SM OS* LS && SUPERVISION_STATUS== RSM-AIIIS	STM-43.M_COLOUR_RS= 4	yellow	no
MODE == AD && SUPERVISION_STATUS== CSM-AIIIS	STM-43.M_COLOUR_RS	-	no
MODE == AD && SUPERVISION_STATUS== CSM_TARGET_INFO**- AIIIS	STM-43.M_COLOUR_RS	-	no
MODE == AD && SUPERVISION_STATUS== TSM-AIIIS	STM-43.M_COLOUR_RS=2	medium grey	no
MODE == AD && SUPERVISION_STATUS== CSM-AIIIS	STM-43.M_COLOUR_RS=2	medium grey	no
MODE == SB SH UN PT TR NL SR RV && SUPERVISION_STATUS== RSM-AIIIS	STM-43.M_COLOUR_RS	-	no

[SPT2TS-130370]

2.6.9 1.7 ETCS INFORMATION SHOWN ON THE ETCS DEFAULT WINDOW

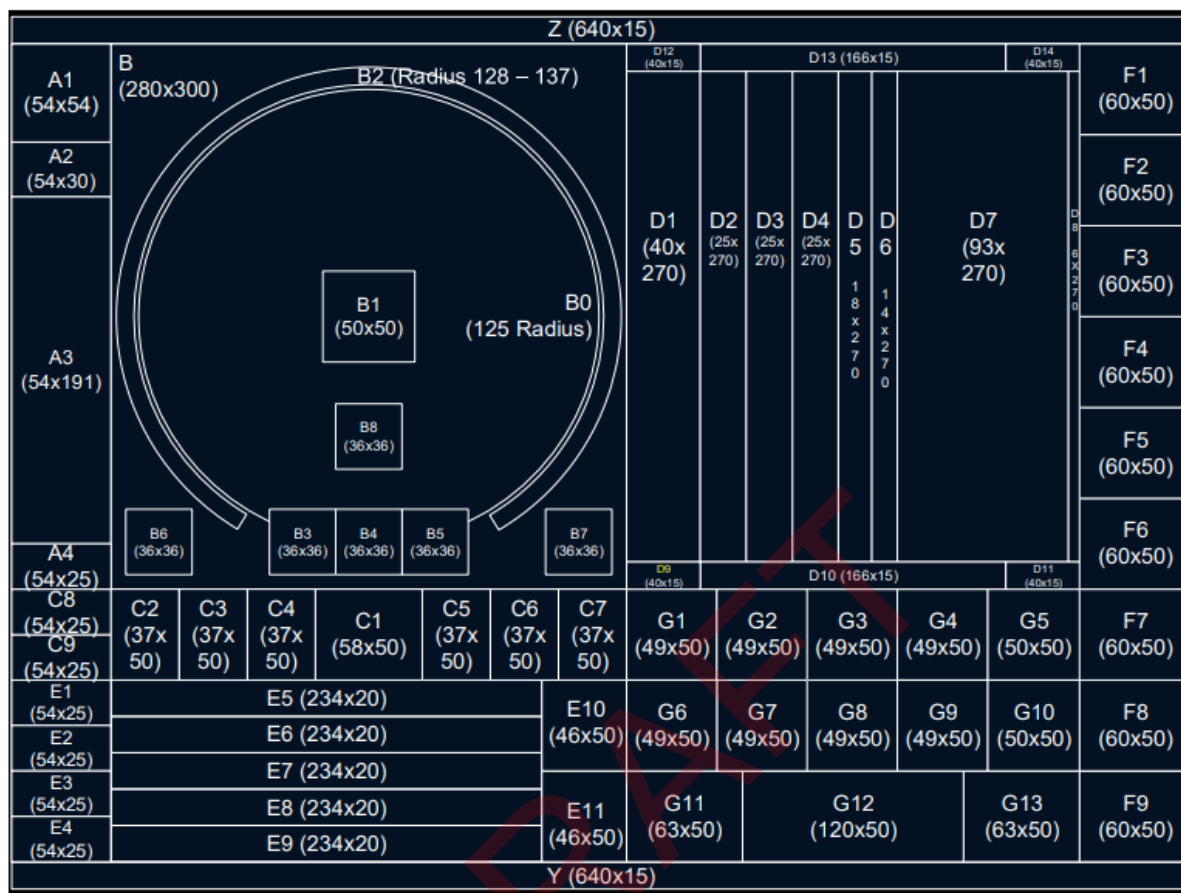


Figure 7 – The sub areas of the ETCS layout (touch screen technology)

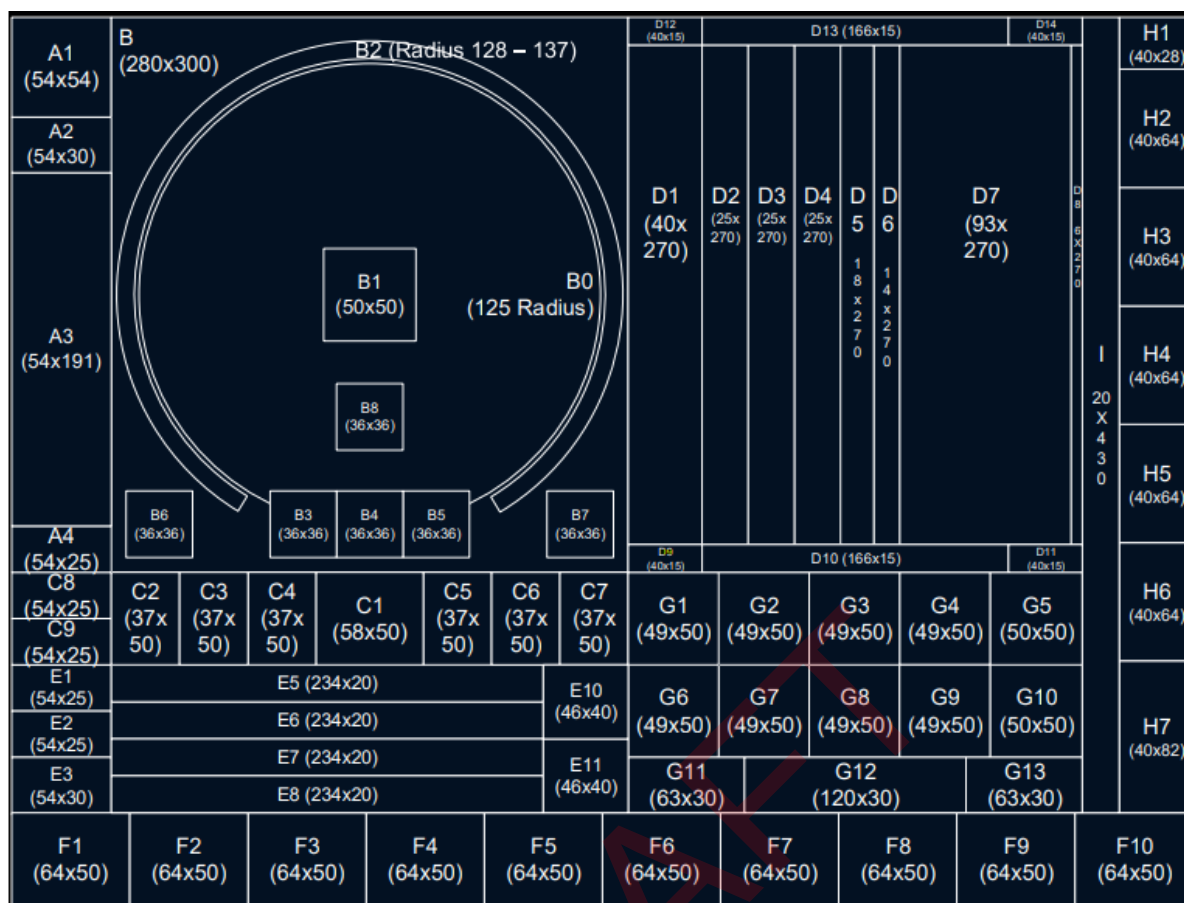


Figure 9 – The sub areas of the ETCS layout (soft key technology)

Data Change	Action
L_VALUE_V > 3	
M_COLOUR_SP == RED	
M_COLOUR_SP != RED	

Data Change	Action
SUPERVISION_STATUS = CSM CSM_TARGET_INFO TSM RSM	
CSG_DISPLAY != EMPTY	
V_PERMIT == TRUE	
STATUS_INFORMATION == OVS WAS INTS	
SUPERVISION_STATUS == CSM TSM RSM CSM_TARGET_INFO	

Data Change	Action
V_PERMIT == TRUE	
V_TARGET == TRUE	
HOOKS_OVERLAP == TRUE HOOK_V_PERMIT = V_PERMIT HOOK_V_TARGET = V_TARGET	
V_RELEASE > 0	
V_RELEASE > 0 V_RELEASE < V_PERMIT	

Data Change	Action
V_RELEASE > 0 V_RELEASE > V_PERMIT	
LSSMA_CONDITION == TRUE	
DRIVER_ACKNOWLEDGEMENT_REQUIRED_BRAKE_RELEASE == TRUE BRAKE_RELEASE_CONDITIONS == TRUE	
SCREEN_TECHNOLOGY == TOUCH_SCREEN_TECHNOLOGY	
SCREEN_TECHNOLOGY == TOUCH_SCREEN_TECHNOLOGY	

Data Change	Action
SCREEN_TECHNOLOGY == SOFT_KEY_TECHNOLOGY ONBOARD_MODE==TRUE	enable(F7)
SCREEN_TECHNOLOGY == TOUCH_SCREEN_TECHNOLOGY ONBOARD_MODE == FALSE	disable(F7)
SCREEN_TECHNOLOGY == SOFT_KEY_TECHNOLOGY ONBOARD_MODE==TRUE	enable(F7)
SCREEN_TECHNOLOGY == TOUCH_SCREEN_TECHNOLOGY ONBOARD_MODE == FALSE	disable(F7)
MO18_DISPLAYED== FALSE	
IS_MODE== TRUE	
ERTMS_ETCS_LEVEL_ANNOUNCEMENT_DISPLAY == TRUE ACKNOWLEDGEMENT_ERTMS_ETCS_LEVEL_ANNOUNCEMENTT== FALSE	

Data Change	Action
ACKNOWLEDGEMENT_ERTMS_ETCS_LEVEL_ANNOUNCEMENTT==TRUE	
OVERRIDE_FUNCTION_ACTIVE==TRUE	
VAILD_ERTMS_LEVEL== TRUE CURRENT_ERTMS_LEVEL==0 NTC 1 2	
VAILD_ERTMS_LEVEL==FALSE CURRENT_ERTMS_LEVEL==UNKNOWN	
MODE_ACKNOWLEDGEMENT==ACTIVE	wait(MODE_ACKNOWLEDGEMENT=="AC

Data Change	Action
ERTMS_ETCS_LEVEL_ANNOUNCEMENT == TRUE ACKNOWLEDGEMENT_ERTMS_ETCS_LEVEL_ANNOUNCEMENTT == FALSE	
ERTMS_ETCS_LEVEL_ANNOUNCEMENT == FALSE ACKNOWLEDGEMENT_ERTMS_ETCS_LEVEL_ANNOUNCEMENTT == TRUE	
CURRENT_ERTMS_LEVEL == NTC_level	

Data Change	Action
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY	
SCREEN_TECHNOLOGY== SOFT_KEY_TECHNOLOGY	
SCREEN_TECHNOLOGY== SOFT_KEY_TECHNOLOGY	
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY	

Data Change	Action
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY TUNNEL_STOPPING_AREA = TOGGLED_OFF	
B3 == EMPTY	
B4 == EMPTY	
B5 == EMPTY	wait (B3 == EMPTY B4 == EMPTY B5 == EMPTY)
PLANNING_INFORMATION == FALSE	disable(ZOOM_AREA)

Data Change	Action
LENGTH_GRADIENT_ELEMENT >=MIN_LENGTH_FOR_GRADIENT_DIRECTION GRADIENT_DIRECTION == UPHILL	
GRADIENT_DIRECTION == DOWNHILL	
LENGTH_GRADIENT_ELEMENT >= MIN_LENGTH_FOR_GRADIENT_NUMBER	
AUTOMATIC_DRIVING_MODE == TRUE	
AUTOMATED_DRIVING_MODE == TRUE	
AUTOMATIC_DRIVING_MODE == TRUE	

Data Change	Action
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY	
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY	
SAFE_RADIO_CONNECTION_STATUS == CONNECTION_UP	
SAFE_RADIO_CONNECTION_STATUS == NO_CONNECTION	
SAFE_RADIO_CONNECTION_STATUS == CONNECTION_LOST SAFE_RADIO_CONNECTION_STATUS == SETUP_FAILED	
TRAIN_STATUS == STANDSTILL REVERSING_AREA==TRUE	

Data Change	Action
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY GEO_POSITION_STATUS == "DISABLED"	
SCREEN_TECHNOLOGY== SOFT_KEY_TECHNOLOGY GEO_POSITION_STATUS == "DISABLED"	
GEO_POSITION_STATUS=="ENABLED"	
ATO_SELECTOR == "ENABLED"	

Data Change	Action
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY ATO17_DISPLAY==TRUE ATO19_DISPLAY ==TRUE	enable(G1)
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY ATO17_DISPLAY==TRUE ATO19_DISPLAY ==TRUE	enable(G1)
SCREEN_TECHNOLOGY== SOFT_KEY_TECHNOLOGY ATO17_DISPLAY==TRUE ATO19_DISPLAY==TRUE	enable(F9)
SCREEN_TECHNOLOGY== SOFT_KEY_TECHNOLOGY ATO03_DISPLAY==TRUE ATO04_DISPLAY==TRUE	enable(F9)
IF(REMAINING_TIME <= 59	
REMAINING_TIME > 59	

Data Change	Action
ERTMS_ATO_REQUEST_TRAIN_HOLD==TRUE	
SCREEN_TECHNOLOGY== TOUCH_SCREEN_TECHNOLOGY ATO17_DISPLAY==TRUE ATO19_DISPLAY ==TRUE	enable(G5)
SCREEN_TECHNOLOGY== SOFT_KEY_TECHNOLOGY ATO17_DISPLAY==TRUE ATO19_DISPLAY==TRUE	enable(F9)

