

# **User Manual**

RINF

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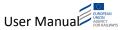
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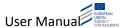


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# 1 Introduction

The present documentis the User manual for the Register of Infrastructure (RINF) system. The Register of Infrastructure (RINF) software application is a web-based application facilitating at European level the access to the data of national registers of railway infrastructure. It has been developed on the basis of the specifications presented during the RINF meetings.

It should be mentioned that the access rights of the RINF User depend on the role that is assigned to the User upon the creation of her/his profile. The process of creating Users' profiles and afterwards assigning roles to them is described in the document "3. Administration, Operation and Maintenance Manual".

The present RINF User manual describes the available actions for the following categories of Users:

- Standard Users
- NRE Users
- IM Users
- RRU Users



#### 2 RINF User manual

## **Definitions, Acronyms, and Abbreviations**

• ERA: European Union Agency for Railways

• **RINF**: Register of Infrastructure

NRE: Entity in charge for setting up and maintenance of national register

RRU: Representative of a Railway Undertaking

• MS: Member State

PDF: Portable Document Format

UI: User Interface

# 2.1 User experience (system navigation and page composition)

The RINF system includes a web-based User interface and is accessible from any computer with an internet browser and network accessibility. The system functionality is presented in a series of web pages which follow a standard template.

Each web page contains the following parts (see red outlines in Figure 1):

- 1. Header contains generic information about the session and the User account. The User has the "Log in" (if the User is not already logged in) and "Log off" options. When the User is logged-in to the RINF system, the header contains the navigation options that are available for the current User, i.e. the application Menu. Additionally, a language control allows the User to change the User Interface language.
- 2. Content section contains the actual content of the web page. The content of this section depends on the selection made from the header. When the User is not logged-in to the RINF system, the link "Request User Account" is displayed, allowing a Public User to self-register in the RINF application by filling the respective form.

In the content section, the link to the "User Manual" is always available, enabling the User to download the User Manual directly from the application.



Figure 1: RINF web page structure



# 2.2 Access the RINF system

# 2.2.1 Login

To access the application, the User has to type the URL of the RINF system in a browser. Then the RINF web site is displayed, as illustrated in Figure 2.



Figure 2: RINF web site

In order to log in, the User has to click on the "Log in" option available at the header. Afterwards, the Login Page is displayed (see Figure 3).

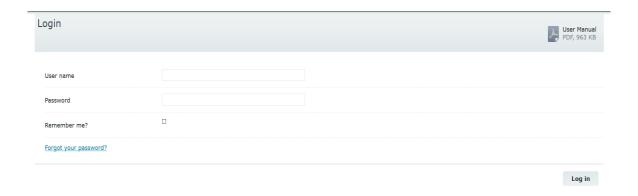


Figure 3: RINF Login form

In the Login Page, the User shall follow the next steps:

- Fill-in the "User name" text field.
- Fill-in the "Password" text field.
- Click on the "Log in" button.

Once the User logs in successfully, the home page of the RINF system will be displayed (see Figure 4).



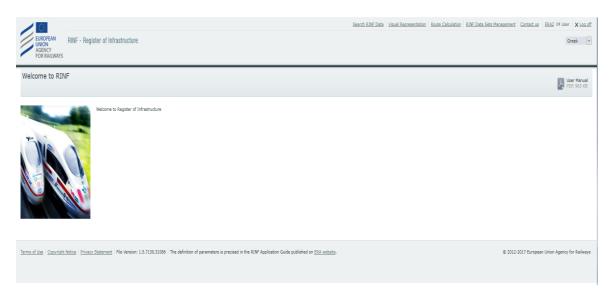


Figure 4: RINF home page

The User has the following options in the RINF system:

- Header section:
  - o View profile allows the User to view the information of his/her profile
  - Log off allows the User to log out from the RINF system
  - Search RINF Data allows the User to search for RINF data
  - Visual Representation allows the User to view the visual representation of RINF data on the map
  - Route Calculation allow the User to find and calculate a route based on the Railway network
  - Data Management for managing the datasets (available only to NRE Users)
  - RINF Data Sets Management for creating, editing and viewing the RINF data sets (available only to NRE and IM Users)
  - Contact us for submitting a comment/propose change to RINF/report an issue/error

In the following sections, the above options are described in detail.

