

CLM and RTGS GUI Style Guide

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1 Introduction

The Graphical User Interface (GUI) Style Guide defines the set of standards and conventions that business analysts and developers must follow when designing and implementing the user interface for Central Liquidity Management (CLM) and Real-time Gross Settlement (RTGS). This style guide covers branding, standard window layout, the definition of control elements (such as buttons, drop-down lists), typography, data formats, use of colours as well as other development practices and standards that apply to the GUI. The objective of the GUI Style Guide is to ensure a consistent look and feel for the user interface for the CLM and RTGS components.

The GUI Style Guide defines the principles and standards for designing and implementing the business functionality that users require in a business interface. However, the process specifying and agreeing window layouts for the GUI with users may identify improvements and additional features to the GUI Style Guide. Therefore, the GUI Style Guide will be updated to reflect identified improvements and additional features when there is mutual agreement among the stakeholders to implement them in the GUI.

2 General standards

2.1 Keyboard navigation

The expectation is that users who extensively work with the GUI on a daily basis will opt to navigate the GUI using the keyboard to be more effective and efficient in their day-to-day work. Therefore, each window must support navigation by keyboard only, i.e. without use of the mouse. The following principles apply for keyboard navigation:

- | All buttons and input fields must be enabled for keyboard navigation.
- | The tab key must be used to navigate between buttons and input fields. This requires a clear specification of the tab sequence for each window.
- | The tab forward key jumps to the next button or input field of the tab sequence defined for the window.
- | The tab back key jumps to the previous button or input field of the tab sequence defined for the window.
- | A button must be enabled as mouse-over when the user tabs to it. When a button is enabled as mouse-over, the user can execute the button by pressing the “Enter” key.
- | The up and down arrow keys are used to move the cursor within a scrollable or paging element. The application highlights the entry to which user positions the cursor. The user can execute a function associated with the highlighted entry by pressing the “Enter” key.
- | When entering a new window, the cursor is positioned on the first input element.

2.2 Colour scheme

This GUI Style Guide requires the use of a standardised colour scheme in line with the TARGET Services T2 logo. The style guide defines the colour to be applied to each individual graphical element in that object.

Colour	Colour identification
BLUE1	#D5D9E8
BLUE2	#ACB3D2
BLUE3	#828CBB
BLUE4	#5966A5
BLUE5	#2F408E
BLACK	#000000
WHITE	#FFFFFF
GREY1	#CCCCCC
GREY2	#666666

Colour	Colour identification
ORANGE	#C8782E
RED	#CC3334
GREEN	#92BC64

2.3 Language

All text in the GUI shall be in British English.

2.4 Currency

A currency must be represented as an ISO 4217 currency code. The currency of an amount always must be positioned to the right of the amount field in a separate field.

Example:

3,389,957.00 EUR

2.5 Codes

With the exception of commonly used codes, such as BIC, ISO currency codes, all codes must be encoded as text in a separate read-only field to the right of the code.

Examples:

Field Label	Code	Description
Transaction code	ASTI	Ancillary System transfer initiation

2.6 Amounts and numbers

Amounts and numbers must be displayed with a full stop as decimal separator and with a comma as thousands separator. Negative amounts must be displayed in RED with a leading minus sign.

Examples:

Positive amount

3,389,957.00

Negative amount

-45,455,045.00

2.7 Dates and times

The presentation of dates and times in the GUI must be compliant with ISO 8601 on “Numeric representation of Dates and Time” in the format ‘YYYY-MM-DD’ where ‘YYYY’ is the year in the Gregorian calendar, ‘MM’ is the month of the year between 01 (January) and 12 (December), and ‘DD’ is the day of the month between 01 and 31. Month and day must always have 2 digits. A leading “0” must be used when for months and days that are one digit.

The time zone is Central European Time (CET). A time must be displayed in the format ‘hh:mm:ss’ CET or ‘hh:mm’ CET, using the 24-hour timekeeping system, where ‘hh’ is the number of complete hours that have passed since midnight, ‘mm’ is the number of complete minutes since the start of the hour, and ‘ss’ is the number of complete seconds since the start of the minute. Hours, Minutes and Seconds are always represented with 2 digits. A leading “0” must not be suppressed. If microseconds are used, then the time must be displayed as ‘hh:mm:ss:μsμsμsμsμs’ CET. Any leading “0” must not be suppressed.

Date and time together are displayed as ‘YYYY-MM-DD hh:mm:ss:[μsμsμsμsμs]’ CET, where a blank must separate the date and time.

2.8 Screen resolution

The layout of screens and forms must be optimised for a minimum screen resolution of 1366 x 768 (pixel). Higher screen resolutions must also be supported.

2.9 Browser

The GUI must support the current and the previous versions of Chrome, Firefox and Edge browsers on the Microsoft Windows operating system. An Information Technology Infrastructure Library (ITIL) based change

and release management process must be in place to ensure that developers adapt the GUI sufficiently in advance of the forthcoming release of a new browser to ensure compliance with this requirement.

2.10 Font

The standard font for screen labels, navigation and other content is Arial. In order to allow scalable font sizes, fonts are generally defined as relative values of the standard computer font size (e.g. 75% or 0.75 em).

2.11 Visibility of functions

The GUI must not display functions to which the user does not have the access rights or relevant conditions are not fulfilled, e.g. all mandatory input fields have to be filled in before the data can be submitted.