2.7 1.6.9.1.8 ETCS AND NTC INFORMATION SHOWN ON A NTC DEFAULT WINDOW

Data Change	Action	Command	New_commands
FLASHING_STYLE==YELLOW_FRAME		STM-35.M_IND_ATTRIB = 10xxxxxxx STM-32.M_BUT_ATTRIB = 10xxxxxxx	COLOUR = YELLOW WIDTH = 2
FLASHING_STYLE==WHOLE_AREA		STM-35.M_IND_ATTRIB = 11xxxxxxx STM-32.M_BUT_ATTRIB = 11xxxxxxx	COLOUR = DARK_BLUE WIDTH = 2
STM_REQUEST_ICON == EMPTY			DISPLAY_DIGITAL=CAPTION

Data Change	Action	Command	New_commands
STM_CUSTOM_DMI == TRUE ICON_TEXT_DISPLAYED== TRUE			DISPLAY_DIGITAL=CAPTION DISPLAY_DIGITAL=ICON
STM_CUSTOMISABLE_DMI== FALSE ICON_TEXT_DISPLAYED == FALSE			DISPLAY_DIGITAL=ICON
CAPTION_TEXT_DISPLAYED == TRUE ICON_DISPLAYED= FALSE			DISPLAY_DIGITAL=CAPTION POSITION = FOREGROUND DISPLAY=ICON POSITION = MIDDLE DISPLAY=BACKGROUND_COLOUR POSITION = BACKGROUND
L_CAPTION > 6			DISPLAY_DIGITAL=CAPTION POSITION = NEXT_LINE
STM_CUSTOM_DMI == TRUE STM_UNIFIED_DMI == TRUE		STM-43.M_COLOUR_SP = COLOUR_TARGET	DISPLAY=M_SP TYPE=8.2.1.2 DISPLAY(V)
STM_REQUEST_DISPLAY_MODE == BAR			DISPLAY=DISTANCE_TO_TARGET TYPE=8.2.2.1 DISPLAY_DIGITAL = REMAINING_DISTANCE_TO_TARGET TYPE=8.2.2.2

Data Change	Action	Command	New_commands
STM_REQUEST_DISPLAY_MODE == BAR			DISPLAY=DISTANCE_TO_TA TYPE=8.2.2.1 DISPLAY_DIGITAL = REMAINING_DISTANCE_TO_ TYPE=8.2.2.2
STM_V_SUPERVISION_DISPLAY== BAR V_PERMIT < STM-43.V_RELEASE V_RELEASE == TRUE			DISPLAY = V_SUPERVISION STYLE="BAR" WIDTH = 9
Q_DISPLAY_IS ="10"			
V_RELEASE_STYLE="BAR"		STM-43.Q_DISPLAY_RS = 10	
V_INTERV_STYLE == "wide bar width"		STM-43.Q_DISPLAY_IS = 10	WIDTH = 20
V_STYLE = "BAR"			DISPLAY=BAR START_POSITION = -149 END_POSITION = -144 COLOUR ="DARK GREY"

Data Change	Action	Command	New_commands
V_PERMIT < V_TARGET && V_PERMIT == TRUE		STM-43.Q_DISPLAY_TS = 10 STM-43.Q_DISPLAY_TS = 10	START_POSITION = STM-43.V END_POSITION = STM-43.V COLOUR = COLOUR_TARGET START_POSITION = 0 END_POSITION = STM-43.V COLOUR = COLOUR_TARGET
V_TARGET, STYLE="HOOK_ONLY"		STM-43.Q_DISPLAY_TS = 01	COLOUR = COLOUR_TARGET
V_TARGET, STYLE= "HOOK_AND_BAR"		STM-43.Q_DISPLAY_TS = 11	COLOUR = COLOUR_TARGET
V_TARGET < V_PERMIT V_TARGET== TRUE		Q_DISPLAY_TS.Q_DISPLAY_PS = 10 Q_DISPLAY_TS.Q_DISPLAY_TS = 10	DISPLAY=BAR START_POSITION =STM-43.V END_POSITION = STM-43.V COLOUR = COLOUR_TARGET DISPLAY=BAR START_POSITION = 0 END_POSITION = STM-43.V COLOUR = COLOUR_TARGET
V_PERMIT, STYLE=HOOK_ONLY		Q_DISPLAY_TS.Q_DISPLAY_PS = 01	

Data Change	Action	Command	New_commands
V_PERMIT, STYLE= HOOK_AND_BAR		Q_DISPLAY_TS.Q_DISPLAY_PS = 11	COLOUR = COLOUR_TARGET
STM_INFO == EMPTY		STM-43.M_COLOUR_SP="GREY"	

2.8 1.6.7.1.9 SUB-LEVEL WINDOWS – GENERAL REQUIREMENTS

Data Change	Action	Command
MENU_SELECTIONS > 10	press(MORE_BUTTON)	STM-32.NID_BUTTON
SCREEN_TECHNOLOGY = TOUCHSCREEN_TECHNOLOGY		
SCREEN_TECHNOLOGY = SOFT_KEY_TECHNOLOGY		
INPUT_FIELD_STATE = NOT_SELECTED INPUT_FIELD_VALUE_ACCEPTED = FALSE		STM-184.M_DATAE 0

Data Change	Action	Command
INPUT_FIELD_STATE = SELECTED		STM-184.M_DATAE 1
INPUT_FIELD_STATE = SELECTED		STM-184.M_DATAE 1
INPUT_FIELD_STATE=SLECTED	press(INITIAL_KEY)	
INPUT_FIELD_STATE = NOT_SELECTED INPUT_FIELD_VALUE_ACCEPTED = FALSE		STM-184.M_DATAE 0
SCREEN_TECHNOLOGY = TOUCHSCREEN	press(INPUT_FIELD)	STM-32.NID_BUTTON STM-184.M_DATAE 1
INPUT_FIELD_STATE = SELECTED VALIDATION_PROCESS_DATA == ACTIVE	Deselect(OTHER_INPUT_FIELDS)	STM-184.M_DATAE 1

Data Change	Action	Command
ENTER_KEY= ACTIVE INPUT_FIELD_STATE = ACCEPTED	select(NEXT_INPUT_FIELD)	STM-184.M_DATAE 1
SCREEN_TECHNOLOY = TOUCHSCREEN_TECHNOLOGY INPUT_FIELD_STATE = SELECTED	activate(INPUT_FIELD)	STM-184.M_DATAE 1
INPUT_FIELD_STATE = SELECTED	show(KEYBOARD) press(ANY_KEY)	STM-184.M_DATAE 1
INPUT_FIELD_STATE = SELECTED SAME_KEY_PRESSED_IN_2_S == TRUE	show(KEYBOARD) press(ANY_KEY)	STM-184.M_DATAE 1
DATA_VALUE= NOT_CONSISTANT		
INPUT_FIELD_STATE = ACCEPTED VALIDATION_PROCESS_DATA == ACTIVE		
INPUT_FIELD_STATE = ACCEPTED		STM-184.M_DATAE 1

Data Change	Action	Command
INPUT_FIELD_STATE = ACCEPTED	permitted_range_check(DATA)	STM-184.M_DATAE 1
INPUT_FIELED_STATE = ACCEPTED PERMITTED_RANGE_CHECK == FAILED		STM-38.STM-38.M_ = xxxxxxx010
INPUT_FIELD_STATE != SELECTED_IF_VALUE_OF_PRESSED_KEY	disable(UP_BUTTON) disable(DOWN_BUTTON) disable(NEXT_BUTTON) disable(ENTER) disable(PREVIOUS)	
INPUT_FIELD_STATE = ACCEPTED TECHNICAL_RESOLUTION_CHECK== FAILED		STM-38.M_XATTRI xxxxxxx010
INPUT_FIELD_STATE = SELECTED_IF_VALUE_OF_PRESSED_KEY		
CROSS_CHECK_RULE == FAILED		STM-38.M_XATTRI xxxxxxx010
CROSS_CHECK_RULE == FAILED		
INPUT_FIELD_STATE!= NOT_SELECTED/ ACCEPTED_DATA_VALUE	disable(YES_BUTTON)	
OPERATIONAL_PERMITTED_RANGE_CHECK==FAILED		STM-38.M_XATTRI xxxxxxx101

Data Change	Action	Command
OPERATIONAL_PERMITTED_RANGE_CHECK==FAILED INPUT_FIELD_STATE = SELECTED_IF_VALUE_DATA		
INPUT_FIELD_STATE != SELECTED_IF_VALUE_OF_PRESSED_KEY	disable(UP_BUTTON) disable(DOWN_BUTTON) disable(NEXT_BUTTON) disable(PREVIOUS_BUTTON)	
OPERATIONAL_PERMITTED_RANGE_CHECK== OVERRULE		STM-32.NID_BUTTON
OPERATIONAL_PERMITTED_RANGE_CHECK== OVERRULE	INPUT_FIELD_STATE= "Not Selected IF/Accepted Data value"	
CROSS_CHECK_RULE == FAILED		STM-38.M_XATTRIB xxxxxxx101
CROSS_CHECK_RULE == FAILED		
VALID_BUTTON_ACTIVATION == TRUE		

Data Change	Action	Command
input_field_state = accepted modified_input_field_data_status = accepted next_input_field_data_status = accepted technical_range_check == FAILED resolution_check == FALSE	disable(enter) disable(up_button) disable(down_button) disable(next_button) disable(previous_button)	STM-38.M_XATTRIB xxxxxxx010
operational_range_check == FAILED	enable(enter) disable(up_button) disable(down_button) disable(next_button) disable(previous_button)	STM-38.M_XATTRIB xxxxxxx101
all_input_fields_have_data = FALSE	press(enter)	
technical_cross_check == FAILED	disable(Yes_button)	STM-38.M_XATTRIB xxxxxxx010
operational_cross_check_rule == FAILED		STM-38.M_XATTRIB xxxxxxx101
window_grid_areas = D&&F&&G		

Data Change	Action	Command
window_grid_areas = A B C D E F G		
window_grid_areas = A B C D E F G		
window_grid_areas = A B C D E F G		
window_grid_areas = A B C D E F G		
input_field_selection = selection_type		
KEYBOARD_TYPE = NUMERIC	disable(Keyboard_key_12)	

Data Change	Action	Command
keyborad_type_selections > 12	press(MORE_BUTTON)	
window_grid_areas = A B C D E I G		
previous_related_input_fields= NONE		STM-32.NID_BUTTON
previous_related_input_fields= YES		STM-32.NID_BUTTON
next_related_input_field = YES		STM-32.NID_BUTTON
active_input_field > 1	enable(yes_button) enable(switch_button)	STM-32.NID_BUTTON STM-32.NID_BUTTON
window_grid_areas = A B C D E I G		
window_grid_areas = A B C D E I G		

Data Change	Action	Command
yes_button == ACTIVE yes_button = INACTIVE		
yes_button == ACTIVE		STM-32.NID_BUTTON
KEYBOARD_TYPE == NUMERIC KEYBOARD_TYPE == ENHANCED_NUMERIC KEYBOARD_TYPE == ALPHA_NUMERIC KEYBOARD_TYPE == PREDEFINED		
KEYBOARD_TYPE == NUMERIC		STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON

Data Change	Action	Command
KEYBOARD_TYPE == ENHANCED_NUMERIC		STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON
KEYBOARD_TYPE == ALPHA_NUMERIC		STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON STM-32.NID_BUTTON

Data Change	Action	Command
KEYBOARD_TYPE == NUMERIC KEYBOARD_TYPE == ENHANCED_NUMERIC KEYBOARD_TYPE == ALPHA_NUMERIC		STM-32.NID_BUTTON
KEYBOARD_TYPE = PREDEFINED		
keyboard_limit = yes_no_choice		STM-32.NID_BUTTON STM-32.NID_BUTTON
predifined_choices > 10	press(MORE_BUTTON	STM-32.NID_BUTTON
previous_related_input_field = NONE		STM-32.NID_BUTTON
previous_related_input_field = YES		STM-32.NID_BUTTON
next_related_input_field = YES		STM-32.NID_BUTTON

2.9 Steps of Start Up dialogue - Table 49

	Start Condition	Action
START_UP_S0	CAB_ACTIVE == YES MODE == SB && RBC_SESSION == ACTIVE RBC_SESSION == CONNECTING START_OF_MISSION_INITIATION_CONDITIONS == COMPLETE	disable(ALL_BUTTONS)
START_UP_S1	DRIVER_ID_WINDOW == ACTIVE DRIVER_ID_VALID == UNKNOWN NO	
	DRIVER_ID_VALID == YES	
	SETTINGS_BUTTON_PRESSED == YES	
	TRAIN_RUNNING_NUMBER_PRESSED == YES	
START_UP_S1-1	SETTINGS_WINDOW_STATUS == ACTIVE	close(SETTINGS_WINDOW)
START_UP_S2-1	TRAIN_RUNNING_NUMBER_WINDOW == ACTIVE	revalidate(TRAIN_NUMBER)
START_UP_D2	TRAIN_POSITION_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES	

	Start Condition	Action
	TRAIN_POSITION_VALID == NO && CURRENT_ERTMS_LEVEL_VALID == NO	
START_UP_D3	CURRENT_ERTMS_LEVEL==2	
	CURRENT_ERTMS_LEVEL== 0 1 NTC	
START_UP_D7	RADIO_NETWORK_TYPE == FRMCS FRMCS_GSM_R && ONBOARD_RADIO_SYSTEM == FRMCS && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK && GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == GSM_R FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == GSMR== TRUE && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1	
	D7_RADIO_CONDITIONS_FULFILLED == NO	

	Start Condition	Action
START_UP_S2	CURRENT_ERTMS_LEVEL_VALID == UNKNOWN NO	
	NEW_ERTMS_LEVEL == 2	
	NEW_ERTMS_LEVEL == 0 1 NTC	
START_UP_S3-1	DISPLAY_FRAME == RADIO_DATA_WINDOW	
		press(CONTACT_LAST_RBC)
		press(ENTER_RBC_DATA)
		press(RADIO_NETWORK_TYPE)
		press(GSM-R Network ID)
		press(MISSION_WITH_ONE_RADIO_SYS)
START_UP_S3-2-1	DISPLAY_FRAME == RADIO_DATA_WINDOW AVAILABLE_GSMR_NETWORK_LIST != EMPTY	disable(ALL_BUTTONS) wait(GSMR_NETWORK_LIST == AVAILABLE)

	Start Condition	Action
	AVAILABLE_GSMR_NETWORK_LIST == EMPTY	
START_UP_S3-2-2	DISPLAY_FRAME == GSMR_NETWORK_ID_WINDOW GSMR_NETWORK_ID_ENTERED == YES	
START_UP_S3-2-3	DISPLAY_FRAME == RADIO_DATA_WINDOW	disable (ALL_BUTTONS)
	GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK && GSMR_TERMINALS_REGISTERED >= 1	
START_UP_S4	DISPLAY_FRAME == MAIN_WINDOW	disable(ALL_BUTTONS)

