

Navis Berth Window Management

Terminal User Guide



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Vessel Planning

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Chapter 1

Welcome to Berth Window Management application

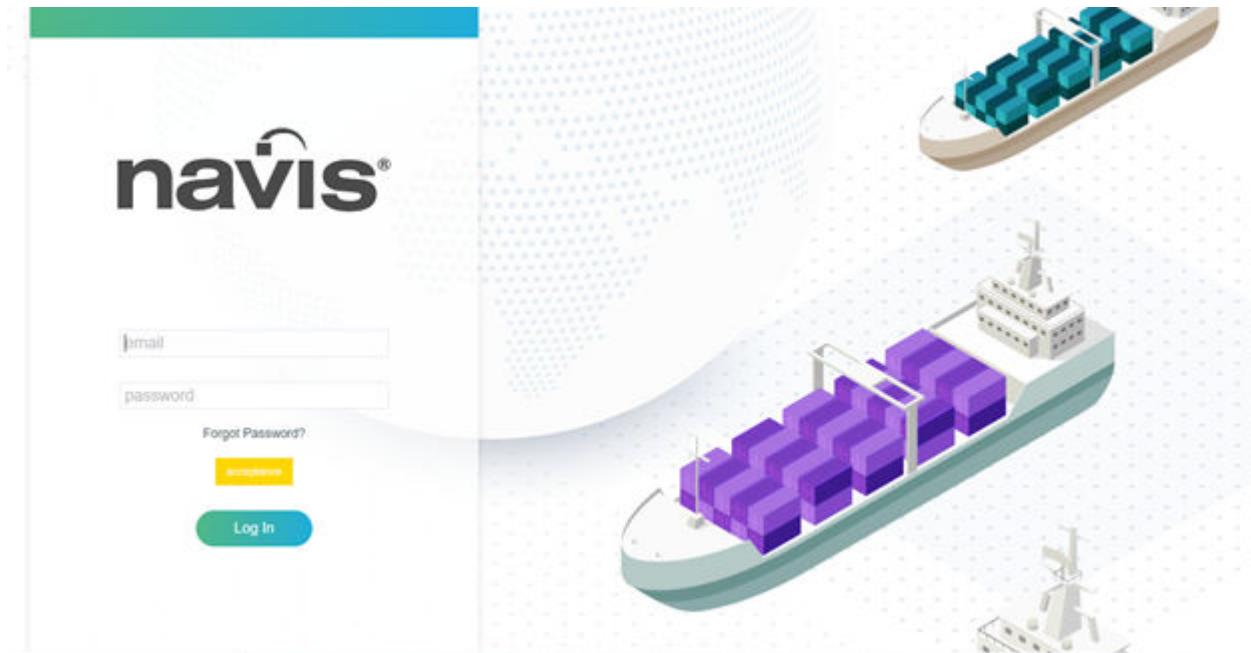
Berth Window Management (BWM) is a SaaS based application and It enables Terminal operators to digitize their Berth Plan. A terminal can easily plan berths against proforma by comparing and managing vessel port stays against vessel timestamps.

This guide provides the basic information the user needs to get the most from the Berth Window Management module of Navis.

Chapter 2

Logging in to BWM

1. Open the link shared for your organization by the Navis administrator.



2. Enter your Email ID and assigned password to access the application.

Chapter 3

Getting Started with BWM

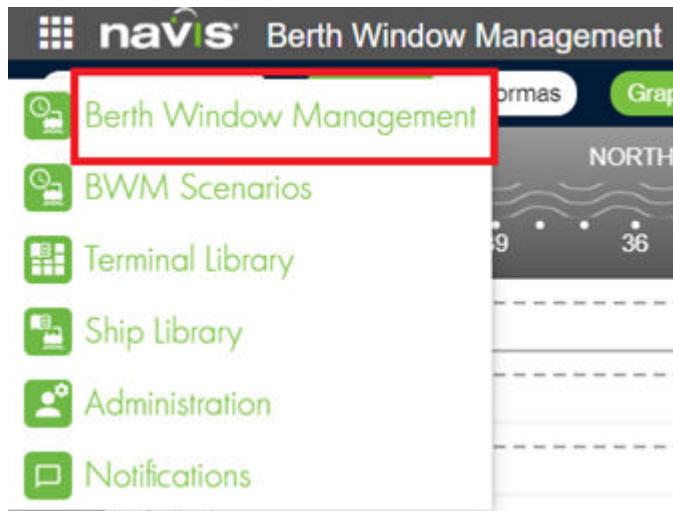
This section takes you through the different basic features of the application.

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3.1 Berth Module access

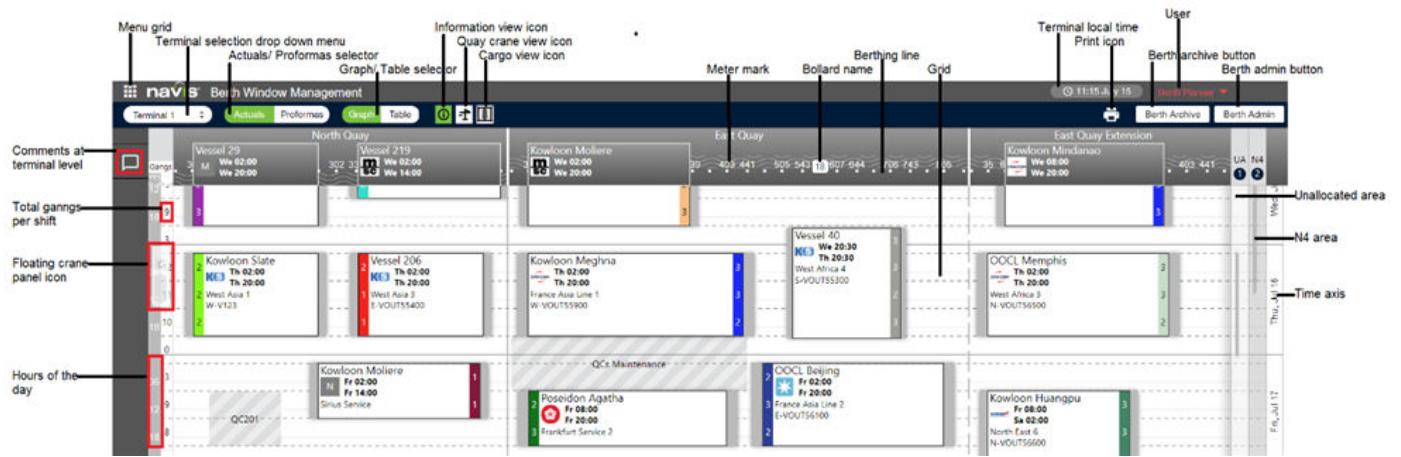
To access the module, it is necessary to select the **Berth Window Management** option in the **menu grid** located in the upper left corner of the application.



This action makes it possible to display the main view of the berth module associated with the terminal managed by the your organization. In case that this organization manages more than one terminal, the last selected terminal in the previous work session is displayed.

3.1.1 Berth Module main view

The first feature that is displayed when accessing the module is its **main view**, from which the you can carry out different actions. The layout of the selected terminal will be displayed in the main view.



Menu grid : The menu grid allows you to select the Navis modules to which you have access.

Terminal selection : By means of the terminal selection drop down menu, it is possible to select the terminal, within the your organization, which needs to be displayed.

Berth Admin : By using the **Berth Admin** button, it is possible to access the administration menu, where it is possible to configure the basic parameters of the tool.

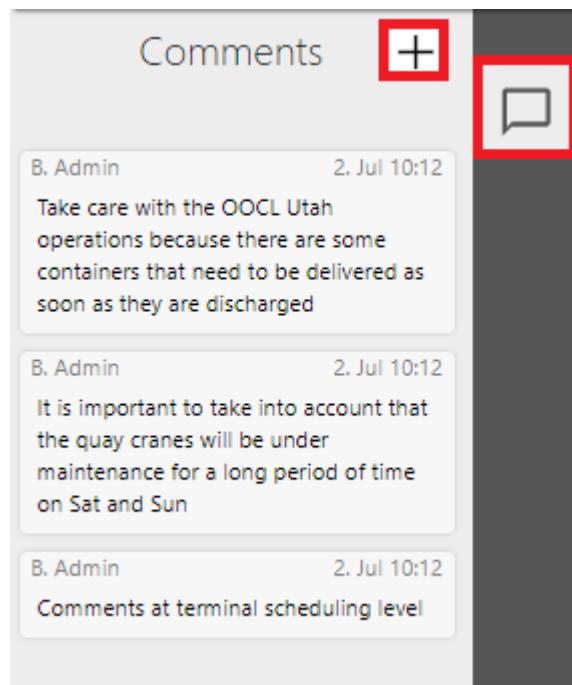
This module allows to visualize the berthing information at vessel visit level (actuals), at proforma level, as well as in graphical or tabular form.

The grid will include the representation of the vessel visit or proforma boxes, the x-axis (horizontal) being the physical space occupied by the vessels on the berthing line; and the y-axis (vertical) being the time the vessel will be berthed at the quay.

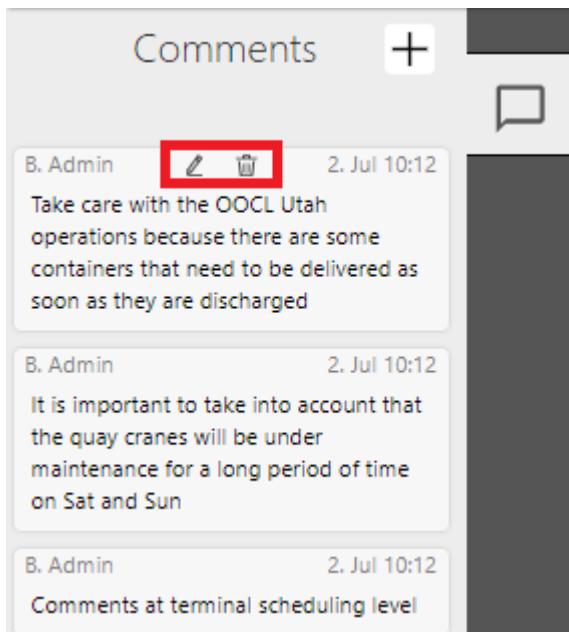
Comments at terminal level

The left column can be expanded/ collapsed by clicking on the **message icon**. This will show the comments at the terminal level tab and display all the comments that have been updated.

Click on the + icon to add new comments



Hover mouse over the specific comment to display the **edit** and **delete** icon in order to edit or delete the comment.



Comments at Vessel Visit level

The left column can be expanded/ collapsed by clicking on the vessel visit icon. This will show the comments at the vessel visit level tab and display all the comments that have been updated.

To add a new comment :

1. Double click on a desired vessel visit to open the **vessel visit inspector**.
2. Click on the **Comments** tab and add your comment.
3. Click on the **Save** button.
4. The updated comment is displayed in the vessel visit panel on the left side.



Click on the desired comment to scroll the grid to the specific vessel visit and display its floating inspector.

Vessel Visit Comments

Barge 123
Updated the load count to 150 and Discharges to 250

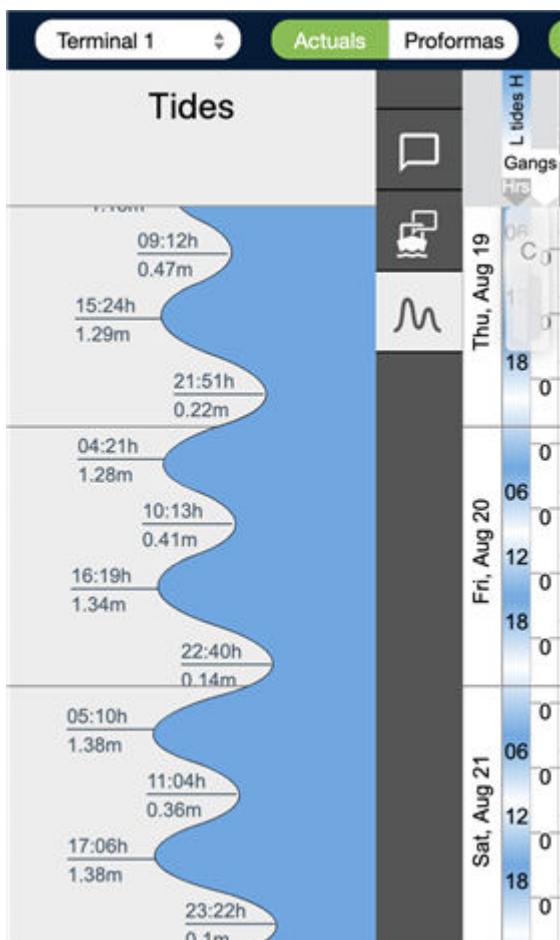
Maersk Edinburgh
Add another stop for this vessel visit

Tropic Carib
Moved the vessel visit to East Quay



Tides panel

The left panel will be expanded by clicking on the Tidal Info icon. This displays the graphical representation of the tidal information associated with the terminal.



- In the panel, high tides and low tides are graphically represented in blue color with the respective marking of time of occurrence and the associated meters/feet of water height.

- In the hour markings, it is represented as different tides over time in dark blue (high tide) and light blue (low tide) colors.

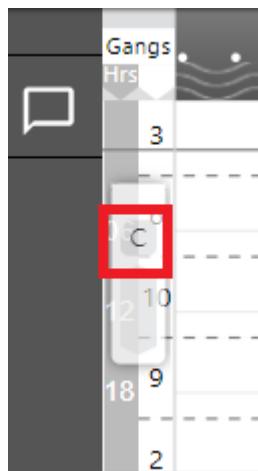
By clicking the **Tidal Info** icon again, the expanded panel will be closed.

Total gangs per shift

The total gangs per shift is an auto calculated number based on the total number of cranes planned to be deployed during a shift

Floating crane panel

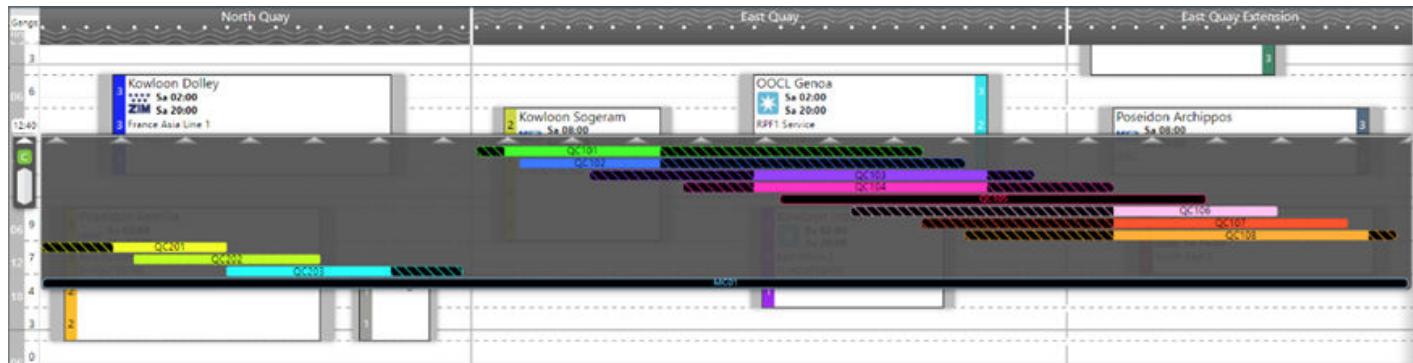
The floating crane panel can be activated by clicking on the 'c' icon on the left side of the grid.



Once the floating crane panel is activated, the panel can be **moved** by clicking on the movement zone and holding the mouse key. The panel can be moved up and down the whole visible zone of the grid. When moving the panel, the upper limit is the time reference. Taking into account the time reference, when moving the panel, quay cranes selected to be used in a vessel visit operation show the occupied range.

The **range of the quay cranes** associated with the selected terminal that have been previously created in the Terminal Library are shown as rectangles whose border line is colored according to the quay crane color in the Terminal Library.

The floating crane panel can be **deactivated** by clicking once again on the 'c' icon.



Zoom by Hours

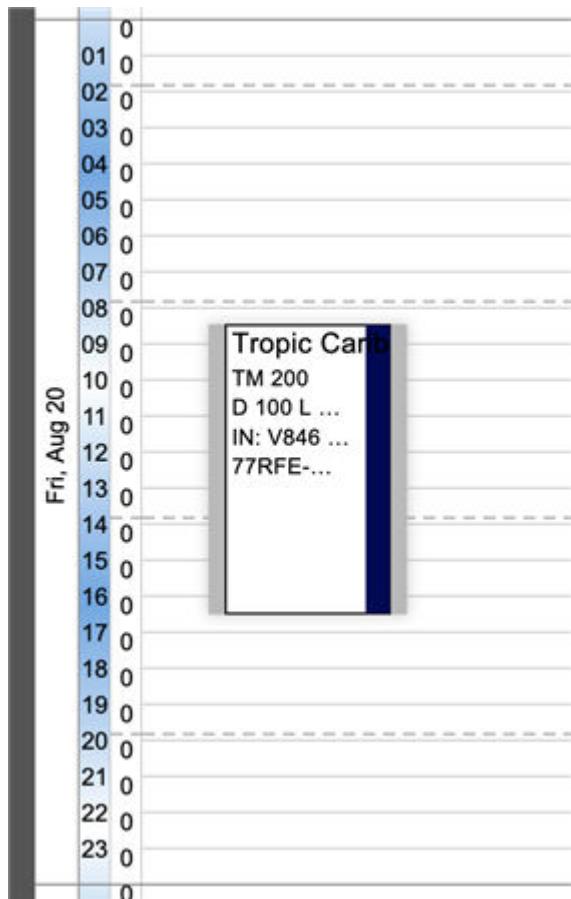
The zoom by hours option is used to view the actual, proforma and archive grid in three specific time intervals.

The three zoom levels are 6hr, 3hr and 1hr.

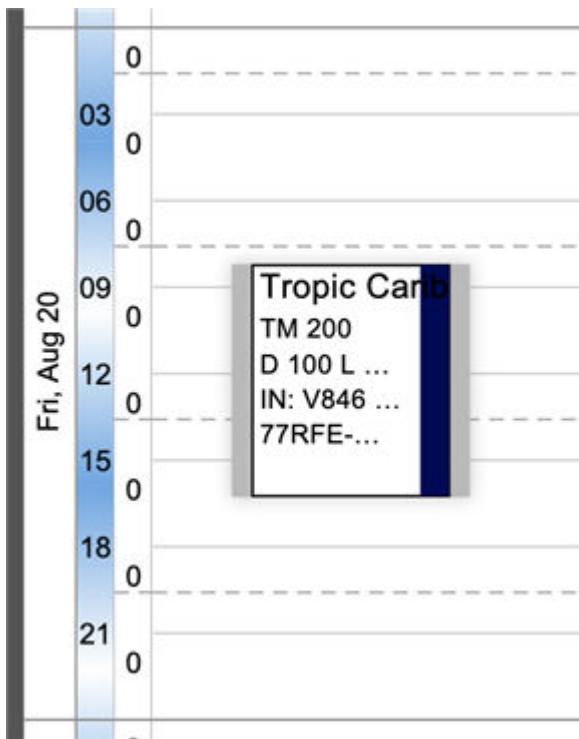


Click on the + (plus) icon to zoom in or the - (minus) icon to zoom out.

The below picture shows zoom level of 1 hour



The below picture shows zoom level of 3 hours



Unallocated Area

The unallocated area can be expanded/ collapsed by clicking anywhere along the unallocated column (**UA**). The number at the top of the column indicates the number of unallocated vessel visits to be allocated a physical position along the quay.

N4 Area

The N4 area can be expanded/ collapsed by clicking anywhere along the N4 column.

The number at the top of the column indicates the number of N4 vessel visits to be matched to proforma.

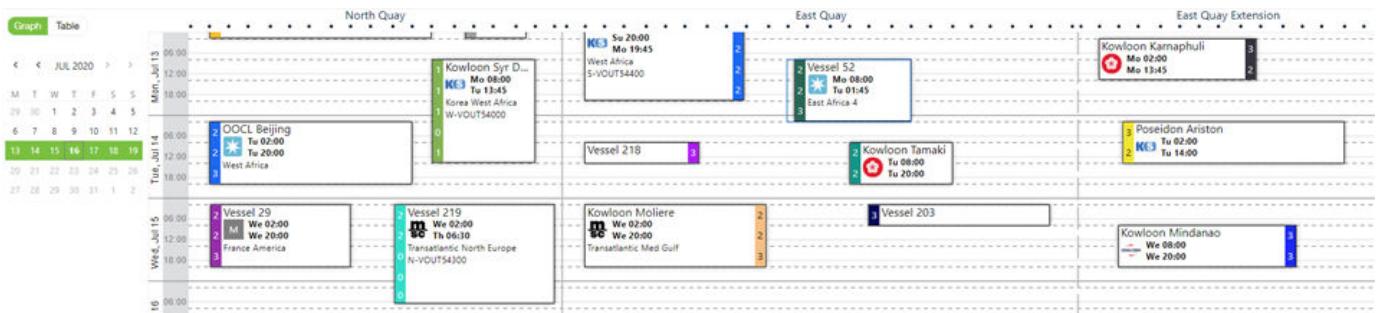


Berth archive mode

Vessel visits that have departed and are no longer showing up on the actuals view can be reviewed in the Berth archive mode.

There are two modes of view for Berth archive mode.

- Graph mode** : When the Graph tab is selected, you can see the graphical view of the departed vessel visits, filtered by the current week. You can filter by the week of the year to be displayed. To do this, select the corresponding week in the calendar month in the upper left corner.



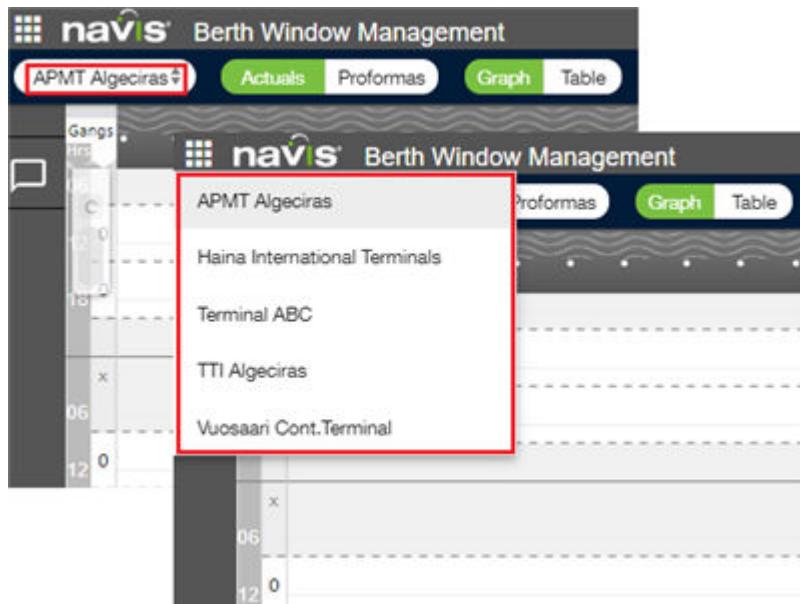
- Table mode** - When the Table tab is selected, you can see the table view of the departed vessel visits, filtered by the current week. You can filter per week of the year or per range of weeks in order to display the departed vessel visits in a tabular way associated to the specific filtering. To do this, select the corresponding option in the drop down menu in the upper left corner, and select the corresponding week(s) if applicable. It is also possible to search for a specific vessel visit by typing in the required information in the search field at the top right in the view.

Graph		Table																		
		Service Code		Service Name		Logo		Vessel Name		Stop	Voyage In	Voyage Out	Dir	Prev. Port	ATA Pilot	ATB	diff Prof	ATD	diff Prof	Next Port
Show entries	per Week	AE9	Asia Europe 9	P	Poseidon Aemilia	1	VINS2800	VOUT52800	E	--	Su 12 Jul 20:00:00	Su 12 Jul 20:02:00	0	Mo 13 Jul 20:14:45	-0.2	--				
		WAf4	B-West Africa 4	B	B-Barge 123	1	VINS2900	VOUT52900	N	--	Su 12 Jul 20:12:00	Su 12 Jul 20:14:00	0	Mo 13 Jul 20:01:45	-0.2	--				
		WA2	West Africa 2	W	Kowloon Kamaphuli	1	VINS4900	VOUT54900	N	--	Mo 13 Jul 20:00:00	Mo 13 Jul 20:02:00	0	Mo 13 Jul 20:13:45	-0.2	--				
		WAf	West Africa	WF	Kowloon Huangpu	1	VINS4400	VOUT54400	S	--	Su 12 Jul 20:18:00	Su 12 Jul 20:20:00	0	Mo 13 Jul 20:19:45	-0.2	--				
		EAf4	East Africa 4	EF	Vessel 52	1	VINS4500	VOUT54500	S	--	Mo 13 Jul 20:06:00	Mo 13 Jul 20:08:00	0	Tu 14 Jul 20:01:45	-0.2	--				
		KWA	Korea West Africa	KW	Kowloon Syr Darya	1	VINS4000	VOUT54000	W	--	Mo 13 Jul 20:06:00	Mo 13 Jul 20:08:00	0	Tu 14 Jul 20:13:45	-0.2	--				
		WAf2	West Africa 2	W	Vessel 218	1	VINS4600	VOUT54600	S	--	Tu 14 Jul 20:06:00	Tu 14 Jul 20:08:00	0	Tu 14 Jul 20:14:00	0	--				
		AVX	Asia Express	AV	Poseidon Ariston	1	VINS5000	VOUT55000	N	--	Tu 14 Jul 20:00:00	Tu 14 Jul 20:02:00	0	Tu 14 Jul 20:14:00	0	--				
		WAf	West Africa	WF	OOCL Beijing	1	VINS4100	VOUT54100	N	--	Tu 14 Jul 20:00:00	Tu 14 Jul 20:02:00	0	Tu 14 Jul 20:20:00	0	--				
		WAf1	West Africa 1	W	Kowloon Tamaki	1	VINS4800	VOUT54800	S	--	Tu 14 Jul 20:06:00	Tu 14 Jul 20:08:00	0	Tu 14 Jul 20:20:00	0	--				

1.

3.2 Terminal Selection

To manage a terminal other than the one currently displayed, select it from the dropdown menu at the top left.



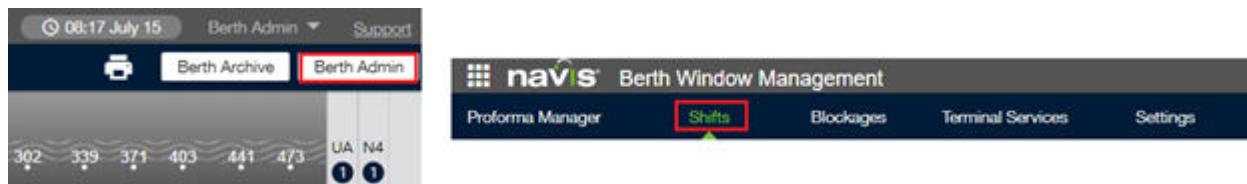
This action makes it possible to display the main view of the berth module associated with the terminal to be managed by the user.

3.3 Berth Module Setup

Before starting to work with the module, it is necessary to set the values associated with a range of parameters that will be used as a basis for the use of the different features. The following sections detail the specific properties of each of them.

3.3.1 Shifts

The shifts of operations in which it is possible to work in the loading and discharging of vessels have to be defined in the '**Shifts**' tab of the administration menu. To access this specific section of the Navis Berth Window Management module, click on the '**Berth Admin**' button, located on the top right of the application



When the tab has been selected, a table is shown with the work shifts that exist in the terminal and that have been previously created.

Week Day	Start Time (hh:mm)	End Time (hh:mm)	Duration	Shift Type	Comment	Breaks (mins)
Mo, Tu, We, Th, Fr, Sa, Su	08:00	14:00	6 hr	Regular		50

The column that define the table are :

1. **Week Day:** From Monday (Mo) to Sunday (Su), day or days for which the specified time schedule applies.
2. **Start Time:** Terminal local time of the beginning of the work shift.
3. **End Time:** Terminal local time of the end of the work shift.
4. **Duration:** Duration of the work shift.
5. **Shift Type:** Type of the shift, which can be Regular (in case all human resources are available) or Limited (in case some of the human resources are not available).
6. **Comment:** Additional information describing the work shift.
7. **Breaks:** Time the shift is mandatory stopped for a pre-defined reason (rest, lunch).

Add a new shift

To add a new shift, follow the below mentioned steps:

1. Click on '+' icon to show the 'Add Shift' modal:

The screenshot shows the 'Add Shift' modal window. At the top left is a red-bordered '+' button. The main area contains fields for Start Time (08:00), End Time (14:00), Duration (6 hr), Shift Type (Regular), and Comments (empty text area). To the right, there is a grid of checkboxes for days of the week, all of which are checked (Monday through Sunday). Below these are fields for Break 1 Start and End times, each with a dropdown menu showing 'HH:MM'. At the bottom are 'Cancel' and 'Save' buttons.

2. Fill in the necessary fields:

- a. **Start Time:** Terminal local time of the beginning of the work shift.
- b. **End Time:** Terminal local time of the end of the work shift.
- c. **Duration:** Duration of the work shift

- d. **Shift Type:** Type of the shift, which can be Regular (in case all human resources are available) or Limited (in case some of the human resources are not available)
- e. **Comment:** Free field to include additional information describing the work shift to be added.
- f. **Week Day:** From Monday to Sunday, the user can specify the day or days for which the specified time schedule applies.
- g. **Breaks:** Periods, within the work shift, at which a break is mandatory made (for example, for having lunch or resting). The user can add as many break periods as necessary by clicking '+'

Break 1 Start:	18:00	End:	18:30	30min	<input style="border: 2px solid red; padding: 2px 5px;" type="button" value="+"/>	<input type="button" value="-"/>
----------------	-------	------	-------	-------	---	----------------------------------

You can delete any unnecessary break period by clicking '-'

Break 1 Start:	18:00	End:	18:30	30min	<input style="border: 1px solid grey; border-radius: 50%; width: 20px; height: 20px;" type="button" value="+"/>	<input type="button" value="-"/>
Break 2 Start:	19:00	End:	19:30	30min	<input style="border: 2px solid red; border-radius: 50%; width: 20px; height: 20px;" type="button" value="+"/>	<input type="button" value="-"/>

3. Click on the '**Save**' button. The new added shift is displayed in all module grids. As an example, if a work shift is created on Mondays from 08:00 to 14:00, it would be displayed as shown in the following image:



The beginning and end of the shift is shown in a dashed line, and the hours without shift are detailed with a grey background. Each hour is shown with a continuous line in a light grey color.

Edit an existing shift

To edit an existing shift, follow the below mentioned steps :

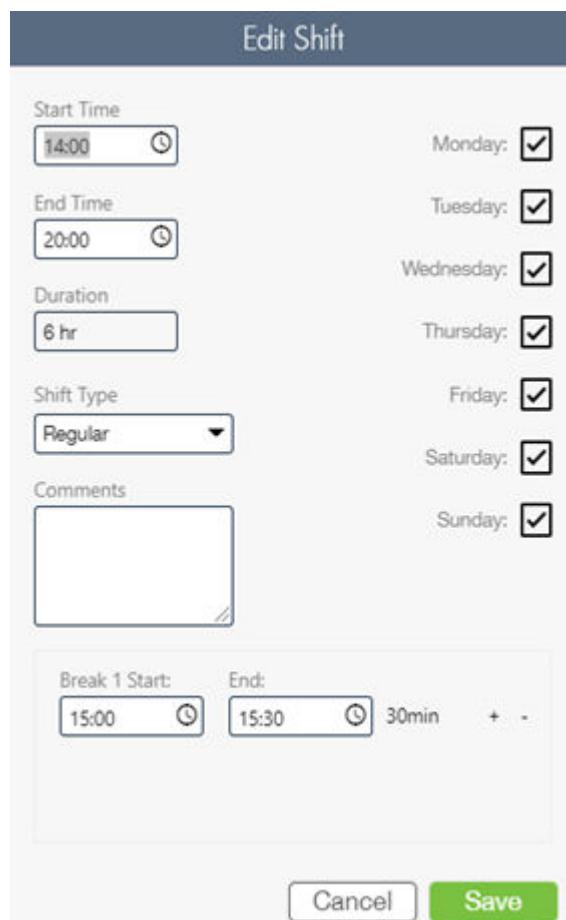
1. In the shifts table,
- a. Double-click on the row containing the work shift to be edited, or

- b. Select the row containing the work shift to be edited and click on the **edit** icon.



Selected shift						
Week Day	Start Time (hh:mm)	End Time (hh:mm)	Duration	Shift Type	Comment	Breaks (mins)
Mo, Tu, We, Th, Fr	14:00	20:00	6 hr	Regular		
Sa, Su	08:00	14:00	6 hr	Regular		
Mo, Tu, We, Th, Fr	08:00	14:00	6 hr	Regular		

2. The **Edit Shift** modal is displayed.



Edit Shift

Start Time: 14:00 Monday:

End Time: 20:00 Tuesday:

Duration: 6 hr Wednesday:

Shift Type: Regular Thursday:

Comments:

Break 1 Start: 15:00 End: 15:30 30min + -

Cancel **Save**

3. Modify the necessary fields.
4. Click on the **Save** button.

Delete an existing shift

To delete an existing shift, follow the below mentioned steps :

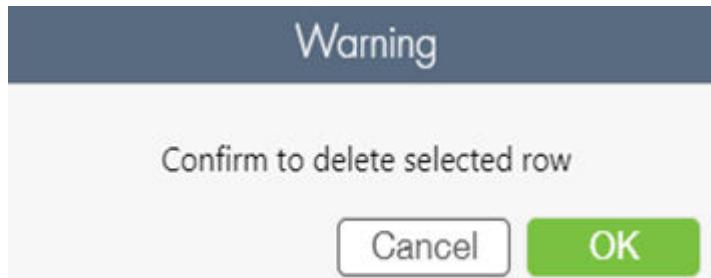
1. In the shifts table:
a. Double-click on the row containing the work shift to be deleted, or

- b. Select the row containing the work shift to be deleted and click on the **delete** icon.