2.12 "Please wait"-screen

In order to avoid unwanted user action during loading times, a "please wait" pop-up is displayed. While the pop-up is displayed, the window must be locked. An animated graphic is used to indicate the connection status and the elapsed waiting time.

2.13 Export function

The user must have the possibility to export results list from a search as a .csv file, when the option is available for a search window. The export should provide an option to export only the current page or all results. It must also allow the user to specify whether to export with or without search criteria as the initial row in the download.

2.14 Miscellaneous

E-Mail addresses must be displayed in the standard format (e.g. "name@domain.org").

Phone and fax numbers must contain no special characters, such as "-" or "/", and no blanks. However, they must include the country code (e.g. "+49892889123").

3 Window Layout

The window layout for the user interface for CLM and RTGS is standardised. All windows of the user interface must comply with this standard window layout.



3.1 Header

The content and format of the header is common for all windows of the user interface for CLM and RTGS.



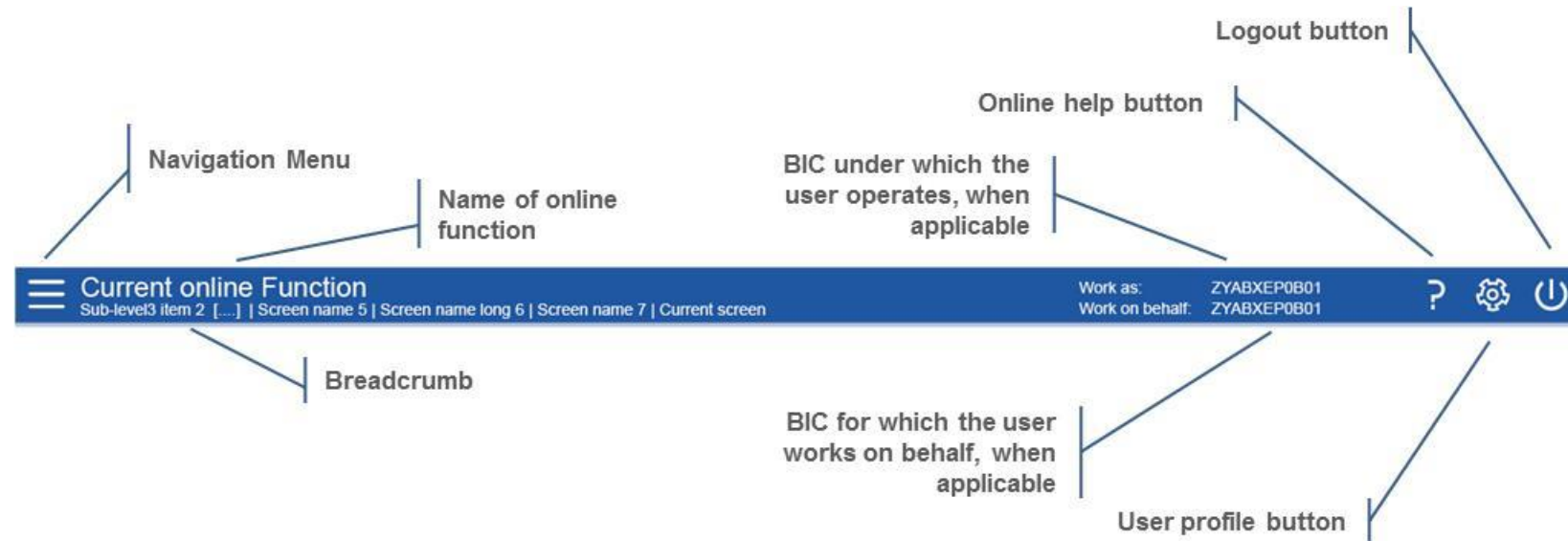
TARGET Services logo	The TARGET Services defines the GUI service to which the user is logged in.
Service component	The service component defines the specific set of functions within the TARGET Services to which the user is logged in, e.g. Real-time Gross Settlement (RTGS) or Central Liquidity Management (CLM).
User ID	This attribute specifies the unique identification of the logged in user.
Software release	This attribute specifies the current release of the GUI software.

Technical environment	Each TARGET Service will have a production environment as well as several test environments. This attribute specifies the technical environment that the user is logged into.
Business Day	This attribute specifies the date business day
Last window update	This attribute specifies the date and time of the last refresh of the window.
White space for central bank logo	The header of the GUI includes a white space in which the central bank has the option to place its logo.

Vertical offset to top of browser content window	15 pixel WHITE
Vertical size for logos and content	50 pixel
Vertical size for border	10 pixel, WHITE
Horizontal offset to left of browser content window	50 pixel, WHITE
Horizontal size for TARGET Services logo	330 pixel, align left
Central bank logo	160 pixel
Component service text description	Arial regular 28pt, BLUE5, align left
Technical environment	Arial regular 24pt, GREY2, align left, all caps
Business Day	Arial regular 14pt, GREY2, align left
User ID	Arial regular 14pt, BLUE5, align left
Last update	Arial regular 14pt, BLUE5, align left
Release	Arial regular 14pt, BLUE5, align left

3.2 Sub-header

The content and format of the sub-header is common for all windows of the user interface for CLM and RTGS.






Navigation Menu	This is the icon that allows the user to access the navigation menu of the respective TARGET Services component. Please refer to section 3.2.1 Menu navigation.
Name of online function	Every window must be assigned an unambiguous name that describes the function of the window in business terms for the user.
BIC under which the user operates	The label "Work as:" and the BIC must be shown when the user has activated the option to work as.
Online help button	This button activates the online help function of the GUI.

