

Vessel Tracking and Tracing
WEB-based
RIS application

**INSTRUCTION
MANUAL**

INTRODUCTION

1.1 About this document

This guidance is intended to familiarize the user with the VTT Web application, part of the BULRIS system. It contains a description of the workspace, menus, icons and functions performed by the application.

1.2 General description of the product

The web application for tracking and identification of ships system BULRIS aims to allow users to track vessels involved in the traffic and equipped with AIS, according to the rights, roles and groups of each user and the coverage of the system in a standard web browser (recommended Chrome).

1.3 **Address of the application** – The web address, where you can access the application is vtt.bulris.bg

1.4 Abbreviations and acronyms

The following abbreviations and acronyms are used in the document:

Abbreviations	Meaning
ECDIS	Electronic Chart Display and Information System
AIS	Automatic Identification System
RIS	River Information Services
SOG	Speed Over the Ground
COG	Course Over Ground
IMO	International Maritime Organization
MMSI	Maritime Mobile Service Identity
ATIS	Automatic Terminal Information Service
ENI	European Number of Identification

1.5 List with the figures

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Starting and login into the system

The VTT application (Vessel Tracking and Tracing) of the BULRIS system is web based and is available to all registered users via a standard Web browser. When loading the front page, the application requires login with a username and password.



figure1: Logging into the system

Application for use of the system can be made by pressing the button Register. In the form that opens, all the necessary details should be completed correctly before pressing the OK button. It is then necessary to follow the procedure for accessing BULRIS. It can be found in section Project BULRIS in www.bulris.bg. The application must be completed electronically. The original application for must be sent to the given address. After approval of the application the user will receive a username and password that will determine the level of access rights in the system.

figure2: Application for registration in the system

Users, who have forgotten the password for logging in, can be sent a new one to the registered e-mail address by clicking password recovery and fill in the username:

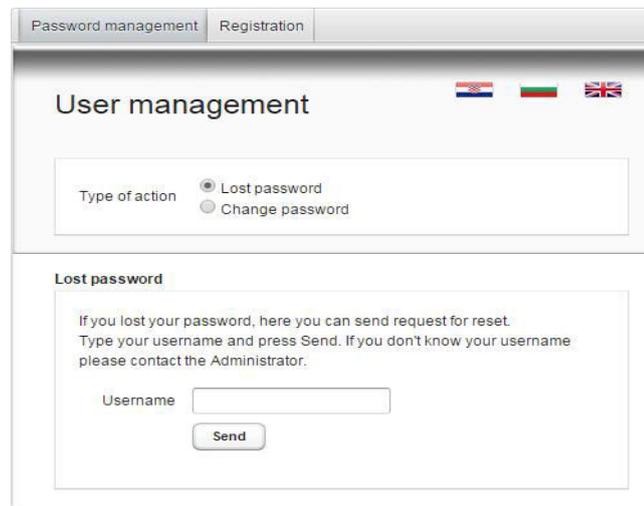


figure3:Forgotten password recovery

The system allows the user to change the password to a new one.

Main workspace

The workspace in the application is organized to be user friendly. The menu bar with the possible sections is located at the top. By default the user is entered in the card mode (Map STI). Images obtained by AIS data from ships and base stations are overlaid on the navigation map and are available to the user. The workspace allows the chart to be displaced zoomed in or out using the mouse.



figure4: Main workspace

The application menu is located horizontally at the top of the display. The user can choose from the following options: Home, Ships Mode Map (Map STI) and Alarm areas. Their actions are described in details in the following subsections.

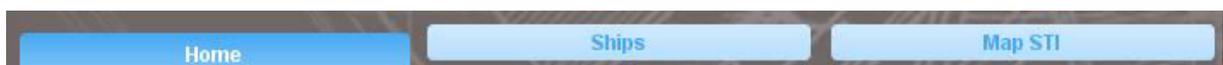


figure5: Menu bar

General information about the chart (Map STI)

4.1 Navigation panel

The user can perform certain actions in Map mode associated with the presentation of information and AIS data from vessels. For this the navigation panel can be used:

STI [LIVE]	AIS Targets	NtS	Hydro & Meteo	MAP/ECDIS	User
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figure 6: Navigation panel

The main functions provided by the panel are:

- selecting the mode of operation of the system - "life" and "history";
- AIS targets – vessels search, messaging, display of AIS targets;
- NtS – at this time this function is not applicable;
- Hydro and Weather – currently this feature is not applicable;
- Chart/ECDIS – information about the chart information and settings display;
- Alarm zones – a list of alarm zones and the data obtained from them;
- User (name) – language settings, forward to home page.