### **2.2.2** Log off

The User may close the session by clicking on the "Log off" link in the header section. If the "Remember me" option was previously selected, it will now be removed. The User will need to provide the User credentials again in order to access the RINF system.

## 2.2.3 View profile

The Users can view the details of her/his profile by clicking on the "Username" link available on the header section. Then, the profile information page is displayed by the system in read-only mode (see Figure 5).

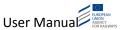




Figure 5: User profile information page

Additionally, in the View Profile page, the user can manage to get notified by email in case of data update by country (NRE). (see Figure 6 or Figure 88).

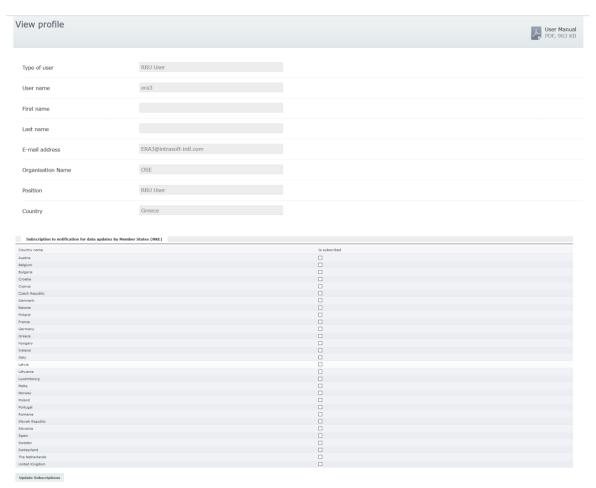


Figure 6: Notification management

# 2.2.4 Public User registration

The RINF system allows a Public User to self-register in the application by filling the respective form. The public User can only have a standard User role.



By clicking the "Request User Account" link the RINF system opens the form displayed in Figure 7:

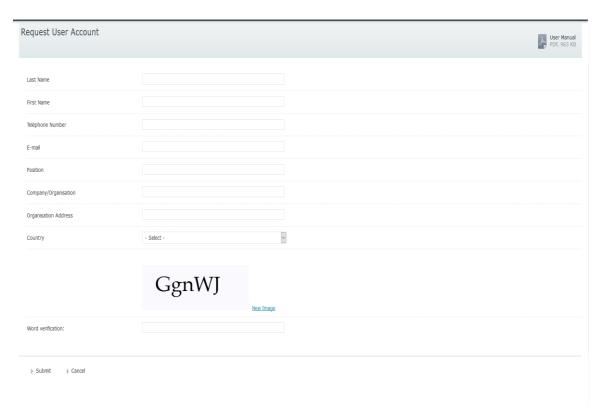


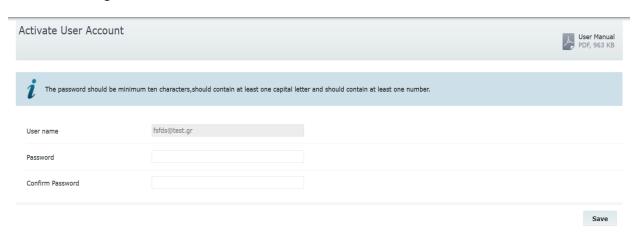
Figure 7: Public User registration form

The Public User fills in the form and clicks on the "Submit" link. Please note that all fields are mandatory and that the e-mail provided will be used as the "Username" of the Public User.

The RINF system validates the provided data and sends to the Public User an e-mail with a link for activation of the User account. The activation link is usable only once and cannot be used to activate an account which has been deactivated by the system administrator.