Selected shift						
Week Day	Start Time (hh:mm)	End Time (hh:mm)	Duration	Shift Type	Comment	Breaks (mins)
Mo, Tu, We, Th, Fr	14:00	20:00	6 hr	Regular		
Sa, Su	08:00	14:00	6 hr	Regular		
Mo, Tu, We, Th, Fr	08:00	14:00	6 hr	Regular		

2. A warning message is displayed.



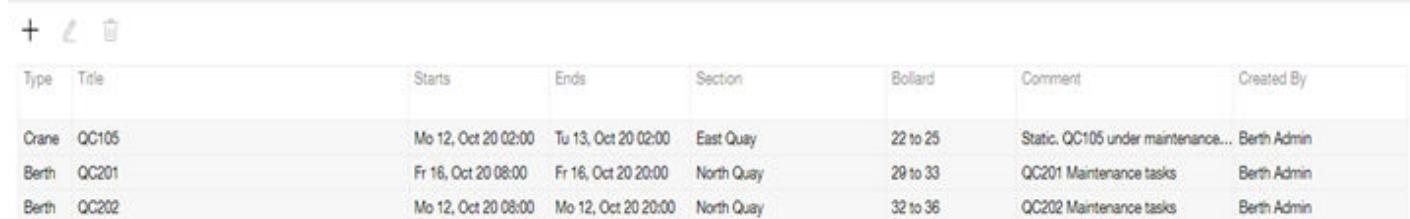
3. Click on **OK** to confirm your selection.

3.3.2 Blockages

The areas in which the terminal quay will be blocked and cannot be used to operate vessels have to be defined in the **Blockages** tab of the administration menu. To access this specific section of the Navis Berth Window Management module, click on the **Berth Admin** button, located on the top right of the application.



When the tab has been selected, a table is shown with the blockages that have been previously created.



Type	Title	Starts	Ends	Section	Bollard	Comment	Created By
Crane	QC105	Mo 12, Oct 20 02:00	Tu 13, Oct 20 02:00	East Quay	22 to 25	Static, QC105 under maintenance...	Berth Admin
Berth	QC201	Fr 16, Oct 20 08:00	Fr 16, Oct 20 20:00	North Quay	29 to 33	QC201 Maintenance tasks	Berth Admin
Berth	QC202	Mo 12, Oct 20 08:00	Mo 12, Oct 20 20:00	North Quay	32 to 36	QC202 Maintenance tasks	Berth Admin

The columns that define the table are:

- Type:** The type of blockage.
- Title:** Headline describing the main reason for the blockage.
- Starts:** Terminal local time of the beginning of the blockage.

- **Ends:** Terminal local time of the end of the blockage.
- **Section:** Section of the quay affected by the blockage. It can be the whole quay (all sections) or a particular section.
- **Bollard:** If the blockage occurs in a particular section, bollards between which the quay is blocked.
- **Comment:** If Type = Crane, The value 'Static' or 'Flexible' is shown before the additional information describing the reason for the blockage.
- **Created By:** Displays the user who created the record.

By means of the **Blockages** tab, it is possible to add a new blockage and edit or delete an existing one.

Add a new blockage

To add a new blockage, follow the below mentioned steps :

1. Click on + icon to show the 'Add Blockage' modal

The screenshot shows a modal window titled 'Add Blockage'. At the top left is a red-bordered '+' button. Below the title are several input fields: 'Blockage Type' (dropdown menu set to 'Berth'), 'Title' (empty text input), 'Start Time' (date/time picker showing 10/12/2020 08:52), 'End Time' (date/time picker showing 10/12/2020 16:52), 'Start Section' (dropdown menu set to 'All Sections'), and 'Comment' (text area). At the bottom are 'Cancel' and 'Save' buttons.

2. Fill the necessary fields:
 - Blockage Type:** The type of blockage.
 - Title:** Headline describing the main reason for the blockage.
 - Start Time:** Terminal local time of the beginning of the blockage.
 - End Time:** Terminal local time of the end of the blockage.
 - Start Section:** If blockage type **Berth** is selected, section of the quay affected by the blockage can be the whole quay (All Sections) or a particular section.
3. If a particular section is selected, the following fields must be filled in:
 - Bollard aft:** Bollard in which the blockage starts.
 - Bollard fore:** Bollard in which the blockage ends.

- c. **Offset:** Distance in meters with respect to the starting and ending bollards in which the blockage occurs

Add Blockage

Blockage Type: Berth

Title:

Start Time: 10/12/2020 12:06

End Time: 10/12/2020 20:06

Start Section: North Quay Bollard Aft: 27 Offset (m): 0

End Section: North Quay Bollard Fore: 45 Offset (m): 0

Comment:

4. **Flexibility:** If Blockage type : **Crane** is selected, It has to be specified whether the crane under maintenance can be moved.
- Start Section:** The section where one of the legs of the selected quay crane is positioned.
 - End Section:** The section where the other leg of the selected quay crane is positioned.
 - Bollard aft:** Bollard in which one of the legs of the selected quay crane is positioned.
 - Bollard fore:** Bollard in which the other leg of the selected quay crane is positioned.

- e. **Offset:** Distance in meters with respect to the starting and ending bollards in which the legs are positioned

Add Blockage

Blockage Type: Crane

Crane: [dropdown]

Start Time: 10/12/2020 12:06

End Time: 10/12/2020 20:06

Flexibility: Static

Start Section: [dropdown]

Bollard Aft: [dropdown]

Offset (m): 0

End Section: [dropdown]

Bollard Fore: [dropdown]

Offset (m): 0

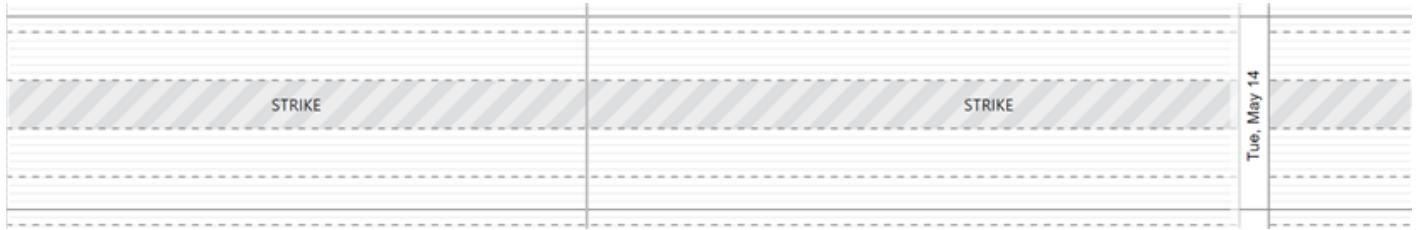
Comment: [text area]

Cancel Save

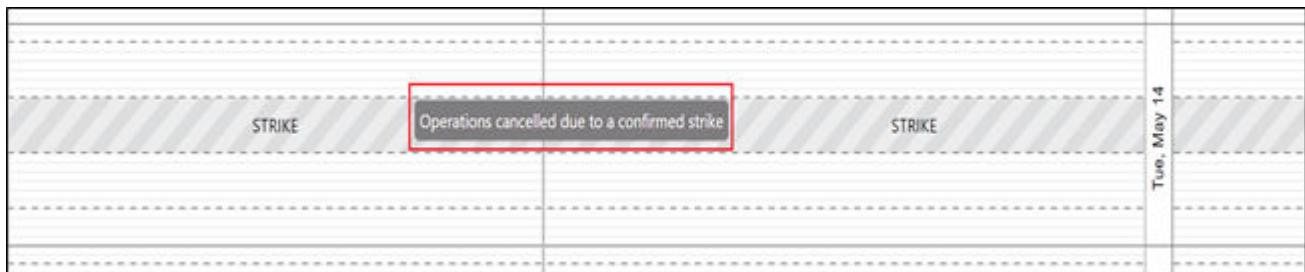
5. **Comment:** Free field to include additional information describing the blockage to be added.

6. Click on the **Save** button.

The newly added blockage is displayed in the actuals and proformas grids. As an example, if a berth blockage is created on Tuesday, May 14 from 08:00 to 14:00 in all sections of the quay, it would be displayed as shown in the following image:

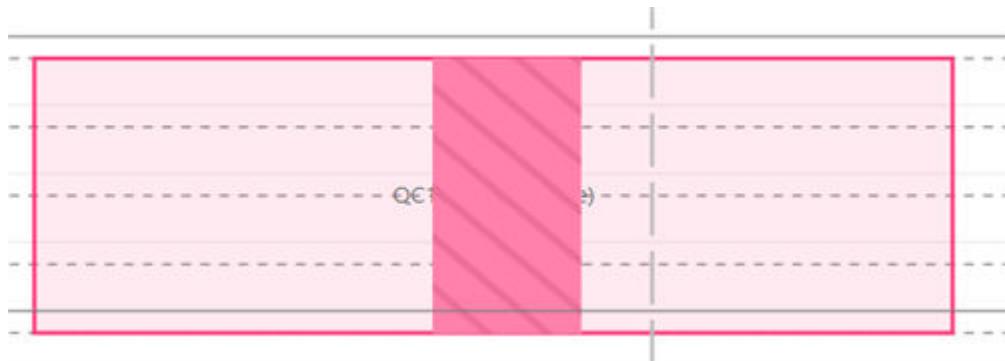


The berth blockage is shown as a dashed line, and when hovering over the mouse pointer, the description included in the **comment** field is displayed.



The crane blockage is shown in a solid line of the crane color. If the flexibility of the blockage has been defined as **flexible**, a striping pattern block with the background color associated with the quay crane in maintenance is shown

across the parking area defined while another block in in a lighter background color will cover the range of the quay crane



Edit an existing blockage

To edit an existing blockage, follow the below mentioned steps :

1. In the blockages table:
 - a. Double-click on the row containing the blockage to be edited, or
 - b. Select the row containing the blockage to be edited and click on the 'edit' icon

Edit icon **Selected blockage**

Type	Title	Starts	Ends	Section	Bollard	Comment	Created By
Crane	QC105	Mo 19, Oct 20 02:00	Tu 20, Oct 20 02:00	East Quay	22 to 25	Flexible. QC105 under maintenan...	Berth Admin
Berth	QC201	Fr 16, Oct 20 08:00	Fr 16, Oct 20 20:00	North Quay	20 to 33	QC201 Maintenance tasks.	Berth Admin
Berth	QC202	Mo 19, Oct 20 08:00	Mo 19, Oct 20 20:00	North Quay	32 to 36	QC202 Maintenance tasks	Berth Admin

2. The **Edit Blockage** modal is displayed.

Blockage Type
Crane

Crane
QC105

Start Time
10/19/2020 02:00

End Time
10/20/2020 02:00

Flexibility
Flexible

Start Section Bollard Aft Offset (m)
East Quay 22 0

End Section Bollard Fore Offset (m)
East Quay 25 0

Comment
QC105 under maintenance tasks

Cancel **Save**

3. Modify the necessary fields.

4. Click on the **Save** button.

Delete an existing blockage

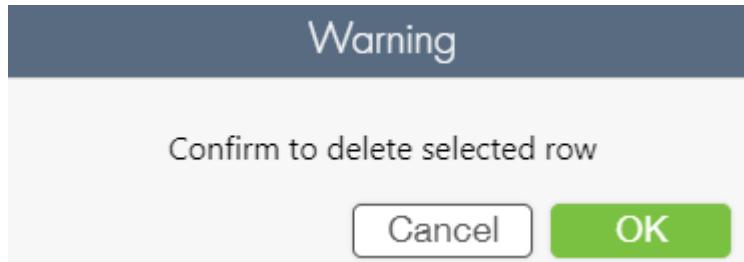
To delete an existing blockage, follow the below mentioned steps :

1. In the blockages table:
 - a. Double-click on the row containing the blockage to be deleted, or
 - b. Select the row containing the blockage to be deleted and click on the 'delete' icon

Delete icon **Selected blockage**

Type	Title	Starts	Ends	Section	Bollard	Comment	Created By
Crane	QC105	Mo 19, Oct 20 02:00	Tu 20, Oct 20 02:00	East Quay	22 to 25	Flexible. QC105 under maintenan...	Berth Admin
Berth	QC201	Fr 16, Oct 20 08:00	Fr 16, Oct 20 20:00	North Quay	29 to 33	QC201 Maintenance tasks	Berth Admin
Berth	QC202	Mo 19, Oct 20 08:00	Mo 19, Oct 20 20:00	North Quay	32 to 36	QC202 Maintenance tasks	Berth Admin

2. A warning message is displayed.



3. Click on the **OK** button to confirm your selection.

3.3.3 Terminal or Organization Services

The services operated by the terminal have to be defined in the **Services** tab of the administration module. To access this specific section, click on the **Administration** button, located at the square grid menu on the top left of the application.



When the tab has been selected, a table is shown with the terminal and/or organization services that have been previously created.

Services							
	Service Code	Service Name	Terminal	Set of Directions	Trade/GEO	Carrier Code	Type
ALE1	ALE1			E,W			
KS10	Kowloon Service 10		TTI Algeciras	E,W,N,S			
SRVABC	Service ABC		TTI Algeciras	E,W,S			
WAF3	West Africa 3		TTI Algeciras	W			
test	test			E,W			
NE2	North East 2		TTI Algeciras	N			

The columns that define the table are:

- **Terminal Service Code:** Code used by the terminal to define a particular service.
- **Terminal Service Name:** Name used by the terminal to define a particular service.
- **Terminal:** Terminal which the service operates in, if left blank, it means that the service can operate in multi terminals.
- **Set of Directions:** Set of directions covered by a particular service.
- **Trade/Geo:** Trade or geographical area of the service.
- **Carrier Code:** Carrier code of the service.

- **Type:** The type of service.

By means of the **Services** tab, it is possible for the user to add a new terminal service or edit an existing one.

Add a new service

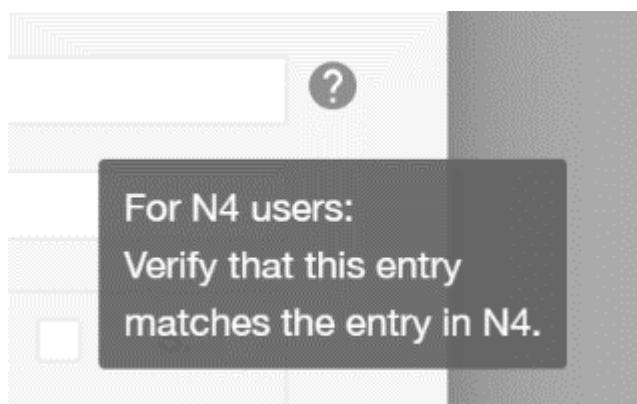
To add a new service, follow the below mentioned steps :

1. Click on '+' icon to show the **Add Service** modal.

The screenshot shows the 'Add Service' modal window. At the top left are three icons: a list, a magnifying glass, and a plus sign, with the plus sign being highlighted by a red box. The title bar is labeled 'Add Service'. Below the title bar are seven input fields: 'Terminal' (dropdown menu), 'Service Code' (text input), 'Service Name' (text input), 'Set of Directions' (text input), 'Trade/GEO' (text input), 'Type' (text input), and 'Comments' (text input). At the bottom right of the modal are two buttons: 'Save' (green) and 'Cancel' (white).

2. Fill in the necessary fields:

- a. **Terminal:** Terminal which the service operates in, if left blank, it means that the service can operate in multi terminals
- b. **Terminal Service Code:** Code used by the terminal to define a specific service. It is important to note that, as described in the tip, the Service Code must be equal to the one defined in N4 for N4 users.



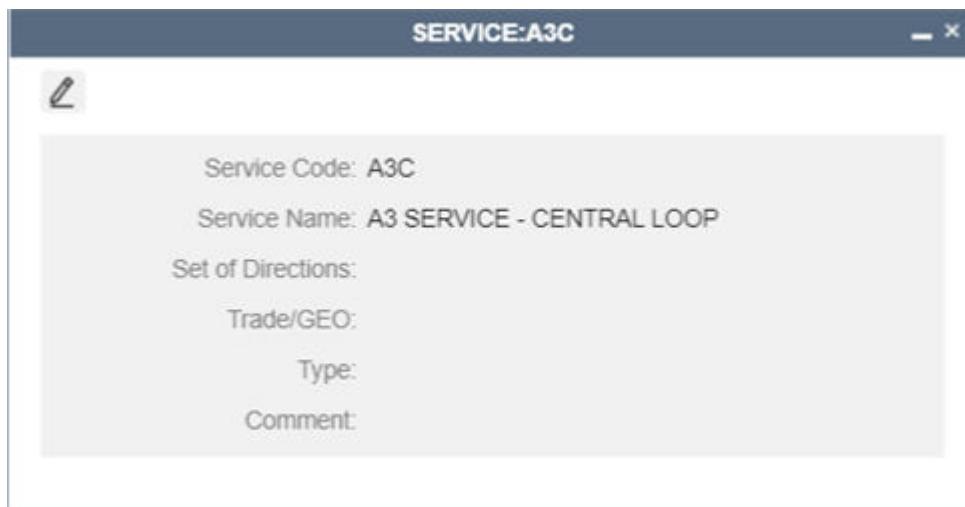
- c. **Terminal Service Name:** Name used by the terminal to define a specific service.
- d. **Set of Directions:** Set of directions covered by a particular service.
- e. **Trade/Geo:** Trade or geographical area of the service.
- f. **Type:** The type of service.
- g. **Comments:** Any comments relating to the service.

3. Click on the **Save** button.

Edit an existing service

To edit an existing service, follow the below mentioned steps :

1. In the terminal services table double-click on the row containing the terminal service to be edited and click on the **edit** icon



2. The **Edit Service** modal is displayed.

The screenshot shows the "Edit Service" modal window. It contains the following fields:

Field	Value
Terminal:	TTI Algeciras
Service Code:	KS10
Service Name:	Kowloon Service 10
Set of Directions:	E,W,N,S
Trade/GEO:	
Type:	
Comments:	

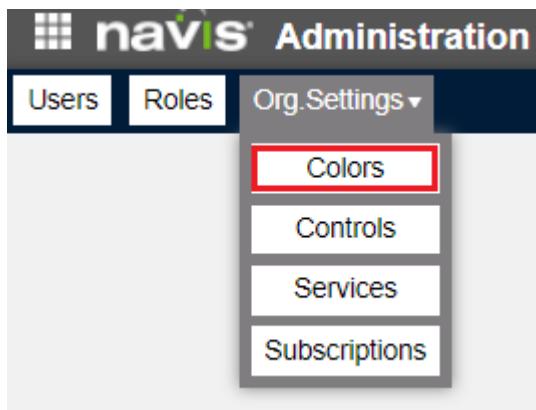
At the bottom right of the modal are two buttons: "Save" (green) and "Cancel".

3. Modify the necessary fields.
4. Click on the **Save** button.

Define color for an existing service

To define color for an existing service, follow the below mentioned steps :

1. Select Color from Org Settings.



2. Select Services from the color set-up modal.



3. Select the service and select the color to be defined in the color palette.

A screenshot of the 'Colors' setup modal. At the top, there is a dropdown menu set to 'Services'. Below it is a color palette consisting of a grid of colored squares. Several squares have small 'X' marks in them, indicating they are not currently assigned. One square, located in the second column from the left and third row from the top, is highlighted with a red box. At the bottom of the modal, there is a table listing services with their corresponding color swatches:

Service Code	Service Name
ALE1	ALE1
KS10	Kowloon Service 10
SRVABC	Service ABC
WAF3	West Africa 3
test	test
NE2	North East 2
EAF4	East Africa 4
FAL2	France Asia Line 2
SRS	Sirius Service
ANV	Asia Express

The row for 'EAF4' is also highlighted with a red box. The total number of results is shown as '51 results / 1' and there is a search bar.

3.3.4 Tide Information setup

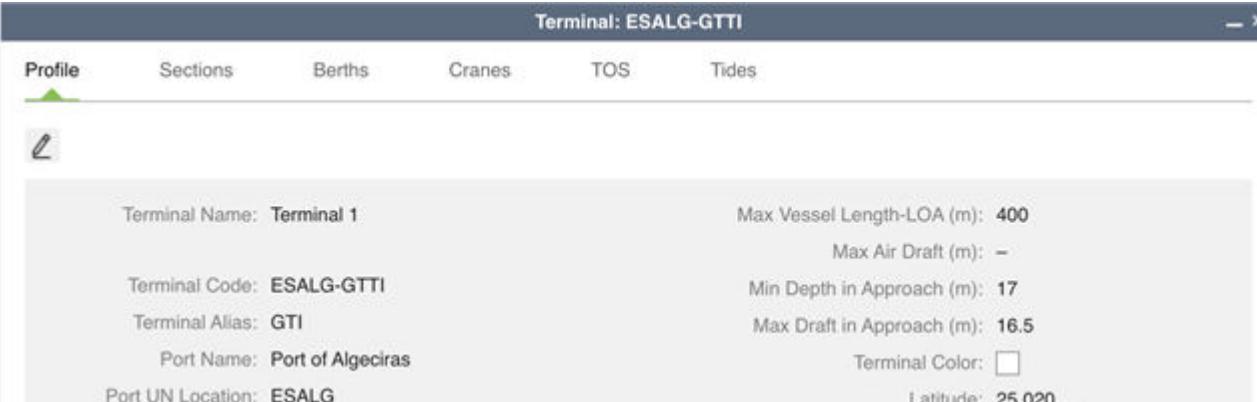
BWM helps berth planners in predicting the tides information and scheduling the vessels appropriately for a terminal.

BWM uses **World Tides API** as the tidal information source.

 Before getting predictions for a terminal, please make sure that the latitude and longitude is configured properly for the terminal.

To get the predictions for the terminal :

1. Open **Terminal Library** and select **My Terminals**.
2. Double click the terminal and select the **Tides** tab.



Terminal: ESALG-GTTI

Profile	Sections	Berths	Cranes	TOS	Tides

Terminal Name: Terminal 1 Max Vessel Length-LOA (m): 400
 Terminal Code: ESALG-GTTI Max Air Draft (m): –
 Terminal Alias: GTI Min Depth in Approach (m): 17
 Port Name: Port of Algeciras Max Draft in Approach (m): 16.5
 Port UN Location: ESALG Terminal Color:
 Latitude: 25.020...

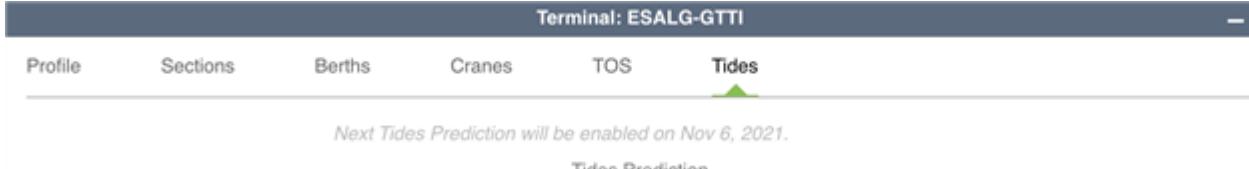
3. Choose the prediction period : 6 or 12 months and click **Predict**.

The tides prediction will be populated in the table with 4 tidal values for each day. i.e High tide and low tide in the AM, High tide and low tide in the PM.

Date	High Tide (m)	HT Time	Low Tide (m)	LT Time	High Tide (m)	HT Time	Low Tide (m)	LT Time
Aug 13, 2021	1.744	01:10	0.259	07:42	1.558	14:06	0.631	19:55
Aug 14, 2021	1.590	01:57	0.382	08:12	1.600	14:45	0.599	20:55
Aug 15, 2021	1.411	02:52	0.527	08:43	1.631	15:28	0.569	22:07
Aug 16, 2021	1.236	04:01	0.679	09:15	1.652	16:19	0.521	23:31

Once the tide prediction is done, you will be able to predict the tides again only before 50 days from the last available tide information date.

This information of the next tide prediction enabling date will be displayed when the tides tab is opened again.



Terminal: ESALG-GTTI

Profile	Sections	Berths	Cranes	TOS	Tides

Next Tides Prediction will be enabled on Nov 6, 2021.

This tide information will be used in BWM in the tides panel in a graphical format to assist the user in berth planning.

3.3.5 Terminal Settings

The default value of basic parameters that are taken into account when managing the berthing windows have to be defined in the **Settings** tab of the administration menu. To access this specific section of the Navis Berth Window Management module, it is necessary to click on the **Berth Admin** button, located on the top right of the application.



The parameters are:

- The **average crane productivity** of the terminal.
- The preferred **ship direction** when berthing at the terminal.
- The specific **configuration of the sections** in the berth grid.
- The standard **vessel visit periods**.
- The preferred **first day of workweek**.

When the tab has been selected, you can view the value these parameters have in the tool.

 A detailed screenshot of the 'Berth Admin' configuration tool. It includes several input fields and diagrams:

- Average Crane Productivity:** Set to 27 MPH for Terminal Terminal 1.
- Preferred Vessel Direction:** Set to Starboard.
- First Day of Work Week:** Set to Monday.
- Sections Configuration in Berth Grid:** Shows a diagram with three sections: North Quay, East Quay, and East Quay Extension.
- Standard Ship Visit Periods:** A timeline showing segments: Pilot In (01:00), Idle Before (00:45), Terminal Stay (Cargo Operations, yellow background), Idle After (00:30), and Pilot Out (00:45).
- Safety Distances:**
 - Use Safety Distance
 - Vessel LOA (m): from 50 to 200, Safety Distance (m): 10
 - from 200 to 300, Safety Distance (m): 15
 - from 300 to 400, Safety Distance (m): 20

Average Crane Productivity

The average crane productivity at the terminal represents the **average number of Movements Per Hour (MPH)** of all cranes operating at the terminal.

Average Crane Productivity

27 MPH for Terminal Terminal 1

This value is used to generate new proformas and ad-hoc vessel visits, since this default value will be populated in the corresponding modals.

To modify it, follow the below mentioned steps :

1. Click on the **edit** icon.



2. Modify the value.

3. Click on the **Save** button.

Preferred ship direction

The terminal may have a preferred berthing direction (Starboard or Port Side) for vessels at its quays.

Preferred Vessel Direction

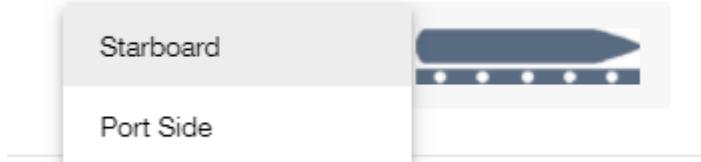


This value is used to generate new proformas and ad-hoc vessel visits, since this default value will be populated in the corresponding modals.

In order to modify it, follow the below mentioned steps:

1. Click on the **edit** icon.
2. Modify the value (Starboard or Port Side) by clicking on the dropdown menu.
3. Click on the **Save** button.

Preferred Vessel Direction



Sections configuration in the berth grid

You can set how quay sections are displayed in the module grids. Specifically, you can determine:

- The order in which the sections are displayed.
- On which side (land or sea) the user wants to display the water.
- If they want to visualize the water.
- If they want to visualize the meter mark

Sections Configuration in Berth Grid:



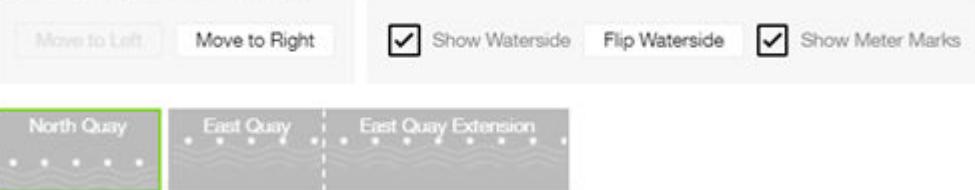
As an example, if the terminal has the following layout:



To modify the order of the sections:

1. Click on the **edit** icon.
2. Select **North Quay**.
3. Click on the **Move to Right** button.

Sections Configuration in Berth Grid:



4. Click on the **Save** button.
5. The display is then shown as below image

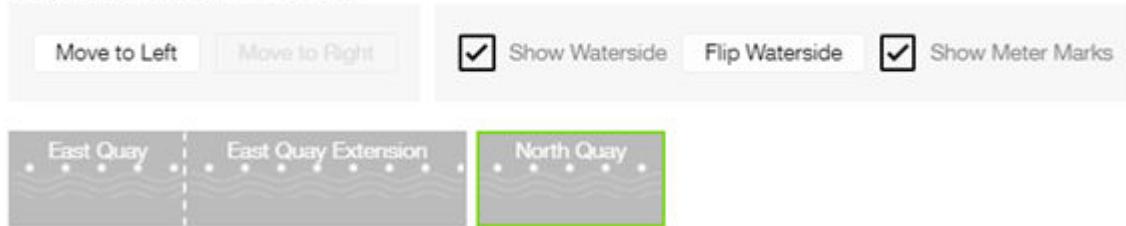


To modify the side in which the water is displayed:

1. Click on the **edit** icon.
2. Select **North Quay**.

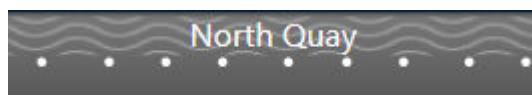
3. Click on the **Flip Waterside** button.

Sections Configuration in Berth Grid:



4. Click on the **Save** button.

5. The display is shown as below.



To hide the waterside:

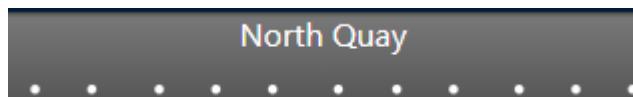
1. Click on the **edit** icon.
2. Unselect the **Show Waterside** checkbox.

Sections Configuration in Berth Grid:



3. Click on the **Save** button.

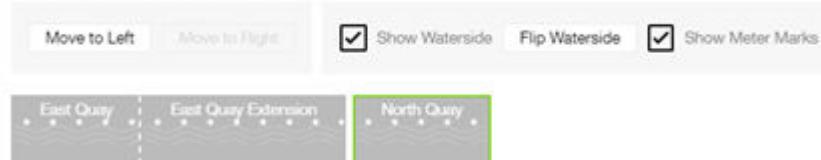
4. The display is shown as below



To display the meter mark:

1. Click on the **edit** icon.
2. Select the **Show Meter Marks** checkbox.

Sections Configuration in Berth Grid:



3. Click on the **Save** button.

- The display is shown as below

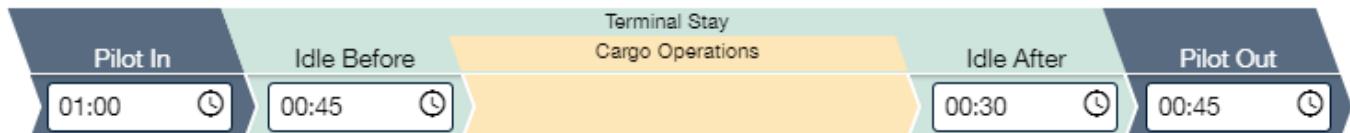


Standard vessel visit periods

When creating a vessel visit at a terminal, it is necessary to identify two temporary values: the **Estimated Time of Berthing (ETB, also known as Estimated Time of Arrival at the Terminal, ETA Terminal)** and the **Estimated Time of Departure from the Terminal (ETD Terminal)**. Both determine the Terminal Stay.

The Navis Berth Window Management module allows you to know the several values that will be used to calculate some other estimated times that are useful when planning a vessel visit.

Standard Ship Visit Periods:



These values are:

Pilot In: Average estimated time between the Estimated Time of Arrival at Pilot Boarding Place (ETA Port) and the ETA Terminal.

Idle Before: Idle time before operations starts, which is the average estimated time between the ETA Terminal and the Estimated Time of Starting Operations (ETS)

Idle After: Idle time after operations finishes, which is the average estimated time between the Estimated Time of Completion of Operations (ETC) and the ETD Terminal.

Pilot Out: Average estimated time between the ETD Terminal and the Estimated Time of Departure from the Port (ETD Port, also known as Pilot Off or Pilot Disembarked)



Cargo Operations is the time between starting and ending operations.

To modify the above mentioned values, follow the below mentioned steps :

- Click on the **edit** icon.
- Modify the value.
- Click on the **Save** button.

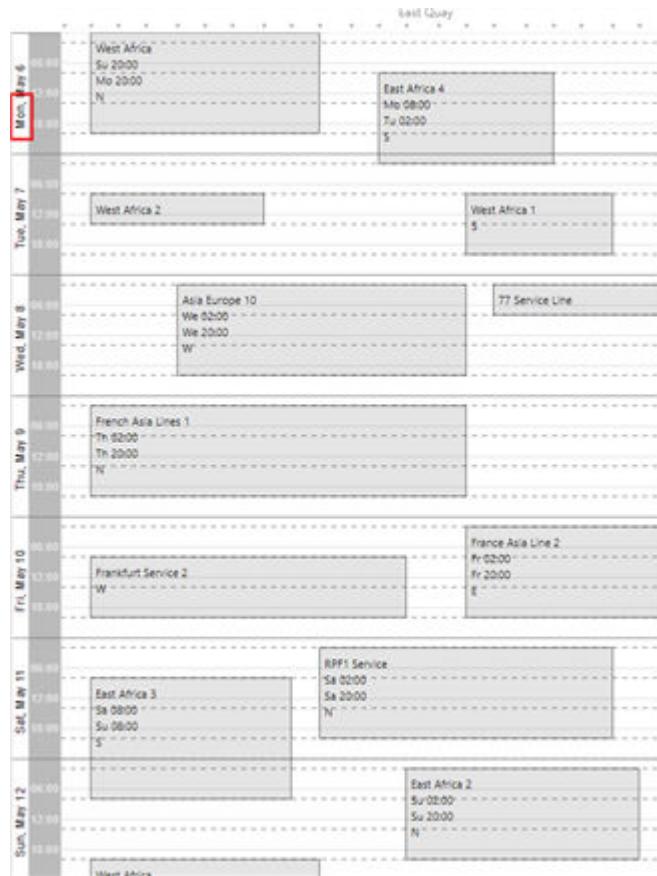
First day of workweek

Depending on the culture/location where the terminal is located, the first day of the week may differ. For this reason, the Navis Berth Window Management module allows you to select which is the first day of the week, so that the day selected will be the first to be displayed on the grid associated with the management of terminal proformas.