	Start Condition	Action
	<pre>RADIO_NETWORK_TYPE == FRMCS FRMCS_GSM_R && ONBOARD_RADIO_SYSTEM == FRMCS && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK && GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == GSM_R FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == GSMR== TRUE && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1</pre>	

	Start Condition	Action
	RADIO_NETWORK_TYPE == FRMCS FRMCS_GSM_R && ONBOARD_RADIO_SYSTEM == FRMCS && FRMCS_CONNECTION_TIME_ELAPSED == YES RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR && GSMR_CONNECTION_TIME_ELAPSED == YES RADIO_NETWORK_TYPE == GSM_R FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == GSMR == TRUE && GSMR_CONNECTION_TIME_ELAPSED == YES	
START_UP_A42	RADIO_NETWORK_TYPE == FRMCS FRMCS_GSM_R && ONBOARD_RADIO_SYSTEM == FRMCS && FRMCS_NETWORK_REGISTRATION == FAILED	
	RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR && FRMCS_NETWORK_REGISTRATION == FAILED GSMR_NETWORK_REGISTRATION == FAILED	

	Start Condition	Action
	RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == GSMR && GSMR_NETWORK_REGISTRATION == FAILED	
START_UP_D9	RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK && GSMR_TERMINALS_REGISTERED >= 1	
	CURRENT_PROCEDURE = D9 RADIO_CONDITIONS_FULFILLED == NO	
START_UP_S5	DISPLAY_FRAME == MISSION_WITH_ONE_RADIO_WINDOW	
	RBC_CONTACT_INFO_VALID == YES	Press(YES_BUTTON)
	RBC_CONTACT_INFO_VALID == NO	Press(YES_BUTTON) Press(NO_BUTTON)
START_UP_A29	DISPLAY_DIGITAL = "GSM-R network registration failed"	

	Start Condition	Action
START_UP_D10	RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR	
	RADIO_NETWORK_TYPE != FRMCS + GSMR && ONBOARD_RADIO_SYSTEM != FRMCS + GSMR	
START_UP_S3-3	RBC_DATA_ENTRY_COMPLETE == TRUE	Press(YES_BUTTON)
	RBC_CONTACT_INFO == UNKNOWN INVALID	enable(YES_BUTTON) Press(YES_BUTTON)
START_UP_S3-4	DISPLAY_FRAME == RBC_NETWORK_TYPE_WINDOW	
	DRIVER_ENTERED_NETWORK_TYPE == FRMCS FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS FRMCS_NETWORK_REGISTRATION == NOT REGISTERED	
	DRIVER_ENTERED_NETWORK_TYPE == FRMCS FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK	
START_UP_A41	DISPLAY_DIGITAL = "FRMCS network registration failed"	

	Start Condition	Action
START_UP_A43	FRMCS_NETWORK_REGISTRATION == FAILED A41_PROCEDURE == FAILED	
	GSMR_NETWORK_REGISTRATION == FAILED START_UP_A29_PROCEDURE == FAILED	
START_UP_S10	CURRENT_PROCEDURE == S10	
START_UP_A31	DISPLAY_FRAME == MAIN_WINDOW	disable(ALL_BUTTONS)
START_UP_D31	SESSION_OPENING_STATUS == SUCCESS	
	SESSION_OPENING_STATUS == FAILED	
START_UP_A32	COMMUNICATION_SESSION == TERMINATED_NO_COMPATIBLE_VERSION	
START_UP_A33	SAFE_CONSIST_LENGTH_INFO == AVAILABLE TRAIN_DATA_AVAILABLE == NO	send(SOM_POSITION_REPORT)
START_UP_A34	TRAIN_DATA_AVAILABLE == YES TRAIN_POSITION_DATA_STATUS == INVALID	send(SOM_POSITION_REPORT_INVALID)

	Start Condition	Action
	TRAIN_DATA_AVAILABLE == YES TRAIN_POSITION_DATA_STATUS == UNKNOWN	send(SoM_position_report_unknown_posi
	TRAIN_DATA_AVAILABLE == NO	send(SoM_position_report_safe_consist_l
START_UP_D33	TRAIN_POSITION_LRBG_DATA == INVALID && RBC_TRAIN_POSITION_VALIDATION = ACCEPTED	
	TRAIN_POSITION_LRBG_DATA == INVALID && RBC_TRAIN_POSITION_VALIDATION = REJECTED	
START_UP_A35	RBC_TRAIN_POSITION_VALIDATION_RECIEVED == YES	
START_UP_D22	TRAIN_ACCEPTED == YES	

	Start Condition	Action
	TRAIN_ACCEPTED == NO	
START_UP_A23	TRAIN_ACCEPTED == YES	
START_UP_D34	TRAIN_POSITION_LRBG_DATA == UNLINKED_BALISE_GROUP	
	TRAIN_POSITION_LRBG_DATA == INVALID UNKNOWN	
START_UP_A24	CURRENT_PROCEDURE == A24	delete(Train_position_data)
START_UP_A38	TRAIN_ACCEPTED == NO	
START_UP_D35	TRAIN_POSITION_VAILD == YES TRAIN_POSITION_LRBG_DATA == UNLINKED_BALISE_GROUP	
	TRAIN_POSITION_LRBG_DATA == INVALID UNKNOWN	
START_UP_A39	CURRENT_PROCEDURE == A39	delete(Train_position_data)
START_UP_A40-1	CURRENT_PROCEDURE == A40-1	terminate(RBC_session)
START_UP_A40_2	CURRENT_PROCEDURE == A40-2	

2.10 The steps of the “Main window”

	Start Condition	Action
MAIN_WINDOW_S1	DISPLAY_FRAME == MAIN_WINDOW	
	DRIVER_ID_BUTTON_PRESSED == YES	
	INITIATE_SM_BUTTON_PRESSED == YES	
	SHUNTING_BUTTON_PRESSED == YES	
	NON_LEADING_BUTTON_PRESSED == YES MAINTAIN_SHUNTING_BUTTON_PRESSED == YES	
	EXIT_SHUNTING_BUTTON_PRESSED == YES	
	EXIT_SM_BUTTON_PRESSED == YES	
	TRAIN_DATA_BUTTON_PRESSED == YES	
	LEVEL_BUTTON_PRESSED == YES	
	TRAIN_RUNNING_NUMBER_BUTTON_PRESSED == YES	

	Start Condition	Action
	START_BUTTON_PRESSED == YES CURRENT_ERTMS_LEVEL == 0 CURRENT_ERTMS_LEVEL == 1 CURRENT_ERTMS_LEVEL == NTC	Press(Start_Button)
	START_BUTTON_PRESSED == YES CURRENT_ERTMS_LEVEL == 2	Press(Start_Button)
	RADIO_DATA_BUTTON_PRESSED == YES	
	DISPLAY_FRAME == DRIVER_ID_WINDOW DRIVER_ID_STATUS == REVALIDATED ENTERED	
MAIN_WINDOW_S2	DISPLAY_FRAME = DRIVER_ID_WINDOW DRIVER_ID_STATUS = REVALIDATED ENTERED	
MAIN_WINDOW_S3-1	PREVIOUS_PROCEDURE == S1 DISPLAY_FRAME == TRAIN_DATA_WINDOW TRAIN_DATA_BUTTON_PRESSED = YES	
	PREVIOUS_PROCEDURE == S1 TRAIN_DATA_STATUS_VALID == YES	start(train_data_validation)

	Start Condition	Action
	TRAIN_DATA_STATUS_VALID == NO	start(train_data_validation)
	TRAIN_DATA_STATUS_VALID == UNKNOWN	start(train_data_validation)
	PREVIOUS_PROCEDURE == SRS_5.17.2.S6 TRAIN_DATA_STATUS_VALID == YES	start(train_data_validation)
	PREVIOUS_PROCEDURE == SRS_5.17.2.SX INPUT_FIELD_CHANGED_BY_EXTERNAL_INTERFACE == YES VALUE_PROPOSED == YES	start(train_data_validation)

	Start Condition	Action
	PREVIOUS_PROCEDURE == S3-2	ongoing(train_data_validation)
	PREVIOUS_PROCEDURE == S3-2 SWITCH_BUTTON_PRESSED == YES	ongoing(train_data_validation)
	TRAIN_DATA_ENTRY_COMPLETE == TRUE	Press(Yes_Button)
MAIN_WINDOW_S3-2	DISPLAY_FRAME == TRAIN_DATA_VALIDATION_WINDOW	start(train_data_validation)
	TRAIN_DATA_VALIDATION_ENTERED_REVALIDATED == NO	
	TRAIN_DATA_VALIDATION_ENTERED_REVALIDATED == YES	
MAIN_WINDOW_D6	TRAIN_RUNNING_NUMBER_VALID == YES	
	TRAIN_RUNNING_NUMBER_VALID == INVALID UNKNOWN	
MAIN_WINDOW_S3-3	DISPLAY_FRAME == TRAIN_RUNNING_NUMBER_WINDOW TRAIN_RUNNING_NUMBER_VALID == INVALID UNKNOWN	
MAIN_WINDOW_D1	VALIDATED_LEVEL == 2	

	Start Condition	Action
	VALIDATED_LEVEL == 0 1 NTC	
MAIN_WINDOW_D2	RBC_SESSION == ACTIVE	
	RBC_SESSION == INACTIVE	
MAIN_WINDOW_D8	TRAIN_DATA_ACK_RECIEVED == YES	
	TRAIN_DATA_ACK_RECIEVED == NO	
MAIN_WINDOW_S9	DISPLAY_FRAME == MAIN_WINDOW	disable(all_buttons)
MAIN_WINDOW_S4	DISPLAY_FRAME = ERTMS/ETCS_LEVEL_WINDOW	
	VALIDATED_LEVEL == 2	
	VALIDATED_LEVEL == 0 1 NTC	

	Start Condition	Action
MAIN_WINDOW_D5	RBC_CONTACT_INFO == VAILD RADIO_NETWORK_TYPE == FRMCS FRMCS_GSM_R && ONBOARD_RADIO_SYSTEM == FRMCS && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK && GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == GSM_R FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == GSMR== TRUE && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1	
	RBC_CONTACT_INFO == INVALID	
	LEVEL_ENTRY_VALIDATION == TRUE && PREVIOUS_LEVEL == 0 NTC && CURRENT_ERTMS_LEVEL == 2 && MODE_SWITCH == TR	acknowledge(MO05)

	Start Condition	Action
MAIN_WINDOW_S5-1	DISPLAY_FRAME = RADIO_DATA_WINDOW	
	CONTACT_LAST_RBC_PRESSED == YES USE_SHORT_NUMBER_BUTTON_PRESSED == YES	
	ENTER_RBC_DATA_BUTTON_PRESSED == YES	
	RADIO_NETWORK_TYPE_BUTTON_PRESSED == YES	
	RADIO_NETWORK_ID_BUTTON_PRESSED == YES	
	MISSION_WITH_ONE_RADIO_SYSTEM_BUTTON_PRESSED == YES	
MAIN_WINDOW_S5-2-1	DISPLAY_FRAME = RADIO_DATA_WINDOW	disable(all_buttons)
	GSMR_NETWORK_LIST != EMPTY	
	GSMR_NETWORK_LIST == EMPTY	
MAIN_WINDOW_S5-2-2	DISPLAY_FRAME = GSMR_NETWORK_ID_WINDOW	

	Start Condition	Action
MAIN_WINDOW_S5-2-3	DISPLAY_FRAME = RADIO_DATA_WINDOW GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK && GSMR_TERMINALS_REGISTERED >= 1	disable(all_buttons)
MAIN_WINDOW_A5	DISPLAY_DIGITAL = "GSM-R Network Registration failed"	
MAIN_WINDOW_D9	RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS + GSMR	
	D9_RADIO_CONDITIONS_FULFILLED == NO	
MAIN_WINDOW_S5-3	DISPLAY_FRAME == RBC_DATA_WINDOW RBC_CONTACT_INFO_STATUS == UNKNOWN INVALID VALID	
	RBC_DATA_ENTRY_COMPLETE == TRUE	Press(Yes_Button)
MAIN_WINDOW_S5-4	DISPLAY_FRAME == RADIO_NETWORK_TYPE_WINDOW RADIO_NETWORK_TYPE == FRMCS + GSMR && ONBOARD_RADIO_SYSTEM == FRMCS FRMCS_REGISTERED_RADIO_NETWORK == NOT_REGISTERED	

	Start Condition	Action
	S5-4_RADIO_CONDITIONS_FULFILLED == NO	
MAIN_WINDOW_A6	PREVIOUS_PROCEDURE == S5-4	
MAIN_WINDOW_A7	FRMCS_NETWORK_REGISTRATION_STATUS == FAILED A6_PROCEDURE_FAILURE == YES	
	FRMCS_NETWORK_REGISTRATION_STATUS == FAILED A5_PROCEDURE_FAILURE == YES	
MAIN_WINDOW_S10	DISPLAY_FRAME == MISSION_WITH_ONLY_ONE_RADIO_SYSTEM_WINDOW	choose(Radio system) Press(Yes_button)
		Press (No_button)
MAIN_WINDOW_S8	DISPLAY_FRAME == MAIN_WINDOW	disable(all_buttons)
MAIN_WINDOW_D3	RBC_SESSION == ACTIVE	
	RBC_SESSION == FAILED TERMINATED TERMINATION_REASON == NO_COMPATIBLE_VERSION	
MAIN_WINDOW_D4	START_OF_MISSION == ACTIVE	
	START_OF_MISSION == INACTIVE	

	Start Condition	Action
MAIN_WINDOW_S6	DISPLAY_FRAME == TRAIN_RUNNING_NUMBER_WINDOW TRAIN_RUNNING_NUMBER_STATUS == UNKNOWN VALID INVALID	
	TRAIN_RUNNING_NUMBER_STATUS == VALIDATED	
MAIN_WINDOW_D7	RBC_SESSION == ACTIVE	
	RBC_SESSION == INACTIVE	
MAIN_WINDOW_S7	DISPLAY_FRAME == MAIN_WINDOW	disable(all_buttons)
	RBC_MESSAGE_RECEIVED == RBC_MA_RECEIVED RBC_SR_AUTH_RECEIVED	
	RBC_SESSION == TERMINATED TERMINATION_REASON == NO_RESPONSE_FROM_RBC	