A new web page is displayed to the Public User in order to set up his/her password. The password must fulfil the following criteria:

- Minimum Length of 10 characters
- Including at least 1 capital alphabetical character
- Including at least 1 numerical character



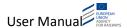


Figure 8: Public User's account activation

The Public User defines his/her password fulfilling the above criteria and clicks on the "Save" button. At the top of the page is then displayed an informative message concerning the activation of the User account (see Figure 9).

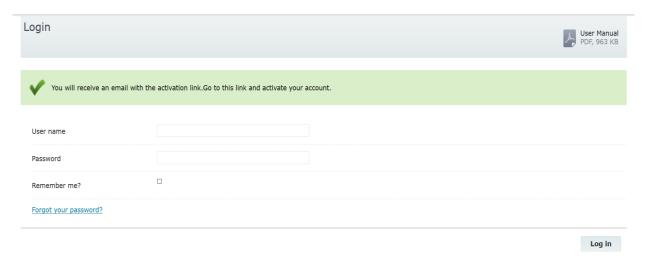


Figure 9: Successful User acount activation

#### 2.2.5 Password recovery

Through the RINF Login form (Figure 3) the User can reset his/her password in case he/she has forgotten it.

By clicking on the "Forgot your password?" link, the RINF system opens the "Forgot Password" page:

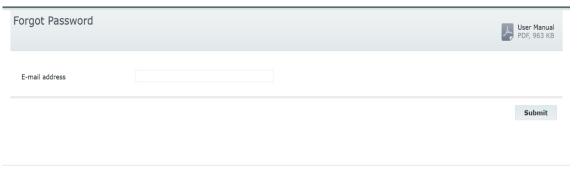


Figure 10: Forgot password

In the displayed page, the User provides his/her e-mail account and clicks the "Submit" button.

- In case of a public User, the system sends an e-mail with a link to change the password. The link is usable only once.
- In case of ERA, NRE or IM User, the system displays a message prompting the User to contact ERA's Service Desk.

## 2.3 Standard Users

The Standard Users can perform the actions described in the following sections.

#### 2.3.1 Search RINF Data

To search for RINF Data, the User clicks on the "Search RINF Data" link available on the header section (see Figure 4, but please note that for the Standard Users the "Data Management" link



will not be available at the header section). Then, the "Search RINF Data" page is displayed (see Figure 11).

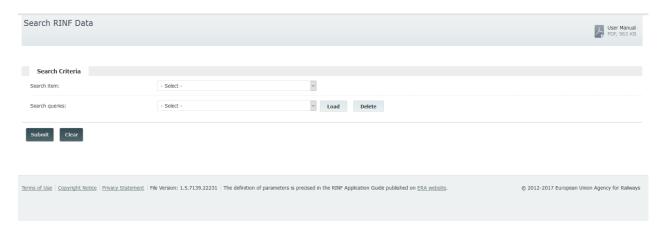


Figure 11: "Search RINF data" initial page

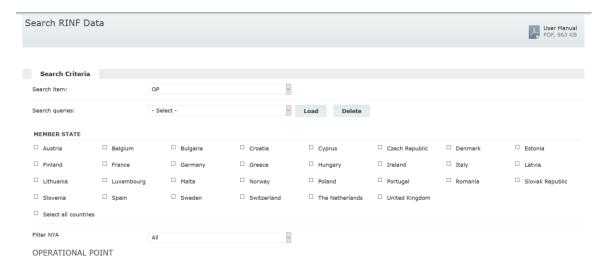
#### The User shall select:

- Search item
  - OP (operational point)
  - SoL (Section of Line)

Furthermore, the User can load a search query from the "Search queries" dropdown list.