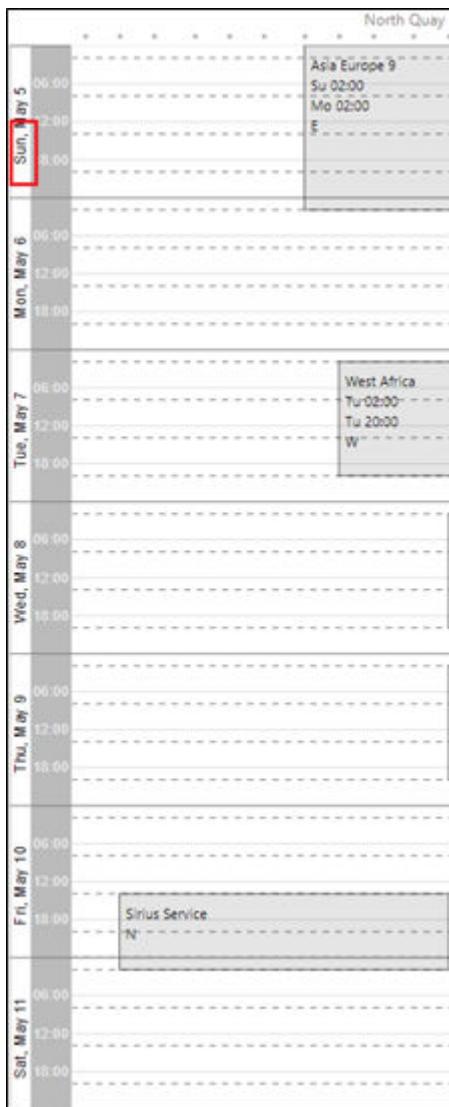
First Day of Work Week:

Monday ▼

If the first day of the week is Monday, the proforma grid will be displayed as below:



Similarly, if the first day of the week is Sunday, the proforma grid will be displayed as below:



To modify the selected value, follow the below mentioned steps :

1. Click on the **edit** icon.
2. Modify the value by selecting it from the dropdown menu.
3. Click on the **Save** button.

Safety distances

It is possible to set the safety distances to the fore and aft so that vessels can be safely berthed.

To set safety distance:

1. Select the **Use safety distance** checkbox
2. Input the safety distance fore and aft based on vessel LOA range.
3. You can add as many LOA range as necessary by clicking ‘+’

4. You can delete the break period by clicking ‘-’

Safety Distances:

Use Safety Distance

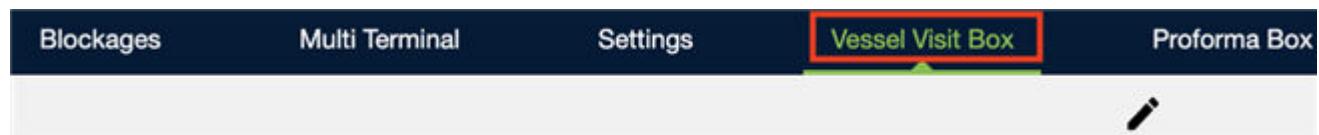
Vessel LOA (m):

from:	50	to:	200	10	+ -
from:	200	to:	300	15	+ -
from:	300	to:	400	20	+ -

Safety Distance (m):

3.3.6 Visit Box Settings

The details of the vessel visits to be viewed on the graph have to be defined in the **Visit Box Settings** tab of the administration menu. To access this specific section of the Navis Berth Window Management module, click on the **Berth Admin** button, located on the top right of the application.



When the tab has been selected, the user is shown the current values of the visit box views.

Actuals Grid - Info View

Kowloon Aras	
C	Tu 02:00
	Tu 20:00
France Asia Line 1	
Terminal Stay: 20:30hrs	
TM 1100	
4	
940	960

Actuals Grid - Crane View

Kowloon Aras	
ETA: Mo 01:00	
ETC: Mo 19:30	
TM 1100	
BMPH: P 72.84 R 74.50	
CI: P 2.70 R 2.00	
Priority: P1	
Cost (EUR): 3,500	
Planner on call: Mr. Robinson	

Archive Grid - Info View

Kowloon Aras	
C	Tu 02:00
	Tu 20:00
FAL1-W-0023A	
TM 1100	
D 500 L 600 R 0	
4	
940	960

Print View

Kowloon Aras	
C	Tu 02:00
	Tu 20:00
4	
4	
4	

The different vessel visit box views are:

- Actuals Grid - Info View
- Actuals Grid - Crane View
- Archive Grid - Info View
- Print View

Each of the visit box views has the following settings to choose from:

- Select Items
- Sort Order of Selected Items
- Show fore/aft bollards

- Show fore/aft marks
- Show operator color as background
- Show vessel bridge information

Actuals Grid - Info view box settings

The actual grid vessel visit box details can be edited using this view.

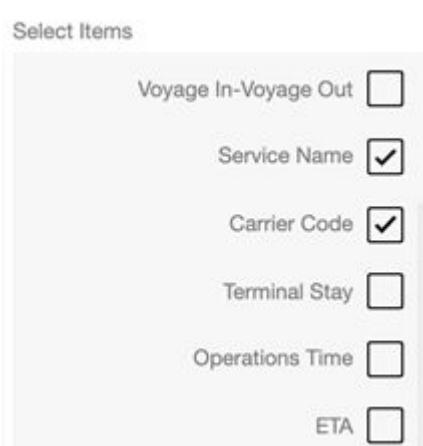
There default values displayed on the actual grid info view box are:

1. Vessel Name
2. Carrier Logo



To modify the displayed items on the visit box, follow the below mentioned steps:

1. Click on the **Edit** icon.
2. Click on the **Actuals Grid - Info View** box.
3. Under the Select Items, select the option to be displayed on the vessel visit box.



The selected items are displayed on the preview box on the left as shown below.

Actuals Grid - Info View

Kowloon Aras	4
C Tu 02:00	4
Tu 20:00	4
France Asia Line 1	4
CMA	4
940	960

Display of 6 items requires a stay time of 14h

- Click on the **Save** button.

To sort the displayed items on the visit box, follow the below mentioned steps:

- Click on the **Edit** icon.
- Click on the **Actuals Grid - Info View** box.
- Under the Sort Order of Selected Items, select the option to be moved and drag the box above or below to place the item at the necessary position.

Sort Order of Selected Items

Vessel Name	🔒
Carrier Logo	🔒
ETB	🔒
ETD	🔒
Service Name	☰
Carrier Code	☰
Terminal Stay	☰
Operations Time	☰

To use the bollards information, follow the below mentioned steps:

- Click on the **Edit** icon.
- Click on the **Actuals Grid - Info View** box.
- Select **Show Fore/Aft Bollards** to display the bollards.
- Click on the **Save** button.

To use the marks information, follow the below mentioned steps:

- Click on the **Edit** icon.
- Click on the **Actuals Grid - Info View** box.

- Select **Show Fore/Aft Marks** to display the bollards.



- Click on the **Save** button.

To show operator color as background, follow the below mentioned steps:

- Click on the **Edit** icon.
- Click on the **Actuals Grid - Info View** box.
- Select **Show operator color as background**.



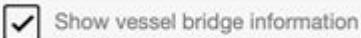
- The preview box is updated with the operator color.

Actuals Grid - Info View		
Kowloon Aras		
C	Tu 02:00	4
	Tu 20:00	4
France Asia Line 1		4
Terminal Stay: 20:30hrs		4
TM 1100		4
940		960
Display of 7 items requires a stay time of 17h		

- Click on the **Save** button.

To show vessel bridge information, follow the below mentioned steps:

- Click on the **Edit** icon.
- Click on the **Actuals Grid - Info View** box.
- Select **Show vessel bridge information**.



- The preview box is updated with the vessel bridge information.
- Click on the **Save** button.

Info The 'Actuals Grid - Crane view', 'Archive Grid - Info view' and 'Print view' follows the same steps as the 'Actual Grid - Info view'

3.3.7 Proforma box settings

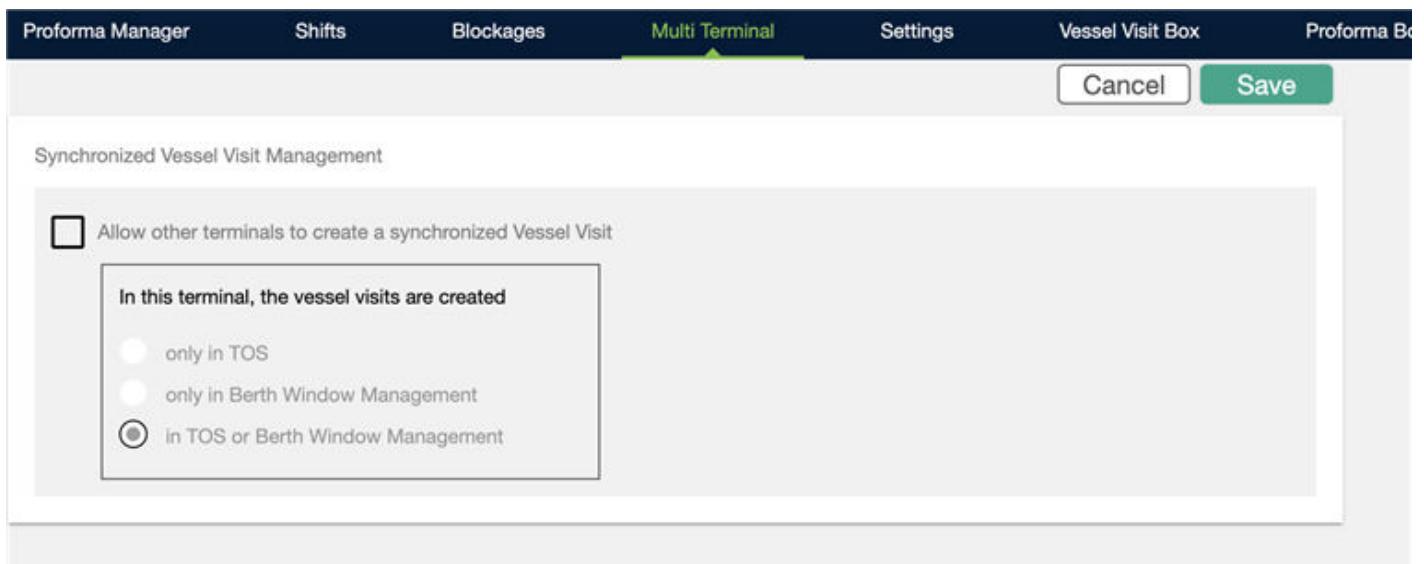
The details of the vessel visits to be viewed on the graph have to be defined in the **Proforma Box** tab of the administration menu. To access this specific section of the Navis Berth Window Management module, it is necessary to click on the **Berth Admin** button, located on the top right of the application.



3.3.8 Multi terminal

You can manage the configuration of the terminal to manage the operations associated with multiple terminals in order to optimize the operations.

It can be configured in the **Multi-Terminal** tab in the **Berth Admin** section of the tool in order to allow those terminal users with the **Manage Multi-Terminal** Settings privilege to set up the way of working when managing more than one terminal.



On clicking the Edit icon, you can modify the multi terminal settings for the terminal.

"Allow other terminals to create a synchronized vessel visit" - If this setting is checked, then the bottom section is enabled, else disabled. This setting basically allows other terminals managed by the organization to create a synchronized vessel visit in the current terminal.

The functions of the available options are mentioned below :

- only in TOS - Select this if the vessel visits are created in BWM only from TOS (N4).
- only in Berth window Management - Select this if the vessel visits are created directly in BWM.
- in TOS or Berth Window Management - Select this if the vessel visits are created in both N4 as well as BWM.

Chapter 4

Proforma Management

The Navis Berth Window Management module is based on proformas. A proforma is the result of an agreement or contract signed between the terminal and a carrier in order to operate a specific service of the network of the carrier during a determined period of time.

Each proforma implies a reservation of space in the terminal quay during the period of time that the vessel visit needs to be operated (loading and discharging operations).

The proformas are managed in the **Proforma Manager** tab of the administration menu. To access this specific section of the Navis Berth Window Management module, it is necessary to click on the **Berth Admin** button, located on the top right of the application.



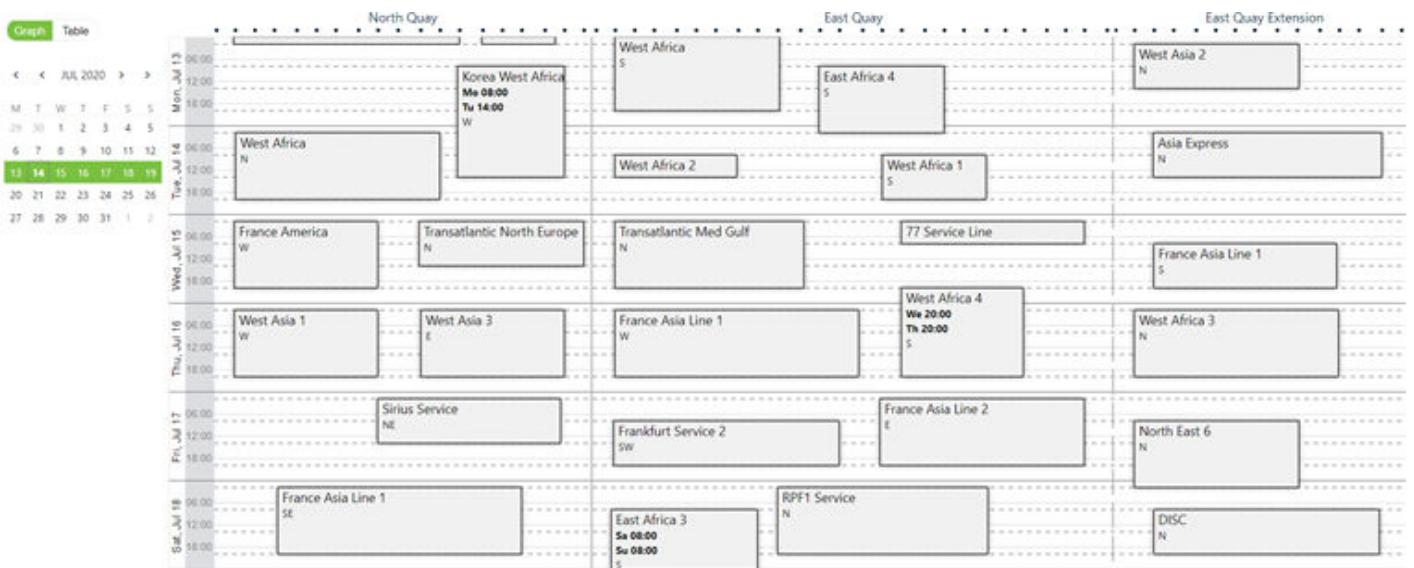
In This Section

Graph Mode	45
Table Mode	48

4.1 Graph Mode

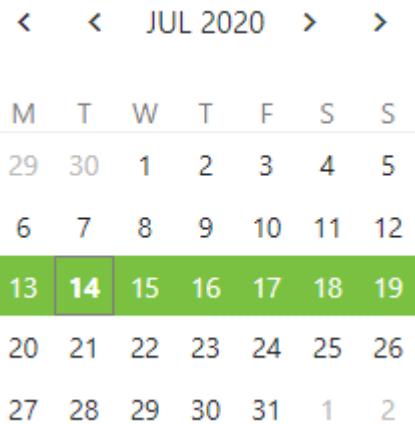
When the **Graph Mode** tab has been selected, the user is shown the graphical view of the proformas whose frequency is regular (the service will be operated at the terminal in a weekly or bi-weekly basis).

The display filtered by the current week is shown:

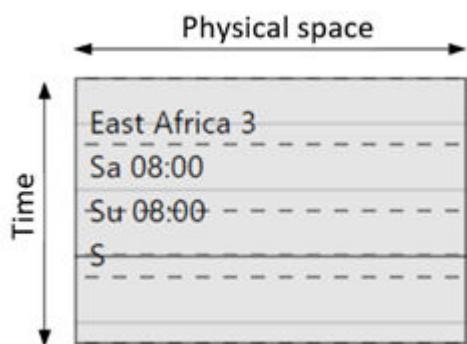


The features of this view includes :

- You can filter by the week of the year to be displayed. To do this, simply select the corresponding week in the calendar month in the upper left corner.\



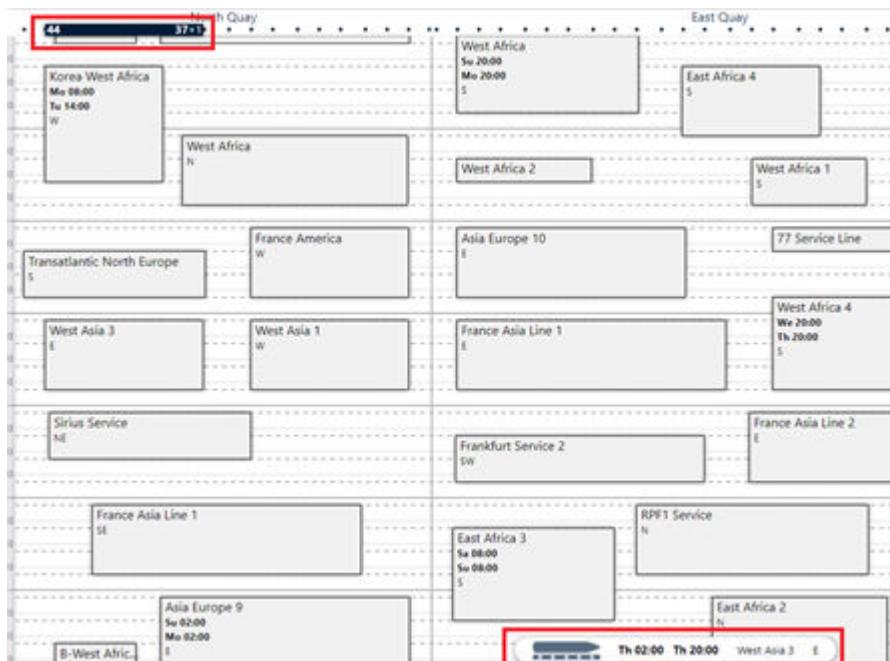
- The proformas are represented by grey background boxes in the grid, the physical space being represented by the horizontal axis (x-axis), and the operations time being represented by the vertical axis (y-axis).



- The data included in each proforma box is show below:

Service Name	East Africa 3
ETB	Sa 08:00
ETD Terminal	Su 08:00
Service Direction	S

- By hovering the mouse pointer over each of the proforma boxes, it is possible to view the following details:
 - The **bollards** between which the vessel operating the service detailed in the proforma will berth are detailed at the top.



- A **mini inspector** is displayed at the bottom with information associated with the proforma.

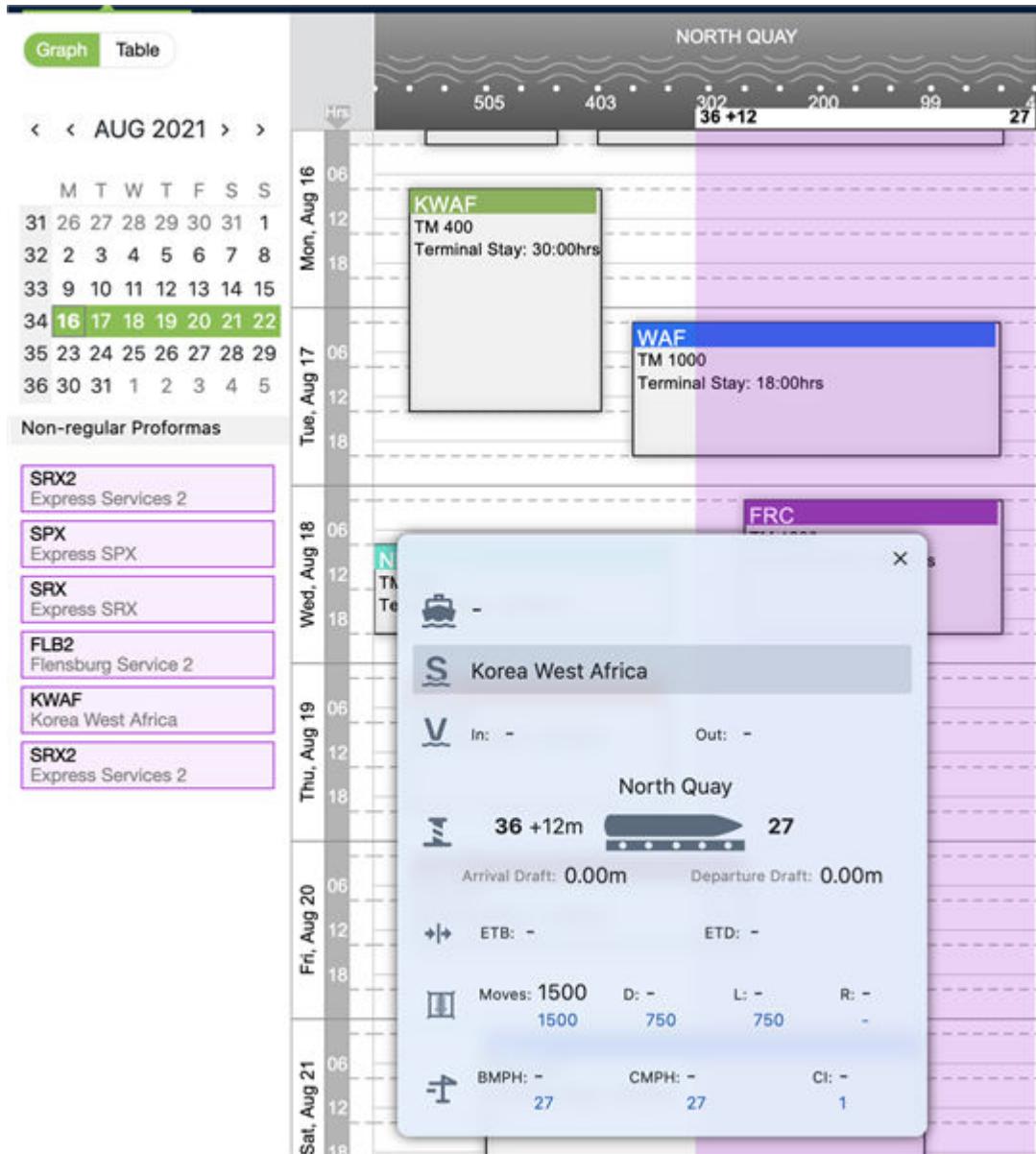


- Non-Regular proforma:

The non regular proformas defined in the terminal are listed as thumbnails in purple below the calendar. This includes the information of code of the services and service name.

- By **hovering over each non-regular proforma**, it will display the location of it by means of a purple background bar along with bollard information at the top.

- By clicking on each of them, its respective floating inspector will be opened near to it.



4.2 Table Mode

By clicking on the **Table** button, the user is shown the tabular view of the proformas (with both regular and non-regular frequency), filtered by the current week.

The features of this view are listed below :

You can filter per week of the year, per range of weeks or by all in order to display the proformas (in a tabular way) associated to the specific filtering. To do this, select the corresponding option in the dropdown menu in the upper left corner, and select the corresponding week/s if applicable

Show entries

per Week ▾

< < JUL 2020 > >

M	T	W	T	F	S	S
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

When the table mode has been selected, a table is shown with the proformas that have been previously created.

Service Code	Service Name	Service Direction	Operator	ETB	ETD	Berth Time (hours)	Total Moves	CMPH	CI	BMPH	Valid From	Valid To
WAF	West Africa	N	MSK, HMM, OOL	Tu 02:00	Tu 20:00	18:00	1000	27	2.2	59.7	Mo 04, Mar 19	Su 04, Apr 21
KWAF	Korea West Afr...	W	KOW	Mo 08:00	Tu 14:00	30:00	400	27	0.5	13.91	Mo 22, Apr 19	Su 17, Apr 22
SPX2	Express Service...	S	MSK, MSC, KOW	-- --:--	-- --:--	20:08	1020	27	2	54	Mo 04, Nov 19	Su 02, May 21
WAF4	West Africa 4	S	KOW, MSK	We 20:00	Th 20:00	24:00	1440	27	2.3	63.3	Mo 28, Oct 19	Su 03, Jul 22
NE6	North East 6	N	HMM, ZIM, KOW	Fri 08:00	Sa 02:00	18:00	1250	27	2.8	74.63	Mo 01, Jan 18	Su 01, Jan 23
SPX	Express SPX	SE	KOW	-- --:--	-- --:--	15:40	750	26	2	52	Mo 28, Sep 15	Su 07, Jan 24
FAL1	France Asia Li...	SE	ZIM, CMA	Sa 02:00	Sa 20:00	18:00	1340	28	2.9	80	Mo 03, Jun 19	Su 02, Jan 22
WAFT	West Africa 1	S	OOL	Tu 08:00	Tu 20:00	12:00	600	27	2.1	55.81	Mo 30, Apr 18	Su 04, Apr 21

The columns that define the table are:

- **Terminal Service Code:** Code and color used by the terminal to define a particular service.
- **Terminal Service Name:** Name used by the terminal to define a particular service.
- **Service Direction:** Directions covered by a particular service.
- **Operator:** List of possible carriers that can manage the service.
- **ETB:** Estimated Time of Berthing (Arrival at the Terminal). For proformas with irregular (non-regular) frequency, the value shown in this field is '---:--'
- **ETD:** Estimated Time of Departure from the terminal. For proformas with irregular (non-regular) frequency, the value shown in this field is '---:--'
- **Berth Time:** Total berth occupancy time.
- **Total Moves:** Estimated number of container moves.
- **CMPH:** Crane productivity in Crane Moves Per Hour.
- **CI:** Crane Intensity. Average number of cranes operating the service.
- **BMPH:** Berth productivity in Berth Moves Per Hour
- **ValidFrom:** Start date of the proforma agreement.
- **ValidTo:** End date of the proforma agreement.

By means of the **Proforma Manager** tab and the **Table** mode ('Table' button is selected), it is possible for the user to add a new proforma and edit, copy or delete an existing one.

4.2.1 Add a new proforma

To add a new proforma, follow the below mentioned steps:

1. Click on '+' icon to show the **Add Proforma** modal.

2. Fill in the necessary general fields.

- Service Code:** Code used by the terminal to define a particular service. For a service code to be displayed in the dropdown menu, it should be previously created in the 'Terminal Services' option.
- Service Name:** Name used by the terminal to define a particular service. For a service name to be displayed in the dropdown menu, it should be previously created in the 'Terminal Services' option.
- Direction:** Direction covered by a particular service. For a service direction to be displayed in the dropdown menu, it must have been previously created in the 'Terminal Services' option.
- Vessel Type:** Select either Ship or Barge.
- Max LOA:** The maximum LOA of vessel expected to operate in the service. This field is manually updated in order to determine the quay length required.

- f. **Valid From:** Start date of the proforma agreement.
- g. **Valid To:** End date of the proforma agreement.
- h. **Frequency:** Frequency with which the service will be operated at the terminal. The possible values to select from the dropdown menu are:
 - **Weekly:** If the service will be operated every week.
 - **Bi-Weekly:** If the service will be operated every fortnight, being the first week of operations the detailed one in field **Valid To**.
 - **Irregular:** If the service will visit the terminal without a fixed temporary frequency.

3. Fill in the Times/Moves/Productivity fields.

ETB	<input type="button" value="DD"/>	<input type="button" value="HHMM"/>	Discharges	Loads	Restows	Totals
	00		0	0	0	0

- a. **ETB:** Estimated day of the week and time of berthing of the vessel. If an 'Irregular' frequency has been selected, this field cannot be edited.
- b. **Discharges:** Estimated number of containers to be discharged.
- c. **Loads:** Estimated number of containers to be loaded.
- d. **Restows:** Estimated number of containers to be restowed.

The **Totals** field is automatically updated by solving: number of containers to discharge + number of containers to load + two times (2x) number of restows.

As soon as a value is included in fields 'Discharge', 'Load' or 'Restow', the following fields will be enabled:

ETD	<input type="button" value="Tu"/>	<input type="button" value="04:00"/>	<input checked="" type="radio"/>	CMPH	<input type="button" value="27"/>	<input type="radio"/>	CI	<input type="button" value="3"/>	<input type="radio"/>	BMPH	<input type="button" value="81"/>
-----	-----------------------------------	--------------------------------------	----------------------------------	------	-----------------------------------	-----------------------	----	----------------------------------	-----------------------	------	-----------------------------------

- e. **ETD:** Estimated day of the week and time of departure from the terminal. If an 'Irregular' frequency has been selected, this field cannot be edited.
- f. **CMPH:** Average crane productivity in Container Moves Per Hour (CMPH). The default value is the one indicated in the terminal settings.
- g. **CI:** Crane Intensity. Average number of cranes operating the service.

The parameter (ETD, CMPH or CI) selected by the radio button will be automatically calculated taking into account the rest of the values. In this way, the user can calculate the most important or unknown value when generating the proforma.

The 'BMPH' (Berth Moves Per Hour, average number of containers moved per hour during vessel operations) field is automatically updated by multiplying 'CMPH' by 'CI'.

4. Fill in the positioning fields:

Position	Berth-slot Name		
by Berth-slot	<input type="text"/>		
Section aft	Bollard aft	offset (m)	Vessel Direction
<input type="text"/>	<input type="text"/>	<input type="text"/> 0	<input type="text"/> Starboard
Section fore	Bollard fore	offset (m)	
<input type="text"/>	<input type="text"/>	<input type="text"/> 0	
Arr. Draft (m)	Dep. Draft (m)		
<input type="text"/> 0.00	<input type="text"/> 0.00		

a. **Position:** Position in which the vessel will be berthed, which can be:

'by Bollard': The user must specify:

- **Section** where the vessel will be berthed.
- **Bollard aft**(and its corresponding offset based on max LOA) in which the aft of the vessel will be positioned.
- **Bollard fore**(and its corresponding offset based on max LOA) in which the fore of the vessel will be positioned.

'by Berth-Slot': The user must specify:

- **Section** where the vessel will be berthed.
- The **name** of the Berth-slot.

All these values (sections, bollards, berth-slots) are defined in the Navis Terminal Library module and only users with administrator profile can modify them.

- b. **Vessel Direction:** Berthing direction (Starboard or Port Side) of vessels. The default value is the one indicated in the terminal settings.
- c. **Arr. Draft (m):**The expected arrival draft.
- d. **Dep. Draft (m):** The expected departure draft.

5. Fill in the carrier fields:

Operator Name	Service Code	Service Name	Direction	<input type="button" value="+"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="+"/>

a. **Carrier ID:** Code of the carrier that will operate the service.

b. **Service Code:** Code used by the carrier to define a particular service.

c. **Service Name:** Name used by the carrier to define a particular service.

d. **Direction:** Direction covered by a particular service.

All these values are defined in the Navis Administration module and only users with administrator profile can modify them.

e. **Comment:** Free field to include additional information describing the carrier service to be added.

You can add as many carriers as necessary by clicking '+'

Operator Name	Service Code	Service Name	Direction	<input type="button" value="+"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="+"/>

You can delete the carrier period by clicking '-'

Operator Name	Service Code	Service Name	Direction	
AAB - Carrier AAB	--	--	--	+
AAF - Carrier AAF	--	--	--	+ -

6. Click on the **Save** button.

The newly added proforma is displayed in the Proforma Manager grid and in the Proforma Manager table.

4.2.2 Edit an existing proforma

To edit an existing proforma, follow the below mentioned steps :

1. In the Proforma Manager table,
 - a. Double-click on the row containing the proforma to be edited, or
 - b. Select (click on) the row containing the proforma to be edited and click on the 'edit' icon.



The screenshot shows a table with columns: Service Code, Service Name, Service Direction, Operator, ETB, and ETD. The first row (WAF) is selected and has a red box around its edit icon. The table contains the following data:

Service Code	Service Name	Service Direction	Operator	ETB	ETD
WAF	West Africa	N	MSK, HMM, OOL	Tu 02:00	Tu 20:00
KWAF	Korea West Afr...	W	KOW	Mo 08:00	Tu 14:00
SRX2	Express Servic...	S	MSK, MSC, KOW	-- --:--	-- --:--
WAF4	West Africa 4	S	KOW, MSK	We 20:00	Th 20:00
NE6	North East 6	N	HMM, ZIM, KOW	Fr 08:00	Sa 02:00

The edit proforma modal is displayed.

Edit Proforma

Service Code	Service Name	Direction	Vessel Type	Max LOA (m)	
SFX2	Express Services 2	SW	Ship	320	
Valid From	Valid To	Frequency			
11/04/2019	01/02/2022	Weekly			
ETB		Discharges	Loads	Restows	Totals
Mo	08:00	800	600	20	1440
ETD		CMPH	CI	EMPH	
Tu	11:55	27	2	54	
Position					
by Bollard					
Section aft:	Bollard aft:	offset (m)	Vessel Direction:		
East Quay Extension	48	0	Starboard		
Section fore:	Bollard fore:	offset (m)			
East Quay Extension	57	16			
Air. Draft (m)	Dep. Draft (m)				
0.00	0.00				
Operator Name	Service Code	Service Name	Direction		
KOW - Kowloon Shipping	--	--	--	+	

2. Modify the necessary fields.

- If a proforma has already been assigned a vessel visit (omitted or not), it is only possible to edit the 'Valid To' field.

The screenshot shows the 'Edit Proforma' dialog box with the following fields:

- Service Code:** WA3
- Service Name:** West Asia 3
- Direction:** E
- Vessel Type:** Ship
- Max LOA (m):** 235
- Valid From:** 04/22/2019
- Valid To:** 03/07/2021 (highlighted)
- Frequency:** Weekly
- ETB:** Th 02:00
- Discharges:** 500
- Loads:** 100
- Restows:** 0
- Totals:** 600
- ETD:** Th 20:00
- CMPH:** 27
- O:** 1.3
- BMPH:** 35.82
- Position:** By Bollard
- Section aft:** North Quay
- Bollard aft:** 44
- offset (m):** 0
- Vessel Direction:** Starboard
- Section fore:** North Quay
- Bollard fore:** 37
- offset (m):** 1
- Air. Draft (m):** 0.00
- Dep. Draft (m):** 0.00
- Operator Name:** KOW - Kowloon Shipping
- Service Code:** SRV002
- Service Name:** Service 2
- Direction:** E

At the bottom right are 'Cancel' and 'Save' buttons.

- If a proforma has not yet been assigned a vessel visit, it is possible to edit all fields except 'Service Code', 'Service Name', 'Direction' and carrier fields.