2.11 The steps of the “Shunting” dialogue sequence

Procedure	Start Condition	Action	command
SHUNTING_S0	PREVIOUS_PROCEDURE == MAIN_WINDOW_S1	Press(Shunting_Button)	
SHUNTING_D1	CURRENT_ERTMS_LEVEL == 0 1		
	CURRENT_ERTMS_LEVEL == 2		
	CURRENT_ERTMS_LEVEL == NTC		
SHUNTING_D2	STM_NATIONAL_TRIP == ACTIVE		
	STM_NATIONAL_TRIP == INACTIVE		
SHUNTING_S1	DISPLAY_FRAME == MAIN_WINDOW	disable(all_buttons)	
	RBC_MESSAGE_RECEIVED = RBC_SH_REFUSED		
	RBC_REQUEST_WAIT_TIMEOUT == TRUE		
	RBC_MESSAGE_RECEIVED==RBC_SR_AUTH_RECEIVED		

2.12 The steps of the “Override window” dialogue sequence

Procedure	Start Condition	Action	command	New commands	San View
OVERRIDE_WINDOW_S0	DISPLAY_FRAME = OVERRIDE_WINDOW	Press(Override_button)		SET_PROCEDURE = S1	
OVERRIDE_WINDOW_S1	DISPLAY_FRAME = OVERRIDE_WINDOW	Press(EOA_button)		DISPLAY = MO03 SET_PROCEDURE = DEFAULT_WINDOW	Ref Fig 110 Ove win

2.13 The steps of the “Special window” dialogue sequence

Procedure	Start Condition	Action	command	New c
SPECIAL_WINDOW_S0	DISPLAY_FRAME == DEFAULT_WINDOW	Press(Special_button)		SET_ = S1
SPECIAL_WINDOW_S1	DISPLAY_FRAME == SPECIAL_WINDOW ADHESION_BUTTON_PRESSED == YES			SET_ = S2
	TRAIN_INTEGRITY_BUTTON_PRESSED == YES			SET_ = DEFA
	SR_SPEED_DISTANCE_BUTTON_PRESSED == YES			SET_ = S3
	BMM_INHIBITION_BUTTON_PRESSED == YES			DISP SET_ = DEFA
	REVOKE_BMM_BUTTON_PRESSED == YES			REMO SET_ = DEFA
SPECIAL_WINDOW_S2	DISPLAY_FRAME = ADHESION_WINDOW			DISP "Reva Adhes

Procedure	Start Condition	Action	command	New c
	ADHESION_ENTRY_COMPLETE == TRUE			SET_ = D1
SPECIAL_WINDOW_D1	ADHESION_STATUS == SLIPPERY_RAIL			DISP SET_ = S1
	ADHESION_STATUS == NON_SLIPPERY_RAIL			SET_ = S1
SPECIAL_WINDOW_S3	DISPLAY_FRAME = SR_SPEED_DISTANCE_WINDOW			DISP "Reva Speed distan Speed
	SR_DISTANCE_ONBOARD > MAX_SR_DISTANCE SR_DISTANCE_ONBOARD == INFINITE			DISP MAX_
		enable(Yes_Button)		
	SR_SPEED_VALUE != EMPTY && SR_DISTANCE_VALUE != EMPTY	Press(Yes_Button)		SET_ = S1

2.14 The steps of the “Settings window” dialogue sequence

Procedure	Start Condition	Action	command	Next
SETTINGS_WINDOW_S0	DISPLAY_FRAME = DEFAULT_WINDOW CURRENT_PROCEDURE == START_UP_S1-1	Press(Settings_Button)		SETTINGS_WINDOW_S1
SETTINGS_WINDOW_S1	DISPLAY_FRAME == SETTINGS_WINDOW BUTTON_SELECTION == LANGUAGE BUTTON			SETTINGS_WINDOW_S2
	BUTTON_SELECTION == VOLUME_BUTTON			SETTINGS_WINDOW_S3
	BUTTON_SELECTION == BRIGHTNESS_BUTTON			SETTINGS_WINDOW_S4
	BUTTON_SELECTION == SYSTEM_VERSION_BUTTON			SETTINGS_WINDOW_S5
	BUTTON_SELECTION == SET_VB_BUTTON			SETTINGS_WINDOW_S6
	BUTTON_SELECTION ==REMOVE_VB_BUTTON			SETTINGS_WINDOW_S7
	BUTTON_SELECTION == ATO_BUTTON			SETTINGS_WINDOW_S8
SETTINGS_WINDOW_S2	DISPLAY_FRAME = LANGUAGE_WINDOW			SETTINGS_WINDOW_S9
SETTINGS_WINDOW_S3	DISPLAY_FRAME = VOLUME_WINDOW			SETTINGS_WINDOW_S10
SETTINGS_WINDOW_S4	DISPLAY_FRAME =BRIGHTNESS_WINDOW			SETTINGS_WINDOW_S11

Procedure	Start Condition	Action	command	Ne
SETTINGS_WINDOW_S5	DISPLAY_FRAME == SYSTEM_VERSION_WINDOW	Press(close_button)		SE
SETTINGS_WINDOW_S6-1	DISPLAY_FRAME == SET_VBC_WINDOW			
	PREVIOUS PROCEDURE == S1 VALUE_PROPOSED == NO	enable(Yes_Button)		DE "E
	PREVIOUS PROCEDURE == S6-2 VALUE_PROPOSED == YES	enable(Yes_Button)		DE "A va VL va
	VBC_SET_CODE != EMPTY DISPLAY_DIGITAL == "Set VBC entry complete?"	Press(Yes_Button)		SE SE
SETTINGS_WINDOW_S6-2	DISPLAY_FRAME = SET_VBC_VALIDATION_WINDOW VBC_VALIDATE_VALUE == "No"			SE SE
	VBC_VALIDATE_VALUE == "Yes"			SE
SETTINGS_WINDOW_S7-1	DISPLAY_FRAME = REMOVE_VBC_VALIDATION_WINDOW			
	PREVIOUS_PROCEDURE == S1 VALUE_PROPOSED == NO			DE "E co

Procedure	Start Condition	Action	command	Ne
	PREVIOUS_PROCEDURE == S7-2 VALUE_PROPOSED == YES	ongoing(validation_process)		DI "V CO V va
	VBC_REMOVE_CODE != EMPTY DISPLAY_DIGITAL == "Remove VBC entry complete?"	Press(Yes_Button)		SI SI
SETTINGS_WINDOW_S7-2	DISPLAY_FRAME = REMOVE_VBC_VALIDATION_WINDOW VBC_REMOVE_VALUE == "No"			SI SI
	VBC_REMOVE_VALUE == "Yes"			SI
SETTINGS_WINDOW_S8	DISPLAY_FRAME == ATO_SELECTOR_WINDOW	OPEN(ATO_WINDOW)		DI "R Po se SI

2.15 The steps of the “Supervised Manoeuvre” dialogue sequence

Procedure	Start Condition	Action	comr
SUPERVISED_MANOEUVRE_S0	DISPLAY_FRAME = MAIN_WINDOW	Press(Initiate_SM_Button) Press(CONTINUE_IN_SM_BUTTON)	
SUPERVISED_MANOEUVRE_S1	DISPLAY_FRAME = MAIN_WINDOW	disable(ALL_BUTTONS)	

Procedure	Start Condition	Action	comr
	RBC_MESSAGE_RECEIVED = RBC_SM_REFUSED		
	RBC_REQUEST_WAIT_TIMEOUT == TRUE		
	RBC_MESSAGE== RBC_SM_AUTH_RECEIVED		

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2.16 ERTMS/ETCS SUB-LEVEL WINDOWS

Start Condition	Action	command
RBC_SESSION = ACTIVE	disable(all buttons) ongoing(MESSAGE_EXCHANGE)	
TRAIN_STATUS == STANDSTILL && MODE == SB && DRIVER_ID_STATUS == YES && TRAIN_DATA_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES && TRAIN_NUMBER_VALID == YES && CURRENT_ERTMS_LEVEL == (0 NTC 1 2) && RBC_SESSION == ACTIVE && TRAIN_DATA_ACK == TRUE) CURRENT_ERTMS_LEVEL == 2 && RBC_SESSION == INACTIVE (TRAIN_STATUS == STANDSTILL && MODE == PT && TRAIN_DATA_VALID == YES && CURRENT_ERTMS_LEVEL == (1 2) && RBC_SESSION == ACTIVE && ONBOARD_EMERGENCY_STOP == NONE) (MODE == SR && CURRENT_ERTMS_LEVEL == 2 && RBC_SESSION == ACTIVE	enable(Start)	STM-32.NID_ = 1

Start Condition	Action	command
(TRAIN_STATUS== STANDSTILL && MODE == SB && DRIVER_ID_STATUS == VALID && CURRENT_ERTMS_LEVEL_VAILD == TRUE) (DRIVER_ID_MODIFICATION_RUNNING == PERMITTED) DRIVER_ID_MODIFICATION_RUNNING == NOT PERMITTTED&& TRAIN_STATUS==STANDSTILL && MODE == (SH FS AD SM LS SR OS NL UN SN))	enable(Driver ID)	STM-32.NID_ = 2
TRAIN_STATUS == STANDSTILL && DRIVER_ID_VAILD == YES && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB FS AD LS SR OS UN SN) && SAFE_CONSIST_LENGTH_INFO == NOT AVAILABLE SAFE_CONSIST_LENGTH_INFO == AVAILABLE & SAFE_CONSIST_LENGTH_INFO == 0	enable(Train Data)	STM-32.NID_ = 3
TRAIN_STATUS = STANDSTILL && DRIVER_ID_STATUS = VALID && MODE ==(SB FS AD LS SR OS NL UN SN)	enable(LEVEL_BUTTON)	STM-32.NID_ = 5
TRAIN_STATUS = STANDSTILL && MODE == SB && DRIVER_ID_STATUS = VALID && CURRENT_ERTMS_LEVEL_VALID == YES MODE == (FS AD SM LS SR OS NL UN SN)	enable(TRAIN_RUNNING_NUMBER_BUTTON)	STM-32.NID_ = 6

Start Condition	Action	command
TRAIN_STATUS = STANDSTILL && DRIVER_ID_STATUS = VALID && MODE == (SB FS AD SM LS SR OS UN SN) && CURRENT_ERTMS_LEVEL_VALID == YES && (CURRENT_ERTMS_LEVEL == (0 1 NTC)) (CURRENT_ERTMS_LEVEL == 2) && RBC_SESSION == exists TRAIN_STATUS = STANDSTILL && MODE == PT && CURRENT_ERTMS_LEVEL == 1 CURRENT_ERTMS_LEVEL == 2 && RBC_SESSION == exists && ONBOARD_EMERGENCY_STOP == NONE	enable(SHUNTING_BUTTON)	STM-32.NID_ = 7
TRAIN_STATUS == STANDSTILL && MODE == SH	exit(SHUNTING)	
TRAIN_STATUS = STANDSTILL && DRIVER_ID_STATUS = VALID && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB SH FS AD SM LS SR OS) && NON_LEADING_SIGNAL == RECIEVED	enable(Non Leading)	STM-32.NID_ = 8
MODE == SH && PASSIVE_SHUNTING_SIGNAL == RECIEVED	enable(MAINTAIN_SHUNTING_BUTTON)	STM-32.NID_ = 9
TRAIN_STATUS = STANDSTILL && DRIVER_ID_STATUS = VALID && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB FS AD SM LS SR OS NL PT UN SN)	enable(RADIO_DATA_BUTTON)	STM-32.NID_ = 10

Start Condition	Action	command
<p> TRAIN_STATUS== STANDSTILL && MODE == SB && DRIVER_ID_STATUS = VALID && SAFE_CONSIST_LENGTH_INFO== AVAILABLE && CURRENT_ERTMS_LEVEL== 2 && RBC_TRANSITION_ORDER_ONBOARD == NONE && VALID_COMM_RBC_SESSION_VERSION_GT_2_2 == TRUE && TRAIN_POSITION_VALID == YES TRAIN_POSITION_LRBG == TRUE TRAIN_STATUS == STANDSTILL && MODE == PT && TRAIN_DATA_VALID == YES && SAFE_CONSIST_LENGTH_INFO == AVAILABLE && CURRENT_ERTMS_LEVEL == 2 && RBC_TRANSITION_ORDER_ONBOARD == NONE && VALID_COMM_RBC_SESSION_VERSION_GT_2_2 == TRUE && TRAIN_POSITION_VAILD == YES TRAIN_POSITION_LRBG == TRUE && ONBOARD_EMERGENCY_STOP == NONE TRAIN_STATUS== STANDSTILL && MODE == (FS AD LS OS SR) && SAFE_CONSIST_LENGTH_INFO== AVAILABLE && CURRENT_ERTMS_LEVEL == 2 && RBC_TRANSITION_ORDER_ONBOARD == NONE && VALID_COMM_RBC_SESSION_VERSION_GT_2_2 == TRUE </p>	enable(INITIAATE_SM_BUTTON)	STM-32.NID_ = 11

Start Condition	Action	command
TRAIN_STATUS = STANDSTILL && MODE == SM && SAFE_CONSIST_LENGTH_INFO == AVAILABLE && VALID_COMM_RBC_SESSION_VERSION_GT_2_2 == TRUE TRAIN_STATUS == STANDSTILL && MODE == PT && TRAIN_DATA_VALID == NO && SAFE_CONSIST_LENGTH_INFO == AVAILABLE && CURRENT_ERTMS_LEVEL == 2 && VALID_COMM_RBC_SESSION_VERSION_GT_2_2 == TRUE && ONBOARD_EMERGENCY_STOP == NONE	enable(CONTINUE_IN_SM_BUTTON)	STM-32.NID_ = 12
TRAIN_STATUS == STANDSTILL && MODE == SM	exit(SM)	
V <= OVERRIDE_TRRIGER_SPEED_LIMIT && MODE == FS AD LS SR OS UN SN SH V <= OVERRIDE_TRRIGER_SPEED_LIMIT && MODE == SB && DRIVER_ID == VALID && TRAIN_DATA_VALID == YES && TRAIN_NUMBER_VALID == YES && CURRENT_ERTMS_LEVEL_VALID = YES && CURRENT_ERTMS_LEVEL == 2 V <= OVERRIDE_TRRIGER_SPEED_LIMIT && MODE == PT && TRAIN_DATA_VALID == YES && TRAIN_NUMBER_VALID = YES	enable(EOA)	STM-32.NID_ = 1