Choosing at least one Member State/Country value is mandatory to continue with the search process. By checking the "Select all countries" checkbox, all Member States are selected as a search criterion. Additionally, the dropdown "Filter NYA (Not Yet Available)" is available under the countries filters with the following options (see Figure 12):

- All (default value): If it is selected, the RINF system will present all OPs/SoLs
- Without NYA: If it is selected, the RINF system will present only the OPs/SoLs that do not have any parameter NYA (Not Yet Available)
- With NYA: If it is selected, the RINF system will present only the OPs/SoLs that have at least one parameter NYA(Not Yet Available)



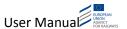




Figure 12: Additional search criteria

The User may click on the "More Criteria" option and the full set of search criteria will be displayed. Again, the User may click on the desired criterion and additional options will be presented (see Figure 13).



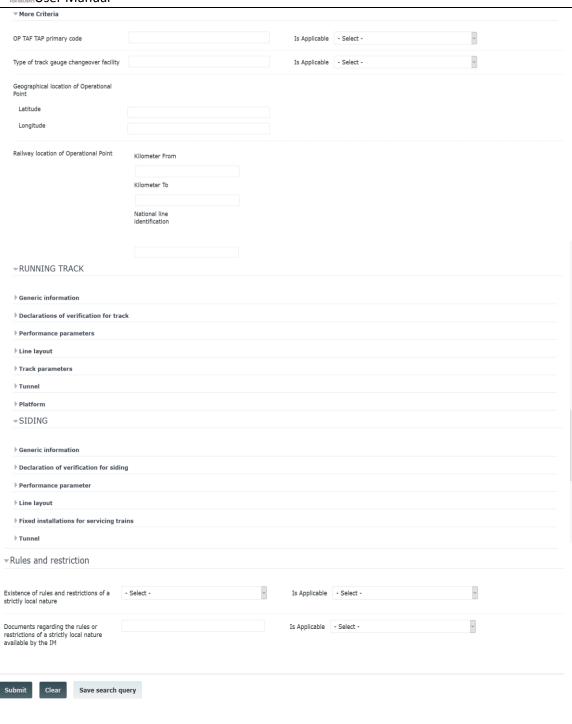
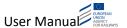


Figure 13: The full set of search criteria for OPs



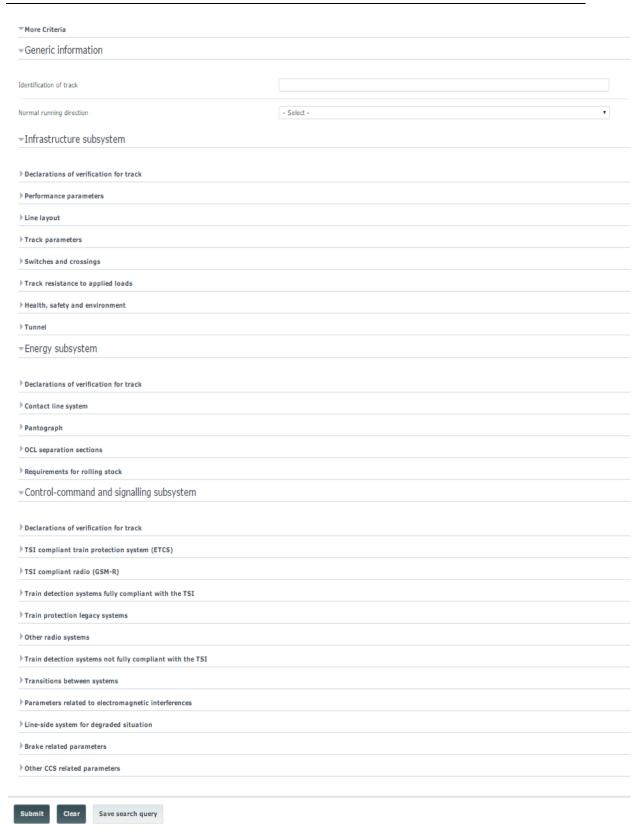


Figure 14: The full search of search criteria for SoL

In case the desired criterion is a range filter, the User can fill in both "From" and "To" fields to search all OPs/SoLs for which the corresponding field has a value that falls within the specified range of values. The border values are included. In essence, the search is defined as: *Greater than or equal with "From" value AND less than or equal with "To" value.* 



Additionaly, the User can fill in only the "From" field, to search all OPs/SoLs for which the corresponding field has a value greater than or equal with the specified "From" value or only the "To" field to search all OPs/SoLs for which the corresponding field has a value smaller than or equal with the specified "To" value. The border value is included.