3. Click on the 'Save' button.

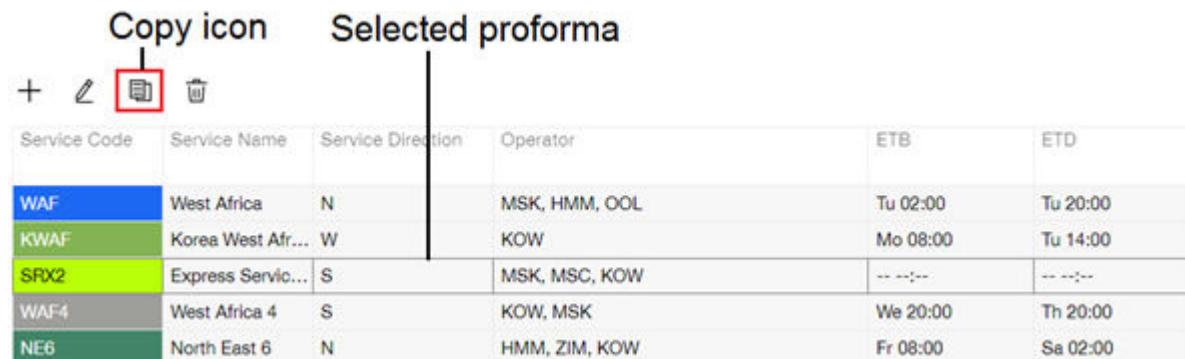
4.2.3 Copy an existing proforma

To copy an existing proforma, follow the below mentioned steps :

1. In the Proforma Manager table:

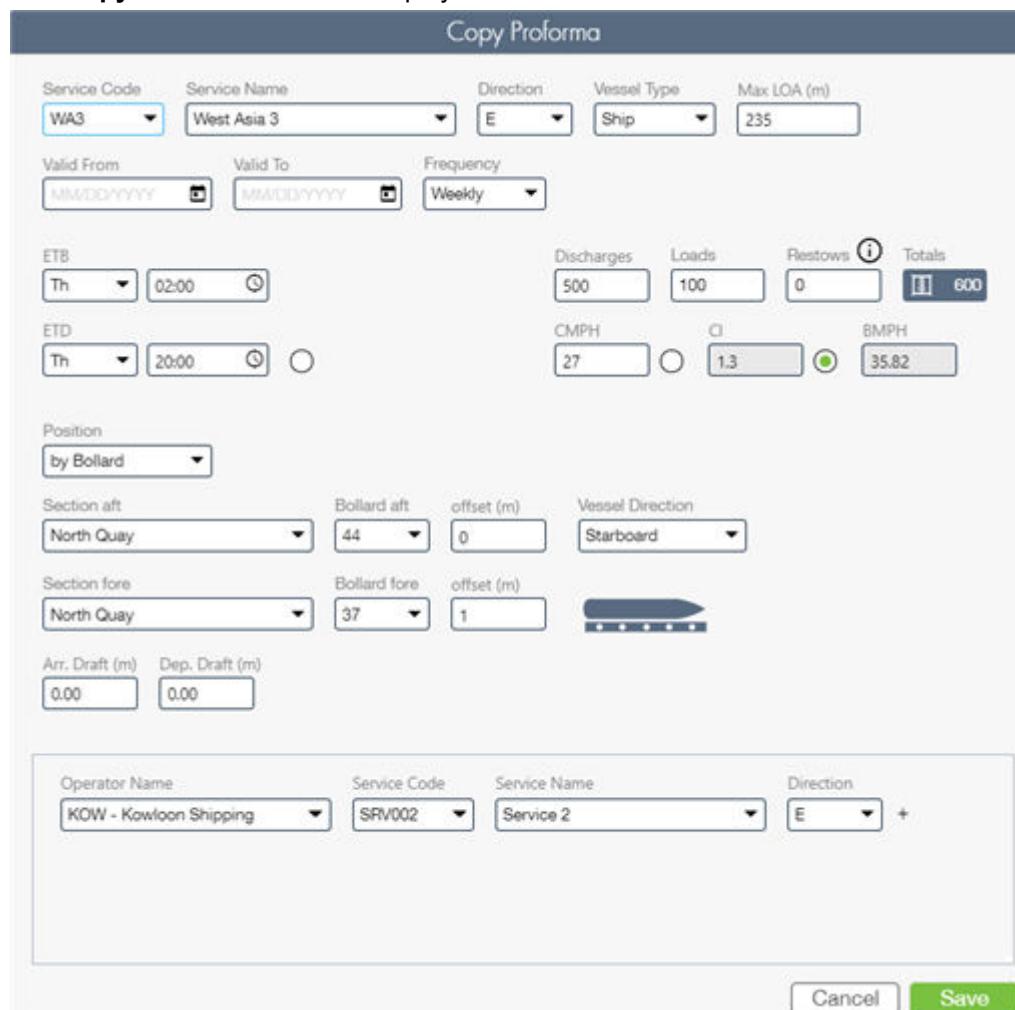
- Double-click on the row containing the proforma to be copied, or

- b. Select (click on) the row containing the proforma to be copied and click on the **copy** icon.



Service Code	Service Name	Service Direction	Operator	ETB	ETD
WAF	West Africa	N	MSK, HMM, OOL	Tu 02:00	Tu 20:00
KWAF	Korea West Afr...	W	KOW	Mo 08:00	Tu 14:00
SRX2	Express Servic...	S	MSK, MSC, KOW	-- --:--	-- --:--
WAF4	West Africa 4	S	KOW, MSK	We 20:00	Th 20:00
NE6	North East 6	N	HMM, ZIM, KOW	Fr 08:00	Sa 02:00

The **Copy Proforma** modal is displayed.



Copy Proforma

Service Code	Service Name	Direction	Vessel Type	Max LOA (m)		
WA3	West Asia 3	E	Ship	235		
Valid From	Valid To	Frequency				
MM/DD/YYYY	MM/DD/YYYY	Weekly				
ETB	Discharges	Loads	Restows	Totals		
Th 02:00	500	100	0	600		
ETD	CMPH	CI	BMPH			
Th 20:00	27	1.3	35.82			
Position						
by Bollard						
Section aft	Bollard aft	offset (m)	Vessel Direction			
North Quay	44	0	Starboard			
Section fore	Bollard fore	offset (m)				
North Quay	37	1				
Arr. Draft (m)	Dep. Draft (m)					
0.00	0.00					
Operator Name	Service Code	Service Name	Direction			
KOW - Kowloon Shipping	SRV002	Service 2	E			

Cancel **Save**

2. Modify the necessary fields.

Note that it is possible to copy all fields except 'Service Code', 'Service Name', 'Direction' and carrier fields.

3. Click on the **Save** button.

4.2.4 Delete an existing proforma

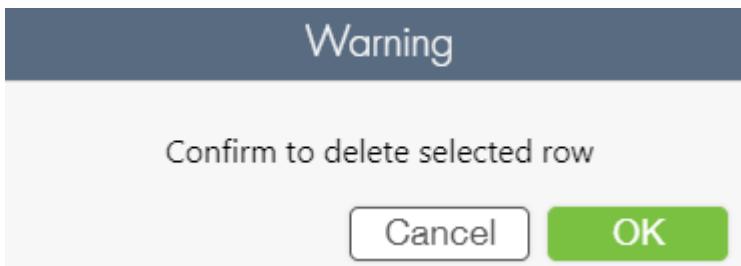
To delete an existing proforma, follow the below mentioned steps :

1. In the Proforma Manager table:
 - a. Double-click on the row containing the proforma to be deleted, or
 - b. Select (click on) the row containing the proforma to be deleted and click on the **delete** icon.

Delete icon Selected proforma

Service Code	Service Name	Service Direction	Operator	ETB	ETD
WAF	West Africa	N	MSK, HMM, OOL	Tu 02:00	Tu 20:00
KWAf	Korea West Afr...	W	KOW	Mo 08:00	Tu 14:00
SFDX2	Express Servic...	S	MSK, MSC, KOW	-- --::--	-- --::--
WAF4	West Africa 4	S	KOW, MSK	We 20:00	Th 20:00
NE6	North East 6	N	HMM, ZIM, KOW	Fr 08:00	Sa 02:00

2. A warning message is displayed.



3. Click on the **OK** button to confirm your selection.

Chapter 5

Vessel Visit Planning

Once the basic parameters of the Navis Berth Window Management module have been configured, and the proformas have been created, you can start using the tool.

This section describes how to add a new vessel visit and edit or omit an existing one at planning time.

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5.1 Add a new vessel visit based on a regular proforma

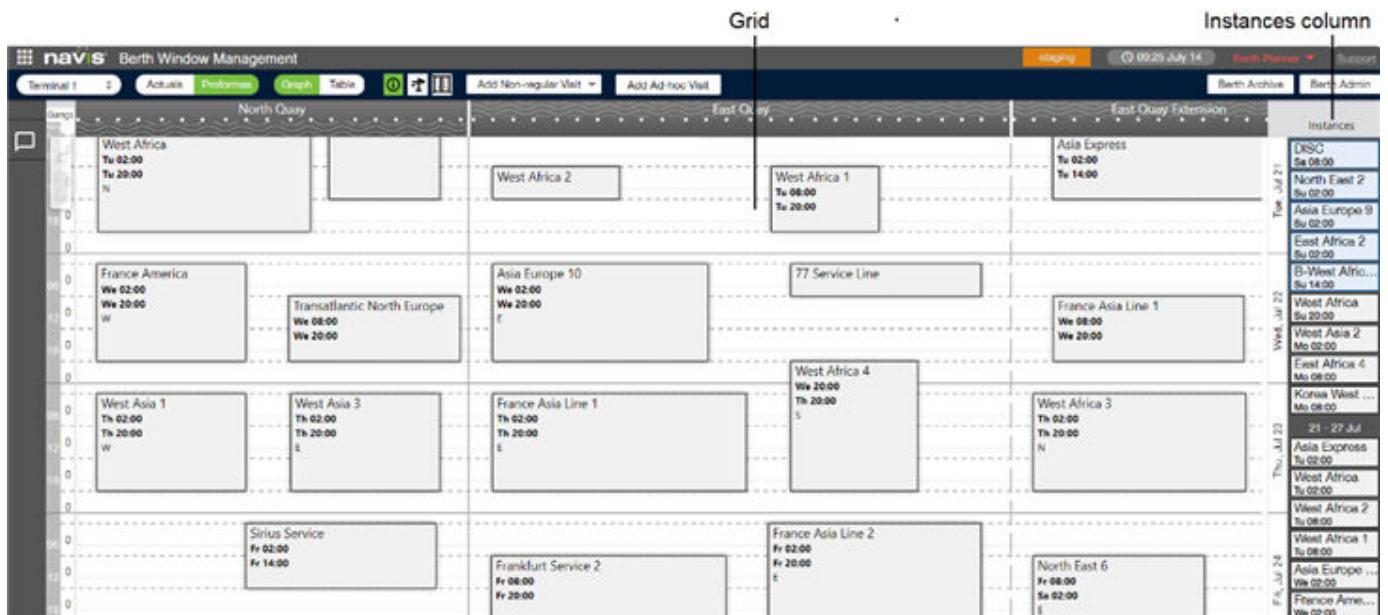
There are two modes in which a new vessel visit can be added based on regular proforma

- Graph Mode
- Table Mode

Adding vessel visit based on regular proforma - Graph mode

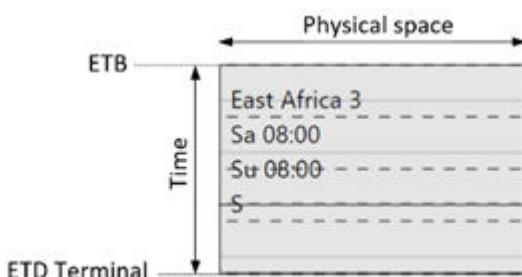
To add a new vessel visit based on regular proforma (Graph mode), follow the below mentioned steps :

1. Click on **Proformas** button in order to show the proforma instances graph.



The features of this view are detailed below:

- a. The unmatched regular proforma instances are represented by grey background boxes in the grid where the **physical space** is represented by the horizontal axis (x-axis), and the **operations time** represented by the vertical axis (y-axis).

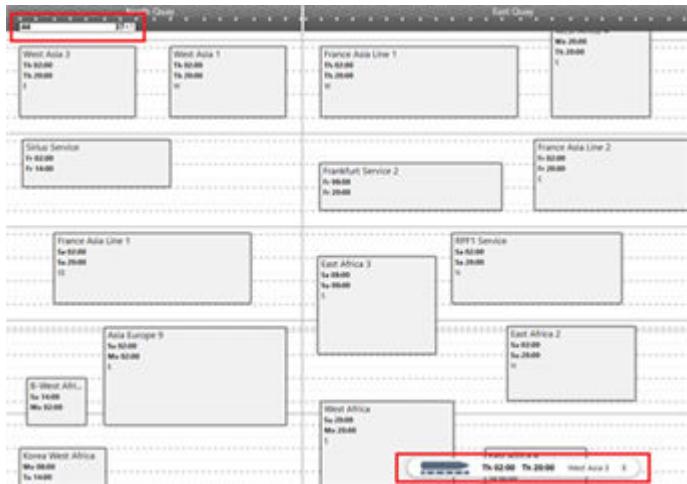


- b. The data included in each proforma instance box is represented in the next figure:

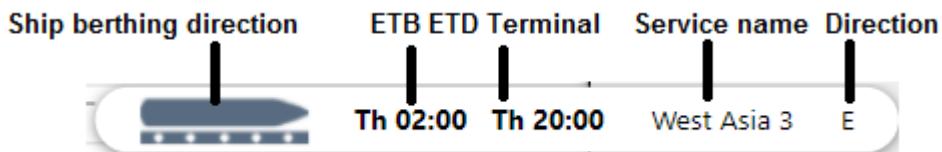
Service Name	East Africa 3
ETB	Sa 08:00
ETD Terminal	Sa 08:00
Service Direction	S

c. By hovering the mouse pointer over each of the proforma instance boxes:

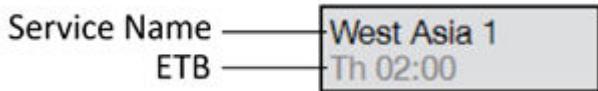
- The **bolards** between which the vessel operating the service detailed in the proforma instance will berth are detailed at the top.



- A **mini inspector** is displayed at the bottom with information associated to the proforma instance.



d. The unmatched regular proforma instances are represented by grey background boxes in the 'Instances' column.



e. When clicking on an unmatched regular proforma instance in the Instances column, its corresponding proforma instance box is highlighted in the grid:



2. a) Double-click on an unmatched regular proforma instance box in the **grid**, or

b) Double-click on an unmatched regular proforma instance box in the **Instances** column

The 'Add Vessel Visit' modal is displayed

The screenshot shows the 'Add Vessel Visit' modal with the following fields:

- Vessel Name:** [Input field]
- IMO:** [Input field]
- Voyage In:** [Input field]
- Voyage Out:** [Input field]
- Operator Name:** KOW - Kowloon Shipping [Dropdown]
- Service:** West Asia 3 - Service Code: WA3 - Direction: E
ValidFrom: 2019-04-22 ValidTo: 2021-03-07
Call Sign: -- Flag: -- Built: -- Status: --
Gross Tonnage (mt): -- Deadweight (mt): --
LOA (m): -- Beam (m): -- Draft (m): --
Service Code: KOW - Service Name: Kowloon Shipping - Direction: E
- ETB:** 10/22/2020 02:00 [Time picker]
- Discharges:** 500 [Input field]
- Loads:** 100 [Input field]
- Restows:** 0 [Input field]
- Totals:** 600 [Input field]
- ETD:** 10/22/2020 20:00 [Time picker]
- CMPH:** 27 [Input field]
- CI:** 1.3 [Input field]
- BMPH:** 35.82 [Input field]
- Position:** By Bollard [Dropdown]
- Section aft:** North Quay [Dropdown] Bollard aft: 44 [Input field] offset (m): 0 [Input field] Vessel Direction: Starboard [Dropdown]
- Section fore:** North Quay [Dropdown] Bollard fore: 37 [Input field] offset (m): 1 [Input field]
- Air, Draft (m):** 0.00 [Input field]
- Dep. Draft (m):** 0.00 [Input field]
- Omit Proforma Instance:** [Button]
- Cancel:** [Button]
- Save:** [Green Button]

3. Fill in the necessary general fields:

The screenshot shows the 'Add Vessel Visit' modal with the following fields:

- Vessel Name:** [Input field]
- IMO:** [Input field]
- Voyage In:** [Input field]
- Voyage Out:** [Input field]

- Service Code:** Code used by the terminal to define a particular service. This field is not editable and comes from the proforma.
- Service Name:** Name used by the terminal to define a particular service. This field is not editable and comes from the proforma.
- Direction:** Direction covered by a particular service. This field is not editable and comes from the proforma.
- Valid From:** Start date of the proforma agreement. This field is not editable and comes from the proforma.
- Valid To:** End date of the proforma agreement. This field is not editable and comes from the proforma.
- Voyage In:** Inbound voyage number.
- Voyage Out:** Outbound voyage number.

The following described fields are defined in the Navis Ship Library module and only users with administrator profile can modify them:

- Vessel Name:** Name of the vessel to be operated on the vessel visit. When this value is input, the 'IMO', 'Call Sign', 'LOA', 'Beam', 'Draft' and 'Flag' fields are filled automatically.
- IMO:** IMO of the vessel to be operated on the vessel visit. When this value is input, the 'Ship Name', 'Call Sign', 'LOA', 'Beam', 'Draft' and 'Flag' fields are filled automatically.
- Call Sign:** Call sign of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.

- d. **LOA:** Length overall (in meters) of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data. In addition, it is taken into account for the accurate calculation of the bollards between which the ship will berth, which is detailed in point 5 of this paragraph.
- e. **Beam:** Beam (in meters) of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.
- f. **Draft:** Draft (in meters) of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.
- g. **Flag:** Flag of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.

4. Fill in the Times/Moves/Productivity fields:

ETB 10/22/2020 <input type="button" value=""/>	02:00 <input type="button" value=""/>	Discharges 500	Loads 100	Restows <input type="button" value="?"/> 0	Totals <input type="button" value=""/> 600
ETD 10/22/2020 <input type="button" value=""/>	14:21 <input checked="" type="radio"/>	CMPH 27	CI <input type="radio"/>	BMPH 54	

- a. **ETB:** Estimated time of berthing of the vessel. This value is pre-populated from the proforma instance.
- b. **Discharges:** Estimated number of containers to be discharged. This value is pre-populated from the proforma instance.
- c. **Loads:** Estimated number of containers to be loaded. This value is pre-populated from the proforma instance.
- d. **Restows:** Estimated number of containers to be restowed. This value is pre-populated from the proforma instance.

The 'Totals' field is automatically updated by solving: number of containers to discharge + number of containers to load + two times (2x) number of restows.

- e. **ETD:** Estimated time of departure from the terminal. This value is pre-populated from the proforma instance.
- f. **CMPH:** Average crane productivity in Container Moves Per Hour (CMPH). This value is pre-populated from the proforma instance.
- g. **CI:** Crane Intensity. Average number of cranes operating the service. This value is pre-populated from the proforma instance.

The parameter ('ETD', 'CMPH' or 'CI') selected by the radio button will be automatically calculated taking into account the rest of the values. In this way, the user can calculate the most important or unknown value when generating the proforma. By default, the 'CI' value is calculated.

The '**BMPH**' (Berth Moves Per Hour, average number of containers moved per hour during vessel operations) field is automatically updated by multiplying 'CMPH' by 'CI'.

5. Fill in the positioning fields:

Position			
By Bollard			
Section aft	Bollard aft	offset (m)	Vessel Direction
North Quay	44	0	Starboard
Section fore	Bollard fore	offset (m)	
North Quay	37	1	
Arr. Draft (m)	Dep. Draft (m)		
0.00	0.00		

a. **Position:** Position in which the vessel will be berthed, which can be:

- ‘**by Bollard**’: The user must specify:
 - Section where the vessel will be berthed.
 - Bollard (and its corresponding offset) in which the aft of the vessel will be positioned.
 - Bollard (and its corresponding offset) in which the fore of the vessel will be positioned.
- ‘**by Berth-Slot**’: The user must specify:
 - Section where the vessel will be berthed.
 - The name of the Berth-slot.

All these values are pre-populated from the proforma instance and the bollards (and its corresponding offsets) are calculated automatically based on vessel's LOA.

- b. **Ship Direction:** Berthing direction (Starboard or Port Side) of vessels. This value is pre-populated from the proforma instance.
- c. **Arrival Draft (m):** The expected arrival draft. This value is pre-populated from the proforma instance.
- d. **Departure Draft (m):** The expected departure draft. This value is pre-populated from the proforma instance.

6. Select the operator:

Operator Name	
KOW - Kowloon Shipping	

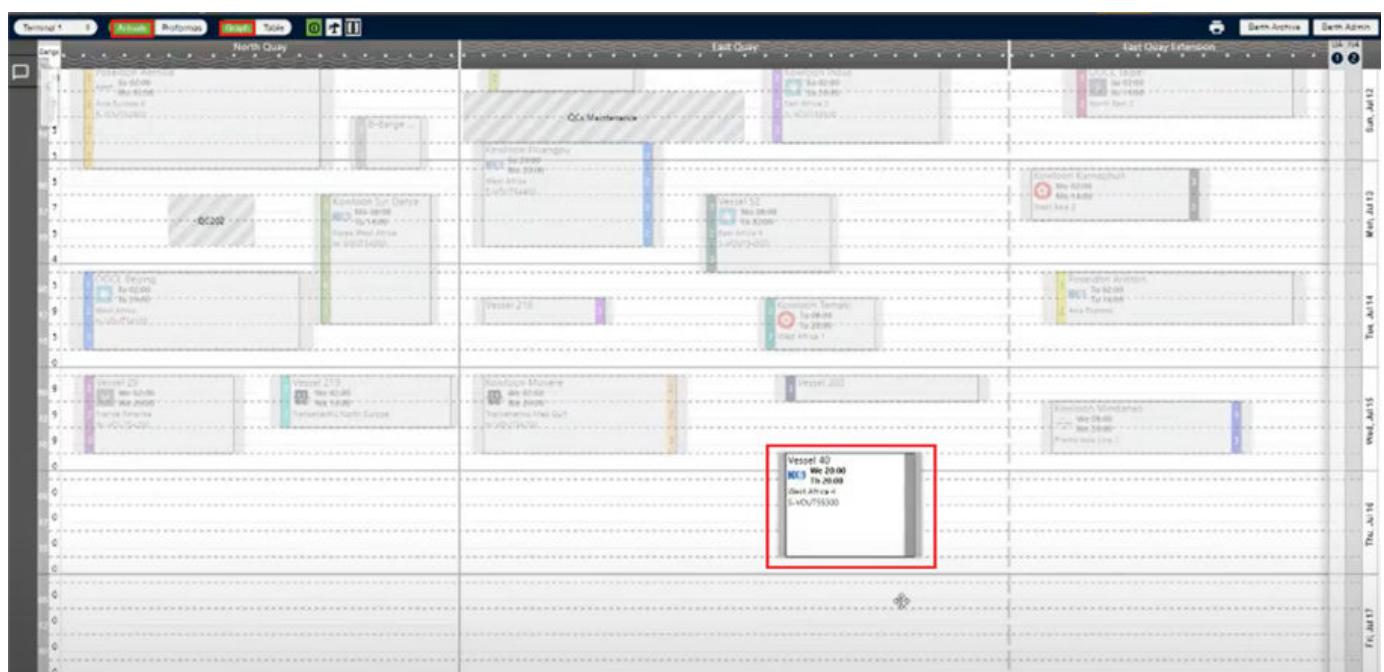
a. **Operator Name:** Code of the carrier that will operate the service. This value is pre-populated from the proforma instance (it is only possible to select one of the carrier codes previously included in the proforma)

7. Once all the information has been completed depending on the requirements set by the user, click on the **Save** button.

The tool automatically displays option **Actuals/Graph** and the newly added vessel visit is displayed and highlighted in the grid:

Vessel Visit Planning

Add a new vessel visit based on a regular proforma



5.1.1 Adding vessel visit based on regular proforma - Table mode

To add a new vessel visit based on regular proforma (Table mode), follow the below mentioned steps :

1. Click on 'Proformas' button in order to show the proforma instances table.

Service Code	Service Name	Logo	Vessel Name	Voyage In	Voyage Out	Dir.	Prev. Port	ETA Pilot	ETB	diff Prof	ETD	diff Prof	Next Port	Total Moves	Drach	Load	Reserve	EM/H	
AS9	Asia Europe 9							Sa 19 Jul 20 01:00	Sa 19 Jul 20 02:00	0	Mo 20 Jul 20 02:00	0	---	1600	1000	600	0	70.33	
NE2	North East 2		Poseidon Aemilia	VIN05700	VOUT05700	E	--	Sa 19 Jul 20 01:00	Sa 19 Jul 20 02:00	0	Sa 19 Jul 20 14:00	0	---	600	400	200	0	56.81	
WA4	B-West Africa 4		OOCL Tapei	VIN05800	VOUT05800	N	--	Sa 19 Jul 20 13:00	Sa 19 Jul 20 14:00	0	Mo 20 Jul 20 02:00	0	---	300	200	100	0	27.91	
WA1	West Africa		B-Berge 123	VIN05900	VOUT05900	N	--	Sa 19 Jul 20 19:00	Sa 19 Jul 20 20:00	--	Mo 20 Jul 20 01:00	Mo 20 Jul 20 02:00	---	1100	600	500	0	48.35	
WA2	West Asia 2			--	--	S	--	Sa 19 Jul 20 19:00	Sa 19 Jul 20 20:00	--	Mo 20 Jul 20 20:00	--	Mo 20 Jul 20 14:00	700	500	200	0	65.12	
KW1	Korea West Africa			--	--	N	--	Mo 20 Jul 20 01:00	Mo 20 Jul 20 02:00	--	Mo 20 Jul 20 07:00	Mo 20 Jul 20 08:00	--	Tu 21 Jul 20 14:00	400	400	0	0	13.91
EA4	East Africa 4			--	--	W	--	Mo 20 Jul 20 07:00	Mo 20 Jul 20 08:00	--	Mo 20 Jul 20 07:00	Mo 20 Jul 20 08:00	--	Tu 21 Jul 20 02:00	1000	500	500	0	56.7

The unmatched regular proforma instances are represented by grey background rows in the table, its columns are listed below:

- a. **Service Code:** Code used by the terminal to define the service.
- b. **Service Name:** Name used by the terminal to define the service.
- c. **Logo:** Logo of the carrier that operates the service. In an unmatched instance, the default value is the logo of the first carrier code listed in the proforma.
- d. **Vessel Name:** Name of the vessel that operates the service. In an unmatched instance, the default value is '--'.
- e. **Voyage In:** Inbound voyage. In an unmatched instance, the default value is '--'.
- f. **Voyage Out:** Outbound voyage. In an unmatched instance, the default value is '--'.
- g. **Direction:** Direction covered by the service.
- h. **Prev. Port:** Previous port Locode.
- i. **ETA Pilot:** Estimated Time of Arrival at Pilot Boarding Place (also known as ETA Port).
 - In an unmatched proforma instance, it is the proforma instance ETA Pilot.
 - In a matched proforma instance, it is the vessel visit ETA Pilot.
- j. **ETB:** Estimated Time of Berthing.
 - In an unmatched proforma instance, it is the proforma instance ETB.
 - In a matched proforma instance, it is the vessel visit ETB.
- k. **diff Prof:** Difference (in hours) between the Vessel Visit ETB and the Proforma instance ETB. In an unmatched instance, the default value is '--'.
- l. **ETD:** Estimated Time of Departure from the terminal (also known as ETD Terminal).
 - In an unmatched proforma instance, it is the proforma instance ETD Terminal.
 - In a matched proforma instance, it is the vessel visit ETD Terminal.
- m. **diff Prof:** Difference (in hours) between the Vessel Visit ETD Terminal and the Proforma instance ETD Terminal. In an unmatched instance, the default value is '--'.
- n. **Next Port:** Next port Locode.
- o. **Total Moves:** Estimated number of container moves.
 - In an unmatched proforma instance, they are the proforma instance moves.

- In a matched proforma instance, they are the vessel visit moves.
 - p. **Disch:** Estimated number of containers to be discharged from the vessel.
 - In an unmatched proforma instance, they are the proforma instance discharging containers.
 - In a matched proforma instance, they are the vessel visit discharging containers.
 - q. **Load:** Estimated number of containers to be loaded onto the vessel.
 - In an unmatched proforma instance, they are the proforma instance loading containers.
 - In a matched proforma instance, they are the vessel visit loading containers.
 - r. **Restow:** Estimated number of containers to be restowed.
 - In an unmatched proforma instance, they are the proforma instance restows.
 - In a matched proforma instance, they are the vessel visit restows.
 - s. **BMPH:** Berth Moves Per Hour, average number of containers moved per hour during vessel operations.
 - In an unmatched proforma instance, it is the proforma instance BMPH.
 - In a matched proforma instance, it is the vessel visit BMPH.
2. a) Double-click on an unmatched regular proforma instance row, or
 b) Click on an unmatched regular proforma instance row and click on the 'Edit' icon

Edit icon

Selected proforma instance									
Service Code	Service Name	Logo	Vessel Name	Voyage In	Voyage Out	Dir	Prev. Port	ETA Pilot	ETB
FAL1	Held Europe 10		--	--	--	E	--	We 22 Jul 20 01:00	We 22 Jul 20 02:00
FAL1	France Asia Line 1		--	--	--	S	--	We 22 Jul 20 07:00	We 22 Jul 20 08:00
NEUJALT1	Transatlantic North Europe		--	--	--	S	--	We 22 Jul 20 07:00	We 22 Jul 20 08:00
WA4	West Africa 4		--	--	--	S	--	We 22 Jul 20 19:00	We 22 Jul 20 20:00
FAL1	France Asia Line 1		--	--	--	E	--	Th 23 Jul 20 01:00	Th 23 Jul 20 02:00
WA1	West Asia 1		--	--	--	W	--	Th 23 Jul 20 01:00	Th 23 Jul 20 02:00
WA3	West Asia 3		--	--	--	E	--	Th 23 Jul 20 01:00	Th 23 Jul 20 02:00

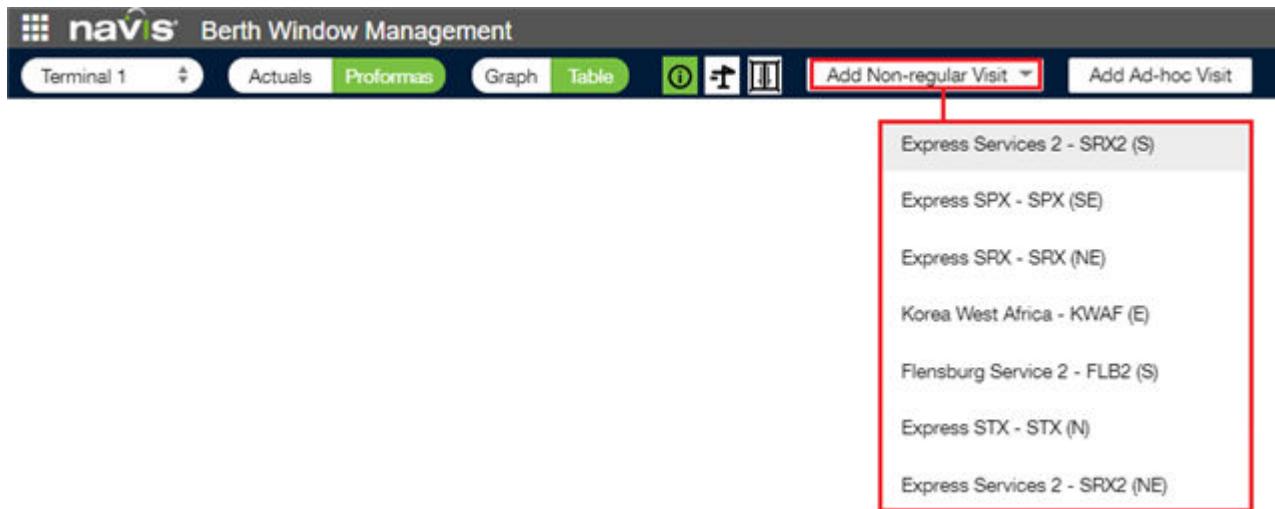
In order to bring up the **Add Vessel Visit** modal, follow the steps from 3 in the [Adding vessel visit based on regular proforma - Graph mode](#).

5.2 Adding a new vessel visit based on non-regular proforma

To add a new vessel visit based on a non-regular (also known as irregular) proforma, it is necessary to follow the next steps:

1. Click on 'Proformas' button in order to show the proforma instances graph ('Graph' button selected) of the proforma instances table ('Table' button selected).

- Click on the 'Add Non-regular Visit' dropdown menu in order to show the list of non-regular proformas.



- Select the service from the list for which it is required to create a vessel visit in order to show the 'Add Vessel Visit' modal.

- Follow the steps described in points 3 to 8 of [Adding a vessel visit based on regular proforma - Graph Mode](#).

It is only necessary to take into account the following changes:

In point 4 (fill in the Times/Moves/Productivity fields):

- ETB: Estimated time of berthing of the vessel. This value will be filled with the value of the current date and time.
- By default, the 'ETD' value is calculated.

The tool automatically displays option '**Actuals/Graph**' and the newly added vessel visit is displayed and highlighted in the grid.

5.3 Adding a new Ad-hoc vessel visit

There may be cases where it is necessary to create a vessel visit of a vessel at the terminal that is not associated with any proforma. In that case, the Navis Berth Window Management module allows an ad-hoc vessel visit to be generated.

To add a new ad-hoc vessel visit, follow the below mentioned steps:

- Click on '**Proformas**' button in order to show the proforma instances graph ('Graph' button selected) of the proforma instances table ('Table' button selected).
- Click on the 'Add Ad-hoc Visit' button and the 'Add AdHoc Vessel Visit' modal is displayed.



3. Fill in the necessary general fields:

- Service Code:** Code used by the terminal to define a particular service. For a service code to be displayed in the dropdown menu, it must have been previously created in the 'Terminal Services' option
- Service Name:** Name used by the terminal to define a particular service. For a service name to be displayed in the dropdown menu, it must have been previously created in the 'Terminal Services' option
- Direction:** Direction covered by a particular service. For a service direction to be displayed in the dropdown menu, it must have been previously created in the 'Terminal Services' option
- Voyage In:** Inbound voyage number.
- Voyage Out:** Outbound voyage number.
- Vessel Type:** Select whether its a Ship or Barge.

The following described fields are defined in the Navis Ship Library module and only users with administrator profile can modify them:

- Vessel Name:** Name of the vessel to be operated on the vessel visit. When this value is given as input, the 'IMO', 'Call Sign', 'LOA', 'Beam', 'Draft' and 'Flag' fields are filled automatically.
- IMO:** IMO of the vessel to be operated on the vessel visit. When this value is given as input, the 'Vessel Name', 'Call Sign', 'LOA', 'Beam', 'Draft' and 'Flag' fields are filled automatically.
- Call Sign:** Call sign of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.
- LOA:** Length overall (in meters) of the vessel to be operated on the vessel visit. This field is not editable and

comes from the ship data. In addition, it is taken into account for the accurate calculation of the bollards between which the ship will berth.

e. **Beam:** Beam (in meters) of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.

f. **Draft:** Draft (in meters) of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.

g. **Flag:** Flag of the vessel to be operated on the vessel visit. This field is not editable and comes from the ship data.