Start Condition	Action	command
TRAIN_STATUS == STANDSTILL && MODE == SB && ADHESION_MODIFICATION_PERMISSION == PERMITTED && DRIVER_ID_STATUS = VALID && TRAIN_DATA_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES) ADHESION_MODIFICATION_PERMISSION == PERMITTED && MODE == FS AD SM LS SR OS UN SN	enable(Adhesion)	STM-32.NID_ = 1
TRAIN_STATUS == STANDSTILL && MODE == SR	enable(SR_Speed_Distance)	STM-32.NID_ = 2

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Start Condition	Action	command
<pre> TRAIN_STATUS == STANDSTILL && MODE == (SB FS AD LS SR OS UN PT SN)&& DRIVER_ID_STATUS = VALID && TRAIN_DATA_VALID == YES && RBC_SESSION == ACTIVE && TRAIN_DATA_ACKNOWLEDGED == YES && CURRENT_ERTMS_LEVEL_VALID == YES && TRAIN_POSITION_VALID == YES && TRAIN_POSITION_LRBG == YES && CURRENT_TRAIN_LENGTH <= CONFIRMED_TRAIN_LENGTH_INFO TRAIN_STATUS == STANDSTILL && MODE == SM && RBC_SESSION == ACTIVE SAFE_CONSIST_LENGTH_INFO_STATUS == ACCEPTED CURRENT_TRAIN_LENGTH <= CONFIRMED_TRAIN_LENGTH_INFO TRAIN_STATUS == STANDSTILL && MODE == SM && DRIVER_ID_STATUS = VALID && CURRENT_ERTMS_LEVEL_VALID == YES && TRAIN_DATA_VALID == NO RBC_SESSION == ACCEPTED SAFE_CONSIST_LENGTH_INFO_STATUS == ACCEPTED TRAIN_POSITION_VALID == YES TRAIN_POSITION_LRBG == YES && CURRENT_TRAIN_LENGTH <= CONFIRMED_TRAIN_LENGTH_INFO </pre>	enable(Train Integrity)	STM-32.NID_ = 3

Start Condition	Action	command
TRAIN_STATUS == STANDSTILL && MODE == SB && DRIVER_ID_STATUS = VALID && CURRENT_ERTMS_LEVEL_VALID == YES && CURRENT_ERTMS_LEVEL == (1 2) && BTM_ALARM_REACTION_INIHIBITION == INACTIVE TRAIN_STATUS == STANDSTILL && MODE == (SR SH) && CURRENT_ERTMS_LEVEL == (1 2) && BTM_ALARM_REACTION_INIHIBITION == INACTIVE	enable(BMM Reaction Inhibition)	STM-32.NID_ = 4
TRAIN_STATUS == STANDSTILL && MODE == SB && DRIVER_ID_STATUS = VALID && CURRENT_ERTMS_LEVEL_VALID == YES && CURRENT_ERTMS_LEVEL == (1 2) && BTM_ALARM_REACTION_INIHIBITION == ACTIVE TRAIN_STATUS == STANDSTILL && MODE == (SR SH) && CURRENT_ERTMS_LEVEL == (1 2) && BTM_ALARM_REACTION_INIHIBITION == ACTIVE	disable(BMM Reaction Inhibition)	
TRAIN_STATUS == STANDSTILL && MODE == SB MODE == (SH FS AD SM LS SR OS NL UN TR PT SN RV) SCREEN_TECHNOLOGY = TOUCH_SCREEN_TECHNOLOGY	enable(SE03)	STM-32.NID_ = 1
	enable(SE02)	STM-32.NID_ = 2

Start Condition	Action	command
	enable(SE01)	STM-32.NID_ = 3
	enable(SYSTEM_VERSION)	STM-32.NID_ = 4
TRAIN_STATUS == STANDSTILL && MODE == SB MODE == (SH FS AD SM LS SR OS NL UN TR PT SN RV) SCREEN_TECHNOLOGY = SOFT_KEY_TECHNOLOGY	enable(LANGUAGE)	STM-32.NID_ = 1
	enable(VOLUME)	STM-32.NID_ = 2
	enable(BRIGHTNESS_BUTTON)	STM-32.NID_ = 3
	enable(SYSTEM_VERSION)	STM-32.NID_ = 4
TRAIN_STATUS == STANDSTILL && MODE == SB && DRIVER_SET_VBC_CAPACITY == ! FULL	enable(Set VBC)	STM-32.NID_ = 5
TRAIN_STATUS == STANDSTILL && MODE == SB && ONBOARD_VBC >= 1	enable(Remove VBC)	STM-32.NID_ = 6
TRAIN_STATUS == STANDSTILL && MODE == SB MODE == SH FS AD SM LS SR OS NL UN TR PT SN RV	enable(ATO)	STM-32.NID_ = 7

Start Condition	Action	command
<p> TRAIN_STATUS == STANDSTILL && DRIVER_ID_STATUS = VALID && MODE == SB FS AD SM LS SR OS NL PT && CURRENT_ERTMS_LEVEL_VALID == YES && CURRENT_ERTMS_LEVEL == 2 && RBC_CONTACT_INFO_STATUS == VALID INVALID && (RADIO_NETWORK_TYPE == FRMCS FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK RADIO_NETWORK_TYPE == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS + GSMR FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS + GSMR ONLY_ONE_RADIO_MISSION == ACTIVE FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == GSMR FRMCS + GSMR ONBOARD_RADIO_SYSTEM == GSMR GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1) </p>	enable(Contact Last RBC)	STM-32.NID_ = 1

Start Condition	Action	command
<p> TRAIN_STATUS == STANDSTILL && DRIVER_ID_STATUS = VALID && MODE == SB FS AD SM LS SR OS NL PT && CURRENT_ERTMS_LEVEL_VALID == YES && CURRENT_ERTMS_LEVEL == 2 && (RADIO_NETWORK_TYPE == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS + GSMR FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS + GSMR ONLY_ONE_RADIO_MISSION == ACTIVE && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == GSMR FRMCS + GSMR ONBOARD_RADIO_SYSTEM == GSMR GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1) </p>	enable(Use Short Number)	STM-32.NID_ = 2

Start Condition	Action	command
<p> TRAIN_STATUS == STANDSTILL && DRIVER_ID_STATUS = VALID && MODE == SB FS AD SM LS SR OS NL PT && CURRENT_ERTMS_LEVEL_VALID == YES && CURRENT_ERTMS_LEVEL == 2 && (RADIO_NETWORK_TYPE == FRMCS FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK RADIO_NETWORK_TYPE == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS + GSMR FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS + GSMR ONLY_ONE_RADIO_MISSION == ACTIVE && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1 RADIO_NETWORK_TYPE == GSMR FRMCS + GSMR ONBOARD_RADIO_SYSTEM == GSMR GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1) </p>	enable(Enter RBC Data)	STM-32.NID_ = 3
<p> TRAIN_STATUS == STANDSTILL && DRIVER_ID_STATUS = VALID && MODE == (SB FS LS SR OS NL PT UN SN) && CURRENT_ERTMS_LEVEL_VALID == YES </p>	enable(Radio Network Type)	STM-32.NID_ = 5

Start Condition	Action	command
TRAIN_STATUS == STANDSTILL && DRIVER_ID_STATUS = VALID && MODE ==(SB FS AD LS SR OS NL PT UN SN) && CURRENT_ERTMS_LEVEL_VALID == YES && RADIO_NETWORK_TYPE == GSMR FRMCS + GSMR	enable(GSMR Network ID)	STM-32.NID_ = 6
TRAIN_STATUS == STANDSTILL && DRIVER_ID_STATUS = VALID && MODE ==(SB FS LS SR OS NL PT UN SN) && CURRENT_ERTMS_LEVEL_VALID == YES && CURRENT_ERTMS_LEVEL == 2 3 RADIO_NETWORK_TYPE == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == FRMCS + GSMR && FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION== GSMR_NETWORK GSMR_TERMINALS_REGISTERED >= 1 FRMCS_REGISTERED_RADIO_NETWORK == FRMCS_NETWORK && GSMR_TERMINAL_1_REGISTRATION/ GSMR_TERMINAL_2_REGISTRATION = NOT_REGISTERED GSMR_TERMINALS_REGISTERED == 0	enable(Mission with one radio system)	STM-32.NID_ = 7
TRACKSIDE_LEVELS_PRIORITY_TABLE = AVAILABLE	enable(level_priority_table_buttons)	

Start Condition	Action	command
TRACKSIDE_LEVELS_PRIORITY_TABLE = NOT AVAILABLE	enable(onboard_default_level_buttons)	
ONBOARD_RADIO_SYSTEM == FRMCS + GSMR ONBOARD_RADIO_SYSTEM == GSMR	enable(second_input_field)	
BUTTON_SELECTION == SWITCH_BUTTON		
CURRENT_WINDOWS_LAYOUT == FLEXIBLE_TRAIN_DATA_ENTRY		
CURRENT_WINDOWS_LAYOUT == FIXED_TRAIN_DATA_ENTRY		
DRIVER_ACKNOWLEDGEMENT_REQUIRED == TRUE		
DRIVER_ACKNOWLEDGEMENT == TRUE && DISPLAY == DATA_ENTRY VALIDATION_WINDOW	stop(data_entry_process validation_process)	

2.17 ERTMS/ATO & NTC X SUB-LEVEL WINDOWS

Data Change	Action	Command
TRAIN_STATUS == STANDSTILL && DRIVER_ID_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB FS AD LS SR OS UN SN) ATO_DATA_ENTRY_REQUEST_RECEIVED == YES && STOP_FLAG_RECIEVED == NO	enable(ATO)	STM-32.NID_BU = 1
TRAIN_STATUS == STANDSTILL && DRIVER_ID_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB FS AD LS SR OS UN SN) NTC_A_DATA_ENTRY_REQUEST_RECEIVED == YES && STOP_FLAG_RECIEVED == NO	enable(NTC A)	STM-32.NID_BU = 3
TRAIN_STATUS == STANDSTILL && DRIVER_ID_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB FS AD LS SR OS UN SN) NTC_B_DATA_ENTRY_REQUEST_RECEIVED == YES && STOP_FLAG_RECIEVED == NO	enable(NTC B)	STM-32.NID_BU = 4
TRAIN_STATUS == STANDSTILL && DRIVER_ID_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB FS AD LS SR OS UN SN) NTC_B_DATA_ENTRY_REQUEST_RECEIVED == YES && STOP_FLAG_RECIEVED == NO	enable(NTC B)	STM-32.NID_BU = 4
TRAIN_STATUS == STANDSTILL && DRIVER_ID_VALID == YES && CURRENT_ERTMS_LEVEL_VALID == YES && MODE == (SB FS AD LS SR OS UN SN) NTC_B_DATA_ENTRY_REQUEST_RECEIVED == YES && STOP_FLAG_RECIEVED == NO	enable(NTC B)	STM-32.NID_BU = 4
DISPLAY_DIGITAL == ST05		
NTCX_DATA_WINDOW_COUNT > 1		
ATO_DATA_WINDOW_COUNT > 1		

Data Change	Action	Command
TECHNICAL_RANGE_CHECK == TRUE		
NTC_X_TITLE_CONFIGURED_ONBOARD == FALSE		
NTC_X_TITLE_CONFIGURED_ONBOARD == FALSE		
NTC_X_DATA_VIEW_WINDOW_COUNT > 1		
ATO_DATA_VIEW_WINDOW_COUNT > 1		
DRIVER_ACK_REQUIRED == TRUE && DATA_ENTRY_WINDOW_ACTIVE == TRUE	stop(DATA_ENTRY)	
TRAIN_DATA_VALIDATION_WINDOW == ACTIVE && TRAIN_DATA_VALIDATION == YES	REVALIDATE(TRAIN_DATA)	
NTC_DATA_NEED == TRUE ATO_DATA_NEED == TRUE		
NTC_DATA_NEED == FALSE && ATO_DATA_NEED == FALSE		
WINDOW == SPECIFIC_DATA_ENTRY_SELECTION	DISABLE(ALL_BUTTONS) ENABLE(END_OF_DATA_ENTRY_BUTTON)	
(WAITING_FOR_STM_RESPONSE == TRUE) (WAITING_FOR_ATO_RESPONSE == TRUE)		
(STM_REQUEST_RECEIVED == TRUE STM_STOP_SENT == TRUE) && (ATO_REQUEST_RECEIVED == TRUE ATO_STOP_SENT == TRUE)		
	PRESS(END_OF_DATA_ENTRY_BUTTON)	
	PRESS(NTC_X_BUTTON)	
	PRESS(ATO_BUTTON)	
	PRESS(END_OF_DATA_ENTRY_BUTTON)	
PROCEDURE == S3-1		
NTC_X_WINDOW_ACTIVE == TRUE	ENTER(FIELD_X)	
	LOAD(DEFAULT_VALUE_FROM_REQUEST)	

Data Change	Action	Command
(PREVIOUS_PROCEDURE == S2 PREVIOUS_PROCEDURE == S4) && PROCEDURE == S3-1		
PREVIOUS_PROCEDURE == S3-2 && PROCEDURE == S3-1	LOAD(PREVIOUS_S3-1_VALUES)	
DATA != EMPTY && DATA_CHECKS == PASS		
	VALIDATE(NTC_X_VALIDATION_FIELD)	
PROCEDURE == S3-2	SET_DEFAULT(NTC_X_VALIDATION_FIELD, YES)	
NTC_X_VALIDATION_FIELD == NO		
NTC_X_VALIDATION_FIELD == YES	SEND(NTC_X_DATA_TO_STM)	
	DISABLE(ALL_BUTTONS)	
PREVIOUS_PROCEDURE == S3-2		
NEW_NTC_DATA_ENTRY_REQUEST_RECEIVED == TRUE		
STOP_SENT_TO_STM == TRUE		
PREVIOUS_PROCEDURE == S5-2		
NEW_ATO_DATA_ENTRY_REQUEST_RECEIVED == TRUE		
STOP_SENT_TO_ATO == TRUE		
PROCEDURE == S5-1		
ATO_WINDOW_ACTIVE == TRUE	ENTER(FIELD_X) LOAD(LABELS_FROM_REQUEST)	
FIELD_SELECTED == TRUE		
(PREVIOUS_PROCEDURE == S2 PREVIOUS_PROCEDURE == S4) && VALUE_PROPOSED == TRUE	LOAD(DEFAULT_VALUE_FROM_REQUEST)	
PREVIOUS_PROCEDURE == S5-2	LOAD(PREVIOUS_S5-1_VALUES)	
ALL_INPUT_FIELDS_HAVE_DATA == TRUE && DATA_CHECKS == PASS	PRESS(YES_BUTTON) ACCEPT(ATO_DATA)	
ATO_DATA_VALIDATION_WINDOW == ACTIVE	VALIDATE((ATO_VALIDATION_FIELD)	
PROCEDURE_TRANSITION == S5-2	SET_DEFAULT(ATO_VALIDATION_FIELD, YES)	