Logout button	This button logs the user out of the GUI.
Breadcrumb	The breadcrumb field visualises the screen navigation path that the user has travelled to the current screen.
BIC for which the user works on behalf of, when applicable	The label "Work on behalf:" and the BIC must be shown when the user has activated the option to work on behalf of.
User profile button	This button allows the user change profile settings.


Vertical offset to bottom of header	0 pixel
Vertical size for content	50 pixel, BLUE5
Shadow line	4 pixel, BLUE2
Pull-down menu icon	50x50 pixel, align left WHITE
Name of online function	Arial regular 24pt, WHITE, align left
Breadcrumb	Arial regular 14pt, WHITE, align left
Work as	Arial regular 14pt, WHITE, align left
Work on behalf	Arial regular 14pt, WHITE, align left
Help icon	50x50 pixel
User preferences icon	50x50 pixel
Logout icon	50x50 pixel
Release	Arial regular 14pt, BLUE5, align left

3.2.1 Menu navigation

The menu navigation icon provides access to all available business functionality of a TARGET2 Service component. The menu must only display those menu options to which the user has the appropriate access rights. The top level entries are displayed by selecting the menu navigation icon in the sub-header. By selecting the top level entries a menu with further navigation options opens to the right. The maximum depth of the menu must be limited to three levels.

Icon	Description
<p>button menu</p> 	
<p>Menu button down</p> 	<p>The activation of the menu icon results in the opening of the first level of the drop-down menu. The drop-down menu must appear when the user positions the mouse over the menu navigation icon and clicks or presses enter when the menu navigation icon is marked as active.</p>
<p>Menu button over</p> 	

Navigation menu



Menu sublevel item 1		
Menu sublevel item 2	Menu sublevel2 item 1	
Menu sublevel item 3	Menu sublevel2 item 2	
Menu sublevel item 4	Menu sublevel2 item 3	
Menu sublevel item 5	Menu sublevel2 item 4	
Menu sublevel item 6	Menu sublevel2 item 5	Menu sublevel3 item 1
Menu sublevel item 7	Menu sublevel2 item 6	Menu sublevel3 item 2
Menu sublevel item 8	Menu sublevel2 item 7	Menu sublevel3 item 3
Menu sublevel item 9		Menu sublevel3 item 4
Menu sublevel item 10		Menu sublevel3 item 5

Row height	26 pixel
Standard row fill colour	WHITE
Highlighted row fill colour	BLUE1
Border	1 pixel BLUE3
Length	Flexible
Standard menu item font	Arial regular 12pt, BLACK
Selected menu item font	Arial regular 12pt, WHITE
Text Position	Align right, 12 pixel offset, centred horizontal




3.2.2 Breadcrumb navigation







The breadcrumb navigation is used to visualise the window navigation path the user has used as well as the current screen the user has selected. It also provides an easy option to navigate to previous windows. It is positioned in the sub-header to the right of the menu navigation icon. A new path point is always identified by a separator and the user can navigate back to a relevant window by selecting the corresponding path point. The displayed path is reset each time the user selects a different menu entry point.

The first element (the menu entry point) and the last element (the current screen) as well as the second to last screen are always shown. For the purpose of clarity, the rest may be replaced by dots because of a limited width of the sub-header. However, the omitted elements still remain navigable by selecting them. The sub-header displays the name of the current online function above the breadcrumb navigation.

3.2.3 Sub-header button definitions

The sub-header contains a set of standard buttons that must consistently appear in every window of the application.




Icon	Description
<p>button help</p> 	<p>The user can access the online help function of the service component in which the user is working by clicking the help icon in the sub-header or by pressing enter when the help icon is marked as active (mouse-over). The online help must be context sensitive, which means that the help function must display the description of the current window. Other parts of the online help can be reached using the online help table of contents which must be positioned to the left side of the help window.</p>
<p>Help button down</p> 	
<p>Help button over</p> 	

Icon	Description
<p>button logout</p>  <p>Logout button down</p>  <p>Logout button over</p> 	<p>The user can log out of the service component in which the user is working by clicking the logout icon in the sub-header or by pressing enter when the logout icon is marked as active (mouse-over). When the user presses the logout button, a pop-up appears and asks the user to confirm or to cancel the logout from the application.</p>
<p>button userprefs</p>  <p>Userpreferences button down</p>  <p>Userpreferences button over</p> 	<p>The user can select preferences for the service component in which the user is working by clicking the user preferences button in the sub-header or by pressing enter when the logout button is marked as active (mouse-over). When the user presses the user preference buttons, a pull-down menu appears in which the user can select the preferences that the user wishes to change. The user preferences only apply for the current session.</p>

3.2.4 System broadcasts

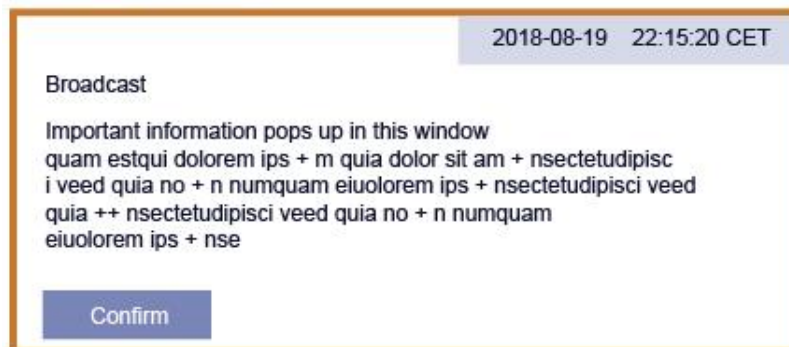
The TARGET Services operator uses broadcasts to inform users about specific system events. When the TARGET Services operator releases a broadcast to the user community, the broadcast icon appears in the sub-header next to the menu navigation icon.