Finally, if the User specify a "From" value which is greater than "To", the search process will return no results and will display a validation error message.

To initiate the search process, the User may fill in any of the available search criteria and click on the "Submit" button (see Figure 11 or Figure 12 or Figure 13). Then the respective search results will be displayed as illustrated in Figure 15.

As soon as the User selects either Ops or SoLs from the "Search item" dropdown list, the search form is updated according to the User's selection. The search fields are divided into sections. The User can collapse or expand the sections of the search form in order to save space on the page. Even if a User selects to collapse a section, the values that the User has already inserted in the searching fields of this section will be maintained.

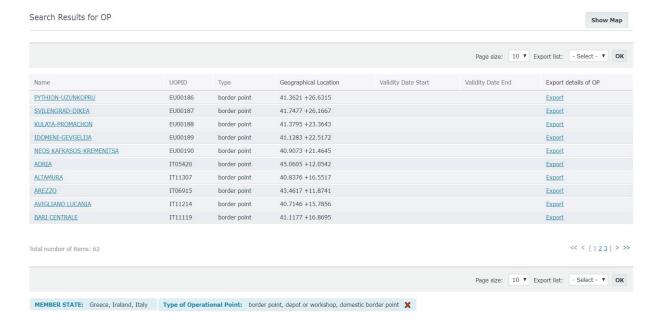


Figure 15: Search results

The search criteria that the User has defined are displayed below the search results header. For example: Search Results for OP, MEMBER STATE: Greece, Ireland, Italy; Type of Operational Point: border point, depot or workshop, domestic border point. The x is used for clearing the filter. In case of multiple selection the x removes the whole criterion and not simply a selection. In the example above, if User clicks on x from the Type of Operational Point criterion, it will remove this criterion and the search results are updated automatically.

The search results are displayed as hyperlinks and are grouped into pages:

- To go to a specific page, click on the page number ( $\begin{bmatrix} 1 & 2 & 3 \end{bmatrix}$ ) at the bottom and at the top of the list
- To move to the next/previous page, click on the > >> / << < link at the bottom and at the top of the list.



• To display more/less items per page, chose the number of items in the list at bottom and at the top of the list.

The results can be sorted in ascending or descending order by clicking on any of the available columns of the search results list. The sorting functionality is not available for geographical locations data.

## 2.3.1.1 Search data along one uniquely defined national line

To search the SoL data along one uniquely defined national line, the User must fill in the following fields in the "Generic Information" section:

- National line identification
- Operational point at start
- Operational point at end

and then click on the "Submit" button.

#### 2.3.1.2 Export search results.

To export the search results list, the User must select the desired format ( "XLSX", "CSV", "PDF" and "XML" are available) and click on the button at the bottom of the list. The RINF system displays a pop up window with the name "Export Data" containing a progress bar of the file generation, generates the file and prompts the User to either download the file (button "Download file") or close the window. By selecting the "Close" option, the pop up form closes and the User is redirected to the "Search " page, the search filters are clear and the User can perform a new search and new export actions. By selecting the "Download file" option, the system saves the file in the selected data format to the default path of the browser.

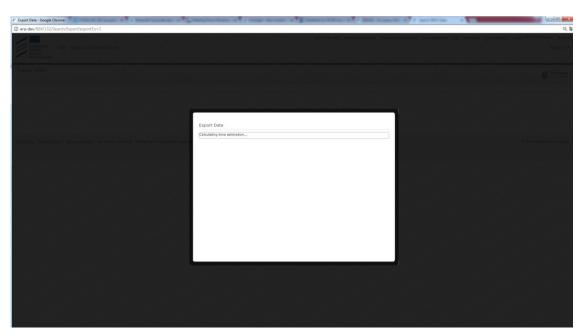


Figure 16: Export Data form with a progress bar



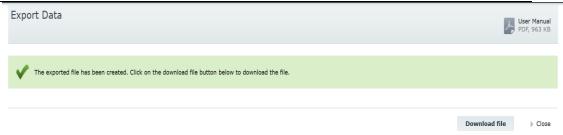


Figure 17: Export Data form upon completing the export of the file.