Data Change	Action	Command
ATO_VALIDATION_FIELD == NO		
ATO_VALIDATION_FIELD == YES	SEND(ATO_DATA_TO_ATO)	

2.18 LIST OF SYSTEM STATUS MESSAGES

Data Change	Action	Command	New_command
LINKING_CONSISTENCY_CHECK == INACTIVE BALISE_IN_GROUP_MISSED == TRUE BALISE_DETECTED_NO_TELEGRAM == TRUE BALISE_INTENTIONALLY_DELETED == TRUE BALISE_GROUP_COUNTERS_IDENTICAL == FALSE			DISPLAY = "Balise read error"
DRIVER_ACKNOWLEDGEMENT_REQUIRED = TRUE DISPLAY = "Balise group message consistency problem"			
STATUS_INFORMATION == TR STATUS_INFORMATION == INTS DISPLAY = "Data consistency problem with expected BALISE_GROUP"			
BALISE_IN_GROUP_MISSED == TRUE BALISE_GROUP_TYPE == LINKED STATUS_INFORMATION = INTS DISPLAY = "No BALISE detected in expected window" TRAIN_STATUS == STANDSTILL TRAIN_POSITION_DATA == TRAIN_POSITION_STORED_ONBOARD			

Data Change	Action	Command	New_command
BALISE_GROUP_TYPE == REPOSITIONING && SECOND_BALISE_GROUP_RECEIVED == TRUE && SECOND_BALISE_GROUP_CRITERIA == PREVIOUS_PROCEDURE STATUS_INFORMATION = INTS DISPLAY= "Duplicate REPOSITIONING BALISE_GROUP detected" DRIVER_ACKNOWLEDGEMENT_REQUIRE D = TRUE TRAIN_STATUS == STANDSTILL TRAIN_POSITION_DATA == TRAIN_POSITION_STORED_ONBOARD			
STATUS_INFORMATION == TR			
EXPECTED_BALISE_GROUP_ID != UNKNOWN && ACTUAL_PASSAGE_DIRECTION != EXPECTED_PASSAGE_DIRECTION			
DISPLAY = "Balise read error" DELAY = 30[s]s TYPE_OF_INCONSISTANCY == LINKING_ERROR BALISE_GROUP_MESSAGE_INCONSISTAN CY SUPERVISION_STATUS == FAILED SUPERVISION_ERROR == RAMS TRAIN_STATUS == STANDSTILL	remove(Balise read error)		

Data Change	Action	Command	New_command
MODE == PT && DRIVER_ACKNOWLEDGEMENT == TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL && TRAIN_DATA_VALID == TRUE MODE == PT && DRIVER_ACKNOWLEDGEMENT == TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL && TRAIN_DATA_VALID == FALSE			
DEFAULT_BALISE_INFORMATION_RECEIVED == TRUE DISPLAY = "Default BALISE information received"			DISPLAY = "Trackside malfunction"
DISPLAY = "Trackside malfunction" DELAY= 30[s]s	remove(Track side malfunction)		
TIME_SINCE_LAST_MESSAGE > T_NVCONTACT SAFE_RADIO_CONNECTION_STATUS = CONNECTION_LOST TRACKSIDE_REQUIRED_REACTION == TRIP SERVICE_BRAKE			DISPLAY = "Communication error"
TIME_SINCE_LAST_MESSAGE > T_NVCONTACT && TRACKSIDE_REQUIRED_REACTION == TR			

Data Change	Action	Command	New_command
DISPLAY = "Communication error" DELAY = 30[s] STATUS_INFORMATION == INTS && BRAKE_COMMAND_REASON == T_NVCONTACT && TRAIN_STATUS == STANDSTILL STATUS_INFORMATION == INTS && BRAKE_COMMAND_REASON == T_NVCONTACT && RBC_MESSAGE_RECEIVED == TRUE BRAKE_COMMAND_STATUS == REVOKED	remove(Communication error)		
MODE == PT && DRIVER_ACKNOWLEDGEMENT == TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 && TRAIN_DATA_VALID == TRUE MODE == PT && DRIVER_ACKNOWLEDGEMENT == TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == NTC_LEVEL && TRAIN_DATA_VALID == TRUE			
MODE == FS SSP_KNOWN_LENGTH = UNKNOWN && LENGTH_GRADIENT_ELEMENT = UNKNOWN			DISPLAY = "Entering FS"
wait(SSP_KNOWN_LENGTH == AVAILABLE && LENGTH_GRADIENT_ELEMENT == AVAILABLE)	remove(Entering FS)		
MODE == OS SSP_KNOWN_LENGTH = UNKNOWN && LENGTH_GRADIENT_ELEMENT = UNKNOWN			DISPLAY = "Entering OS"

Data Change	Action	Command	New_command
wait(SSP_KNOWN_LENGTH == AVAILABLE && LENGTH_GRADIENT_ELEMENT == AVAILABLE)	remove(Enter ing OS)		
MODE == SM SSP_KNOWN_LENGTH = UNKNOWN && LENGTH_GRADIENT_ELEMENT = UNKNOWN			DISPLAY = "Entering SM"
wait(SSP_KNOWN_LENGTH == AVAILABLE && LENGTH_GRADIENT_ELEMENT == AVAILABLE)	remove(Enter ing SM)		
MOVEMENT_DIRECTION_CONFLICT == TRUE SUPERVISION_STATUS = ACTIVE wait(CURRENT_TRAIN_POSITION - START_TAIN_POSITION > ALLOWED_ROLL_AWAY_DISTANCE) BRAKE_COMMAND = TRIGGERED			DISPLAY = "Runaway movement"
START_OF_MISSION == TRUE && V > 0 && DATA_ENTRY_PROCESS == ACTIVE && TRAIN_DATA_WINDOW == OPEN BRAKE_COMMAND = TRIGGERED			
V > 0 && SR_SPEED_DISTANCE_WINDOW == OPEN && DATA_ENTRY_PROCESS == ACTIVE BRAKE_COMMAND = TRIGGERED			
BRAKE_COMMAND_REASON == MODE_CHANGE_NOT_ACKNOWLEDGED LEVEL_CHANGE_NOT_ACKNOWLEDGED NTC_DATA_MODIFICATION_MOVEMENT			
BRAKE_COMMAND_REASON = ROLL_AWAY_PROTECTION_UNAUTHORIS ED_DIRECTION TRAIN_STATUS == STANDSTILL && DRIVER_ACKNOWLEDGEMENT == TRUE	remove(Runa way movement)		

Data Change	Action	Command	New_command
RBC_SM_REFUSED == TRUE RBC_SESSION == TERMINATED			DISPLAY = "SM refused"
MAIN_WINDOW == OPEN BUTTON_SELECTION == ANY	remove(SM refused)		
RBC_SESSION == ACTIVE SM_REQUEST_RETRY_COUNT == SM_REQUEST_MAX_REPETITIONS			DISPLAY = "SM request failed"
MAIN_WINDOW == OPEN BUTTON_SELECTION == ANY	remove(SM request failed)		
RBC_SESSION = FALSE TERMINATION_REASON = NO_COMPATIBLE_VERSION			DISPLAY = "Trackside not compatible"
RECEIVED_BALISE_SYSTEM_VERSION > HIGHEST_SYSTEM_VERSION_ONBOARD CURRENT_ERTMS_LEVEL == 1 2			
DISPLAY = "Trackside not compatible" DELAY = 30[s]	remove(Track side not compatible)		

Data Change	Action	Command	New_command
MODE == PT && DRIVER_ACKNOWLEDGEMENT == TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL && TRAIN_DATA_VALID == TRUE MODE == PT && DRIVER_ACKNOWLEDGEMENT == TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL && TRAIN_DATA_VALID == FALSE			
TRAIN_DATA_VALIDATION_ENTERED_REV ALIDATED == TRUE DRIVER_ACKNOWLEDGEMENT_REQUIRE D = TRUE SET_PROCEDURE= A7			DISPLAY = "Train data changed"
STATUS_INFORMATION = INTS MODE = SB CURRENT_PROCEDURE == E2			
wait(TRAIN_STATUS == STANDSTILL SET_PROCEDURE = S3			
V > 0 DISPLAY = "Train data changed" DELAY = 30[s]s	remove(Train data changed)		
DRIVER_ACKNOWLEDGEMENT = TRUE STATUS_INFORMATION == INTS			
wait DRIVER_ACKNOWLEDGEMENT ==TRUE SET_PROCEDURE = A6			

Data Change	Action	Command	New_command
SAFE_CONSIST_LENGTH_INFO == TRAIN_DATA_VALUE_EXTERNAL && SAFE_CONSIST_LENGTH_INFO_STATUS == NOT AVAILABLE && TRAIN_STATUS != STANDSTILL MODE = SB BRAKE_COMMAND = ACTIVE STATUS_INFORMATION = INTS TRAIN_POSITION_STORED_ONBOARD = CURRENT_TRAIN_POSITION wait (TRAIN_STATUS == STANDSTILL)			DISPLAY = "Safe consist length no longer available"
DISPLAY = "Safe consist length no longer available" DELAY = 30[s] BRAKE_COMMAND_REASON= SAFE_CONSIST_LENGTH_UNAVAILABLE BRAKE_COMMAND ==REVOKED	remove(Safe consist length no longer available)		
RBC_SESSION = TERMINATED SET_PROCEDURE = S10			DISPLAY = "Train is rejected"
MAIN_WINDOW == OPEN BUTTON_SELECTION == ANY	remove(Train is rejected)		
SUPERVISION_STATUS == RSM BALISE_GROUP_MESSAGE_RECEIVED == TRUE CURRENT_ERTMS_LEVEL == 2 DISTANCE_FIRST_POSSIBLE_LOCATION_R EAR_OF_EOA < ANTENNA_TO_FRONT_DISTANCE FIRST_POSSIBLE_LOCATION_AT_EOA == TRUE			DISPLAY = "Unauthorized passing of EOA / LOA"

Data Change	Action	Command	New_command
FIRST_POSSIBLE_LOCATION_IN_ADVANCE_OF_EOA == TRUE			
ANTENNA_MIN_SAFE_POSITION > EOA && CURRENT_ERTMS_LEVEL == 1			
ANTENNA_MIN_SAFE_POSITION > LOA && CURRENT_ERTMS_LEVEL == 1			
FRONT_END_MIN_SAFE_POSITION > EOA && CURRENT_ERTMS_LEVEL == 2			
FRONT_END_MIN_SAFE_POSITION > LOA && CURRENT_ERTMS_LEVEL == 2			
BALISE_TRIP_ORDER_USED == TRUE && OVERRIDE_FUNCTION_ACTIVE == FALSE MODE = TR			
ANTENNA_MIN_SAFE_POSITION > FORMER_EOA FORMER_LOA && OVERRIDE_FUNCTION_ACTIVE == FALSE			
MODE == PT && DRIVER_ACKNOWLEDGEMENT == TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL && TRAIN_DATA_VALID == TRUE MODE = SB STATUS_INFORMATION = NOS		remove(Unauthorized passing of EOA / LOA)	
NEW_ERTMS_LEVEL == 1 2 MA_ACCEPTED == FALSE			DISPLAY = "No MA received at level transition"

Data Change	Action	Command	New_command
NEW_ERTMS_LEVEL == 1 && TRIP_ORDER_RECEIVED == TRUE && OVERRIDE_FUNCTION == ACTIVE MODE = TR			
MODE == PT DRIVER_ACKNOWLEDGEMENT == TRUE TRAIN_STATUS == STANDSTILL CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL TRAIN_DATA_VALID == TRUE	remove(No MA received at level transition)		
FRONT_END_ESTIMATED_POSITION > SR_DISTANCE_VALUE OVERRIDE_FUNCTION == INACTIVE			DISPLAY = "SR distance exceeded"
MODE == PT DRIVER_ACKNOWLEDGEMENT == TRUE TRAIN_STATUS == STANDSTILL CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL TRAIN_DATA_VALID == TRUE MODE = SB STATUS_INFORMATION = NOS	remove(SR distance exceeded)		
MODE == SH OVERRIDE_FUNCTION == INACTIVE			DISPLAY = "SH stop order"
MODE == PT DRIVER_ACKNOWLEDGEMENT == TRUE TRAIN_STATUS == STANDSTILL CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL TRAIN_DATA_VALID == FALSE MODE = SB STATUS_INFORMATION = NOS	remove(SH stop order)		
MODE == SH BALISE_GROUP_OVERPASSED_ID_IN_EXPECTED_SH_LIST == FALSE OVERRIDE_FUNCTION == INACTIVE			DISPLAY = "SR stop order"
SHUNTING_BUTTON_PRESSED == TRUE STM == ACTIVE STM_NATIONAL_TRIP == TRUE			

Data Change	Action	Command	New_command
MODE == PT DRIVER_ACKNOWLEDGEMENT == TRUE TRAIN_STATUS == STANDSTILL CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL TRAIN_DATA_VALID == FALSE MODE = SB STATUS_INFORMATION = NOS	remove(SR atop order)		
MODE == PT DRIVER_ACKNOWLEDGEMENT == TRUE TRAIN_STATUS == STANDSTILL CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL TRAIN_DATA_VALID == TRUE MODE = SB STATUS_INFORMATION = NOS			
MODE == SR EXPECTED_SR_BALISE_GROUP_LIST == NOT AVAILABLE BALISE_GROUP_OVERPASSED_ID_IN_EXPECTED_SR_LIST == FALSE OVERRIDE_FUNCTION == INACTIVE SYSTEM_VERSION >= 2			DISPLAY = "Emergency stop"
MODE == SR OVERRIDE_FUNCTION == INACTIVE SYSTEM_VERSION == 1			
ONBOARD_EMERGENCY_STOP == ACCEPTED			
MODE == PT DRIVER_ACKNOWLEDGEMENT == TRUE TRAIN_STATUS == STANDSTILL CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL TRAIN_DATA_VALID == TRUE MODE = SB STATUS_INFORMATION = NOS	remove(Emergency stop)		