Icon	Description
<p>message icon</p> 	<p>The broadcast icon in the sub-header appears when the user has unread broadcasts from the TARGET Services operator. The user can view the unread broadcast by clicking the user preferences button in the sub-header or by pressing enter when the logout button is marked as active (mouse-over).</p>
<p>Message button down</p> 	
<p>Message button over</p> 	

The application shows a broadcast pop-up when the user clicks on the broadcast icon. The pop-up must display the complete broadcast message. It also must display the date and time of the broadcast, i.e. when the TARGET Service operator released the broadcast for transmission. The user closes the pop-up window by clicking the “Confirm” button.

message popup window



Message box	Centred top of context area
Fill colour	WHITE
Border	4 pixel ORANGE
Width	420 pixel
Height	Flexible
Date and time	Arial regular 12pt, BLACK, align left offset 12 pixel
Message text	Arial regular 12pt, WHITE, align left offset 12 pixel
Confirm button	90x26 pixel, fill colour BLUE4, align left offset 12px Font Arial regular 12pt WHITE, align centre Downstate fill blue5

3.3 Content area

The content area is the section of the window in which the GUI provides the user with specific business functionality. The content area contains functional and business data, input elements or other application-related content. It consists of a notification area, the content area and the button bar. Scrolling is only possible in the content area. However, the notification area and the bottom bar must always be shown when required for a window. The window must support horizontal and vertical scrolling, but all windows should be designed to avoid or minimise horizontal scrolling.

3.3.1 Notification area

The purpose of the notification area is to display confirmation messages and error messages related to the current window. The GUI informs the user about the result of the front-end validation and back-end processing. The GUI provides error messages and the confirmation messages in the notification area. The two different types of notifications are mutually exclusive. The messages are scrollable to avoid that the content is not visible, e.g. in case of too many error messages.

Success message box

A success message appears when the user successfully completes a business operation in the content area that requires a confirmation by the user. The specification of a GUI window must define whether the business functionality that the window provides requires a confirmation message.

Success messages

quam estqui dolore ips + m quia dolor sit am + nsectetudipisci veed quia no + n numquam eiuolorem ips + nsectetudipisci veed quia + nsectetudipisci veed quia no + n numquam eiuolorem ips + nse

Error box border	1 pixel GREEN
Vertical offset to top of sub-header	10 pixel
Horizontal offset to window left	10 pixel
Confirmation message box horizontal	80% window width
Confirmation message box vertical	Variable
Confirmation text font	Arial regular 12pt, GREEN, align left, 7 point offset

Error message box

All submission processes undergo various validations, which take place in the front-end and/or in the back-end. Only correct entries, fulfilling all predefined criteria, can be further processed.

As a first part of the validation process, the front-end validation takes place without communication to the back-end. This happens while entering data. The front-end validation includes both the field validation and the cross-field validation. The field validation verifies that all entries comply with the required format. The cross-field validation checks the data consistency between two or more fields in relation to each other. In case of an error the erroneous input field is distinctly marked and an error text is displayed.

The back-end validation is the second part of the validation process. After a successful front-end validation and submitting the data, the back-end checks for compliance with the business validation rules. In case of a failure an error message is displayed to the user and the related input field is distinctly marked.

An error message appears when the GUI application identifies a validation error in the current window. The error message box displays the error code and the associated text description of the error message.

error messages







E-994	quam estqui dolorem ips + m quia dolor sit am + nsectetudipisci veed quia no + n numquam eiuolorem ips + nsectetudipisci veed quia + + nsectetudipisci veed quia no + n numquam eiuolorem ips + nse
E-65	m quia dolor sit am + nsectetudipisci veed quia no +
E-123421	n numquam eiuolorem ips + nsectetudipisci veed quia +

Error box border	1 pixel RED
Vertical offset to top of sub-header	10 pixel
Horizontal offset to window left	10 pixel
Error message box horizontal	80% window width
Error message box vertical	Variable
Error code font	Arial regular 12pt, RED, align left, 7 point offset
Error message font	Arial regular 12pt, WHITE, align left
Error code box fill	RED
Error code box horizontal	26x100 pixel

3.3.2 Content area

The content area contains the business functionality of a window, e.g. for the input of business data or search functionality. Therefore, the content area provides functions and data that relate to a specific online business operation that the user wishes to execute. The presentation of functions and data for a specific online business operation must be compliant with the standards set forth in this GUI Style Guide.

The content area allows the grouping of related elements in order to provide easy access to information without requiring scrolling by the user. These data groups are separated by using dividers with an appropriate label positioned in the top left corner. The data groups can be shown or hidden by selecting the corresponding icon on the left-hand side.