4. Fill in the Times/Moves/Productivity fields:

ETB 10/12/2020 <input type="button" value=""/>	14:28 <input type="button" value=""/>		Discharges 0	Loads 0	Restows <small>i</small> 0	Totals 0
ETD 10/12/2020 <input type="button" value=""/>	22:28 <input type="button" value=""/>		CMPPH <input type="text"/>	CI <input type="text"/>	BMPPH <input type="text"/>	

a. **ETB:** Estimated time of berthing of the vessel. This value will be filled with the value of the current date and time.

b. **Discharges:** Estimated number of containers to be discharged.

c. **Loads:** Estimated number of containers to be loaded.

d. **Restows:** Estimated number of containers to be restowed.

The 'Totals' field is automatically updated by calculating: number of containers to discharge + number of containers to load + two times (2x) number of restows.

As soon as a value is included in fields 'Discharge', 'Load' or 'Restow', the following fields will be enabled:

ETD 10/14/2020 <input type="button" value=""/>	06:14 <input type="button" value=""/>	<input checked="" type="radio"/>	CMPPH 27	<input type="radio"/>	CI 1	<input type="radio"/>	BMPPH 27
---	---------------------------------------	----------------------------------	-------------	-----------------------	---------	-----------------------	-------------

e. **ETD:** Estimated time of departure from the terminal.

f. **CMPPH:** Average crane productivity in Container Moves Per Hour (CMPPH). The default value is the one indicated in the terminal settings.

g. **CI:** Crane Intensity. Average number of cranes operating the service. The default value is '1'.

The parameter ('ETD', 'CMPPH' or 'CI') selected by the radio button will be automatically calculated taking into account the rest of the values. In this way, the user can calculate the most important or unknown value when generating the proforma. By default, the 'ETD' value is calculated.

The 'BMPPH' (Berth Moves Per Hour which is the average number of containers moved per hour during vessel operations) field is automatically updated by multiplying 'CMPPH' by 'CI'.

5. Fill in the positioning fields

a. **Position:** Position in which the vessel will be berthed, which can be:

'by Bollard': The user must specify:

- Section where the vessel will be berthed.
- Bollard (and its corresponding offset) in which the aft of the vessel will be positioned.
- Bollard (and its corresponding offset) in which the fore of the vessel will be positioned.

'by Berth-Slot': The user must specify:

- Section where the vessel will be berthed.
- The name of the Berth-slot.

All these values (sections, bollards, berth-slots) are defined in the Navis Terminal Library module and only users

with administrator profile can modify them. In addition, the bollards (and its corresponding offsets) are calculated automatically based on vessel's LOA.

- a. **Ship Direction:** Berthing direction (Starboard or Port Side) of vessels. The default value is the one indicated in the terminal settings (see section 2.3.4.2 for details)
- b. **Arrival Draft (m):** The expected arrival draft.
- c. **Departure Draft (m):** The expected departure draft. This value is pre-populated from the proforma instance.

6. Fill in the carrier fields:

Operator Name	Service Code	Service Name	Direction
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

- a. **Operator Name:** Code of the carrier that will operate the service.
- b. **Service Code:** Code used by the carrier to define a particular service.
- c. **Service Name:** Name used by the carrier to define a particular service.
- d. **Direction:** Direction covered by a particular service.

All these values are defined in the Navis Administration module and only Navis administrators can modify them.

7. Click on the 'Save' button.

The tool automatically displays option '**Actuals/Graph**' and the newly added vessel visit is displayed and highlighted in the grid.

5.4 Display a vessel visit

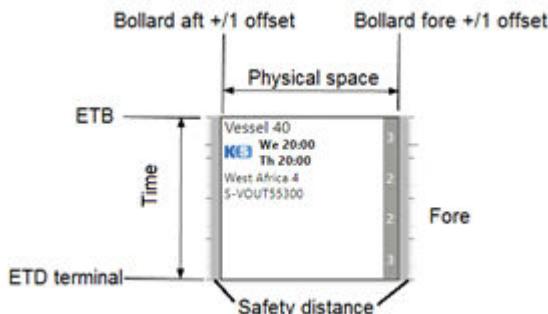
Once a vessel visit has been created, it is displayed in the different views of the Navis Berth Window Management module. The different display modes are detailed in this section.

5.4.1 Actuals Graph

These are the main features of the vessel visits when selecting the 'Actuals' , 'Graph' buttons and 'Information view' / 'Quay crane view' or 'Cargo view' mode as shown below. The default view is the 'Information view' mode



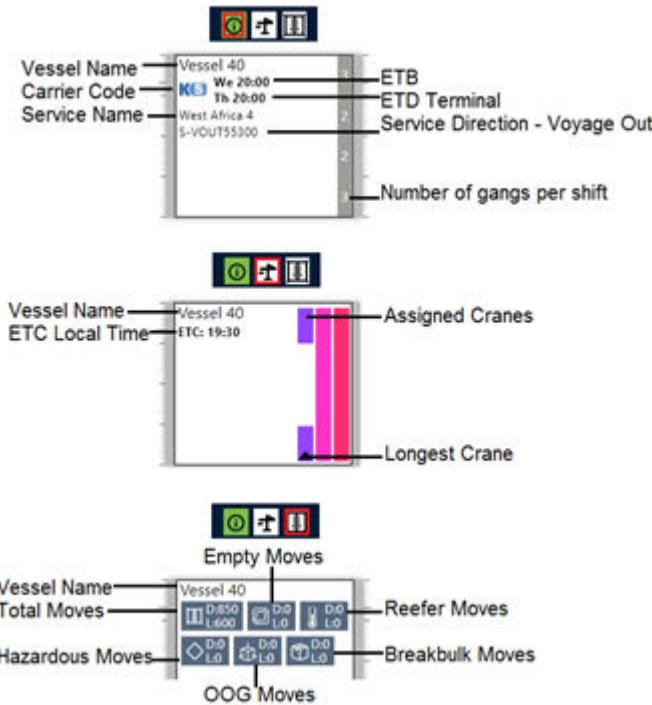
1. The vessel visits are represented by white background boxes in the grid, the physical space being represented by the horizontal axis (x-axis), and the operations time being represented by the vertical axis (y-axis). The position of the fore is shown by the use of service color.



2. If the vessel visit box is positioned in the 'Unallocated' or 'N4' area, it will always have a fixed width that does not

represent the actual physical space occupied by the vessel. The height of the box (time) would correspond to the estimated time of operations.

- The data included in each vessel visit box depending on which view mode is selected is represented in the next figure:



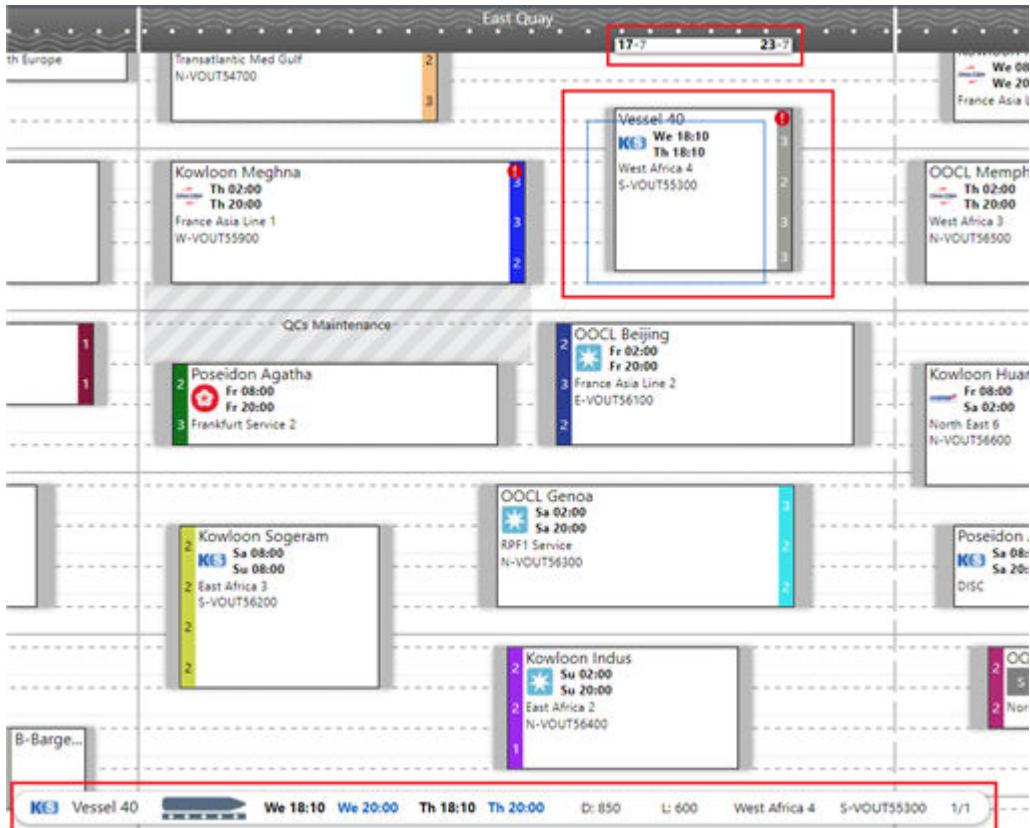
- By hovering the mouse pointer over each of the vessel visit boxes:

- The bollards (and its corresponding offsets) between which the vessel operating the service detailed in the vessel visit will berth are detailed at the top.
- A mini inspector is displayed at the bottom with information associated with the vessel visit.

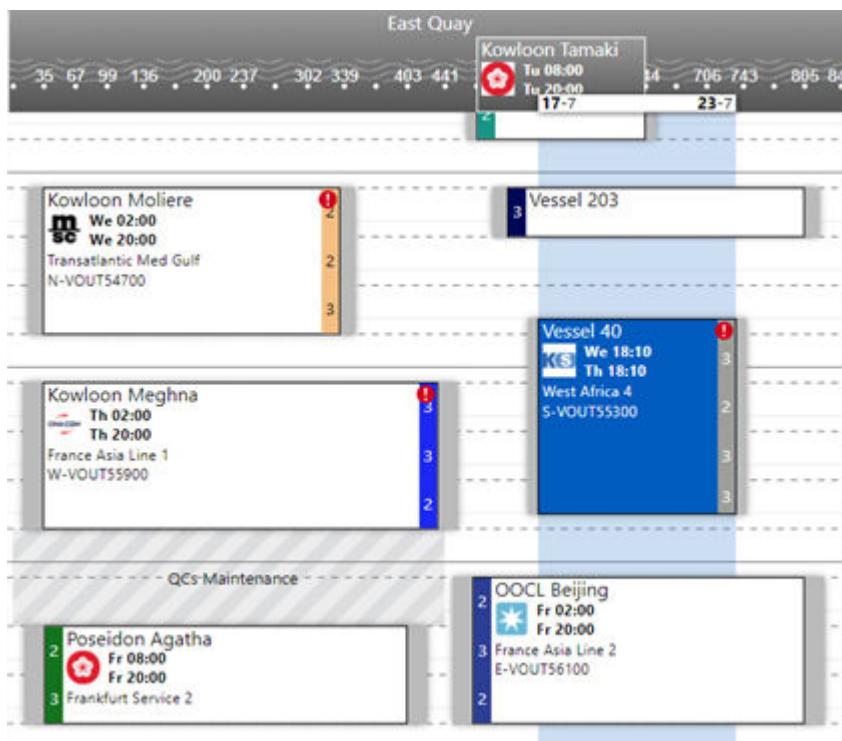
Vessel Name	Carrier Logo	Ship Direction	Vessel Call ETA	Proforma ETB	Vessel Call ETD Terminal	Proforma ETD Terminal	Service Name	Voyage Out	Service Direction
Vessel 40	K3	WE 18:10	We 18:10	We 20:00	Th 18:10	Th 20:00	D: 850 L: 600	Discharge Moves Load Moves	West Africa 4 S-VOUT55300 1/1 Stop 1 of 1

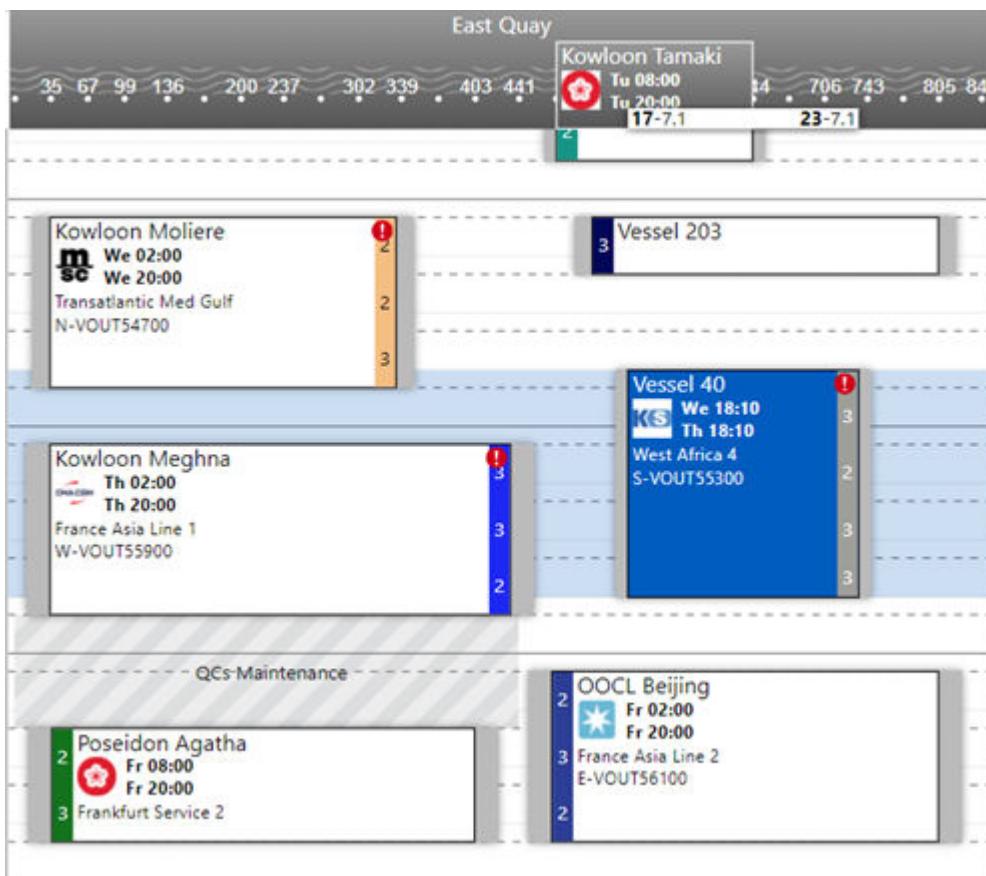
- The position of the associated proforma instance is shown with:
 - A box with a **blue** background in case of a **regular proforma** instance.
 - A box with a **purple** background in case of a **non-regular proforma** instance.

- A box with a **yellow** background in case of an **ad-hoc vessel visit**.



- By clicking on a vessel visit box without releasing the mouse button, the drag mode by time is activated. By clicking on a vessel visit box without releasing the mouse button and holding the "Ctrl" key, the drag mode by physical space is activated.





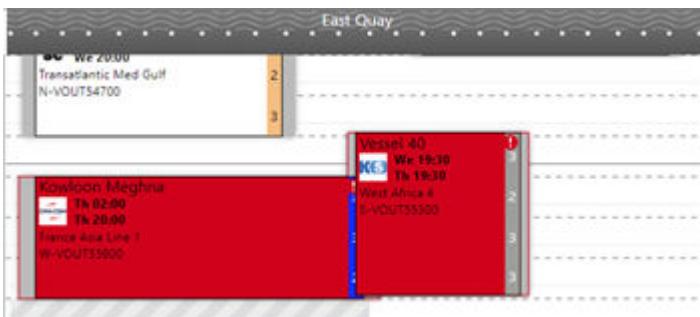
This mode allows the user to **move** the vessel visit box in either physical space or time within the section in which it is positioned.

Both the **bollards** (with their corresponding offset) and the ETB and ETD Terminal are updated as the box is moved by the user. These information are also available at the top of the grid and left column respectively

It is to be noted that the drag mode cannot be used for those vessel visits that are positioned in the 'Unallocated' area.

- Whenever two or more vessel visit boxes **overlap**, a **conflict** occurs. This is represented in the grid with boxes with **orange background** if there is a **safety distance conflict** or **red background** if there is a **physical conflict** so that the user can make decisions to solve it.





- By clicking on a vessel visit box, the floating '**Vessel Visit Inspector**' is displayed and by double-clicking on a vessel visit box, the '**Vessel Visit Inspector**' modal is displayed. The '**Vessel Visit Inspector**' modal can also be displayed by clicking on the respective panel in the floating '**Vessel Visit Inspector**' :



Edit Berth Position of Vessel 48

ETA 00:40	ETB 01:40	Proforma +00:20	ETS 02:25	Moved 600	Proforma 600	CMPH 27	O 1.3	BMPH 35.1	Proforma 35.8	ETC 19:10	ETO 20:00	Proforma -00:00	P Off 20:45
Terminal Stay 18:20 Operations 17:05 Th, 15 Oct 20													

Berth Position **Arrival & Departure** **Moves** **Cranes** **Comments**

Position
by Bollard

Section aft: North Quay Bollard aft: 44 offset (m): -6 Vessel Direction: Starboard

Section fore: North Quay Bollard fore: 37 offset (m): 7.8

Arr. Draft (m): 0.00 Dep. Draft (m): 0.00

Cancel **Save**

- a. More details relating to the vessel, carrier and service at the top of the floating Vessel Visit Inspector can be displayed by hovering the mouse over the respective area:



- b. The functionality associated with the '**Berth Position**' tab is detailed in the section [Editing a vessel visit using Berth Position tab](#).
- c. The functionality associated with the '**Arrival and Departure**' tab is detailed in the section [Vessel visit execution](#).

- d. The '**Moves**' tab shows the Total number of Discharge/ Load and Restow moves which you can further split by cargo type Empty/ Reefer/ Hazardous/ OOG and Breakbulk.

- e. The '**Cranes**' tab is detailed in the section [Assign quay cranes](#).

- f. The '**Comments**' tab allows the user to include general comments associated with the vessel visit.

- g. The 'Activity Log' tab shows users the specific movement or updates relating to the vessel visit

The screenshot shows the Vessel Visit Planning application. On the left, there's a summary card for 'Vessel 48' with details like 'Kowloon Shipping (KOW)', 'West Asia 3', 'VIN99900', 'VOUT99900', 'North Quay', '44 -6 m', '37.78 m', 'Arrival Draft: 0.00m', 'Departure Draft: 0.00m', and a timeline from '00:40' to '20:25'. Below this are sections for moves (600), BMPH (35.1), and CMPH (27). At the bottom are 'Cancel Vessel Visit/Stop' and 'Add Stop' buttons. On the right, the 'Activity Log of Vessel 48' tab is open, displaying a table of 12 results with columns for Date, Attribute, Change From, Change To, Event, Description, and Edited By. The log includes entries for ETB, ETD, Bollard Fore Offset, and Bollard Aft Offset changes.

- h. The functionality associated with the 'Cancel Vessel Visit/ Stop' button is detailed in the section [Omit a vessel visit](#).

5.4.2 Actuals Table

These are the main features of the vessel visits when selecting the 'Actuals' and 'Table' buttons as shown below



The columns included in the table are defined in [Adding vessel visit based on regular proforma - Table Mode](#).

Service Code	Service Name	Logo	Vessel Name	Stop In	Voyage Out	Dir	Prev. Port	ETA/Post	ETB	Off Prof	ETD	Off Prof	Next Port	Total Moves	Disch	Load	Reflow	BMPH	
KWA1	Korea West Africa	KOW	Kowloon Sir Derby (Departed)	I	VIN54000	VOUT54000	W	--	Mo 13 Jul 20 07:00	Mo 13 Jul 20 08:00	0	Fr 14 Jul 20 13:45	-0.2	--	400	400	0	0	13.45
WA2	West Africa 2	M	Vessel 216 (Departed)	I	VIN54000	VOUT54000	S	--	Fr 14 Jul 20 07:00	Fr 14 Jul 20 08:00	0	Fr 14 Jul 20 14:00	0	--	300	100	200	0	50
AVX	Asia Express	KOW	Kowloon Aviation (Departed)	I	VIN55000	VOUT55000	N	--	Fr 14 Jul 20 01:00	Fr 14 Jul 20 02:00	0	Fr 14 Jul 20 14:00	0	--	200	200	500	20	81.67
WAF	West Africa	OCCL	OCCL Beijing (Departed)	I	VIN54100	VOUT54100	N	--	Fr 14 Jul 20 01:00	Fr 14 Jul 20 02:00	0	Fr 14 Jul 20 20:00	0	--	1000	800	200	0	35.56
WA1	West Africa 1	KOW	Kowloon Temasy (Departed)	I	VIN54000	VOUT54000	S	--	Fr 14 Jul 20 02:00	Fr 14 Jul 20 08:00	0	Fr 14 Jul 20 20:00	0	--	600	300	100	0	50
77NSF	77 Service Line	KOW	Vessel 203 (Departed)	I	VIN54000	VOUT54000	N	--	Fr 15 Jul 20 00:00	Fr 15 Jul 20 00:24	7.4	Fr 15 Jul 20 10:00	0	--	300	300	0	0	50
NEU&LT1 Transatlantic North Europe																			
FAL1	France Asia Line 1	KOW	Vessel 219	I	VIN54300	VOUT54300	N	--	We 15 Jul 20 01:00	We 15 Jul 20 02:00	0	We 15 Jul 20 14:00	0	--	600	500	100	0	56.7
FRC	France America	M	Kowloon Mindanao	I	VIN55200	VOUT55200	S	--	We 15 Jul 20 07:00	We 15 Jul 20 08:00	0	We 15 Jul 20 20:00	0	--	820	600	200	10	75.6
MEDGULF	Transatlantic Med Gulf	KOW	Vessel 29	I	VIN54200	VOUT54200	W	--	We 15 Jul 20 01:00	We 15 Jul 20 02:00	0	We 15 Jul 20 20:00	0	--	1200	1000	200	0	72.9
WA4	West Africa 4	KOW	Kowloon Moliere	I	VIN54700	VOUT54700	N	--	We 15 Jul 20 01:00	We 15 Jul 20 02:00	0	We 15 Jul 20 20:00	0	--	1100	600	500	0	64.8
WA3	West Asia 3	KOW	Vessel 40	I	VIN55300	VOUT55300	S	--	We 15 Jul 20 19:30	We 15 Jul 20 20:30	0.5	Th 16 Jul 20 20:30	0.5	--	1480	850	600	20	64.8
AVX	Asia Express	KOW	Vessel 206	I	VIN55400	VOUT55400	E	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	600	500	100	0	35.1
FAL1	France Asia Line 1	KOW	Kowloon Irene	I	VIN2400	VOUT2400	W	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	--	Fr 17 Jul 20 00:21	--	--	1140	800	300	20	54
WA5	West Africa 3	KOW	Kowloon Meghna	I	VIN55600	VOUT55600	W	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	1220	1030	130	30	72.9
WA1	West Asia 1	KOW	OCCL Memphis	I	VIN56500	VOUT56500	N	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	1000	800	200	0	60
DISC	DISC	KOW	Kowloon State	I	V123	V123	W	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	1100	500	600	0	64.8
DISC	DISC	KOW	Kowloon Moliere	I	001	001	S	--	Th 16 Jul 20 06:51	Th 16 Jul 20 10:51	0	Fr 17 Jul 20 01:05	0	--	720	500	200	10	54
SRS	Sinus Service	KOW	Kowloon Aras 2	I	1027	1027	S	--	Th 16 Jul 20 06:53	Th 16 Jul 20 10:53	0	Fr 17 Jul 20 01:08	0	--	720	500	200	10	54
SRS	Sinus Service	KOW	Kowloon Moliere	I	VIN55500	VOUT55500	NE	--	Fr 17 Jul 20 01:00	Fr 17 Jul 20 02:00	0	Fr 17 Jul 20 14:00	0	--	300	150	150	0	27

1. **Blue** background 'Service Name' columns represent the vessel visits associated with **regular proforma** instances.
2. **Purple** background 'Service Name' columns represent the vessel visits associated with **non-regular proforma** instances.
3. **Yellow** background 'Service Name' columns represent the ad-hoc vessel visits.
4. Rows with **bold** font represent vessel visits that are under operations.

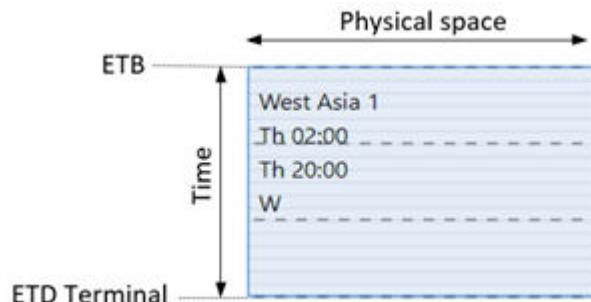
5. Rows in **bold italics** represent vessel visits that have completed operations and departed the terminal less than 6 hours ago.
6. By **double-clicking** on a vessel visit row (or selecting a vessel visit row and clicking on the '**Edit**' icon), the 'Vessel Visit Inspector' modal is displayed.
7. By selecting a vessel visit row and clicking on the '**Delete**' icon, the vessel visit can be omitted.

5.4.3 Proformas Graph

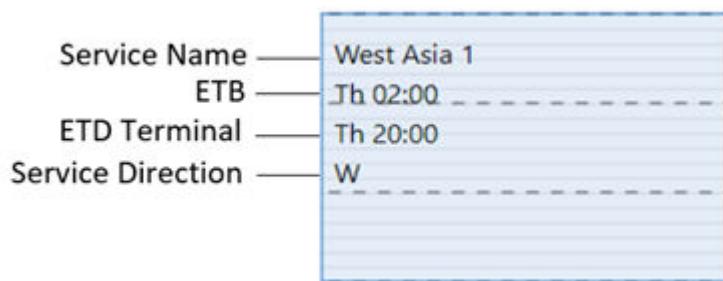
These are the main features of the vessel visits when selecting the 'Proformas' and 'Graph' buttons as shown below.



1. The proforma instances associated with vessel visits are represented by blue (regular), purple (non-regular) or yellow (ad-hoc) background boxes in the grid, the physical space being represented by the horizontal axis (x-axis), and the operations time being represented by the vertical axis (y-axis).

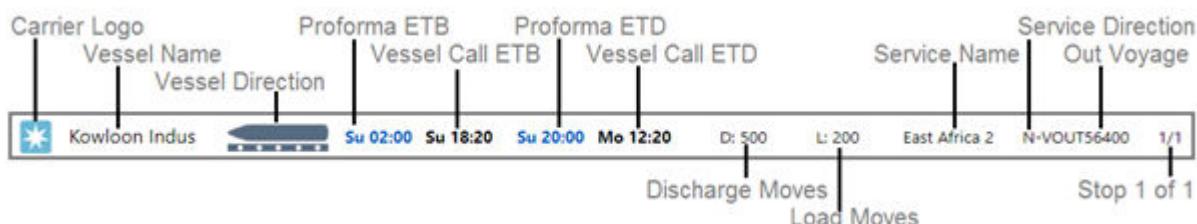


2. The data included in each proforma instance box is represented in the next figure:

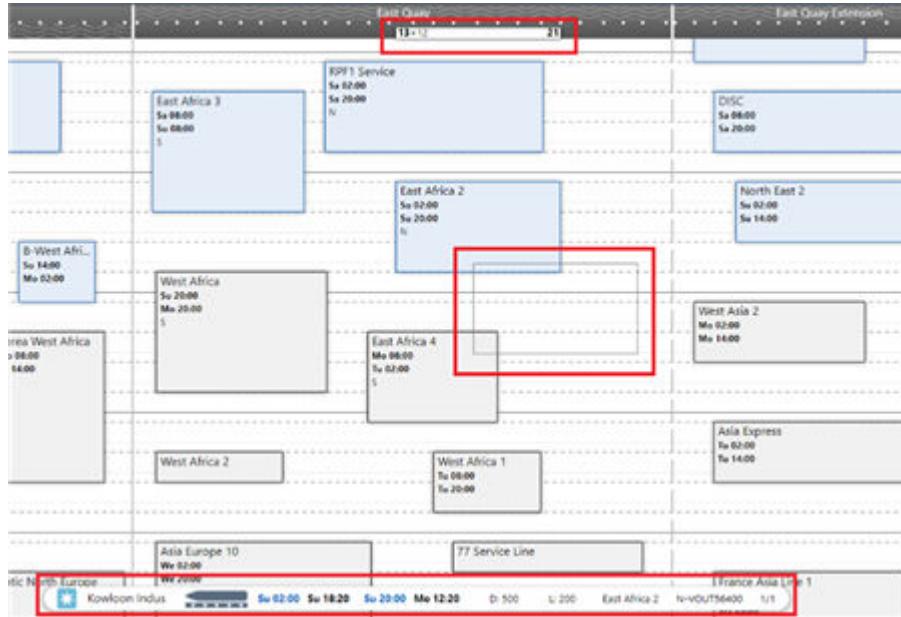


3. By hovering the mouse pointer over each of the proforma instance boxes:

- The bollards (and its corresponding offsets) between which the vessel operating the service detailed in the proforma instance will berth are detailed at the top.
- A mini inspector is displayed at the bottom with information associated with the vessel visit.



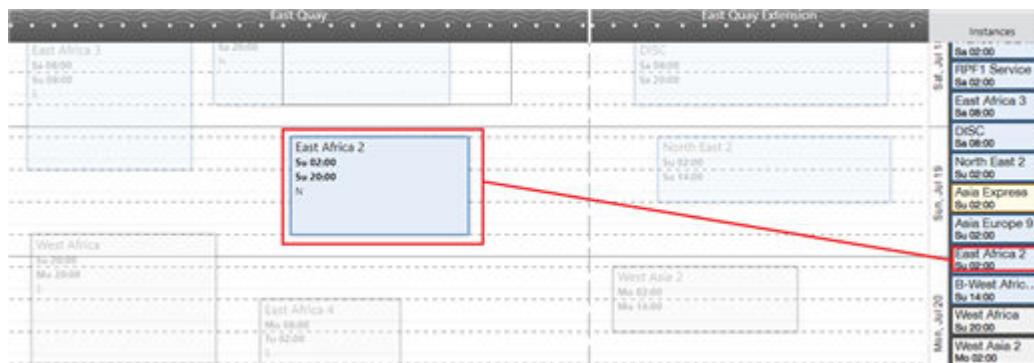
- c. The position of the associated vessel visit is shown with a box with a white background.



4. The matched (with vessel visit associated) regular proforma instances are represented by blue background boxes in the 'Instances' column.

Service Name ————— **West Asia 1**
ETB ————— **Th 02:00**

5. When clicking on an unmatched regular proforma instance in the 'Instances' column, its corresponding proforma instance box is highlighted in the grid as shown below:



5.4.4 Proformas Table

These are the main features of the vessel visits when selecting the 'Proformas' and 'Table' buttons.