4.2 Information panel

The information from various sites on the chart is systematized in several panel on the workspace:

The image shows two panels from a maritime information system. The left panel, titled 'AIS Targets', contains a list of categories: Bookmarks, Ships, Base stations, and AtoNs. The right panel, titled 'CARGO', displays detailed information for a vessel named 'CARGO'. It includes static data (MMSI, name, length, draught, destination), persons on board data (crew, passengers, shipboard personnel), and dynamic data (longitude, latitude, speed, heading, river, navigational status).

Name	CARGO					
MMSI	264162479	UEVIN	46000340	IMO	0	Call sign
Type of ship and cargo	Тласкач, осем товари баржи					
Length [m]	257	Beam [m]	33	Draught [m]	2.24	
Destination	CONSTANTA	ETA	12.11.2016 13:00:00	Loaded	✓	Hazardous cargo ✗

Crew	6
Passengers	0
Shipboard personnel	0

Longitude [°]	26.07569	Latitude [°]	43.93412	Position accuracy	✓
Speed over ground [km/h]	12.2232	Course over ground [°]	20	Heading [°]	51.1
River	Дунав	RKM	481.36		
Navigational status	На ход (с двигател)		Blue sign	1	

figure 7: Information panels

4.3 Chart layer

The application provides a choice of layer for the map. In the upper right corner there is a tool:



Mark to select the desired card.

4.4 Images on the map

The map depicts many different types and purpose objects. To help the user, there is a chart legend, which is accessed from the menu Map / ECDIS.

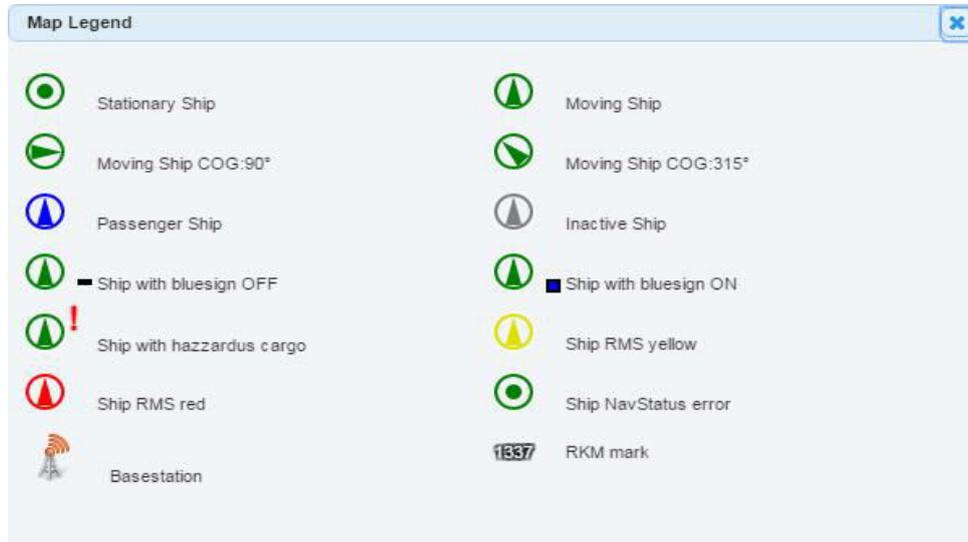


figure 8: Chart legend

From the same menu, you can choose what service information to be displayed - ENC overlay Signs and signaling and mileage signs.

4.4.1. Saving the current view

There is possibility to save the current view, which can after that be accessed quickly from the list of saved views - Map / ECDIS → Views

4.4.2. Tracking a vessel

There is a possibility to activate option “Track” of a selected vessel, where the chart will always center the vessel in the middle of the screen and the user will always be able to see the vessel. This option can be disabled by clicking “Stop tracking”.

4.4.3. Vessel route

Option "Vessel route" allows you to make fast track of the route, where the chart draws the route where the vessel has traveled. Option "Custom" set time period and color of the line on the route. The beginning and the end are marked with markers. Option “Follow” is turned off by clicking “Stop follow”. In order to remove the markers select “Remove the route of the vessel”. The generated file can be saved with extension *.kml. This function works in mode “direct broadcast” as well as in mode “history”.

4.5 AIS targets

The panel "AIS targets" contains received information about the AIS targets - Bookmarks, Ships, Base Stations, AtoNs. The information is available by clicking any of these sections of the dropdown menus.

4.5.1 Bookmarks - Provide quick access to any AIS target. When you add a specific site to bookmarks, the list in this section is completed and accordingly the user has easier access.