Upon completion of the export, the "Export Data" page shows a message: "The exported file has been created. Click on the download file button to download the file." The User may then click on the Download file or "Close" link.

If the User clicks on Download file , the file is downloaded and the browser hereafter handles the opening and/or saving of the file. When exporting in XML format (RINF Data format), the lookup values in the file are displayed in the selected language if available, otherwise the English translation will be used by default.

If the User clicks on the "Close" link, the "Export Data" window closes, the initial page is cleared from any search criteria and results and the User is redirected to the start page of "Search RINF Data".

#### 2.3.1.3 View search result details

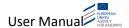
In order to view the details of a search result, the User clicks on the "Name" link of the desired search result. Then a new browser tab is displayed (see Figure 18) containing the following information (available through the "View detailed information for" dropdown list) for the search result:

- Generic Information (displayed by default)
- Track information
- Siding information (only for OP search results).



Figure 18: Details of search result

Figure 19 displays the track information for a search result.



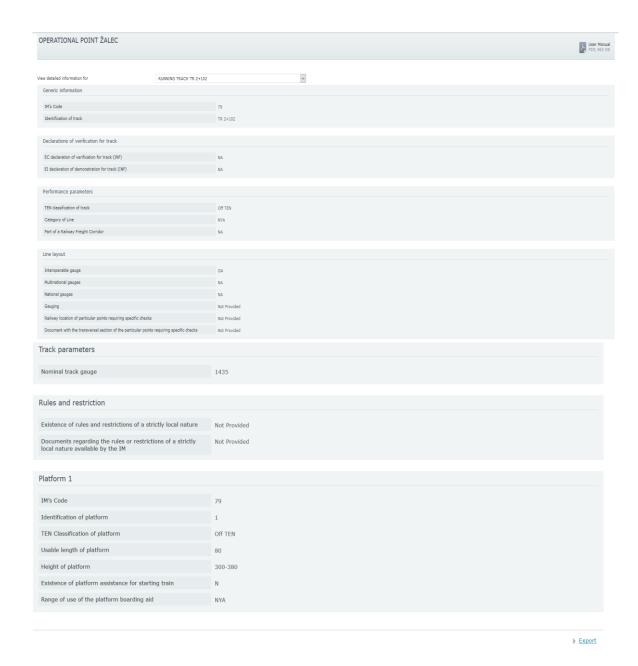


Figure 19: Track information for a search result

Moreover, the User may export the details of the search result in XLSX format by clicking on the "Export" link.

## 2.3.1.4 View search results on map

The User may view the search results on the map by clicking on the "Show Map" button above the search results section. Then the RINF web site is displayed (see Figure 20



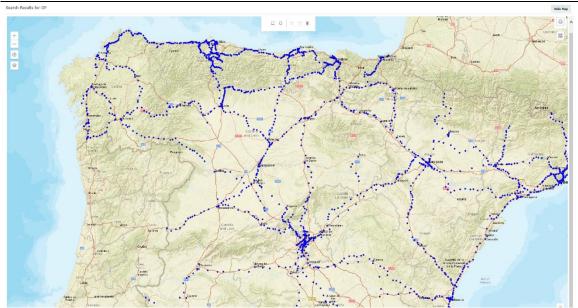


Figure 20: View search results on map

By clicking on a search result, a pop up is displayed containing its brief information.



Figure 21: Details of a search result on the map

The User can see the full details of the search result, displayed as described in section "2.3.1.3 View search result details".