Icon	Description
open icon	
	The activation of open icon results in displaying all fields that are allocated to the divider. The allocated fields must appear when the user positions the mouse over the open icon and clicks or presses enter when the open icon is marked as active.
open icon clicked	
	
Open icon mouseover	Icon: 26X26 pixel
	
close icon	
	The activation of the close icon results in hiding all fields that are allocated to the divider. The allocated fields must disappear when the user positions the mouse over the close icon and clicks or presses enter when the close icon is marked as active.
close icon clicked	
	
Close icon mouseover	Icon: 26X26 pixel
	

Open icon with a closed divider example:



Close icon with an opened divider example:



Divider line	1 pixel BLUE3
Width	90% window width
Icon	26x26 pixel, 7 pixel offset from left browser window border

3.3.3 Button Bar

The button bar is a fixed element at the bottom of the content area that remains in place even when the user is using a window with a scrollable content area. The purpose of the fixed positioning of the content bar is to allow the user to execute the standard functions associated with the window without the need to scroll to the bottom of a window.

4 Field Labels

4.1 Naming conventions

The labelling of fields must be harmonised. Harmonisation for field labels means that the same term is to be used to describe the same attribute in different screens. Ensuring harmonised field labels requires establishing a catalogue of field labels for the GUI specification. The catalogue of field labels shall consist of

- | the field label as long text;
- | the field label as short text when an abbreviated form is required owing to constraints in the display of the long text;
- | the business definition of the field label;
- | a one-to-many mapping of the field label to the corresponding database attributes.

When specifying a window, the responsible person or responsible team that specifies the window must check whether the field labels that are required for the specification of the window are defined in the catalogue of field labels. If a required field label is not catalogued, then the responsible person or responsible team shall define the field label and document an entry in the catalogue of field labels. In the case that the definition of the field label exists but the catalogue of field labels does not specify the mapping to the required field, then the responsible person or responsible team must specify the mapping in the catalogue of field labels.

4.2 Field labels

Fields labels are used to describe the functional meaning of attributes in the content area. They are by default positioned above the element and are justified left. All mandatory fields in the GUI are marked with an asterisk at the end of the label, separated by a blank. All marked fields have to be filled in before the user is allowed to proceed with the next processing step.

Standard input field example with label positioned above the input field:



Font	Arial regular 12pt, BLUE3, align left
Vertical Offset	12 pixel offset from bottom of text label to top of input field
Horizontal Offset	0 to border of input field

Depending on the business and usability requirements, field labels may also be positioned to the left of the input field in exceptional cases. This determination is to be made during the specification of the individual screens.

5 Standard fields

5.1 Standard input field

An input field allows the entry of alpha, alphanumeric, numeric values, depending on its defined format (e.g. maximum length of input). Input fields with a specific long input pattern (e.g. street and number of an address, account number with leading country code) are to be split into smaller input fields. Each input field must have a field label.

Standard input field example:



Height	26 pixel
Fill colour	WHITE
Border	1 pixel BLUE5
Length	Variable
Font	Arial regular 12pt BLACK
Text Position Character	Align left, 12 pixel, centred horizontal
Text Position Numeric	Align right, 12 pixel, centred horizontal

Input fields for passwords must be masked, i.e. not displayed on the screen (html: `<input name="pwd" type="password"...>`).

5.2 Standard input field on error

When the validation of the screen content returns an error for an input field, then the GUI must make the error visible to the user by highlighting the erroneous value in the respective input field(s). An error icon must appear to the left of the input field and a change in fill colour.

Standard input field on error example:



Height	26 pixel
Fill colour	RED
Border	1 pixel BLUE5
Length	Variable
Font	Arial regular 12pt BLACK
Text Position Character	Align right, 12 pixel offset, centred horizontal
Text Position Numeric	Align left, 12 pixel offset, centred horizontal

Standard error icon example:



Size	24x24 pixel
Fill colour	RED
Border	None
Position relative to input field	Left
Offset to input field	2 pixel

5.3 Standard read-only field

Read-only fields must be used to display non-modifiable values. Read-only fields must have a field label.



Height	26 pixel
Fill colour	GREY1
Border	1 pixel GREY2

Length	Variable
Font	Arial regular 12pt GREY2
Text Position Character	Align left, 12 pixel, centred horizontal
Text Position Numeric	Align right, 12 pixel, centred horizontal

6 Standard GUI functions

6.1 Buttons

Buttons are used to execute a standardised function.

6.1.1 Standard buttons



Standard buttons are used to provide access to standard functionality irrespective of the current screen, e.g. the “logout” button. They must be displayed with their respective standardised icon and an explanation of the corresponding icon is given by hovering over the icon with the mouse pointer.



6.1.2 Function buttons

Function buttons are used to provide access to screen relevant functionality, e.g. search or details button. Function buttons executing the same functions (albeit on different data objects) must have the same layout and the same caption across the GUI. If more than one button has to be displayed on a screen, the order of the buttons must be the same on every screen.

6.2 Check boxes

Check boxes are used to activate or deactivate a specific GUI option. They must not be used as alternatives to input fields or query search criteria. The check box is activated and deactivated when the user positions the mouse over the check box icon and clicks or presses enter when the check box icon is marked as active.

Icon	Description
Checkbox checked 	This icon indicates that an option is selected.
checkbox over 	This icon indicates that the selected checkbox is in the mouse-over state.









Checkbox unchecked		This icon indicates that an option is not selected.
checkbox down		This icon indicates that the unselected checkbox is in the mouse-over state.

Check box specification

Icon	26x26
------	-------

6.3 Date/time picker

Each date field and time field must allow the user to enter the respective value using the keyboard or to select the date or time value using date/time picker element.