Data Change	Action	Command	New_command
DRIVER_ACKNOWLEDGEMENT = TRUE && TRAIN_TRIP = TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 && VALID_TRAIN_DATA == TRUE DRIVER_ACKNOWLEDGEMENT = TRUE && TRAIN_TRIP = TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == NTC && VALID_TRAIN_DATA == TRUE			
TRAIN_FRONT_END > MAX_REVERSE_DISTANCE_END_LOCATION			DISPLAY = "RV distance exceeded"
BRAKE_COMMAND_REASON == REVERSING_DISTANCE_OVERPASSED && MOVEMENT_DIRECTION == OPPOSITE			
BRAKE_COMMAND_REASON == REVERSING_DISTANCE_OVERPASSED OPPOSITE_DIRECTION_MOVEMENT_WITH _REVERSING_DISTANCE_OVERPASSED BRAKE_COMMAND = RELEASED DRIVER_ACKNOWLEDGEMENT == TRUE	remove(RV distance exceeded)		
MODE == POST_TRIP && REVERSE_MOVEMENT_DISTANCE == OVERPASSED			DISPLAY = "PT distance exceeded"
MODE == POST_TRIP && BRAKE_COMMAND == RELEASED && MOVEMENT_DIRECTION == OPPOSITE && REVERSE_MOVEMENT_DISTANCE == OVERPASSED			
BRAKE_COMMAND == TRIGGERED && MODE == POST_TRIP && REVERSE_MOVEMENT_DISTANCE == OVERPASSED MOVEMENT_DIRECTION == OPPOSITE &&	remove(PT distance exceeded)		

Data Change	Action	Command	New_command
REVERSE_MOVEMENT_DISTANCE == OVERPASSED			
BRAKE_COMMAND == TRIGGERED && MODE == POST_TRIP && REVERSE_MOVEMENT_DISTANCE == OVERPASSED MOVEMENT_DIRECTION == OPPOSITE && REVERSE_MOVEMENT_DISTANCE == OVERPASSED			
FRONT_END_ESTIMATED_POSITION < START_POSITION_SSP FRONT_END_ESTIMATED_POSITION < START_POSITION_GRADIENT_ELEMENT			DISPLAY = "No track description"
DRIVER_ACKNOWLEDGEMENT = TRUE && TRAIN_TRIP = TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL && VALID_TRAIN_DATA == TRUE	remove(No track description)		
STM_INTERFACE == ACTIVE && CURRENT_ERTMS_LEVEL == 0 1 2 && NATIONAL_TRIP_PROCEDURE == ACTIVE			DISPLAY = "[name of NTC] brake demand"
DRIVER_ACKNOWLEDGEMENT = TRUE TRAIN_TRIP = TRUE && TRAIN_STATUS == STANDSTILL && CURRENT_ERTMS_LEVEL == 0 NTC_LEVEL && VALID_TRAIN_DATA == TRUE	remove([name of NTC] brake demand)		
TRAIN_LOADING_GAUGE_PROFILE != TRACKSIDE_ACCEPTED_LOADING_GAUGES			DISPLAY = "Route unsuitable – loading gauge"

Data Change	Action	Command	New_command
ROUTE_SUITABILITY_DATA == EMPTY STORED_ROUTE_SUITABILITY = NEW_ROUTE_SUITABILITY_LOADING_GAU GE_INFO && STORED_STATIC_SPEED_PROFILE = NEW_STATIC_SPEED_PROFILE_INFO	remove(Route unsuitable – loading gauge)		
TRAIN_TRACTION_SYSTEM != TRACKSIDE_ACCEPTED_TRACTION_SYST EMS			DISPLAY = (Route unsuitable – traction system)
ROUTE_SUITABILITY_DATA == EMPTY STORED_ROUTE_SUITABILITY = NEW_ROUTE_SUITABILITY_TRACTION_SY STEM_INFO && STORED_GRADIENT_PROFILE = NEW_GRADIENT_PROFILE_INFO	remove(Route unsuitable – traction system)		
TRAIN_AXLE_LOAD_CATEGORY != TRACKSIDE_PERMITTED_AXLE_LOAD_CA TEGORIES			DISPLAY = "Route unsuitable – axle load category"
ROUTE_SUITABILITY_DATA == EMPTY STORED_ROUTE_SUITABILITY = NEW_ROUTE_SUITABILITY_AXLE_LOAD_S PEED_PROFILE_INFO && STORED_AXLE_LOAD_SPEED_PROFILE = NEW_AXLE_LOAD_SPEED_PROFILE_INFO	remove(Route unsuitable – axle load category)		
FRMCS_NETWORK_REGISTRATION_STA TUS = FAILED SET_PROCEDURE = D8			DISPLAY = "FRMCS network registration failed"
MISSION_WITH_ONE_RADIO_SYSTEM == ACTIVE && MAIN_WINDOW_BUTTON_SELECTED == TRUE	remove(FRMCS network registration failed)		


Data Change	Action	Command	New_command
RADIO_NETWORK_TYPE == FRMCS RADIO_NETWORK_TYPE == FRMCS_GSMR && FRMCS_ONLY_INSTALLED == TRUE && FRMCS_NETWORK_REGISTRATION_STAT US == FAILED RADIO_NETWORK_TYPE == FRMCS_GSMR && BOTH_RADIO_SYSTEMS_INSTALLED == TRUE && FRMCS_NETWORK_REGISTRATION_STAT US == FAILED GSMR_NETWORK_REGISTRATION_STATU S == FAILED RADIO_NETWORK_TYPE == GSMR RADIO_NETWORK_TYPE == FRMCS_GSMR && GSMR_ONLY_INSTALLED == TRUE && GSMR_NETWORK_REGISTRATION_STATU S == FAILED			DISPLAY = "GSM-R network registration failed"
DISPLAY_SOURCE != A29_PROCEDURE && DISPLAY_SOURCE != A41_PROCEDURE && FRMCS_NETWORK_REGISTRATION_STAT US == FAILED GSMR_NETWORK_REGISTRATION_STATU S == FAILED			
GSMR_NETWORK_REGISTRATION_STAT US == FAILED SET_PROCEDURE = D8			
MISSION_WITH_ONE_RADIO_SYSTEM = ACTIVE ONLY_ONE_RADIO_MISSION = TRUE MISSION_WITH_ONLY_ONE_RADIO_SYST EM_WINDOW == OPEN	remove(GSM -R network registration failed)		


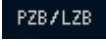










Data Change	Action	Command	New_command
MAIN_WINDOW_BUTTON_SELECTED == TRUE			
RADIO_NETWORK_TYPE == FRMCS FRMCS + GSMR && FRMCS_ONLY_INSTALLED == TRUE && FRMCS_NETWORK_REGISTRATION_STAT US == FAILED RADIO_NETWORK_TYPE == FRMCS + GSMR && BOTH_RADIO_SYSTEMS_INSTALLED == TRUE && FRMCS_NETWORK_REGISTRATION_STAT US == FAILED GSM_NETWORK_REGISTRATION_STATUS == FAILED RADIO_NETWORK_TYPE == GSMR FRMCS + GSMR && GSMR_ONLY_INSTALLED == TRUE && GSM_NETWORK_REGISTRATION_STATUS == FAILED			DISPLAY = "NL no longer permitted"
RADIO_NETWORK_TYPE == FRMCS +GSMR && BOTH_RADIO_SYSTEMS_INSTALLED == TRUE			
NON_LEADING_INPUT == NON_LEADING_NOT_PERMITTED && DRIVER_ACKNOWLEDGEMENT_REQUIRE D == TRUE			
MISSION_WITH_ONE_RADIO_SYSTEM == ACTIVE	remove(NL no longer permitted)		
MAIN_WINDOW_STATUS == ACTIVE BUTTON_SELECTION == ANY			
DRIVER_ACKNOWLEDGEMENT = TRUE			

Data Change	Action	Command	New_command
CHECK_INTERVAL == FIXED_DISTANCE && UNDER_ESTIMATION > IMPAIRMENT_THRESHOLD OVER_ESTIMATION > IMPAIRMENT_THRESHOLD			DISPLAY = "Odometer impaired"
ODOMETER_STATUS == IMPAIRED && TRAVELLED_DISTANCE >= DEFINED_TOTAL_DISTANCE && UNDER_ESTIMATION < ACCURACY_LIMIT && OVER_ESTIMATION < ACCURACY_LIMIT	remove(Odo meter impaired)		
CURRENT_ERTMS_LEVEL == NTC_X && MODE == SN MODE == NL && TIME_IN_MODE >= 5s && STM_STATUS == INSTALLED_NOT_AVAILABLE && NTC_ISOLATION_STATUS != ISOLATED			DISPLAY = "[name of NTC] is not available"
STM_STATUS == _AVAILABLE && NTC_ISOLATION_STATUS = ISOLATED	remove([nam e of NTC] is not available)		
NTC_DATA_NEED == TRUE && MODE == FS AD LS SR OS UN TR PT SN			DISPLAY = "[name of NTC] needs data"
TRAIN_DATA_ENTRY_PROCEDURE == ACTIVE STM_STATUS == FAILED NTC_ISOLATION_STATUS == ISOLATED	remove([nam e of NTC] needs data)		

2.19 SYMBOLS











2.19.1 Level Symbols

Symbol number	Symbol form/shape	SVG file	Symbol and colour description	Symbol area(s)	Remarks
LE01		LE_01.svg	Level 0; grey	C8	
LE02			level NTC; grey		



Symbol number	Symbol form/shape	SVG file	Symbol and colour description	Symbol area(s)	Remarks
	 	LE_02.svg LE_02a.svg		in level NTC, the location is not specified	For NTC level the text 'NTC' is replaced by the distinct abbreviation of the corresponding National System
LE03		LE_03.svg	Level 1, Intermittent transmission; grey	C8	
LE04		LE_04.svg	Level 2, Continuous transmission; grey	C8	
LE06		LE_06.svg	Level 0 announcement; grey	C1 exception: in level NTC, the location is not specified	
LE07		LE_07.svg	Level 0 announcement; yellow	C1 exception: in level NTC, the location is not specified	Always with a flashing frame
LE08	 	LE_08.svg LE_08a.svg	level NTC announcement; grey	C1 exception: in level NTC, the location is not specified	For NTC level the text 'NTC' is replaced by the distinct abbreviation of the corresponding National System
LE09	 	LE_09.svg LE_09a.svg	level NTC announcement; yellow	C1 exception: in level NTC, the location is not specified	Always with a flashing frame For NTC level the text 'NTC' is replaced by the distinct abbreviation of the corresponding National System
LE10		LE_10.svg	Level 1 announcement, Intermittent transmission; grey	C1 exception: in level NTC, the location is not specified	
LE12		LE_12.svg	Level 2 announcement, Continuous transmission; grey	C1 exception: in level NTC, the location is not specified	





2.19.2 Mode Symbols

Symbol number	Symbol form/shape	SVG file	Symbol and colour description	Symbol area(s)	Remarks
MO01		MO_01.svg	Shunting; grey	B7	
MO02		MO_02.svg	Acknowledgement for shunting; yellow	C1	Always with a flashing frame
MO03		MO_03.svg	Override EOA is active; grey	C7	
MO04		MO_04.svg	Trip; red with grey	B7	
MO05		MO_05.svg	Acknowledgement for Trip; yellow	C1	Always with a flashing frame
MO06		MO_06.svg	Post trip; grey	B7	
MO07		MO_07.svg	On Sight; grey	B7	
MO08		MO_08.svg	Acknowledgement for On Sight; yellow	C1	Always with a flashing frame
MO09		MO_09.svg	Staff Responsible; grey	B7	
MO10		MO_10.svg	Acknowledgement for Staff Responsible; yellow	C1	Always with a flashing frame
MO11		MO_11.svg	Full Supervision; grey	B7	
MO12		MO_12.svg	Non-leading; grey	B7	
MO13		MO_13.svg	Stand By; grey	B7	
MO14		MO_14.svg	Reversing; grey	B7	







Symbol number	Symbol form/shape	SVG file	Symbol and colour description	Symbol area(s)	Remarks
MO15		MO_15.svg	Acknowledgement for Reversing; yellow	C1	Always with a flashing frame
MO16		MO_16.svg	Unfitted; grey	B7	
MO17		MO_17.svg	Acknowledgement for Unfitted; yellow	C1	Always with a flashing frame
MO18		MO_18.svg	System failure; red with grey	B7	
MO19		MO_19.svg	National System; grey	in level NTC, the location is not specified	
MO20		MO_20.svg	Acknowledgement for National System; yellow	C1	Always with a flashing frame
MO21		MO_21.svg	Limited Supervision; grey	B7	
MO22		MO_22.svg	Acknowledgement for Limited Supervision; yellow	C1	Always with a flashing frame
MO23		MO_23.svg	Automatic Driving; grey	B7	
MO24		MO_24.svg	Supervised Manoeuvre; grey	B7	









2.19.3 Status Symbols

Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
ST01		ST_01.svg	Service brake intervention or emergency brake intervention; red with grey	C9	possibly with a flashing frame
ST02		ST_02.svg	Adhesion factor "slippery rail"; grey	A4	
ST03		ST_03.svg		E1	









Symbol number	Symbol form/ shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
			Safe radio connection "Connection Up"; grey		
ST04		ST_04.svg	Safe radio connection "Connection Lost/Set Up failed"; red with grey	E1	
ST05		ST_05.svg	Hour glass; grey	Window title of 'Main' and of 'Radio data' menu windows	
ST06		ST_06.svg	Reversing permitted	C6	
ST07		ST_07.svg	BMM reaction inhibition; grey	C6	

2.19.4 Orders and Announcement of Track Condition Symbols



Symbol number	Symbol form/ shape	SVG Filename	Symbol and colour description	Symbol areas(s)	Remarks
TC01		TC_01.svg	Pantograph lowered; grey	B3/4/5	
TC02		TC_02.svg	Lower pantograph; grey	B3/4/5	
TC03		TC_03.svg	Lower pantograph; yellow	B3/4/5	
TC04		TC_04.svg	Raise pantograph; grey	B3/4/5	
TC05		TC_05.svg	Raise pantograph; yellow	B3/4/5	
TC06		TC_06.svg	Neutral section and Neutral section announcement; grey	B3/4/5	
TC07		TC_07.svg		B3/4/5	