4.5.2 Vessels - a list of all vessels which send AIS information. There is an option to sort by name, MMSI, speed and position of the ship *, river kilometer. River Kilometer Information (RKM) is within the Bulgarian section of the Danube river - from 376.0 to 845.0 km. For vessels which have left the boundaries of the Bulgarian section, the RKM where the AIS data is lost is displayed and they are in gray (on the map and in the lists).

4.5.3 Base stations – list with base station which transmit and receive AIS information.

4.5.4 AtoNs – buoy with integrated transponder.

By clicking on the name of an object, basic information about it is displayed. The panel "Details" displays all information about the selected AIS target. The data are two types - static and dynamic. Data such as name, MMSI number, IMO number, ENI number, coordinates, size, course, speed, maximum and average speed, quality of data obtained on course and speed, ship type, number of blue signs on board, crews and passengers, destination and estimated time of arrival, and others is included in the window.

The reliability of the data appearing is the responsibility of the captain of the vessel.

Operating mode of the chart

The system provides the opportunity to work in two modes - "direct broadcast" and "history." The transition from one mode to the other is done by selecting from drop-down menu STI. The active mode is marked with a green tick.

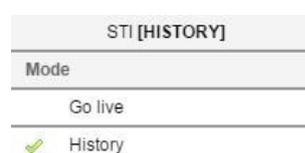


figure 9: Switching to history mode

5.1 Operation in mode "direct broadcast" – STI[Live]

This mode is the default mode in which chart is loaded. It is used to direct tracking of the vessels transmitting AIS data. The obtained information has a delay of around 15s. You can monitor the vessel traffic.

5.1 Operation in mode “history” – STI[History]

In order to switch to operation mode “history”, you have to set some parameters. Date and time and also speed of playback of the AIS data must be selected. After that you have to click button “Start of history” and the application shows the message for the transition to operation mode “history”.

! User STI mode changed to HISTORY

Message will close in 20s. Click to close. [X]

The screen displayed AIS data that is stored in the system beginning with the date and time. It can monitor the movements of vessels and the data related to them.

There is an option to adjust the playing time in predefined time intervals - forward and backward, based on the originally set time.

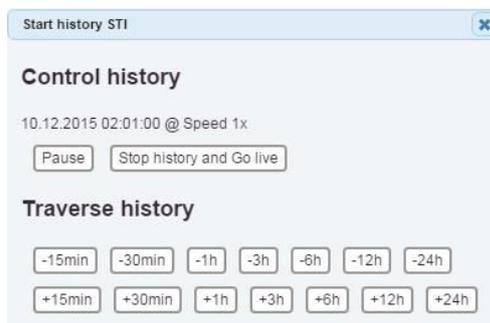


figure 10: History management

The playback of the history is turned off if the speed is set to more than 1 and the playback gets to present time or when the mode is set to “direct broadcast”.

Vessels

Section Vessels provides information about the Vessels and the messages.

6.1. Vessels

There is a complete list of vessels that are derived AIS data provided and this list can be sorted according to multiple parameters. The vessels that are within range of the base stations of BULRIS are active.

6.2. Messages

There is a possibility to send a message to AIS transceiver of a selected vessel, or to all vessels.

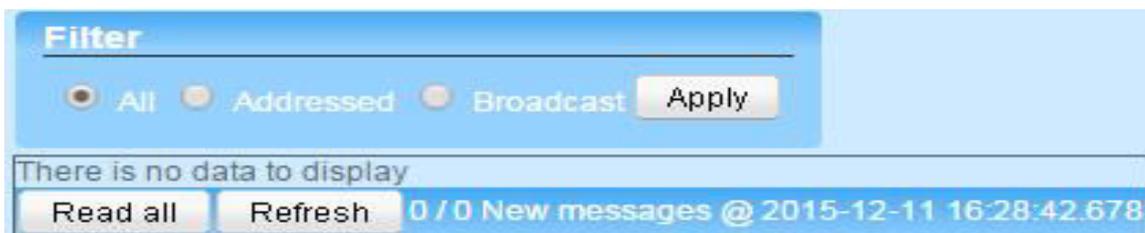


figure 11: Messages management

This section relates to all incoming messages. With a click of the button “Read all”, the user can mark all incoming messages as read and they do not appear in section chart. The system deletes automatically the messages after 30 min.

Logging off of the system

Exiting the application can be performed from the User Menu by clicking the “Logout” button, the last button from the menu.

Note: Clicking the “Exit map” button, takes the user to the homepage.



figure 12: Logging off of the system