Icon	Description
Calendar icon2	
	
Calendar icon3	
	
Calendar icon1	
	Icon: 26X26 pixel
Date button now	
	
Time icon2	
	
Time icon3	
	The activation of the time icon results in the opening of the time selector to allow the user to select a time for input.
Time icon1	
	Icon: 26X26 pixel
Time button now	
	

The calendar selector must appear when the user positions the mouse over the calendar icon and clicks or presses enter when the calendar icon is marked as active.



The time selector must appear when the user positions the mouse over the time icon and clicks or presses enter when the time icon is marked as active.



The user also has the option to activate the “Now” function by clicking the check box “Now”. Selecting the “Now” function locks a date/time field or a time field, as the application determines the time when it receives the request from the GUI. A date/time field only displays the current business day of the TARGET Service when the user selects the “Now” function.

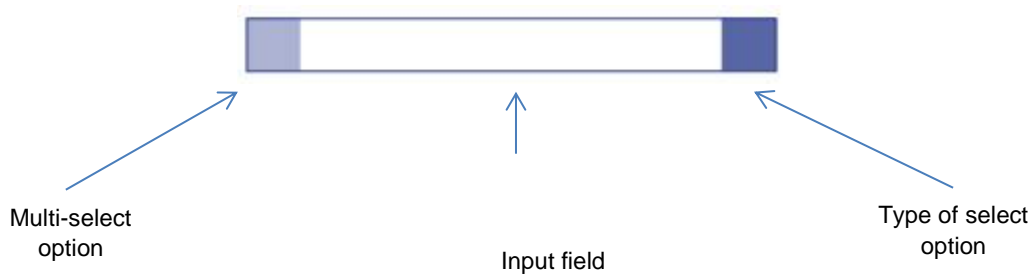


7 Drop-down lists

7.1 Input field for drop-down list and smart-select

Drop-down lists are to be used when the input for a screen field is limited to a domain of defined values, i.e. the user is allowed to select one value out of a list of valid values.

Generic input field for drop-down list and smart-select:



The drop-down list is composed of two mandatory elements consisting of the input field and an icon to indicate the type of select option as well as an optional element that allows for a multiple selection, when required.

Height	26 pixel
Fill colour	WHITE
Border	1 pixel BLUE5
Length	Flexible
Font	Arial regular 12pt BLACK
Text Position Character	Align left, 12 pixel, centred horizontal
Text Position Numeric	Align right, 12 pixel, centred horizontal
Icon for multi-select	26x26 pixel centred left
Icon for select option	26x26 pixel centred left

7.2 General drop-down list

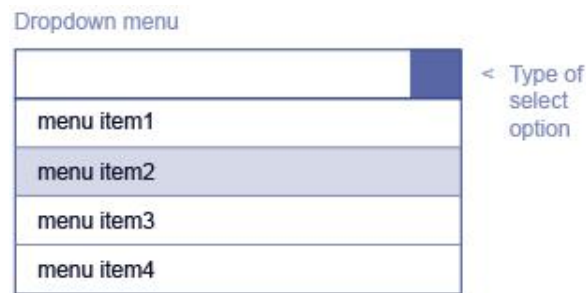
The specifications in this section apply to all types of drop-down lists.

7.2.1 General specification

The drop-down list must appear when the user positions the mouse over the select option and clicks or presses enter when the select option is marked as active (mouse-over). The first entry in the drop-down list must be highlighted on initial display of the drop-down list as the active entry. The drop-down list must provide the options to position to another entry in the drop-down list using the cursor up key or cursor down key or through positioning of the mouse pointer over an entry in the drop-down list.

When there is insufficient space to display the drop-down list below the input field owing to the position of the input field at the bottom of the window, then the drop-down list should appear above the input field. The maximum number of entries that appear in a drop-down list should not exceed ten.

Generic drop-down list example:



Icon	26x26 pixel
Row height	26 pixel
Standard row fill colour	White
Highlighted row fill colour	BLUE1
Border	1 pixel BLUE3
Length	Flexible
Font	Arial regular 12pt black
Text Position Character	Align right, 12 pixel offset, centred horizontal
Text Position Numeric	Align left, 12 pixel offset, centred horizontal

7.2.2 Scrollable drop-down list

A scrollbar must be displayed for a drop-down list when the number of entries in the drop-down list exceeds ten.

Generic scrollable drop-down list example:



Scrollbar example:



Border	None
Scrollbar	12x30 BLUE3 centered
Arrow top	26x26 align top
Arrow top clicked	26x26 align top
Arrow bottom	26x26 align bottom 180°
Arrow bottom	26x26 align bottom 180°

7.2.3 Multi-select function







A multi-select function allows a user to input multiple values for one field that is provided as a selection criterion. An icon on the left-hand side of a select box signifies that the multi-select function is available for the field associated to the drop-down list.

Icon	Description
open icon	
	The activation of open icon results in the creation of an additional input field with a drop-down list. The additional drop-down list must appear when the user positions the mouse over the open icon and clicks or presses enter when the open icon is marked as active.
open icon clicked	
	Icon: 26X26 pixel
Open icon mouseover	
close icon	
	The activation of the close icon results in the deletion of the input field associated with the close icon. The drop-down list must be removed when the user positions the mouse over the close icon and clicks or presses enter when the close icon is marked as active.
close icon clicked	
	Icon: 26X26 pixel
Close icon mouseover	

Already selected input values from previous linked select boxes cannot be selected in new linked select boxes and, therefore, must be excluded from the drop-down box.