Symbol number	Symbol form/ shape	SVG Filename	Symbol and colour description	Symbol areas(s)	Remarks
			Neutral section announcement; yellow		
TC08		TC_08.svg	End of neutral section; grey	B3/4/5	
TC09		TC_09.svg	End of neutral section; yellow	B3/4/5	
TC10		TC_10.svg	Non stopping area; grey	B3/4/5	
TC11		TC_11.svg	Non stopping area announcement; yellow	B3/4/5	
TC12		TC_12.svg	Radio hole; grey	B3/4/5	
TC13		TC_13.svg	Inhibition of magnetic shoe brake and Inhibition of magnetic shoe brake announcement; grey	B3/4/5	
TC14		TC_14.svg	Inhibition of magnetic shoe brake announcement; yellow	B3/4/5	
TC15		TC_15.svg	Inhibition of eddy current brake and Inhibition of eddy current brake announcement; grey	B3/4/5	
TC16		TC_16.svg	Inhibition of eddy current brakes announcement; yellow	B3/4/5	
TC17		TC_17.svg	Inhibition of regenerative brake and Inhibition of regenerative brake announcement; grey	B3/4/5	
TC18		TC_18.svg	Inhibition of regenerative brake announcement; yellow	B3/4/5	
TC19		TC_19.svg	Air conditioning intake closed and	B3/4/5	

Symbol number	Symbol form/ shape	SVG Filename	Symbol and colour description	Symbol areas(s)	Remarks
			Close air conditioning intake announcement; grey		
TC20		TC_20.svg	Open air conditioning intake; grey	B3/4/5	
TC21		TC_21.svg	Close air conditioning intake announcement; yellow	B3/4/5	
TC22		TC_22.svg	Open air conditioning intake; yellow	B3/4/5	
TC23		TC_23.svg	New traction system and Change of Traction system announcement "the line is not fitted with any traction system"; grey	B3/4/5	
TC24		TC_24.svg	Change of Traction system announcement "the line is not fitted with any traction system"; yellow	B3/4/5	
TC25		TC_25.svg	New traction system and Change of Traction system announcement "AC 25 kV 50 Hz"; grey	B3/4/5	
TC26		TC_26.svg	Change of Traction system announcement "AC 25 kV 50 Hz"; yellow	B3/4/5	
TC27		TC_27.svg	New traction system and Change of Traction system announcement "AC 15 kV 16.7 Hz"; grey	B3/4/5	
TC28		TC_28.svg	Change of Traction system announcement "AC 15 kV 16.7 Hz"; yellow	B3/4/5	
TC29		TC_29.svg	New traction system and Change of Traction system	B3/4/5	

Symbol number	Symbol form/ shape	SVG Filename	Symbol and colour description	Symbol areas(s)	Remarks
			announcement “DC 3 kV”; grey		
TC30		TC_30.svg	Change of Traction system announcement “DC 3 kV”; yellow	B3/4/5	
TC31		TC_31.svg	New traction system and Change of Traction system announcement “DC 1.5 kV”; grey	B3/4/5	
TC32		TC_32.svg	Change of Traction system announcement “DC 1.5 kV”; yellow	B3/4/5	
TC33		TC_33.svg	New traction system and Change of Traction system announcement “DC 600/750 V”; grey	B3/4/5	
TC34		TC_34.svg	Change of Traction system announcement “DC 600/750 V”; yellow	B3/4/5	
TC35		TC_35.svg	Sound horn; yellow	B3/4/5	
TC36		TC_36.svg	Tunnel stopping area; grey	C2	
TC37		TC_37.svg	Tunnel stopping area announcement; yellow	C2	

2.19.5 Planning Information Symbols














Symbol number	Symbol form/ shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
PL01		PL_01.svg	Lower pantograph; grey	D2/3/4	
PL02		PL_02.svg	Lower pantograph; yellow	D2/3/4	

Symbol number	Symbol form/ shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
PL03		PL_03.svg	Raise pantograph; grey	D2/3/4	
PL04		PL_04.svg	Raise pantograph; yellow	D2/3/4	
PL05		PL_05.svg	Neutral section announcement; grey	D2/3/4	
PL06		PL_06.svg	Neutral section announcement; yellow	D2/3/4	
PL07		PL_07.svg	End of neutral section; grey	D2/3/4	
PL08		PL_08.svg	End of neutral section; yellow	D2/3/4	
PL09		PL_09.svg	Non stopping area announcement; yellow	D2/3/4	
PL10		PL_10.svg	Radio hole; grey	D2/3/4	
PL11		PL_11.svg	Inhibition of magnetic shoe brake announcement; grey	D2/3/4	
PL12		PL_12.svg	Inhibition of magnetic shoe brake announcement; yellow	D2/3/4	
PL13		PL_13.svg	Inhibition of eddy current brake announcement; grey	D2/3/4	
PL14		PL_14.svg	Inhibition of eddy current brake announcement; yellow	D2/3/4	
PL15		PL_15.svg	Inhibition of regenerative brake announcement; grey	D2/3/4	
PL16		PL_16.svg	Inhibition of regenerative brake announcement; yellow	D2/3/4	

Symbol number	Symbol form/ shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
PL17		PL_17.svg	Close air conditioning intake announcement; grey	D2/3/4	
PL18		PL_18.svg	Open air conditioning intake; grey	D2/3/4	
PL19		PL_19.svg	Close air conditioning intake announcement; yellow	D2/3/4	
PL20		PL_20.svg	Open air conditioning intake; yellow	D2/3/4	
PL21		PL_21.svg	Speed increase: grey	D6 (half left part) / D7 (half right part)	
PL22		PL_22.svg	Speed decrease: grey	D6 (half left part) / D7 (half right part)	
PL23		PL_23.svg	Speed decrease to the target related to indication marker: yellow	D6 (half left part) / D7 (half right part)	
PL24		PL_24.svg	Sound horn; yellow	D2/3/4	
PL25		PL_25.svg	Change of Traction system announcement "the line is not fitted with any traction system"; grey	D2/3/4	
PL26		PL_26.svg	Change of Traction system announcement "the line is not fitted with any traction system"; yellow	D2/3/4	
PL27		PL_27.svg	Change of Traction system announcement "AC 25 kV 50 Hz"; grey	D2/3/4	
PL28		PL_28.svg	Change of Traction system announcement "AC 25 kV 50 Hz"; yellow	D2/3/4	
PL29		PL_29.svg		D2/3/4	





Symbol number	Symbol form/ shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
			Change of Traction system announcement "AC 15 kV 16.7 Hz"; grey		
PL30		PL_30.svg	Change of Traction system announcement "AC 15 kV 16.7 Hz"; yellow	D2/3/4	
PL31		PL_31.svg	Change of Traction system announcement "DC 3 kV"; grey	D2/3/4	
PL32		PL_32.svg	Change of Traction system announcement "DC 3 kV"; yellow	D2/3/4	
PL33		PL_33.svg	Change of Traction system announcement "DC 1.5 kV"; grey	D2/3/4	
PL34		PL_34.svg	Change of Traction system announcement "DC 1.5 kV"; yellow	D2/3/4	
PL35		PL_35.svg	Change of Traction system announcement "DC 600/750 V"; grey	D2/3/4	
PL36		PL_36.svg	Change of Traction system announcement "DC 600/750 V"; yellow	D2/3/4	
PL37		PL_37.svg	Speed decrease to the target related to indication marker: white	D6 (half left part) / D7 (half right part)	

2.19.6 Navigation Symbols






Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
NA03		NA_03.s vg	Scale up planning information; grey	D9	Touch screen
NA04		NA_04.s vg	Scale down planning information; grey	D12	Touch screen
NA05		NA_05.s vg	Scale up planning information; dark grey	D9	Touch screen (used for disabled button)
NA06		NA_06.s vg	Scale down planning information; dark grey	D12	Touch screen (used for disabled button)
NA07		NA_07.s vg	Scale up planning information; grey	H3	Soft key
NA08		NA_08.s vg	Scale down planning information; grey	H2	Soft key
NA09		NA_09.s vg	Scale up planning information; dark grey	H3	Soft key (used for disabled button)
NA10		NA_10.s vg	Scale down planning information; dark grey	H2	Soft key (used for disabled button)
NA11		NA_11.s vg	Close window; grey	[close] button in D/F/G area H3	Touch screen Soft key
NA12		NA_12.s vg	Close window; dark grey	[close] button in D/F/G area H3	Touch screen Soft key (used for disabled button)
NA13		NA_13.s vg	Scroll up; grey	E10 H5	Touch screen Soft key
NA14		NA_14.s vg	Scroll down; grey	E11 H6	Touch screen Soft key
NA15		NA_15.s vg	Scroll up; dark grey	E10 H5	Touch screen Soft key (used for disabled button)

Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
NA16		NA_16.s vg	Scroll down; dark grey	E11 H6	Touch screen Soft key (used for disabled button)
NA17		NA_17.s vg	Next; grey	[Next] button in D/F/G area H4	Touch screen Soft key
NA18		NA_18.s vg	Previous; grey	[previous] button in D/F/G area H3	Touch screen Soft key
NA18.2		NA_18.2 .svg	Next; dark grey	[Next] button in D/F/G area H4	Touch screen Soft key (used for disabled button)
NA19		NA_19.s vg	Previous; dark grey	[previous] button in D/F/G area H3	Touch screen Soft key (used for disabled button)
NA20		NA_20.s vg	Enter, grey	H7	Soft key
NA21		NA_21.s vg	Delete, grey	Key 10 H2	Touch screen Soft key
NA22		NA_22.s vg	Enter, dark grey	H7	Soft key (used for disabled button)
NA23		NA_23.s vg	More; grey	Key 12 for dedicated keyboard F10	Touch screen Soft key


2.19.7 Settings Symbols

Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
SE01		SE_01.svg	Luminance adjustment, grey	Button #3 in D/F/G area	Touch screen (Settings window)
SE02		SE_02.svg	Volume adjustment, grey	Button #2 in D/F/G area	Touch screen (Settings window)
SE03		SE_03.svg	Language selection, grey	Button #1 in D/F/G area	Touch screen (Settings window)
SE04		SE_04.svg	Settings menu, grey	F5 [Settings] button in D/F/G area H6	Touch screen (when in S1 of the start up dialogue sequence) Soft key (when in S1 of the start up dialogue sequence)


2.19.8 Driver Request Symbols

Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
DR01		DR_01.svg	Toggling function for speed/distance information; grey	F7	Soft key
DR02		DR_02.svg	Track Ahead Free, grey with dark grey	D	
DR03		DR_03.svg	Geographical Position; grey	G12 F8	Touch screen Soft key
DR04		DR_04.svg	Acknowledgement; yellow	H7	Soft key
DR05		DR_05.svg	Toggling function for tunnel stopping area; grey	C2/C3/C4 F6	Touch screen Soft key







2.19.9 Level Crossing Symbol

Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
LX01		LX_01.svg	LX not protected; grey	B3/4/5	

2.19.10 Limited Supervision Symbol



Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
LS01		LS_01.svg	Limited Supervision frame; grey	A1	

2.19.11 Automatic Train Operation Symbols

Symbol number	Symbol form/shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
ATO01		ATO_01.svg	ATO status "ATO selected"; grey	G1	
ATO02		ATO_02.svg	ATO status "ATO ready for engagement"; yellow	G1 F9	Touch screen Soft key
ATO03		ATO_03.svg	ATO status "ATO engaged"; white	G1 F9	Touch screen Soft key
ATO04		ATO_04.svg	ATO status "ATO disengaging"; red with grey	G1 F9	Touch screen Soft key
ATO05		ATO_05.svg	ATO status "ATO failure"; red with grey	G1	
ATO06		ATO_06.svg	Overshoot stopping window (Manual); yellow	G2	
ATO07				G2	

Symbol number	Symbol form/ shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
		ATO_07.svg	Undershoot stopping window (Manual); yellow		
ATO08		ATO_08.svg	Inside stopping window; grey	G2	
ATO09		ATO_09.svg	Train hold; grey	G3	
ATO10		ATO_10.svg	Request driver to open doors on both sides; yellow	G4	
ATO11		ATO_11.svg	Request driver to open doors on left; yellow	G4	
ATO12		ATO_12.svg	Request driver to open doors on right; yellow	G4	
ATO13		ATO_13.svg	Doors are open; grey	G4	
ATO14		ATO_14.svg	Request driver to close doors; yellow	G4	
ATO15		ATO_15.svg	Doors are being closed by ATO; grey	G4	
ATO16		ATO_16.svg	Doors are closed; grey	G4	
ATO17		ATO_17.svg	Skip Stopping Point Inactive; grey	G5 F10	Touch screen Soft key
ATO18		ATO_18.svg	Skip Stopping Point requested by ATO-TS; grey	G5	
ATO19		ATO_19.svg	Skip Stopping Point requested by driver; white	G5 F10	Touch screen Soft key
ATO20		ATO_20.svg	Coasting advice; grey	B8	
ATO21		ATO_21.svg	Stopping Point; grey	D2/3/4	

2.19.12 Supervised Manoeuvre Symbols

Symbol number	Symbol form/ shape	SVG file name	Symbol and colour description	Symbol area(s)	Remarks
SM01		SM_01.svg	SM authorised direction indicator (forward); grey	B8	
SM02		SM_02.svg	SM authorised direction indicator (backward); grey	B8	

2.10

References

1. ERTMS/ETCS: ETCS DRIVER MACHINE INTERFACE ERA_ERTMS_015560
2. EN 16186-3:2022

Railway applications. Driver's cab – Part 3: Design of displays for heavy rail vehicles

1. CLC/TS 50459-1:2021

Railway applications - Communication, signalling and processing systems - European Rail Traffic Management System – Part 1: Driver-Machine Interface: General principles for the presentation of ERTMS/ETCS/GSM-R information

1. CLC/TS 50459-2: 2021

Railway applications - Communication, signalling and processing systems - European Rail Traffic Management System - Part 2: Ergonomic arrangements of GSM-R information

1. CLC/TS 50459-3:2021

Railway applications. Communication, signalling and processing systems. European Rail Traffic Management System – Part 3: Ergonomic arrangements of non ETCS information

1. CLC/TS 50459-4:2005

Railway applications. Communication, signalling and processing systems. European rail traffic management system – Part 4: Driver-machine interface: Data entry for the ERTMS/ETCS/GSM-R systems

1. CLC/TS 50459-5:2005

Railway applications. Communication, signalling and processing systems. European rail traffic management system – Part 5: Driver-machine interface: Symbols

1. CLC/TS 50459-6:2005

Railway applications. Communication, signalling and processing systems. European rail traffic management system – Part 6: Driver-machine interface: Audible information

1. CLC/TR 50459-7:2007

Railway applications. Communication, signalling and processing systems. European rail traffic management system – Part 7: Driver-machine interface: Specific transmission modules (*please mind: not applicable in the scope of the System Pillar*)

1. UIC 612-x

ERTMS/ETCS, FFFIS STM Application Layer, SUBSET-058, 4.0.0, 05/07/2023

DRAFT