The columns included in the table are defined in section [Adding a vessel visit based on a regular proforma - Table Mode.](#)

Service Code	Service Name	Logo	Vessel Name	Voyage In	Voyage Out	Dir	Prev. Port	ETA Port	ETB	off Prof	ETO	off Prof	Next Port	Total Movels	Dscrch	Load	Restow	BMRH
JTRFE	77 Service Line		Vessel 103 (Unpaired)	VIN54000	VOL17544800	N		We 10 Jul 20 01:00	We 10 Jul 20 01:00	7.4	We 10 Jul 20 00:00	0	--	800	800	0	0	65.30
FRC	France America		Vessel 104 (Unpaired)	VIN54001	VOL17544800	W		We 10 Jul 20 01:00	We 10 Jul 20 01:00	0	We 10 Jul 20 00:00	0	--	800	800	200	0	71.64
MEDGULF	Transatlantic Med Gulf		Kowloon Moller Disperser	VIN54002	VOL17544800	N		We 10 Jul 20 01:00	We 10 Jul 20 01:00	0	We 10 Jul 20 00:00	0	--	700	800	800	0	65.67
FAL1	France Asia Line 1		Kowloon Moller Disperser	VIN55000	VOL17553000	W		We 10 Jul 20 01:00	We 10 Jul 20 01:00	0	We 10 Jul 20 00:00	0	--	800	800	200	0	65.30
NEUNLT	Transatlantic North Europe		Kowloon 216 (Unpaired)	VIN54003	VOL17544800	N		We 10 Jul 20 01:00	We 10 Jul 20 01:00	0	We 10 Jul 20 00:00	0	--	800	800	800	0	65.81
WAFA	West Africa 4		Vessel 40	VIN55300	VOUT155300	S	--	We 15 Jul 20 19:00	We 15 Jul 20 20:00	0.5	Th 16 Jul 20 20:00	0.5	--	1440	800	600	20	63.3
WA3	West Asia 3		Vessel 206	VIN55400	VOUT155400	E	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	600	500	100	0	35.82
FAL1	France Asia Line 1		Kowloon Meghna	VIN55900	VOUT155900	W	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	1200	1000	130	30	72.84
WA3	West Africa 3		OCL Memphis	VIN56500	VOUT156500	N	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	1000	800	200	0	59.7
WA1	West Asia 1		Kowloon Slatte	V123	V123	W	--	Th 16 Jul 20 01:00	Th 16 Jul 20 02:00	0	Th 16 Jul 20 20:00	0	--	1100	500	600	0	65.67
DISC	DISC		Kowloon Molire	001	001	S	--	Th 16 Jul 20 09:51	Th 16 Jul 20 10:51	0	Fr 17 Jul 20 01:26	0	--	720	500	200	10	54
DISC	DISC		Kowloon Ares 2	1027	1027	S	--	Th 16 Jul 20 09:53	Th 16 Jul 20 10:53	0	Fr 17 Jul 20 01:28	0	--	720	500	200	10	54
SBS	Sinus Service		Kowloon Molire	VIN55500	VOUT155500	NE	--	Fr 17 Jul 20 01:00	Fr 17 Jul 20 02:00	0	Fr 17 Jul 20 14:00	0	--	300	150	150	0	27.91
FAL2	France Asia Line 2		OCL Beijing	VIN56100	VOUT156100	E	--	Fr 17 Jul 20 01:00	Fr 17 Jul 20 02:00	0	Fr 17 Jul 20 20:00	0	--	1300	800	500	0	77.61
FSK2	Frankfurt Service 2		Poseidon Agatha	VIN56000	VOUT156000	SW	--	Fr 17 Jul 20 07:00	Fr 17 Jul 20 08:00	0	Fr 17 Jul 20 20:00	0	--	700	500	200	0	65.12
NE5	North East 5		Kowloon Huangbo	VIN56600	VOUT156600	N	--	Fr 17 Jul 20 07:00	Fr 17 Jul 20 08:00	0	Sa 18 Jul 20 02:00	0	--	1250	1000	250	0	74.63
RFF1	RFF1 Service		OCL Genoa	VIN56300	VOUT156300	N	--	Sa 18 Jul 20 01:00	Sa 18 Jul 20 02:00	0	Sa 18 Jul 20 20:00	0	--	1040	900	100	20	62.09
FAL1	France Asia Line 1		Kowloon Doley	VIN56900	VOUT156900	SE	--	Sa 18 Jul 20 01:00	Sa 18 Jul 20 02:00	0	Sa 18 Jul 20 20:00	0	--	1340	1000	160	60	80
DISC	DISC		Poseidon Archippos	VIN56700	VOUT156700	N	--	Sa 18 Jul 20 07:00	Sa 18 Jul 20 08:00	0	Sa 18 Jul 20 20:00	0	--	720	500	200	10	66.98
EA13	East Africa 3		Kowloon Sogaram	VIN56200	VOUT156200	S	--	Sa 18 Jul 20 07:00	Sa 18 Jul 20 08:00	0	Sa 19 Jul 20 08:00	0	--	1000	400	600	0	43.96
EA12	East Africa 2		Kowloon Indus	VIN56400	VOUT156400	N	--	Sa 19 Jul 20 01:00	Sa 19 Jul 20 02:00	0	Sa 19 Jul 20 20:00	0	--	710	500	200	5	42.39
AE9	Asia Europe 9		Poseidon Aemilia	VIN57000	VOUT157000	E	--	Sa 19 Jul 20 01:00	Sa 19 Jul 20 02:00	0	Mo 20 Jul 20 02:00	0	--	1600	1000	600	0	70.33
NE2	North East 2		OCL Taipei	VIN56800	VOUT156800	N	--	Sa 19 Jul 20 01:00	Sa 19 Jul 20 02:00	0	Sa 19 Jul 20 14:00	0	--	600	400	200	0	55.81
HW4	B-West Africa 4		B-Sarge 123	VIN56800	VOUT156800	N	--	Sa 19 Jul 20 13:00	Sa 19 Jul 20 14:00	0	Mo 20 Jul 20 02:00	0	--	300	200	100	0	27.91
WA1	West Africa		--	--	--	S	--	Sa 19 Jul 20 19:00	Sa 19 Jul 20 20:00	--	Mo 20 Jul 20 02:00	--	--	1100	600	500	0	48.35
WA2	West Asia 2		--	--	--	N	--	Mo 20 Jul 20 01:00	Mo 20 Jul 20 02:00	--	Mo 20 Jul 20 14:00	--	--	700	500	200	0	65.12

1. Grey background 'Service Name' columns represent the unmatched (no vessel visit associated) regular proforma instances.
2. Blue background 'Service Name' columns represent the vessel visits associated with regular proforma instances.
3. Purple background 'Service Name' columns represent the vessel visits associated with non-regular proforma instances.
4. Rows with **bold** font represent vessel visits that are under operations.
5. By double-clicking on an unmatched proforma instance row (or selecting an unmatched proforma instance row and clicking on the '**Edit**' icon), the 'Add Vessel Visit' modal is displayed
6. By selecting an unmatched proforma instance row and clicking on the '**Delete**' icon, the proforma instance can be omitted.

5.5 Editing a Vessel Visit using Berth Position tab

Editing a vessel visit implies the possibility of modifying the **physical position** in which the vessel that will carry out the operations will berth, or modifying the **time** needed to carry out these operations.

To edit a vessel visit, the following procedures can be followed:

- Using the **drag** mode, as described in [Actuals Graph](#) section.

- Using the 'Berth Position' and 'Crane' tab of the 'Vessel Visit Inspector' modal.

The screenshot shows the 'Vessel Visit Inspector' interface. On the left is a summary card for 'Stop 1' with details like 'Vessel 48', 'Kowloon Shipping (KOW)', 'West Asia 3', and arrival/departure times. An arrow points from the 'Berth Position' tab on the summary card to the 'Edit Berth Position of Vessel 48' dialog box on the right. The dialog box contains tabs for 'Berth Position', 'Arrival & Departure', 'Moves', 'Cranes', and 'Comments'. The 'Berth Position' tab is active, showing fields for 'Position by Bollard' (set to 'by Bollard'), 'Section aft' (set to 'North Quay') with 'Bollard aft' at 44 and 'offset (m)' at -6, and 'Section fore' (set to 'North Quay') with 'Bollard fore' at 37 and 'offset (m)' at 7.8. A vessel icon shows 'Starboard' direction. Below these are 'Arr. Draft (m)' and 'Dep. Draft (m)' fields both set to 0.00. At the bottom are 'Cancel' and 'Save' buttons.

This section describes how to use the 'Berth Position' tab features for editing a vessel visit.

5.5.1 Modify the berthing position of a ship

In order to modify the berthing position of a ship by using the 'Berth Position' tab, it is necessary to fill in the positioning fields (described in the following points) and click on the 'Save' button.

The screenshot shows the 'Berth Position' tab of the 'Edit Berth Position' dialog box. It includes tabs for 'Berth Position', 'Arrival & Departure', 'Moves', 'Cranes', and 'Comments'. The 'Berth Position' tab is active, showing a dropdown 'Position by Bollard' set to 'by Bollard'. Under 'Section aft', 'North Quay' is selected, 'Bollard aft' is 44, and 'offset (m)' is -6. Under 'Section fore', 'North Quay' is selected, 'Bollard fore' is 37, and 'offset (m)' is 7.8. A vessel icon shows 'Starboard' direction. Below these are 'Arr. Draft (m)' and 'Dep. Draft (m)' fields both set to 0.00. At the bottom are 'Cancel' and 'Save' buttons.

1. **Position:** Position in which the vessel will be berthed, which can be:

- 'by Bollard': The user must specify:
 - Section** where the vessel will be berthed.
 - Bollard (and its corresponding offset) in which the **aft** of the vessel will be positioned.
 - Bollard (and its corresponding offset) in which the **fore** of the vessel will be positioned.
- 'by Berth-Slot': The user must specify:
 - Section where the vessel will be berthed.
 - The name of the Berth-slot.
- 'Unallocated' : The bollard/offset values associated with 'by Bollard' positioning are calculated automatically based on vessel's LOA.

2. **Ship Direction:** Berthing direction (Starboard or Port Side) of the vessel.
3. **Arrival Draft (m):** The expected arrival draft.
4. **Departure Draft (m):** The expected departure draft.



If position is selected as 'Unallocated', the vessel visit box will be removed from the grid and will be displayed in the 'Unallocated' area on the right of the berth module main view. The vessel visit can be moved back to the grid by clicking on the vessel visit box in the 'Unallocated' area and specifying an actual physical position.

5.5.2 Modify the Operations time

In order to modify the operations time of a vessel visit, fill the Times/Moves/Productivity fields in the '**Arrival & Departure**', '**Moves**' and '**Cranes**' tab:

The screenshot shows the 'Edit Arrival & Departure of Vessel 48' screen. It includes a header with vessel details and a timeline. Below are three tabs:

- Arrival & Departure:** Shows ETB (10/15/2020 01:40), ETD (10/15/2020 20:00), and a green progress bar indicating the duration.
- Moves:** Shows Discharges (500), Loads (100), Restows (0), and Totals (800). It also lists categories like Empty, Reefer, Hazardous, OOG, and Breakbulk.
- Cranes:** Shows CMPPH (27), CI (1.3), and BMPPH (35.1).

1. **ETB:** Estimated time of berthing of the vessel.
2. **Discharge:** Estimated number of containers to be discharged.
3. **Load:** Estimated number of containers to be loaded.
4. **Restow:** Estimated number of containers to be restowed.
5. **ETD:** Estimated time of departure from the terminal.
6. **CMPPH:** Average crane productivity in Container Moves Per Hour (CMPPH).
7. **CI:** Crane Intensity. Average number of cranes operating the service.

The parameter ('ETD', 'CMPPH', 'CI' or 'Moves') selected by the radio button will be automatically calculated taking into account the rest of the values. In this way, the user can calculate the most important or unknown value when modifying the vessel visit. By default, the 'ETD' value is calculated.

When you modify the values described above, the '**Preview Terminal**' section at the top of the tab in real time shows the most relevant figures after the modification which are as follows:

1. **ETA**: Estimated Time of Arrival at Pilot Boarding Place. This value is equal to ETB minus the 'Pilot In' time.
2. **ETB**: Estimated Time of Berthing and compared against proforma.
3. **ETS**: Estimated Time of Starting operations. This value is equal to the ETB plus the 'Idle' time before operations starts.
4. **Moves**: Total number of moves. This value is calculated by solving : number of containers to discharge plus the number of containers to load plus two times (2x) the number of restows and compared against proforma.
5. **BMPH**: Berth Moves Per Hour which is the average number of containers moved per hour during vessel operations and compared against proforma. This value is equal to multiplying 'CMPH' by 'CI'.
6. **ETC**: Estimated Time of Completion of operations. This value is equal to the ETD Terminal minus the 'Idle' time after operations finish defined in the section 2.3.4.4
7. **ETD**: Estimated Time of Departure from the terminal and compared against proforma. Also known as ETD Terminal.
8. **Pilot Off**: Estimated Time of Departure from the port. This value is equal to the ETD Terminal plus the 'Pilot Out' time.

The fields associated with the Carrier are read-only for the terminal user, and show the values of ETB, Discharge, Load, Restow, ETD, CMPH and CI suggested by the carrier user. This feature is part of the collaboration functionality provided by the Navis Berth Window Management module.

ETB		ETD	
10/22/2020	02:00	10/22/2020	20:00
10/23/2020	(Carrier)	01:00	
		10/23/2020	(Carrier)
		20:00	

Once the user has modified all the necessary parameters, and verified in the 'Preview Terminal' section that they meet the needs of the terminal, it is necessary to click on the **Save** button so that the changes are saved in the database and the box representing the vessel visit in the grid is updated accordingly.

5.5.3 Assign Quay Cranes

In order to assign quay cranes to a vessel visit, access the '**Cranes**' tab and select the quay cranes from the '**Available Cranes**' section. Fill in the **Starts/ Ends** fields for each of the selected cranes



1. Starts: Start date and time of quay operations – This value is pre-populated from ETS.
2. Ends: Estimated start date and time of quay operations – This value is pre-populated from ETC.

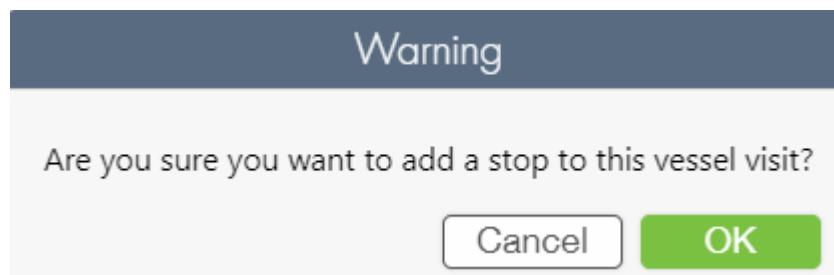
Click on the '+' icon to add another row to specify the crane operations time. The pre-populated start date/ time is the end date/time of the previous row and the pre-populated end date/ time is the ETC.

Click the '-' icon to remove a row specifying the crane operations time.

5.6 Add stop to a Vessel Visit

To add a stop to a vessel visit in the Navis Berth Window Management module, follow the below mentioned steps:

1. In the 'Actuals/Graph' view, access the floating 'Vessel Visit Inspector' of the vessel visit to which the stop needs to be added, and click on the 'Add Stop' button at the bottom of the view.
2. A warning message is displayed



3. Click on the 'OK' button to confirm your selection.

The 'Add Stop to Vessel Visit' modal opens.

4. Update the fields according to section [Editing a Vessel Visit using Berth Position tab](#) and click **Save**

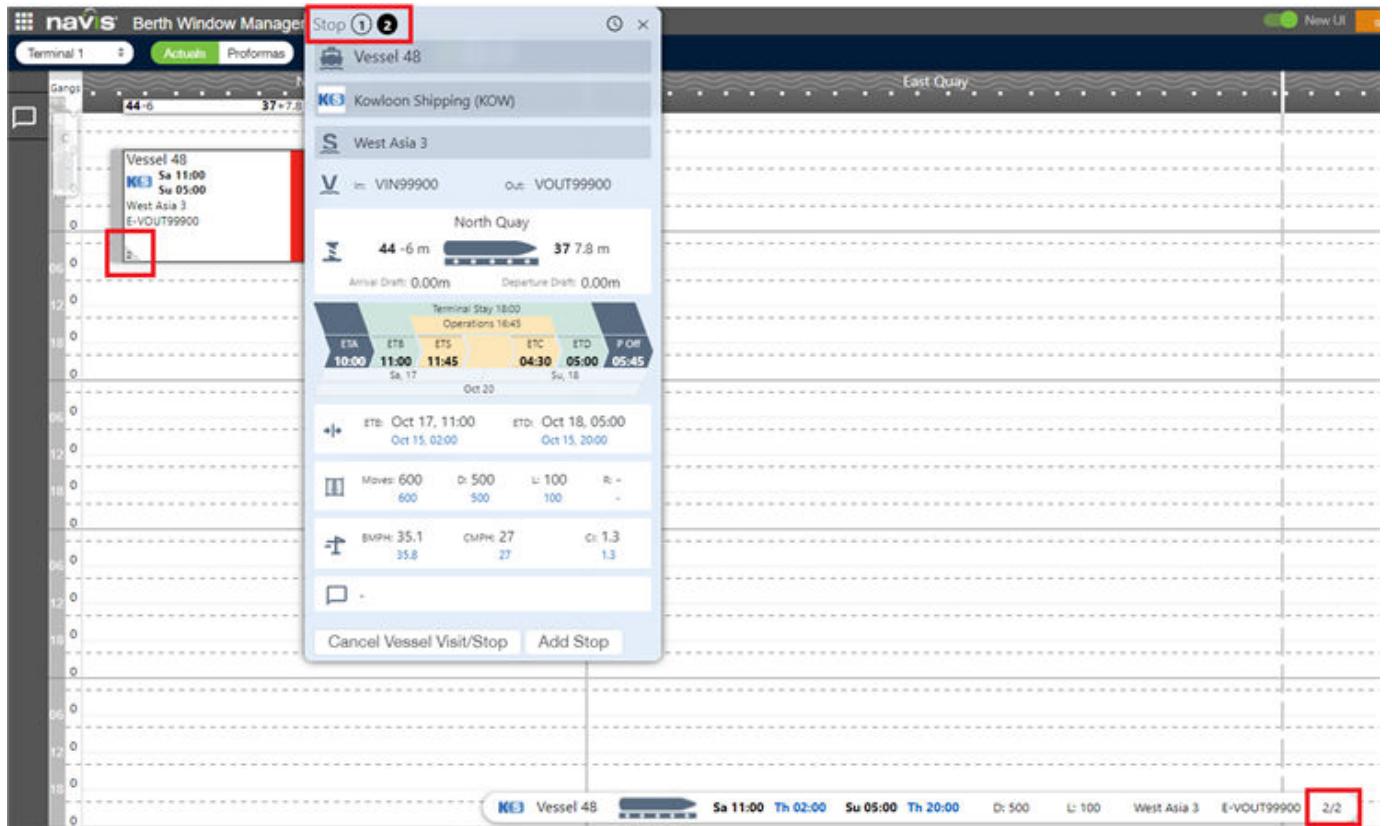
Add Stop N°2 to Vessel Visit

Vessel Name <input type="text" value="Vessel 48"/>	IMO <input type="text" value="9337250"/>	Service: West Asia 3 Service Code: WA3 Direction: E ValidFrom: 2019-04-22 ValidTo: 2021-03-07 Call Sign: VR048 Flag: GI Built: 2006 Status: + Gross Tonnage (mt): 27,779 Deadweight (mt): 39,625.8 LOA (m): 222.2 Beam (m): 30 Draft (m): -- Service Code: KOW Service Name: Kowloon Shipping Direction: E		
Voyage In: <input type="text" value="VIN99900"/>	Voyage Out: <input type="text" value="VOUT99900"/>			
Operator Name <input type="text" value="KOW - Kowloon Shipping"/>				
ETA <input type="text" value="10/15/2020"/> <input type="button" value=""/>	01:40 <input type="button" value=""/>	Discharges <input type="text" value="500"/>	Loads <input type="text" value="100"/>	Restows <input type="text" value="0"/> <input type="button" value=""/>
ETD <input type="text" value="10/15/2020"/> <input type="button" value=""/>	19:40 <input type="button" value=""/>	CMPH <input type="text" value="27"/>	O <input type="radio"/>	BMPH <input type="text" value="1.3"/> <input checked="" type="radio"/> 35.82
Position <input type="text" value="by Bollard"/>				
Section aft: <input type="text" value="North Quay"/>	Bollard aft <input type="text" value="44"/>	offset (m) <input type="text" value="-6"/>	Vessel Direction <input type="text" value="Starboard"/>	
Section fore: <input type="text" value="North Quay"/>	Bollard fore <input type="text" value="37"/>	offset (m) <input type="text" value="7.8"/>		
Arr. Draft (m) <input type="text" value="0.00"/>	Dep. Draft (m) <input type="text" value="0.00"/>			
<input type="button" value="Cancel"/> <input type="button" value="Save"/>				

Once a vessel stop has been added:

1. The vessel visit box will be displayed in the 'Actuals/Graph' view.

- The vessel visit box/ floating vessel visit inspector and mini inspector will include the vessel visit stop information.



5.7 Omit a Vessel Visit

To omit a vessel visit in the Navis Berth Window Management module, follow the below mentioned steps:

- In the 'Actuals/Graph' view, access the floating 'Vessel Visit Inspector' of the vessel visit to be omitted, as shown in [Actuals Graph](#), and click on the 'Cancel Vessel Visit/ Stop' button at the bottom of the view. (or)
- In the 'Actuals/Table' view, select the row of the vessel visit to be omitted and click on the 'Delete' icon. The warning message is displayed :



- Click on the 'OK' button to confirm your selection.

Once the vessel visit has been omitted, the following changes are observed:

- The box representing the vessel visit is no longer displayed in the 'Actuals/Graph' view.
- The row representing the vessel visit in the table in the 'Actuals/Table' view is no longer displayed.
- The box representing the omitted proforma instance of the vessel visit is shown in the 'Proformas/Graph' grid

without background color and with a dashed line (blue for regular proformas, purple for non-regular proformas, and yellow for ad-hoc vessel visits) as shown below:



- The box representing the omitted proforma instance of the vessel visit is shown in the 'Instances' column of the 'Proformas/Graph' view without background color, with a dashed line (blue for regular proformas, purple for non-regular proformas, and yellow for ad-hoc vessel visits), and including the word 'Omitted' just before the Service Name as shown below:



- The row representing the omitted proforma instance of the vessel visit in the table in the 'Proformas/Table' view is shown in italics and light grey as shown below:

WA1	West Asia 1
-----	-------------

5.8 Omit a regular proforma instance

To omit a regular proforma instance in the Navis Berth Window Management module, follow the below mentioned steps:

- In the 'Proformas/Graph' view, access the 'Add Vessel Visit' modal of the regular proforma instance to be omitted, as shown in the section [Adding a new vessel visit based on a regular proforma - Graph Mode](#), and click on the 'Omit Proforma Instance' button at the bottom left of the view. (or)
 - In the 'Proformas/Table' view, select the row of the regular proforma instance to be omitted and click on the 'Delete' icon. (or)
 - In the 'Proformas/Table' view, access the 'Add Vessel Visit' modal of the regular proforma instance to be omitted, as shown in the section [Adding a new vessel visit based on a regular proforma - Table Mode](#), and click on the 'Omit Proforma Instance' button at the bottom left of the view.

The following warning message is displayed :



- Click on the 'OK' button to confirm your selection.

Once the regular proforma instance has been omitted, the following changes are observed:

1. The box representing the omitted proforma instance is shown in the 'Proformas/Graph' grid without background color and with a grey dashed line.

North East 6
Er 08:00
Sa 02:00
N

2. The box representing the omitted proforma instance is shown in the 'Instances' column of the 'Proformas/Graph' view without background color, with a grey dashed line, and including the word 'Omitted' just before the Service Name.

Omitted-North ...
Fr 08:00

3. The row representing the omitted proforma instance in the table in the 'Proformas/Table' view is shown in italics and light grey.

NE6	North East 6
-----	--------------

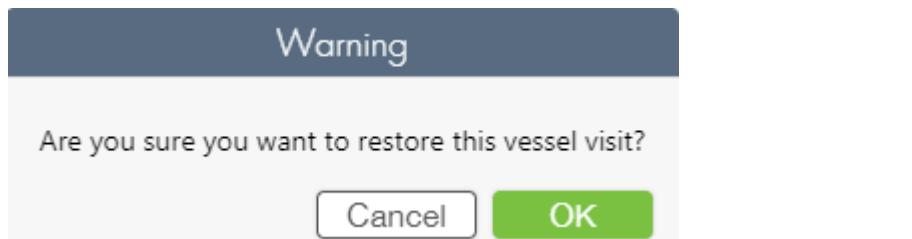
5.9 Restore an omitted Vessel Visit

To restore an omitted vessel visit in the Navis Berth Window Management module, follow the below mentioned steps:

- a) In the 'Proformas/Graph' grid, **double-click** on the **box representing the omitted proforma instance** of the vessel visit (box without background color and with a dashed line (blue for regular proformas, purple for non-regular proformas, and yellow for ad-hoc vessel visits) (or)
- b) In the 'Proformas/Graph' view, **double-click** on the box representing the omitted proforma instance of the vessel visit in the '**Instances**' column (box without background color, with a dashed line (blue for regular proformas, purple for non-regular proformas, and yellow for ad-hoc vessel visits) (or)
- c) In the 'Proformas/Table' view, **double-click** on the **row representing the omitted proforma instance** of the vessel visit (or)
- d) In the 'Proformas/Table' view, select the row representing the omitted proforma instance of the vessel visit, and click on the '**Edit**' button.

Edit icon		Selected omitted ship call	
Service Code	Service Name	Logo	Ship Name
SHS	Sirius Service		--
RPF1	RPF1 Service		--
EAF3	East Africa 3		--
WA1	West Asia 1		--
EAF2	East Africa 2		--
			--

The warning message is displayed.



2. Click on the 'OK' button in order to show the 'Restore Vessel Visit' modal.

The "Restore Visit" modal displays the following information:

- Vessel Name:** Vessel 48
- IMO:** 9337260
- Voyage In:** VIN99900
- Voyage Out:** VOUT99900
- Operator Name:** KOW - Kowloon Shipping
- Service:** West Asia 3 | Service Code: WA3 | Direction: E
ValidFrom: 2019-04-22 ValidTo: 2021-03-07
- Call Sign:** VR048 | Flag: GI | Built: 2006 | Status: -
Gross Tonnage (m): 27,779 | Deadweight (mt): 39,625.8
LOA (m): 222.2 | Beam (m): 30 | Draft (m): --
- ETB:** 10/15/2020 01:40
- Discharges:** 500
- Loads:** 100
- Restows:** 0
- Totals:** 600
- ETD:** 10/15/2020 19:40
- CMPH:** 27
- CI:** 1.3
- BMPH:** 35.82
- Position:** by Bollard
- Section aft:** North Quay | Bollard aft: 44 | offset (m): -6 | Vessel Direction: Starboard
- Section fore:** North Quay | Bollard fore: 37 | offset (m): 7.8
- Arr. Draft (m):** 0.00
- Dep. Draft (m):** 0.00

At the bottom are "Cancel" and "Save" buttons.

3. Follow the steps described in the section [Add a new vessel visit based on regular proforma - Graph Mode](#).
4. The tool automatically restores the previously omitted vessel visit.

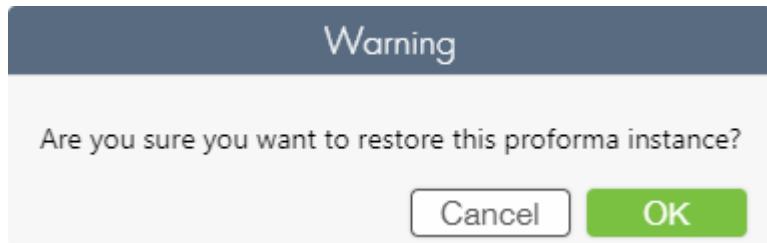
5.10 Restore an omitted regular proforma instance

To restore an omitted proforma instance in the Navis Berth Window Management module, follow the below mentioned steps:

- a) In the 'Proformas/Graph' grid, double-click on the **box representing the omitted proforma instance** (box without background color and with a light grey dashed line). (or)
- b) In the 'Proformas/Graph' view, double-click on the box representing the omitted proforma instance in the '**Instances**' column (box without background color, with a light grey dashed line). (or)
- c) In the 'Proformas/Table' view, double-click on the **row representing the omitted proforma instance** of the vessel visit. (or)
- d) In the 'Proformas/Table' view, select the row representing the omitted proforma instance, and click on the '**Edit**' button.

Edit icon		Selected omitted proforma instance			
Service Code	Service Name	Logo	Ship Name	Voyage In	Voyage Out
STX	Express STX	KEL	Kowloon Kishon	VIN2...	VOU
FAL2	France Asia Line 2	KEL	--	--	--
NE6	North East 6	OK	--	--	--
FSK2	Frankfurt Service 2	OK	--	--	--
Test	TEST	KEL	CMA CGM MOLIERE	VIN3...	VOU
SRS	Sirius Service	T	--	--	--

2. A warning message is displayed



3. Click on the 'OK' button to confirm your selection.

The tool automatically restores the previously omitted proforma instance.

5.11 Print Berth Plan

To print the berth plan in the Navis Berth Window Management module, follow the below mentioned steps:

1. Click on the **print** icon on the top right

2. Make the necessary selections in the print modal

The screenshot shows the 'Print' dialog box with the following interface elements:

- Print** button at the top right.
- Actual Table** and **Actual Graph** radio buttons, with **Actual Table** selected.
- From:** 10/12/2020 and **To:** 10/17/2020 date range fields.
- Select the columns to be printed:** A list of columns with checkboxes. Columns listed include ATA, ATB, ATC, ATD, ATS, Comments, ETA, ETB Diff Proforma, ETC, ETD Diff Proforma, ETS, Next Port, Previous Port, Service Code, Status, Vessel Name, Vessel Type, Carrier Name, Section, Stop Nbr., ETB, ETD, CI, CMPIH, BMPIH, Load Moves, Discharge Moves, and Restow Moves. An **Add** button is located between the two columns of checkboxes.
- Select the terminal sections to be printed:** Checkboxes for North Quay, East Quay, East Quay Extension, and Unallocated. All are checked.
- Select the vessel types to be printed:** Checkboxes for Ship and Barge. Both are checked.
- Select the vessel visit status to be printed:** Checkboxes for Departed, Working, and Planned. All are checked.
- Cancel** and **Continue** buttons at the bottom right.

- Choose either Actuals Graph or Actuals Table.
- Enter From/ To date range.
- From the left column, select the columns to be printed by checking on the corresponding check box and the 'Add' button.
- From the right column, deselect the columns to be printed by checking on the corresponding check box and the 'Remove' button.
- Select the terminal sections to be printed by checking or unchecking the corresponding check boxes.
- Select the vessel types to be printed by checking or unchecking the corresponding check boxes.
- Select the vessel visits to be printed by checking or unchecking the corresponding check boxes
- Click '**Continue**' to define the print settings.
- Click '**Print**'

Chapter 6

Vessel Visit Execution

In addition to managing vessel visits in planning time, the Navis Berth Window Management module also allows the user to manage them in execution time.

This way, once the vessel arrives in the port area, the user can manage it in real time, thus knowing the real time status of the vessel during the visit..

In This Section

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6.1 Managing Vessel Visit at Execution time

To manage a Vessel Visit at execution time, follow the below mentioned steps :

1. Select the 'Arrival & Departure' tab in the 'Vessel Visit Inspector' modal of the vessel visit.

2. When the vessel associated with the vessel visit arrives at pilot boarding place, it is necessary to inform the 'ATA' (Actual Time of Arrival at Pilot Boarding Place) and click on the 'Save' button.

Entering this value does not affect or change any of the estimated or actual times, except in the case that the ATB has already been informed. In that case, the value of the 'Pilot In' time is calculated as ATB minus ATA.

3. When the vessel associated with the vessel visit is **berthed**, it is necessary to inform the ‘**ATB**’ (Actual Time of Berthing or Actual Time of Arrival at Terminal) and click on the ‘**Save**’ button.

The screenshot shows the 'Arrival & Departure' tab of the Navis Berth Window Management interface. At the top, there's a summary bar with various status indicators. Below it, there are several input fields for dates and times:

- ETB:** 10/12/2020, 08:00
- ATB:** 10/12/2020, 07:00 (highlighted with a red box)
- ETS:** 10/13/2020, 01:59
- Moves:** 1000
- CMPS:** 27
- CI:** 2.21
- BMPS:** 59.7
- Proforma:** 59.7
- ETC:** 01:30
- ETD:** 01:59
- P Off:** 02:44

Below these fields are buttons for 'Berth Position', 'Arrival & Departure' (which is selected), 'Moves', 'Cranes', and 'Comments'.

Entering this value affects the following figures:

a. **ATA:**

- If the ATA has been previously informed, its value is not modified.
- If the ATA has not been previously informed, its value is calculated as ATB minus ‘Pilot In’ time..

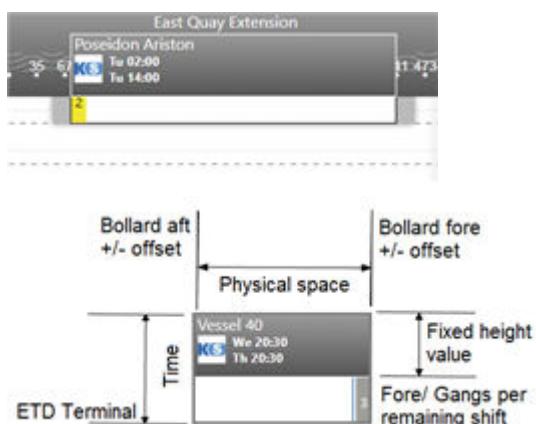
b. **ATS** (Actual Time of Starting Operations): Its value is calculated as ATB plus ‘Idle’ time before operations start.

c. **ETC**: Its value is calculated as ATS plus ‘Cargo Operations’ time.

d. **ETD**: Its value is calculated as ETC plus ‘Idle’ time after operations finish.

In addition, when saving the ‘**ATB**’ in database, the vessel visit is represented in the following way:

- In the ‘**Actuals/Graph**’ view, as a box under operations:



Vessel Name - Vessel 40
 Carrier Logo - KES We 08:30 Th 20:30 ATB
 ETD Terminal

- In the ‘Actuals/Table’ view, as a row with bold type:

Service Code	Service Name	Logo	Ship Name	Voyage In	Voyage Out	Dir	Prev. Port	ETA Pilc
KWAF	Korea West Africa	KES	Kowloon Amur	K1	K2	E	--	Th 09 M
WA1	West Asia 1	KES	Kowloon Aras	VIN123	VOU...	W	--	Fr 10 M
AE10	Asia Europe 10	Maersk	Maersk MC Kinney Moller	VIN600	VOU...	E	--	Fr 10 M

- In the ‘Proformas/Table’ view, as a row with bold type.

- When cargo operations has started, enter the ‘ATS’ (Actual Time of Starting Operations) and click on the ‘Save’ button.

The screenshot shows the 'Edit Arrival & Departure' window for Vessel 52. At the top, there's a timeline bar with various colored segments representing different stages of the vessel's stay. Below the timeline, there are input fields for ETB (Arrival Date/Time), ATA (Actual Arrival Date/Time), ATB (Actual Berthing Date/Time), and ATD (Actual Disberthing Date/Time). The 'ATS' (Actual Time of Starting Operations) field for the first operation is highlighted with a red box. Other fields visible include ETD (Actual Departure Date/Time), ATC (Actual Time of Completion of Operations), and P Off (Port Off Date/Time).

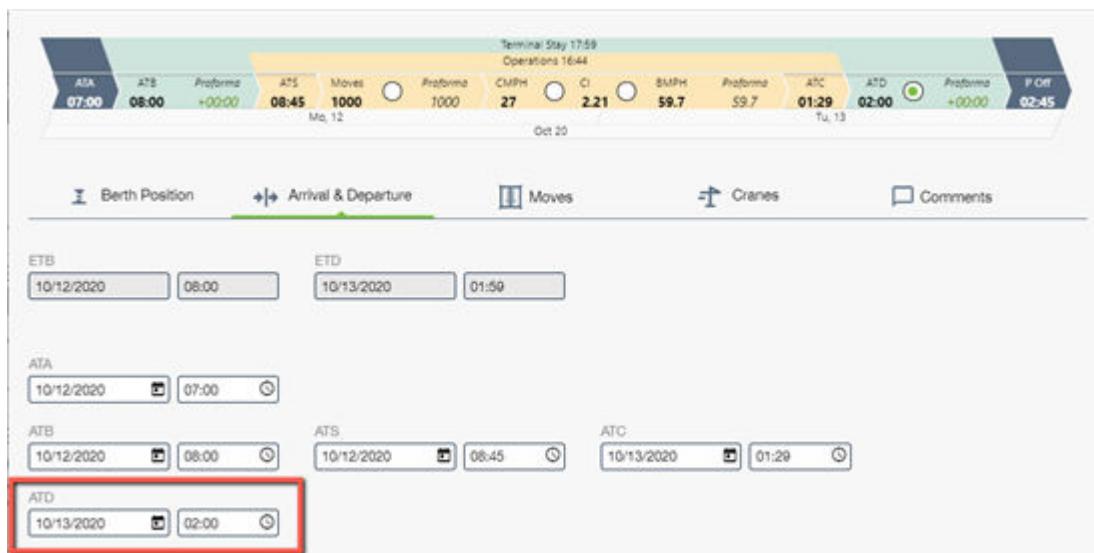
- When the last container has been loaded/discharged onto/from the vessel associated with the vessel visit, enter the ‘ATC’ (Actual Time of Completion of Operations) and click on the ‘Save’ button.