7.3 Types of lists

The types of lists are differentiated by an icon to the right of the input field and are further described in the subsequent sections.

Icon	Description
<p>select icon</p>  <p>Standard drop-down icon clicked</p>  <p>Standard drop-down icon mouseover</p>	<p>Standard drop-down list.</p> <p>Icon: 26X26 pixel</p>
<p>autocomplete icon</p>  <p>Auto-complete drop-down icon clicked</p>  <p>Auto-complete drop-down icon mouseover</p>	<p>Auto-complete drop-down list.</p> <p>Icon: 26X26 pixel</p>
<p>smart select icon</p>  <p>Smart-select drop-down icon clicked</p>  <p>Smart-select drop-down icon mouseover</p>	<p>Smart-select list</p> <p>Icon: 26X26 pixel</p>

7.3.1 Standard drop-down list field

The standard select box allows the user to select an entry from a defined list of valid values. When a user enters a character in the input field, then the first input value starting with this character is highlighted and the cursor jumps to this input value in the drop-down list.

Example of standard drop-down-list field without multi-select function:



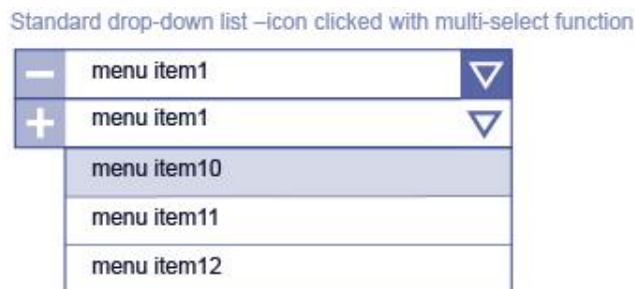
Example of standard drop-down-list field showing drop-down list without multi-select function:



Example of standard drop-down-list field with multi-select function:



Example of standard drop-down-list field showing drop-down list with multi-select function:



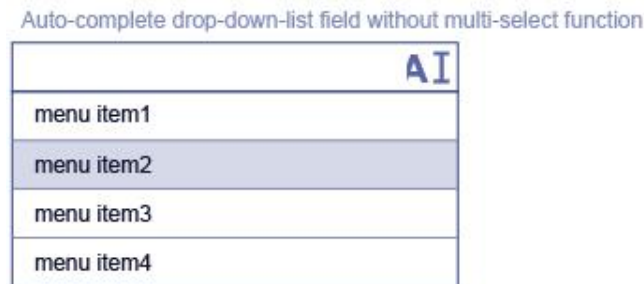
7.3.2 Auto-complete drop-down list field

The auto-complete drop-down list provides the user with the capability to type characters directly into the associated input field. The function filters the selectable input values in the drop-down list based on the already entered characters. This type of drop-down list is to be used when a large number of valid values exist for one input field. The filtering allows the user to reduce the number of items shown in the drop-down.

Example of auto-complete drop-down list field without multi-select function:



Example of auto-complete drop-down list field showing drop-down list without multi-select function:



Example of auto-complete drop-down list field with multi-select function:



Example of auto-complete drop-down list field showing drop-down list with multi-select function:



7.3.3 Smart-select list field

The smart-select list field is used for entering unique identifiers of reference data (e.g. BICs, ISINs, cash account numbers, securities account numbers) and transactional data (e.g. unique message IDs, cash transfer identifiers, settlement instruction references). The smart-select list field allows the user to enter a value directly into the input field. Selecting the icon on the right-hand side redirects the user to a search screen that allows the user to enter one or more search criteria to find the required identifier. For example, when a user does not know the ISIN of a security, then the search screen could allow the user to search for the ISIN based on the name of the security as well as other attributes. The same principle would also apply when searching for cash accounts or securities accounts. The search screen could provide the option to search by party and return all accounts of the party. By positioning the cursor into the results list and pressing enter, the required value is returned from the results list and propagated to the input field.

Example of smart-select field without multi-select function:



Example of smart-select field with multi-select function:



8 Standardised search

The GUI provides search windows to allow the user to search for a specific data object or a set of data objects. The user can use the selection criteria related to the data object to filter the data. The user enters the criteria through input fields in the content area of the window. The search window should provide default values for input fields, when relevant and possible. Each selection screen must contain a “Reset” button to reset default values like “all” or “blank” when applicable for the use case. The user’s selection criteria used to retrieve the data objects are listed above the table and can be modified for a new search. If the user chooses to change the selection criteria this is visualised. This is intended to ensure that the user is able to easily identify whether the selection criteria displayed on the screen are related to the table of data objects.

The user must always execute the search by pressing the “Search” button. The application displays the search results in a results table.