This screenshot shows the same 'Edit Arrival & Departure' window as the previous one, but it appears to be after the completion of operations. The timeline bar now shows a green segment for the terminal stay. The 'ATC' (Actual Time of Completion of Operations) field for the last operation is highlighted with a red box. The other fields remain the same as in the previous screenshot.

Entering this value affects the following figures:

- ETD: Its value is calculated as ETC plus ‘Idle’ time after operations finish.

- Operations Time: Its value is calculated as ATC minus ATS.
6. When the vessel associated with the vessel visit departs from the terminal, it is necessary to inform the ‘**ATD**’ (Actual Time of Departure from the Terminal) and click on the ‘**Save**’ button.



Entering this value affects the following figures:

a. **ATC**:

- If the ATC has been previously informed, its value is not modified.
- If the ATC has not been previously informed, its value is calculated as ATD minus ‘Idle’ time after operations finishes.

b. **Pilot Off** (Actual Time of Departure from the Port): Its value is calculated as ATD plus ‘Pilot Out’ time.

In addition, when saving the ‘**ATD**’ in database, the vessel visit is represented as following :

- Is **not** represented in the ‘**Actuals/Graph**’ view.
- If (ATD + 6 hours) is **greater** than current time, it is represented in the ‘**Actuals/Table**’ view, as a row with **italic bold** type:

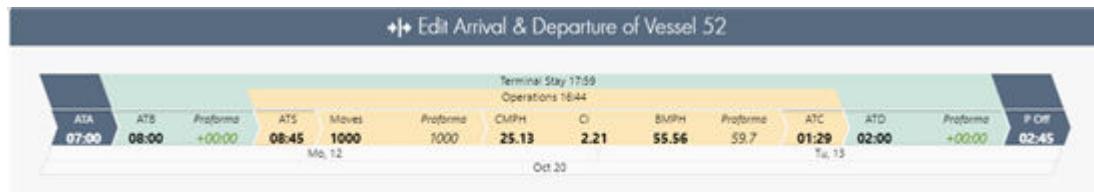
Service Code	Service Name	Logo	Ship Name	Voyage In	Voyage Out	Dir	F
KWAF	Korea West Africa	KW	Kowloon Amur	K1	K2	E	-
WA1	West Asia 1	KW	Kowloon Aras	VIN123	VOU...	W	-
AE10	Asia Europe 10	MA	Maersk MC Kinney Moller	VIN600	VOU...	E	-
NF2	North East 2	KF	Kowloon Flemming	VIN1...	VOU1...	N	-

Once 6 hours have gone by since the ATD, the vessel visit is no longer shown in the table.

- If (ATD + 6 hours) is greater than current time, it is represented in the ‘**Proformas/Table**’ view, as a row with **italic bold** type.

Once 6 hours have gone by since the ATD, the vessel visit is no longer shown in the table.

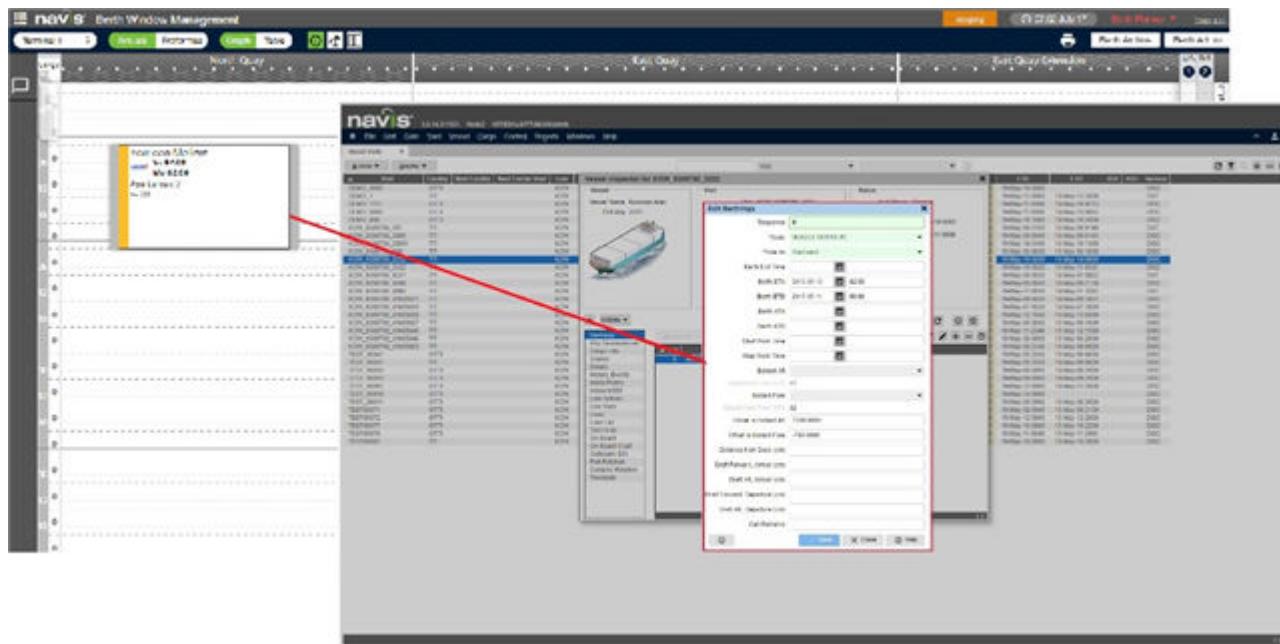
7. As the current times are reported, they are displayed in the Vessel Visit Inspector view:



Chapter 7

TOS Integration

The Navis Berth Window Management module is integrated with Navis TOS, N4. This way, any vessel visit generated or modified in N4 will be automatically received and updated in the Berth Tool, and vice versa.



Specifically, the fields that are present in both applications are:

Field name in BWM	Field name in N4
Vessel Name	Vessel Name
Service Code	Service
Carrier Code	Line or Line Operator
Voyage In	I/B Vyg or Inbound Voyage
Voyage Out	O/B Vyg or Outbound Voyage
ETB	Est. Time of Arrival or Berth ETA
ETD	Est. Time of Departure or Berth ETD
ATA	Actual Time of Arrival
ATB	Berth ATA
ATD Terminal	Actual Time of Departure or Berth ATD
Discharge	Discharge
Load	Load
Restow	Restow

Section	Quay
Ship Direction	Side to
Bollard aft	Bollard aft
Bollard aft offset	Offset to Bollard aft
Bollard fore	Bollard fore
Bollard fore offset	Offset to Bollard fore

Any action on these fields will be reflected in both applications automatically and transparently.



N4 does not work with proformas, so it is necessary that, when a vessel visit is created in N4, you should manually assign the instance of the associated proforma.

This section details the procedure to follow.

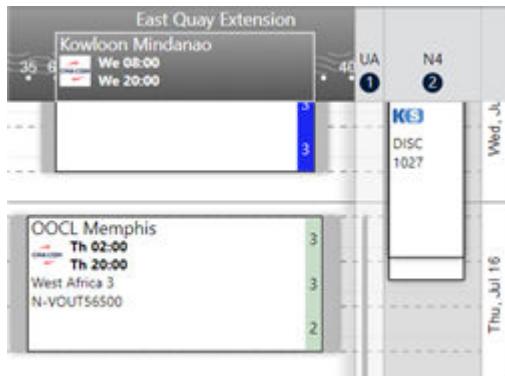
In This Section

Assigning Proforma Instance for vessel visit generated in N4.....	100
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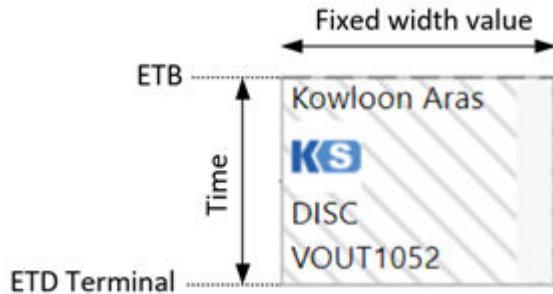
7.1 Assigning Proforma Instance for vessel visit generated in N4

In order to assign a proforma instance for a vessel visit generated in N4, follow the below mentioned steps :

- When a vessel visit is created in N4 and the values of 'Est. Time of Arrival' and 'Est. Time of Depart.' are entered, the vessel visit is displayed in the 'N4' area of the Navis Berth module as shown:



It is represented as shown in below figure.



2. Double-click on the vessel visit box in order to show the ‘Match Vessel Visit to Proforma’ modal

The screenshot shows the 'Match Vessel Visit to Proforma' modal. It has three main sections: 'N4 Entry', 'Matched Berth Entry', and 'Associated Proforma Instance'. The 'N4 Entry' section contains fields for Service Code (DISC), Service Name (DISC), Vessel Name (Kowloon Aras), Voyage In (1027), Voyage Out (1027), Carrier Code (KOW), ETB (10/09/2020 at 09:48), and ETD (10/10/2020 at 03:48). The 'Matched Berth Entry' section contains fields for Service Code (DISC), Service Name (DISC), and Direction (N). The 'Associated Proforma Instance' section is currently empty.

The fields included in the ‘N4 Entry’ section are the ones received from N4, and the ‘Match to Berth Entry’ section must be managed by the Navis Berth module user in order to assign the vessel visit its corresponding proforma instance.

3. In the ‘Match to Berth Entry’ section, select the ‘Service Code’, ‘Service Name’ and ‘Direction’ associated with the vessel visit. Refer section [Terminal or Organization Services](#) for more details.

Once the values associated to the service have been informed, the module detects if they are associated to a regular, non-regular proforma or if it is an ad-hoc vessel visit.

- a. If it is a Regular Proforma, the below **Match Vessel Visit to Proforma** modal is displayed.

The screenshot shows the 'Match Vessel Visit to Proforma' modal with the 'Associated Proforma Instance' section populated. It lists several options, each with a date and time: Sa 17, Oct 2020 08:00, Sa 24, Oct 2020 08:00, Sa 31, Oct 2020 08:00 (selected with a green dot and highlighted in blue), Sa 07, Nov 2020 08:00, Sa 14, Nov 2020 08:00, Sa 21, Nov 2020 08:00, and Sa 28, Nov 2020 08:00.

b. If it is a Non-Regular Proforma, the following **Match Vessel Visit to Proforma** modal is displayed.

Match Vessel Visit to Proforma

N4 Entry	Matched Berth Entry	Associated Proforma Instance
Service Code DISC	Service Code DISC	Fr 09, Oct 2020 09:48
Service Name DISC	Service Name DISC	
Vessel Name Kowloon Aras	Direction S	
Voyage In 1027		
Voyage Out 1027		
Carrier Code KOW		
ETB 10/09/2020 09:48		
ETD 10/10/2020 03:48		

Cancel **Continue**

c. If it is a Ad-hoc Vessel Visit, the following **Match Vessel Visit to Proforma** modal is displayed.

Match Vessel Visit to Proforma

N4 Entry	Matched Berth Entry	Associated Proforma Instance
Service Code DISC	Service Code DISC	Fr 09, Oct 2020 09:48
Service Name DISC	Service Name DISC	
Vessel Name Kowloon Aras	Direction W	
Voyage In 1027		
Voyage Out 1027		
Carrier Code KOW		
ETB 10/09/2020 09:48		
ETD 10/10/2020 03:48		

Cancel **Continue**



If the proforma instance is regular, select the instance (from those detailed in section 'Associated Proforma Instance') that needs to be associated to the vessel visit created in N4. If the instance of the proforma is non-regular or ad-hoc, it is not necessary to select it, since only one will be shown by default.

4. Click on the ‘Continue’ button in order to show the ‘Match Vessel Visit from N4’ modal:

a. Regular proforma instance:

In the ‘Vessel Visit’ tab, fill in the Times/Moves/Productivity fields.

- **ETB:** Estimated time of berthing of the vessel. This value is pre-populated from the N4 entry.
- **Discharge:** Estimated number of containers to be discharged. This value is pre-populated from the proforma instance.
- **Load:** Estimated number of containers to be loaded. This value is pre-populated from the proforma instance.
- **Restow:** Estimated number of containers to be restowed. This value is pre-populated from the proforma instance.
- The ‘**Total Moves**’ field is automatically updated by calculating: number of containers to discharge + number of containers to load + two times (2x) number of restows.
- **ETD:** Estimated time of departure from the terminal. This value is pre-populated from the N4 entry.
- **CMPH:** Average crane productivity in Container Moves Per Hour (CMPH). This value is pre-populated from the proforma instance.
- **CI:** Crane Intensity. Average number of cranes operating the service. This value is pre-populated from the proforma instance.

The parameter (‘ETD’, ‘CMPH’ or ‘CI’) selected by the radio button will be automatically calculated taking into account the rest of the values. In this way, the user can calculate the most important or unknown value when generating the proforma. By default, the ‘CI’ value is calculated.

- The ‘**BMPH**’ (Berth Moves Per Hour which is the average number of containers moved per hour during vessel operations) field is automatically updated by multiplying ‘CMPH’ by ‘CI’.
- The ‘Idle’ time before operations starts and the ‘Idle’ time after operations finishes are the ones defined in the terminal settings.

- The 'Terminal Stay' and 'Cargo Operations' times are also calculated automatically.

In the 'Vessel Visit' tab, fill in the positioning fields.

- Position: Position in which the vessel will be berthed, which can be:

- 'by Bollard': The user must specify the following:

Section where the vessel will be berthed.

Bollard (and its corresponding offset) in which the aft of the vessel will be positioned.

Bollard (and its corresponding offset) in which the fore of the vessel will be positioned.

- 'by Berth-Slot': The user must specify the following:

Section where the vessel will be berthed.

The name of the Berth-slot.

All these values are pre-populated from the proforma instance and the bollards (and its corresponding offsets) are calculated automatically based on vessel's LOA.

- Ship Direction:** Berthing direction (Starboard or Port Side) of vessels. This value is pre-populated from the proforma instance.

Once all the information has been completed depending on the requirements set by the user, click on the '**Save**' button.

The tool automatically displays option 'Actuals/Graph' and the newly added vessel visit is displayed and highlighted in the grid.

b. Non-regular proforma instance:

To create the vessel visit in the Navis Berth module, follow the same steps described in the previous section.

c. Ad-hoc vessel visit:

Match Ad-hoc Visit from N4

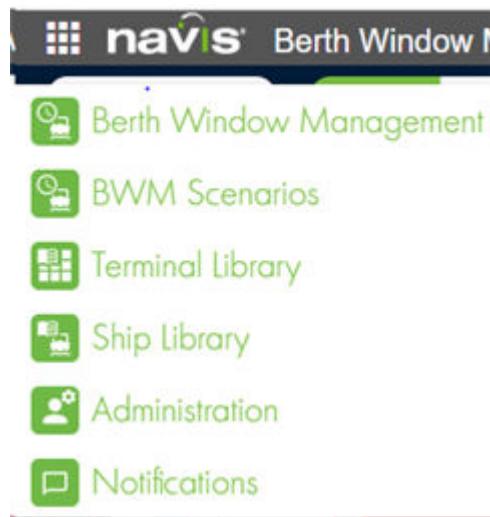
Service Code	Service Name	Direction	Vessel Type	
DISC	DISC	---	Ship	
Vessel Name	IMO			
Kowloon Aras	9300790	Call Sign: VRD14 Flag: HK Built: 2006 Status: - Gross Tonnage (mt): 89.097 Deadweight (mt): 105.530 LOA (m): 323 Beam (m): 42.8 Draft (m): --		
Voyage In	Voyage Out			
1027	1027			
Operator Name	Service Code	Service Name	Direction	
KOW - Kowloon Shipping	--	--	--	
ETB	Discharges	Loads	Restows	Totals
10/09/2020 09:48				II 0
ETD	CMPH	CI	EMPH	
10/10/2020 03:48				
Position				
by Bollard	Bollard aft	offset (m)	Vessel Direction	
Section aft	offset	0	Starboard	
Section fore	Bollard fore	offset (m)		
Arr. Draft (m)	Dep. Draft (m)			
0.00	0.00			

The details of the fields are explained in [Adding a new Ad-hoc Vessel Visit section](#).

Chapter 8

Scenario

To access the scenario, select the ‘**BWM Scenarios**’ option in the menu grid located in the upper left corner of the application. This action takes us to the table view which lists the existing scenarios attached with the terminal and it is possible to create new scenarios and also to edit, view, copy and delete the existing scenario.



The scenarios table is shown as below:

Terminal 1				
+ 2 results <input type="text" value="Search..."/>				
Scenario Title	Date Edited	Expire Date	Created by	Comment
Scenario 1	Tue 17 Aug, 08:15	Tue 24 Aug, 08:14	Berth Admin	Comment of S1
Scenario 2	Tue 17 Aug, 08:15	Tue 24 Aug, 08:15	Berth Admin	Comment of Scenario 2

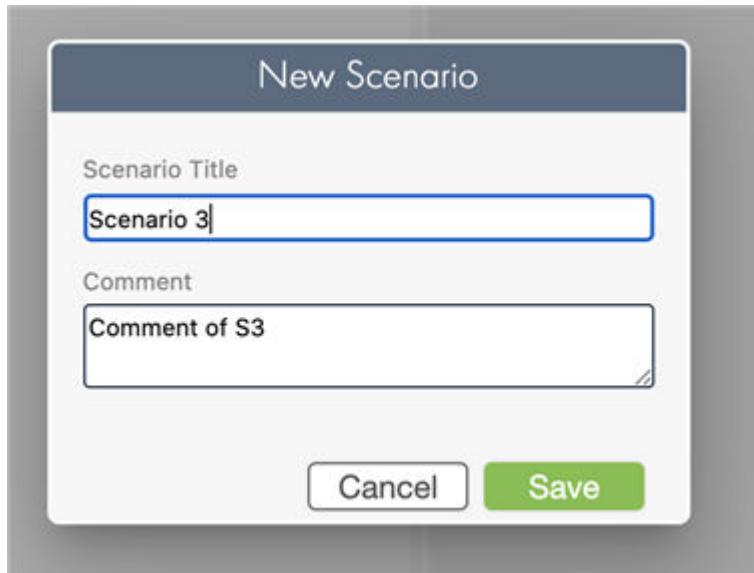
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Edit, View, Copy or Delete a Scenario.....	109

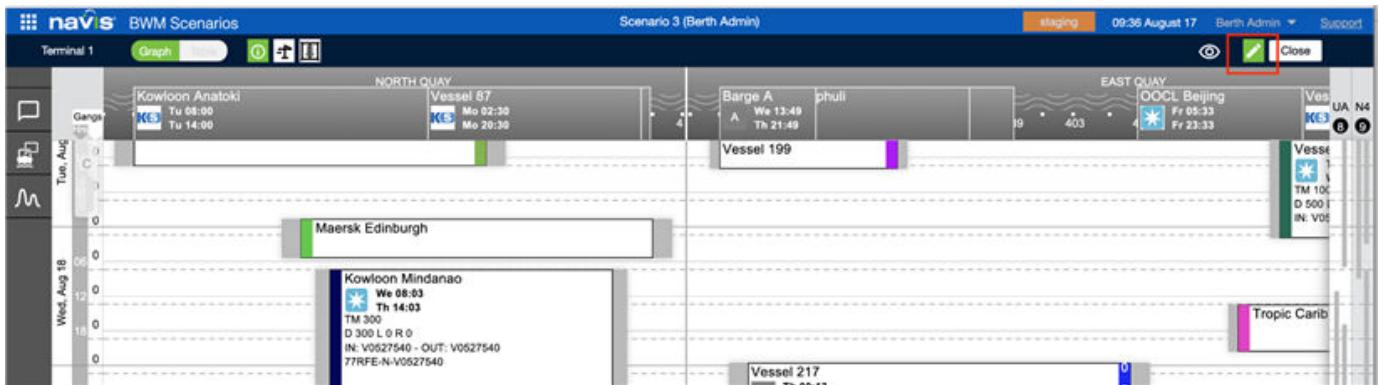
8.1 Create a Scenario

To Create a scenario, follow the below mentioned steps :

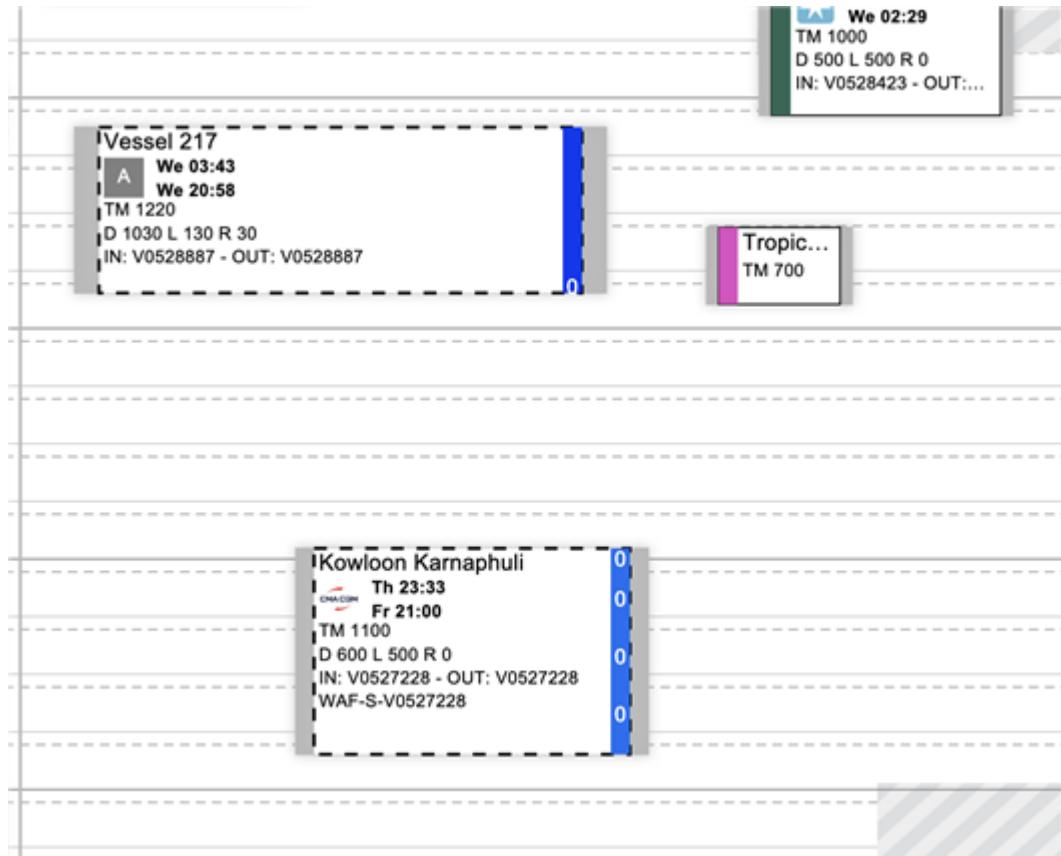
1. Click on the plus '+' icon to create a new scenario. A modal with the title and comment fields is displayed.



2. After adding the title and comment, click on the **Save** button. This will create a new scenario which is a clone from the current master plan and will redirect to that newly created one.

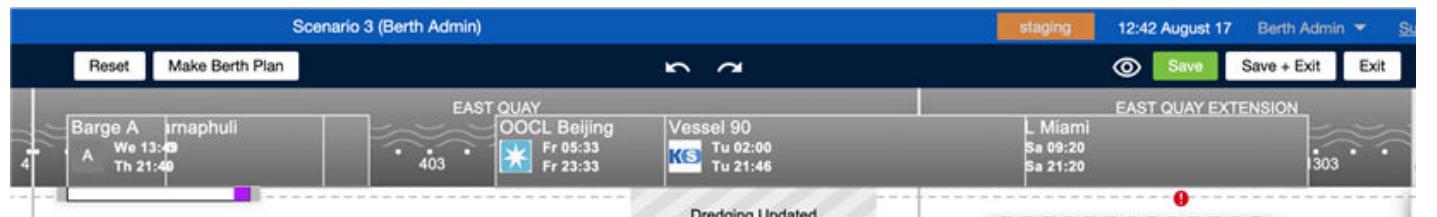


By clicking on the edit icon in the right corner, we will be able to **edit** the scenario. We can change the position of the vessel visit, ETB, ETD etc.., The updated ones will be shown with dotted borders to differentiate from the current master plan.



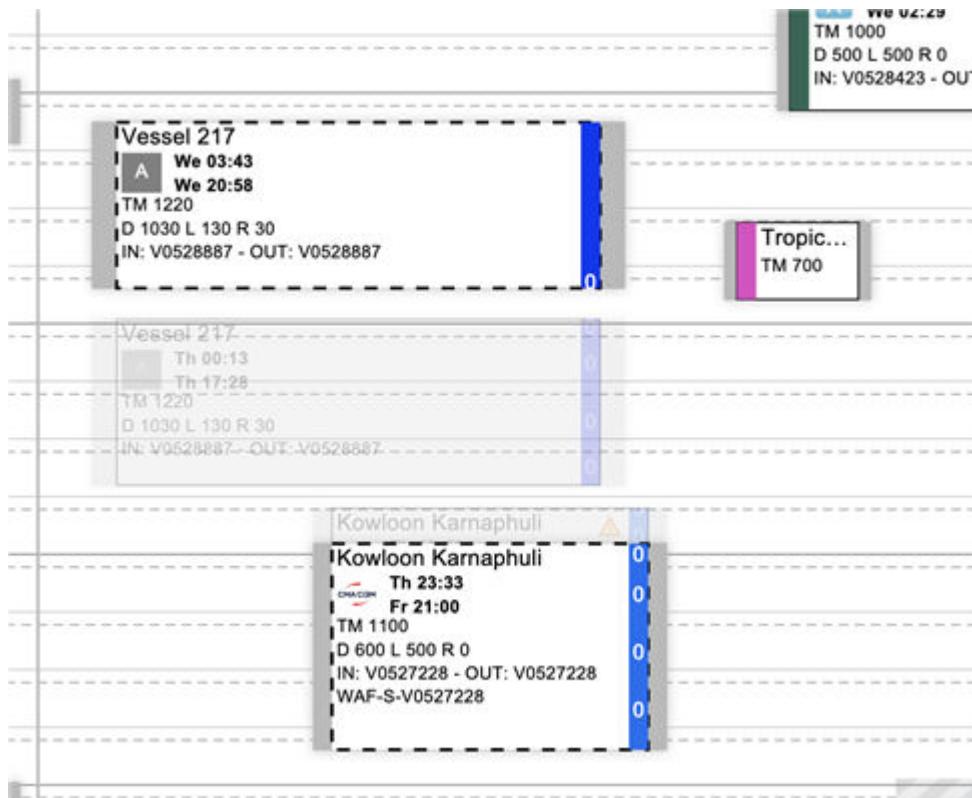
3. Once the changes are made, It can be saved with the help of **Save** button in the right end of the screen.
4. By clicking on the **Close** button on the right side, it redirects to the previous listing page.

8.1.1 Scenario toolbar



- The '**Exit**' button at the right side exits from the current scenario **without saving the changes** and directs to the previous listing page.
- The '**Save + Exit**' button at the right side **saves and exits** from the current scenario and directs to the previous listing page.

- The ‘eye’ icon at the right side displays the master plan’s position with the blurred one.



- Clicking on the ‘undo’ icon at the center of the navigation bar reverts the changes of the user by one level. By clicking on it again it goes back to the previous state of it.
- Clicking on the ‘redo’ icon in the center of the navigation bar restores the changes done by **undo**.
- The ‘**Make Berth Plan**’ button helps to make the current scenario as the default master plan.
- The ‘**Reset**’ button resets all the changes done in the scenario and reverts to the current master plan.

8.2 Edit, View, Copy or Delete a Scenario

- By clicking on the ‘edit’ icon, it pops up the **Edit scenario modal** populated with existing title and comment fields. You can edit the required field and click on **save** button to save the changes.
- The ‘eye’ icon is used to view the scenario, further we can edit it if needed.
- The ‘copy’ icon is used to clone the selected scenario. Currently it helps in handing over the scenario to the other user. The user who copies the scenario will become the owner of the copied scenario.

- The ‘**delete**’ icon is used to delete the selected scenario.



Scenario Title	Date Edited	Expire Date
Scenario 1	Tue 17 Aug, 08:15	Tue 24 Aug, 08:15
Scenario 1 - copy	Tue 17 Aug, 11:57	Tue 24 Aug, 11:57
Scenario 2	Tue 17 Aug, 08:15	Tue 24 Aug, 08:15
Scenario 3	Tue 17 Aug, 08:28	Tue 24 Aug, 08:28

Chapter 9

Berth Optimization Services

BOS is an independent backend service that leverages AI and ML to provide improvement suggestions for a single vessel visit or multiple vessel visits.

Prerequisite:

The user must have the **Manage Berth Optimization Service** privilege to access the features.

Optimization results are based on the latest status of:

- Vessel schedules
- Load and discharge lists
- Transshipment connections
- Future yard state and occupancy
- Unit positions in the yard and travel distances.

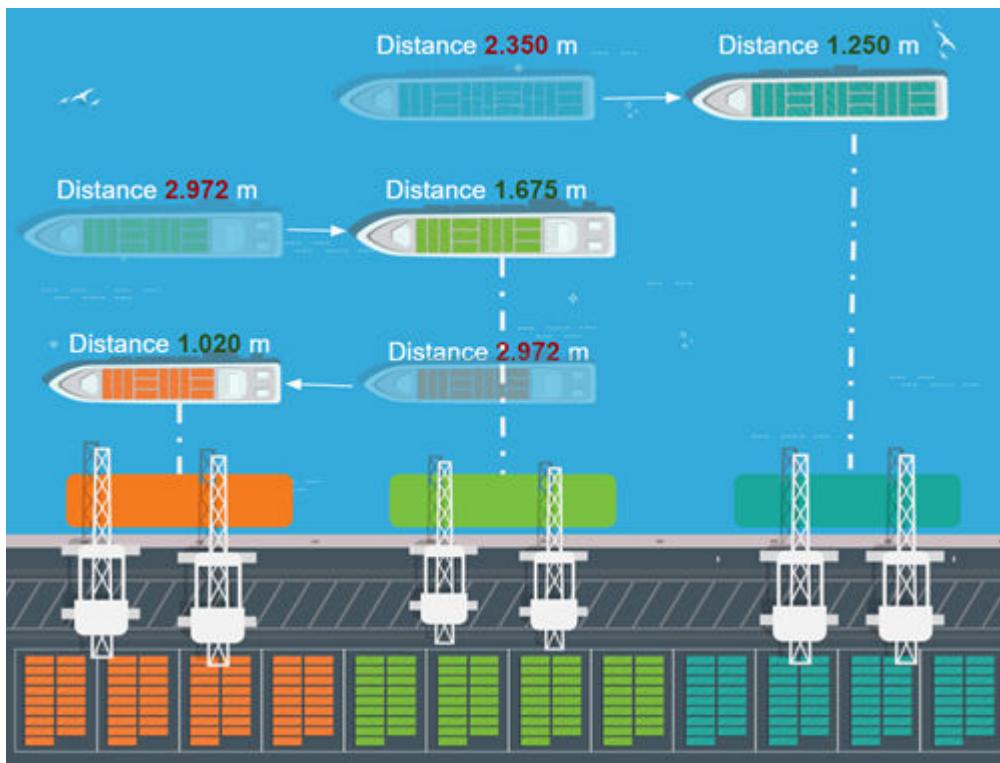
At the same time it respects terminal specific constraints and available resources.

Why does your terminal need BOS?

- Navis Berth Optimization Service helps container terminals to improve their profitability by decreasing CHE fleet OPEX and/or CAPEX cost.
- It is possible to save up to 20% in CHE travel distances through improved berth plans. Basically, the way the plans are improved is by connecting the berth and the yard.

Challenges:

- Dealing with the large number of variables.
- Dynamic environment
- The lack of visibility regarding the operational cost
- Difficulty to understand how good or bad the current berthing plan is.



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9.1 Optimization of single vessel visit

Berth Optimization Service's Position Analysis can be used for optimization suggestions for a single vessel visit in the BWM module and BWM Scenarios module.

To open Position Analysis in BWM module :

1. Open Berth Window Management module.
2. Select Terminal.
3. Click on the Vessel Visit to open the Vessel Visit Inspector.

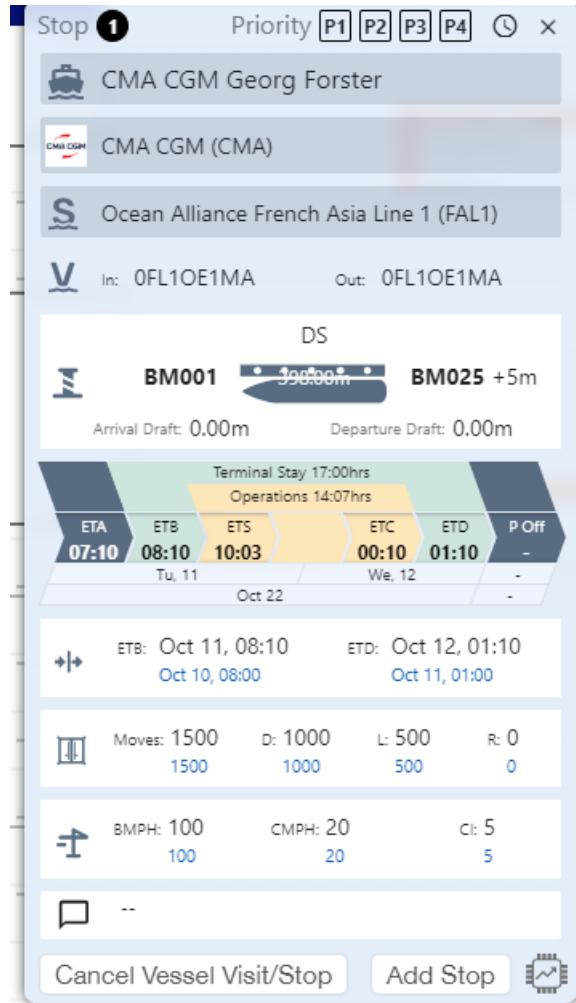


4. On the bottom right corner you can see the icon for Optimization service. Click on the  icon to open the Position Analysis on the left panel.

To open Position Analysis in BWM Scenarios module:

1. Open BWM Scenarios module.
2. Click on the + icon at the top left corner to add a new scenario.
3. On the right corner, click on the  (Edit) button .

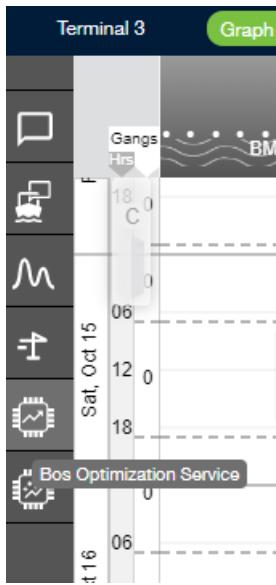
- Click on the Vessel Visit to open the Vessel Visit Inspector.