Standardised results table:

Results list

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
1	Information	32,552,245.24 €	32,552,245.24 €	open	32,552,245.24 €	32,552,245.24 €	Information	32,552,245.24 €
2	Text text	652,245.24 €	652,245.24 €	open	652,245.24 €	652,245.24 €	Text text	652,245.24 €
3	Information	952,245.24 €	952,245.24 €	open	952,245.24 €	952,245.24 €	Information	952,245.24 €
4	Text text	1,552,245.24 €	1,552,245.24 €	open	1,552,245.24 €	1,552,245.24 €	Text text	1,552,245.24 €
5	Information	445.24 €	445.24 €	open	445.24 €	445.24 €	Information	445.24 €
6	Text text	12,245.24 €	12,245.24 €	open	12,245.24 €	12,245.24 €	Text text	12,245.24 €
7	Information	352,245.24 €	352,245.24 €	open	352,245.24 €	352,245.24 €	Information	352,245.24 €
8	Information	12,245.24 €	12,245.24 €	open	12,245.24 €	12,245.24 €	Information	12,245.24 €
9	Text text	7,245.24 €	7,245.24 €	open	7,245.24 €	7,245.24 €	Text text	7,245.24 €
10	Information	75.24 €	75.24 €	open	75.24 €	75.24 €	Information	75.24 €
11	Information	252,245.24 €	- 252,245.24 €	pending	252,245.24 €	- 252,245.24 €	Information	252,245.24 €
12	Text text	845.24 €	845.24 €	open	845.24 €	845.24 €	Text text	845.24 €
13	Information	52,245.24 €	52,245.24 €	open	52,245.24 €	52,245.24 €	Information	52,245.24 €
14	Information	945.24 €	945.24 €	open	945.24 €	945.24 €	Information	945.24 €
15	Text text	252,245.24 €	- 252,245.24 €	pending	252,245.24 €	- 252,245.24 €	Text text	252,245.24 €
16	Information	845.24 €	845.24 €	open	845.24 €	845.24 €	Information	845.24 €
17	Text text	52,245.24 €	52,245.24 €	open	52,245.24 €	52,245.24 €	Text text	52,245.24 €
18	Information	945.24 €	945.24 €	open	945.24 €	945.24 €	Information	945.24 €

If the results table provides the user with several executable options for a result, then a context menu appears when the user selects a row from the results lists. The user can open the context menu by right clicking on a data element or by selecting the data element and pressing the corresponding key on the keyboard. The context menu shows all available actions regarding the selected data element. The most often used functions should appear at the top of the context menu.

Spreadsheet context menu

context menu item 1
context menu item 2
context menu item 3
context menu item 4

Depending on the function, the user may have the option to specify the attributes to display in the results list.

Spreadsheet preference

Real Time Gross Settlement
PRODUCTION | Business Day 2018-08-20

User: Flintstone
Release: 1.010.000
Last Update: 2018-08-19 22:15:20

white label

Current online Function
Sub-level3 item 2 [...] | Screen name 6 | Screen name long 6 | Screen name 7 | Current screen

Work as: ZYABXEP0B01
Work on behalf: ZYABXEP0B01

column 1	column 2	column 6	column 7	column 8
1	Information 32,552,245.24 €	2,245.24 €	Information	32,552,245.24 €
2	Text text 652,245.24 €	2,245.24 €	Text text	652,245.24 €
3	Information 952,245.24 €	2,245.24 €	Information	952,245.24 €
4	Text text 1,552,245.24 €	2,245.24 €	Text text	1,552,245.24 €
5	Information 445.24 €	445.24 €	Information	445.24 €
6	Text text 12,245.24 €	2,245.24 €	Text text	12,245.24 €
7	Information 352,245.24 €	2,245.24 €	Information	352,245.24 €
8	Information 12,245.24 €	2,245.24 €	Information	12,245.24 €
9	Text text 7,245.24 €	7,245.24 €	Text text	7,245.24 €
10	Information 75.24 €	75.24 €	Information	75.24 €
11	Information 252,245.24 €	2,245.24 €	Information	252,245.24 €
12	Text text 845.24 €	845.24 €	Text text	845.24 €
13	Information 52,245.24 €	2,245.24 €	Information	52,245.24 €
14	Information 945.24 €	945.24 €	Information	945.24 €
15	Text text 252,245.24 €	2,245.24 €	Text text	252,245.24 €
16	Information 845.24 €	845.24 €	Information	845.24 €
17	Text text 52,245.24 €	52,245.24 €	Text text	52,245.24 €
18	Information 945.24 €	945.24 €	Information	945.24 €

columns in payment selection: 10 Rows per page

Position	Selected	Name
1	<input checked="" type="checkbox"/>	Debit Account
2	<input checked="" type="checkbox"/>	Credit Account
3	<input type="checkbox"/>	Account
4	<input type="checkbox"/>	Payment Status
5	<input checked="" type="checkbox"/>	Earliest Debit Time
6	<input type="checkbox"/>	Latest Debit Time

Save Select all shown Clear all shown Close

Only the first page of results is immediately retrieved to optimise the response times of the GUI. Further entries are subsequently retrieved when the user pages through the results list.

An option to display a count of the total number of search results related to the selection criteria is provided through a “Count” check box. The default setting of the “Count” check box is not active. When the “Count” check box is not active, then the results table only displays the page numbers through which the user has already paged.

Results list unchecked

◀
◀
1
2
▶
▶

🔍
🔄

Count

When the “Count” check box is active, then the results table displays the total number of pages. The “Count” function requires the back-end application to determine the total number of records that fulfils the selection criteria. This leads to longer waiting times for the user.



In order to display large data sets in a well-arranged way, the table content is divided into several table pages with a standard length of 100 table rows. The user can navigate between the table pages via a table navigation element (paginator), which is positioned below the data. The navigation element consists of the navigation buttons and the current page number, further information is given if the count functionality is activated.

Wildcards

Alongside entering complete search criteria, wildcards can also be used to broaden a search and its results. An asterisk “*” is used as a placeholder for one or more characters and a question mark “?” is used as placeholder for exactly one character. At least two other characters have to be inserted at the start of the input field to use a wildcard character at the end of the search criteria.