- On the bottom right corner you can see the icon for Optimization service. Click on the icon to open the Position Analysis on the left panel.

Alternatively,

You can see the icon for BOS in the left panel



Click on the Vessel Visit to open the Vessel Visit Inspector.

On the bottom right corner you can see the icon for Optimization service. Click on the icon to view the optimization results.

9.1.1 Using Position Analysis

You can see the Optimization suggestion result on the left panel. It has the following details :

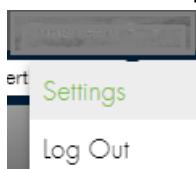
1. Current berth - Current berthing position (in section and bollard).
2. Optimal berth - Suggested berthing position (in section and bollard).

Berth Optimization Service considers the following to provide optimal berth suggestions

- a. [safety buffers](#) for different vessel lengths configured in the Berth Admin section of Berth Window Management for optimal berth suggestions.
 - b. Crane intensity and crane blockages - The suggested berthing positions also considers the crane intensity that can be configured through BWM. The berth position suggested will be such that there would be enough cranes required by that vessel visit.
 - c. Berth blockages - If an area in quay is marked as a blockage, that would be considered while providing optimization suggestions
3. Total number of export units in the yard.
 4. Total number of import units on the vessel.
 5. Total number of transshipment units in the yard and onboard the vessel.
 6. Distance improvement - Distance improved by the suggested position with respect to the current position.

The units for Distance improvement can be configured in BWM.

Click on the dropdown icon near your username in BWM module



Click on "Settings"

User Settings of [redacted]

Units

Metric
 Imperial

Date and time format

(Day of the week) DD Mmm, HH:mm --> Example: Wed 09 Dec, 14:00
 DD Mmm, HH:mm --> Example: 09 Dec, 14:00
 DD Mmm YYYY HH:mm --> Example: 09 Dec 2020 14:00
 DD/MM/YYYY HH:mm --> Example: 09/12/2020 14:00
 (Day of the week) DD Mmm YYYY HH:mm --> Example: Wed 09 Dec 2020 14:35

Gangs visualization

Display gangs per shift
 Display gangs per hour (depending on zoom level)

The settings will be applied after the page refresh Cancel **Save**

You can choose to use either Metric or Imperial as units and click Save. These changes will be reflected in both BOS and BWM.

7. Distance improvement (%) - Percentage improvement by the suggested position.

Position Analysis

Click on a Vessel Call in the Berth Grid to open the Inspector. Click on the Position Analysis icon button in the bottom right of the inspector to add to Position Analysis

 Umm Qarn	
Current Berth (Bollard) DS BM042-3.6 to BM014+3.6	Optimal Berth (Bollard) DS BM042-3.554 to BM014+3.554
Export units in the yard: 342	
Import units on the vessel: 310	
Transshipment units in the yard: 0	
Distance improvement (m): 10337.000	
Distance improvement (%): 10.02	

Details **Apply**

8. Click on **Details** to see the distance chart, cargo concentration and the highlighted suggested position on the berth grid

9. Click on **Apply** to implement the optimization suggestions.

The screenshot shows a summary of vessel optimization results for the vessel 'CMA CGM Georg Forster'. It includes the current berth (BM025+5 to BM001) and optimal berth (BM068+3.954 to BM044-3.954), along with various performance metrics: Export units in the yard (305), Import units on the vessel (887), Transshipment units in the yard (0), Distance improvement (m) (228913.000), and Distance improvement (%) (57.2). At the bottom are 'Details' and 'Apply' buttons, with the 'Apply' button highlighted by a red box. A delete icon is also visible at the top right.

When you click on “Apply” the position update also happens in BWM and Navis N4.

10. On hovering the mouse over the optimization results, you can see the **delete** icon on the top right corner, click on it to delete the optimization suggestion.

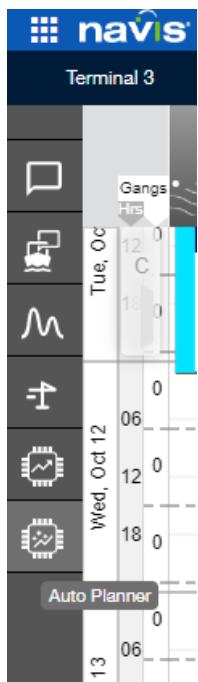
9.2 Optimization of multiple vessel visits

Berth Optimization Service's Auto Planner can be used for optimization suggestions for multiple vessel visits in the BWM Scenarios module. It enables the users to optimize automatically an entire scheduling window of vessel visits, by using the AI algorithm in BOS. It also retrieves the KPIs and metrics regarding the scenarios.

To open Auto Planner:

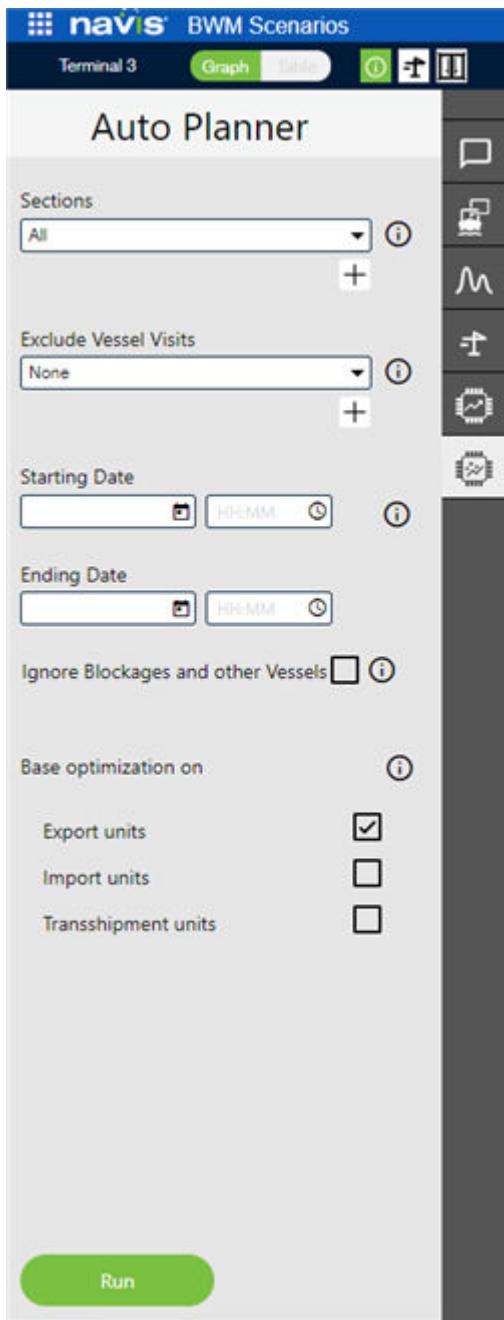
1. Open BWM Scenarios module.
2. Click on the + icon at the top left corner to add a new scenario.
3. On the right corner, click on the (Edit) button.

4. You can open the auto planner by clicking on the  icon in the left panel.



9.2.1 Using Auto Planner

You can customize the range and type of vessel visits that need to be optimized by entering the appropriate values in the input fields on the left panel.



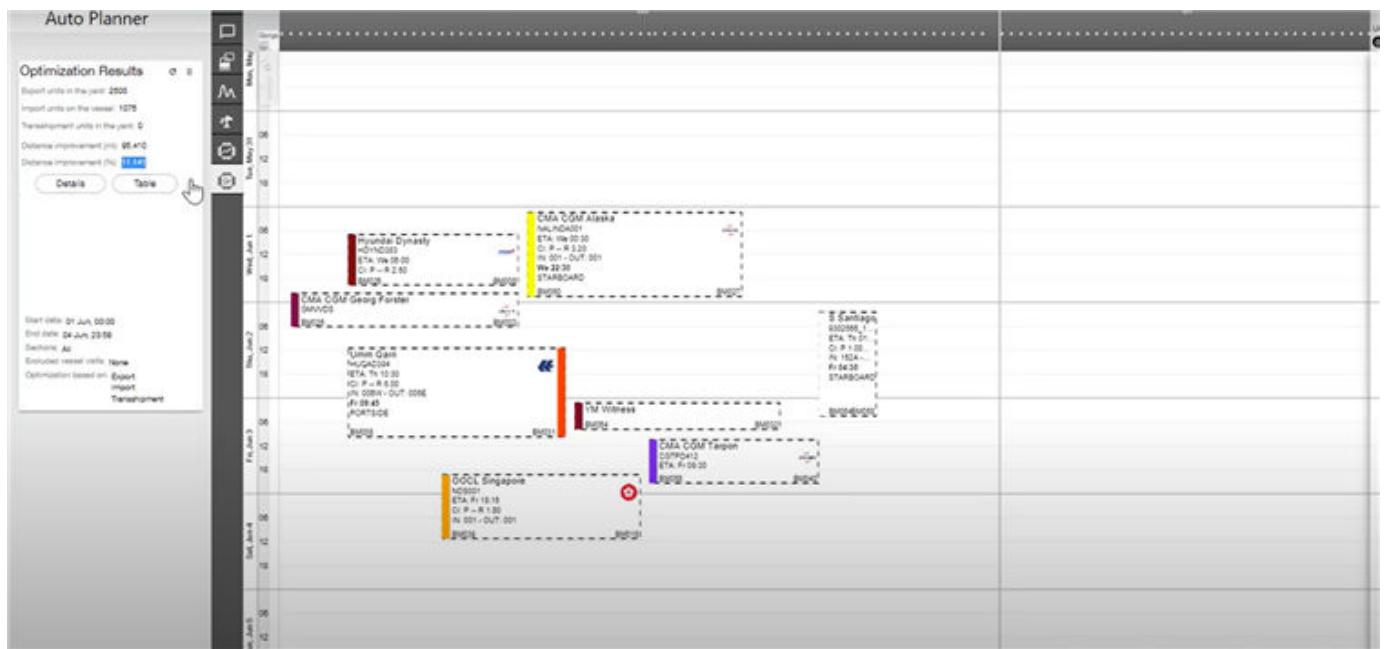
1. Sections (optional) : The section of the berth that needs to be optimized. By default, all the sections will be considered.
Click on the + icon near the dropdown to add more than one section.
2. Exclude vessel visits (optional) - Vessel visits that should be excluded while planning and optimizing. By default, all the vessel visits that match the criteria will be considered
Click on the + icon near the dropdown to exclude more than one vessel visit.
3. Starting date and ending date- The vessel visits between this time period will be optimized.
4. Checkbox - To ignore blockages and other vessels. If this checkbox is checked, the results may show overlaps with other vessels and/or berth blockages. By default, the blockages and other Vessels will be considered to avoid overlaps.

5. Base Optimization on

- Export units : Optimization is based on calculated distances of the export units that have a yard position.
- Import units: Optimization is based on calculated distances of the import units currently on the vessel(s).
- Transshipment units: Optimization is based on calculated distances of the transshipment units currently in the yard and onboard on vessel(s).

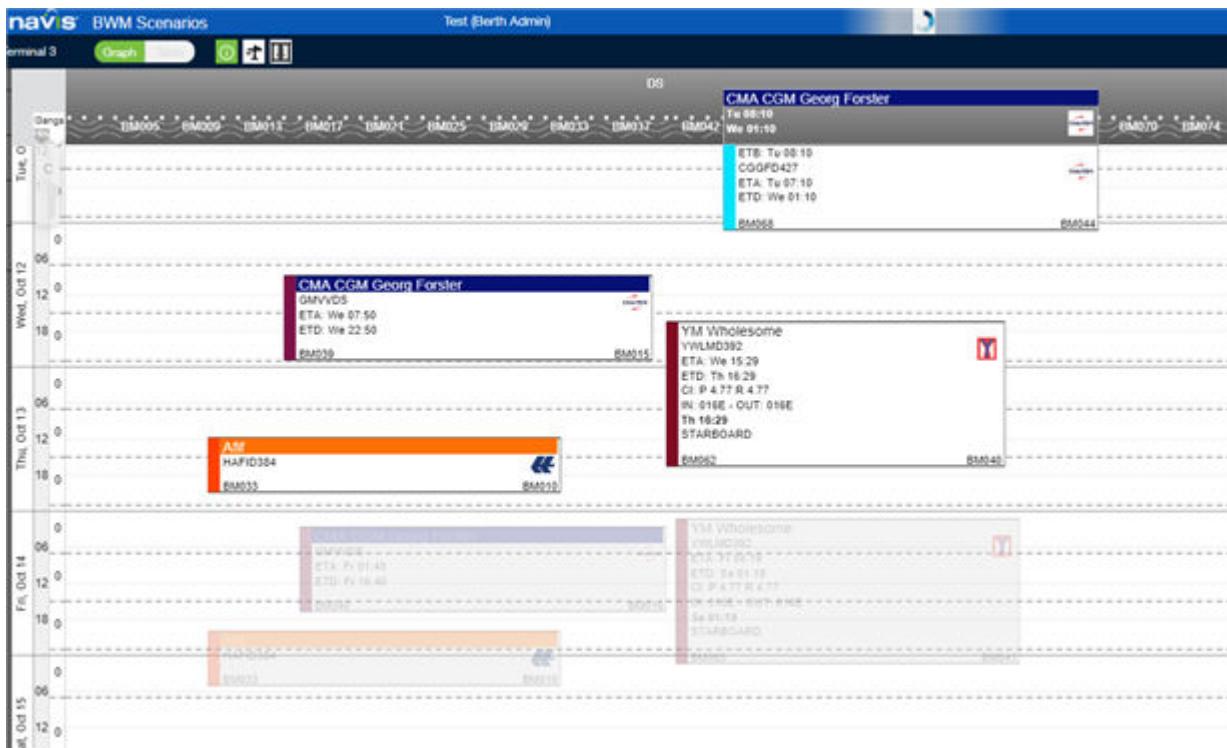
 Transshipment units that are already stored in the yard and those that have connections with the vessels that are part of the scheduling window that is being optimized are considered..

6. Click **Run** and you can see the optimization results.



- The dotted line on the vessel visits indicates that a new position has been suggested for those vessel visits.

- Click on the (eye) icon to compare the suggested positions with the original plan



- Click on the (clock) icon to view overall changes made in the table form.

⌚ Master Plan Comparison table of test1				
Vessel Name	Attribute	Change From	Change To	Event
Aft	ETB (Terminal)	Sun 14 Oct, 16:29	Sun 14 Oct, 21:39	MODIFY
Aft	ETD (Terminal)	Mon 15 Oct, 01:29	Mon 15 Oct, 06:39	MODIFY
Aft	Bollard Aft	-	-	MODIFY
Aft	Bollard Fore	-	-	MODIFY

In the Optimization results,

- Click on **Details** to see the distance chart and cargo concentration
- Click on **Table** to see the detailed information of the optimization suggestion in table view.

Vessel Name	Approximated Current Distance	Approximated Proposed Distance	Approximated Savings Distance	Approximated Savings Percentage	Number of Load Units	Number of Discharge Units	Number of Transshipment Units	Approximated Current Distance per Unit	Approximated Proposed Distance per Unit	Approximated Savings Distance per Unit	Current Bollard aft Name	Current Bollard fore Name	Suggested Bollard aft Name	Suggested Bollard fore Name
CMA CGM Ge...	12582 m	12582 m	0 m	0 %	305	0	0	41.25 m/unit	41.25 m/unit	0 m/unit	BM016	BM040	BM016	BM040
Total:	12582 m	Total: 12582 m	Total: 0 m	Average: 0 %	Total: 305	Total: 0	Total: 0	Average: 41.25 m/unit	Average: 41.25 m/unit	Average: 0 m/unit				

You can also change the position of the individual vessel visits **manually** by clicking and dragging it to a new position in the suggested Berth plan before proceeding to save.

9.3 Saving the new/modified Berth plan

In the top bar, click on,

Reset Make Berth Plan

1. Reset - To discard the optimization plan.

Save Save + Exit Exit

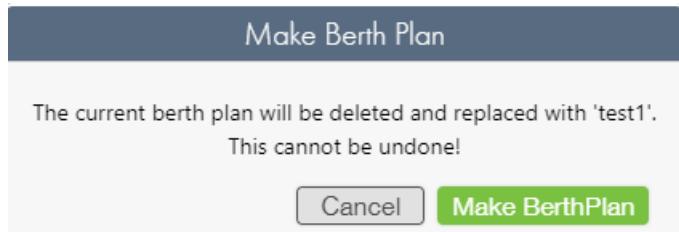
1. Save - To save the plan.
2. Save + Exit - To exit the screen after saving the plan.
3. Exit - To exit the screen without saving the plan.

Reset Make Berth Plan

Once you save your Berth plan, "**Make Berth Plan**" button is enabled. This helps in updating the actual berth plan with the created scenario in both the Berth Window Management module and in Navis N4.

To do this,

1. Click on "Make Berth Plan"
2. A warning message is displayed.



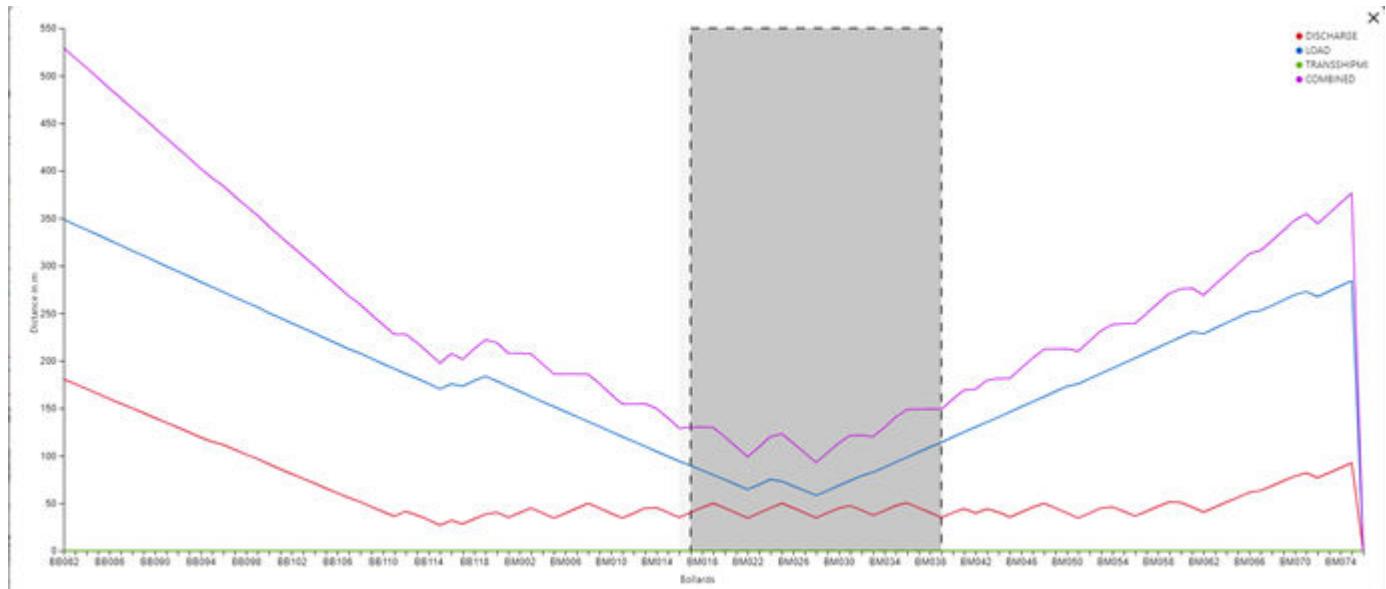
3. Click on **Make BerthPlan** to confirm. Now the actual berth plan is updated with the created scenario.

9.4 Distance Chart

Distance Chart gives the plot of Bollards vs Distance. It shows the total travel distance from each individual bollard, with the lowest part of the curve representing the optimal bollard to berth the midship. The lower the distance from the bollard, the better the berthing position.

9.4.1 Distance Chart for a single vessel visit (Position Analysis)

The distance chart for a single vessel visit shows the plot of calculated distances of that vessel visit from the individual bollards.

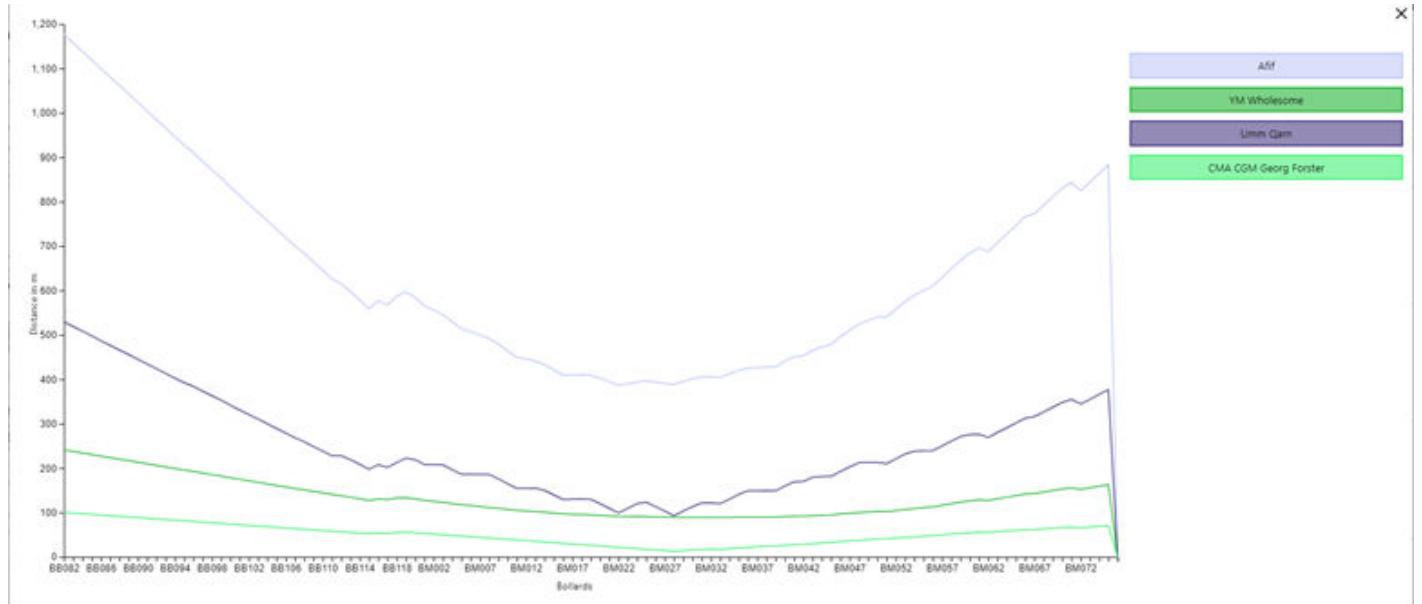


The dark gray bar indicates the optimal position for berthing and the light gray bar indicates the original position.

The plots in different colors indicate optimization results based on different types of units (for example, Discharge, Load, Transshipment..) The plot for combined denotes the combination of ALL the cargo types. The color code is available by the side of the chart.

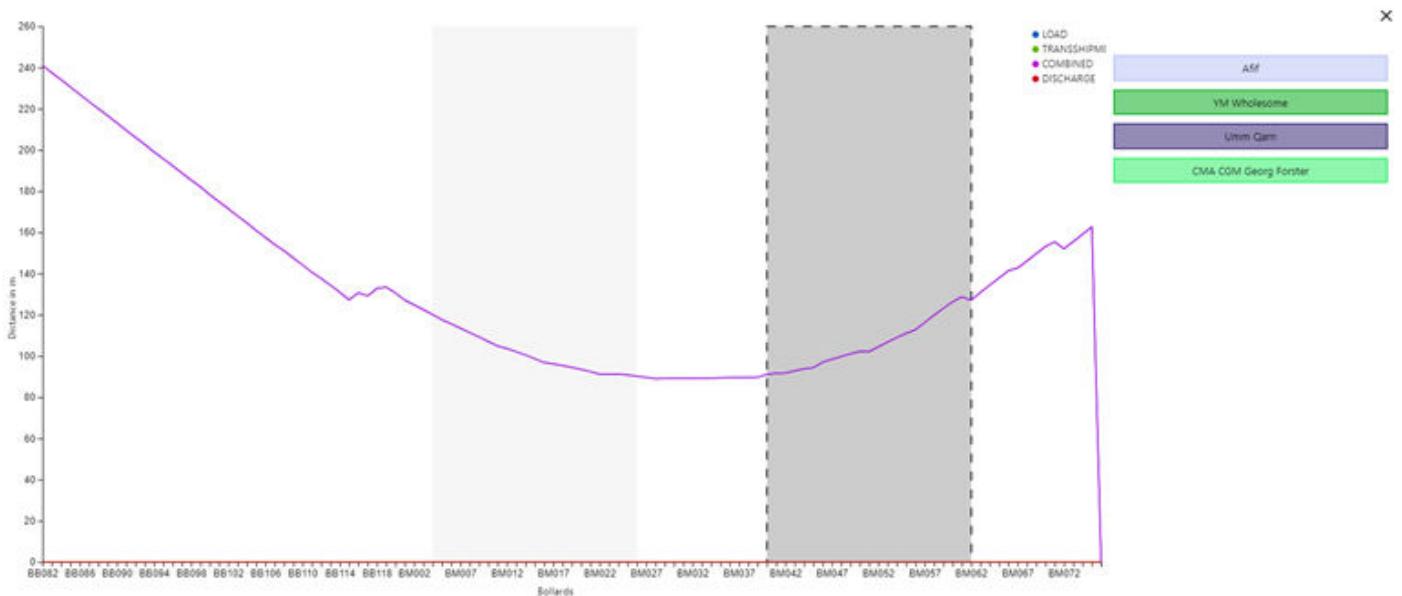
9.4.2 Distance Chart for multiple vessel visits (Auto Planner)

The distance chart for multiple vessel visits shows the plot of calculated distances of each vessel visit from the individual bollards.



The plots of different colors indicate optimization results for different vessel visits.

The color code is available by the side of the chart. Click on a single vessel visit from this to open the distance chart for that vessel visit.



The dark gray bar indicates the suggested optimal position for the vessel visit and the light gray bar indicates the original position.

9.5 Cargo Concentration

Cargo Concentration enables users in BWM to see the cargo concentration in the yard for the EXPORT cargo and the EXPORT TRANSSHIPMENT cargo that is already in the yard.

9.5.1 Cargo Concentration for single vessel visit (Position Analysis)

In Position Analysis, click on the map to view the cargo concentration.

Position Analysis

Click on a Vessel Call in the Berth Grid to open the Inspector. Click on the Position Analysis icon button in the bottom right of the inspector to add to Position Analysis

 YM Wholesome

Current Berth (Bollard)	Optimal Berth (Bollard)
DS	DS
BM040 to BM062	BM017-5.208 to BM039+5.208

Export units in the yard: 247

Import units on the vessel: 0

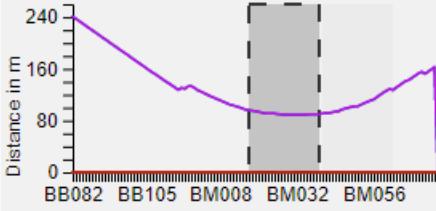
Transshipment units in the yard: 0

Distance improvement (m): 13261.000

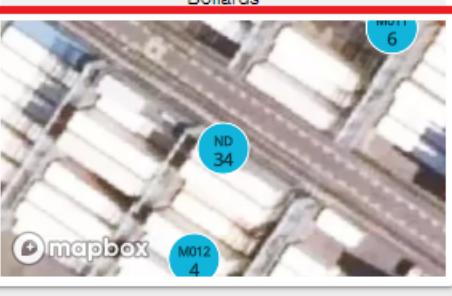
Distance improvement (%): 12.97

[Details](#) [Apply](#)

Distance in m

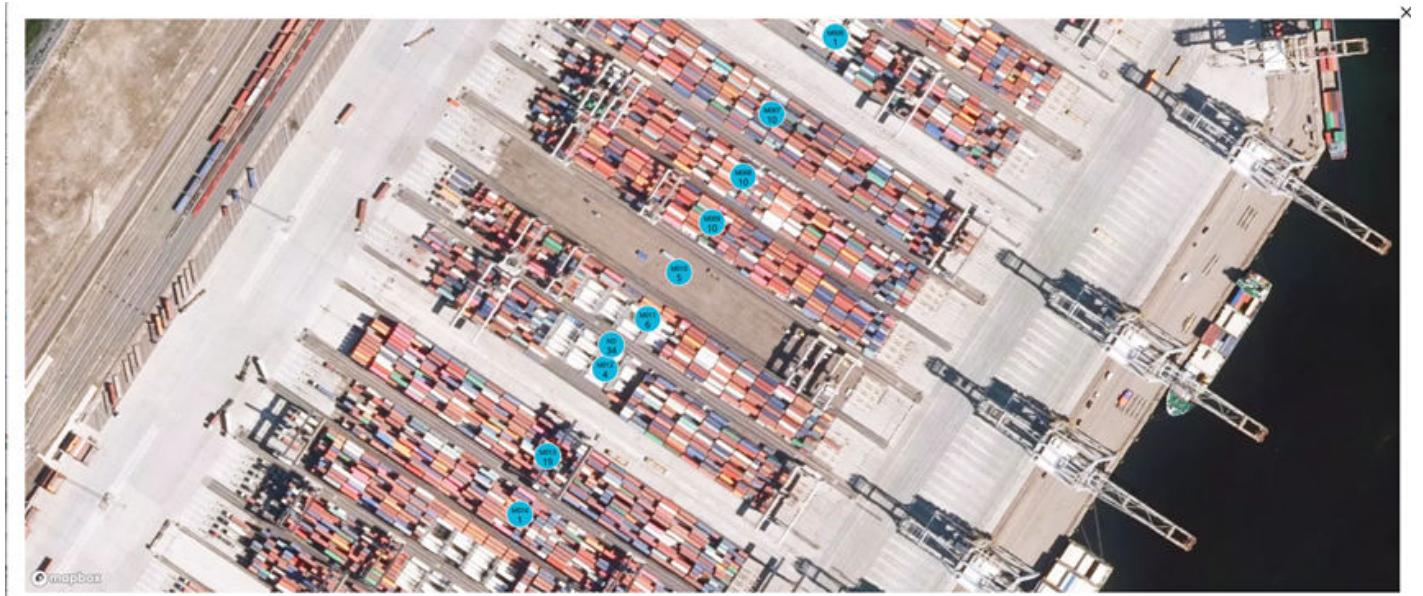


Bollards



mapbox

You can use the scroll wheel of your mouse to zoom in and out of the map.



The round blue icon indicates the location of EXPORT cargo and the EXPORT TRANSSHIPMENT cargo in the yard. It shows a count of units for each individual block.

9.5.2 Cargo Concentration for multiple vessel visits (Auto Planner)

In Auto Planner, click on the map to view the cargo concentration.

Auto Planner

Optimization Results

Export units in the yard: 1973

Import units on the vessel: 467

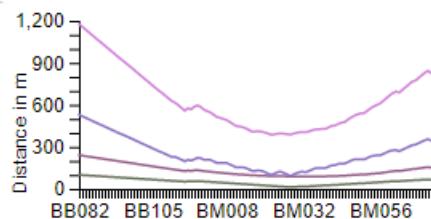
Transshipment units in the yard: 0

Distance improvement (m): 0

Distance improvement (%): 0

[Details](#)

[Table](#)



Start date: Sat 01 Oct, 00:00

End date: Sun 30 Oct, 00:00

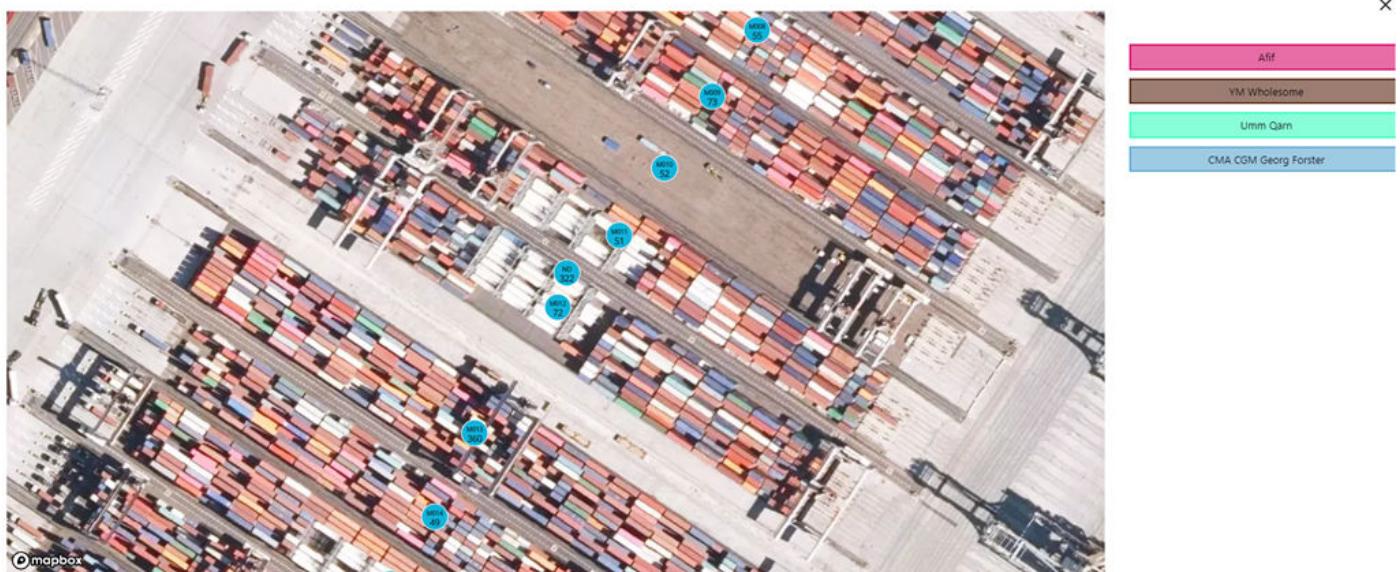
Sections: All

Excluded vessel visits: None

Ignore blockages and other vessels: False

Optimization based on: Export

You can use the scroll wheel of your mouse to zoom in and out of the map.



The round blue icon indicates the location of EXPORT cargo and the EXPORT TRANSSHIPMENT cargo in the yard.

You can see the list of vessel visits on the right side of the map view.

Click on any of the vessel visits to view the Cargo Concentration of that vessel visit only.