# 2.3.1.5 Save a search query

In order to save a search query, the User clicks on the "Save search query" button available at the bottom of the search form (see Figure 22 or Figure 23). Then a pop-up is displayed (see Figure 22).



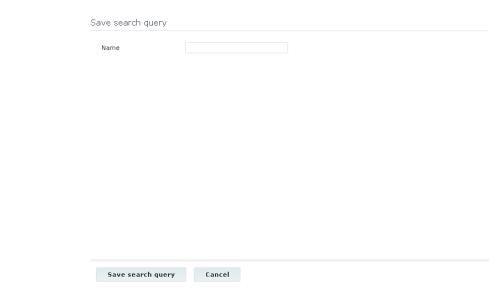


Figure 22: Save search query

#### The User must then:

- Provide a name for the query.
- Click on the "Save search query" button.

The pop-up closes, a success message is displayed at the top of the search form and the search query is loaded to the "Search queries" dropdown list (see Figure 23).

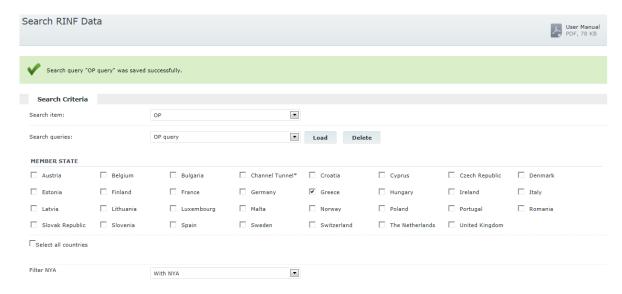


Figure 23: Saved search query

#### 2.3.1.6 Load a search query

To load a search query, the User selects the desired search query from the "Search queries" dropdown list Upon selecting the search query, an informative message is displayed at the top of the search form (see Figure 24).



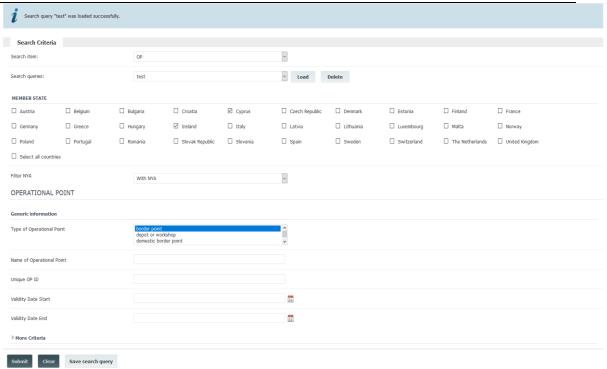


Figure 24: Load search query

#### 2.3.1.7 Delete a search query

In order to delete a search query, the User selects the desired search query from the "Search queries" dropdown list (see Figure 25) and click on the "Delete" button. The system will prompt the User to confirm the deletion; upon confirmation the search query will be deleted and an appropriate message will be displayed at the top of the search form.

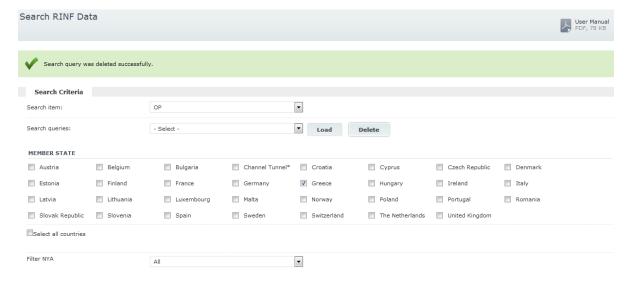


Figure 25: Delete search query

## 2.3.2 Visual Representation

In order to display the RINF data of a (Member) State/country on its map, the User clicks on the "Visual Representation" link available in the header section (see Figure 4; note: for the Standard Users the "Data Management" link will not be available in the header section). Then the respective page is displayed. By default, the RINF data of the User's country are displayed.



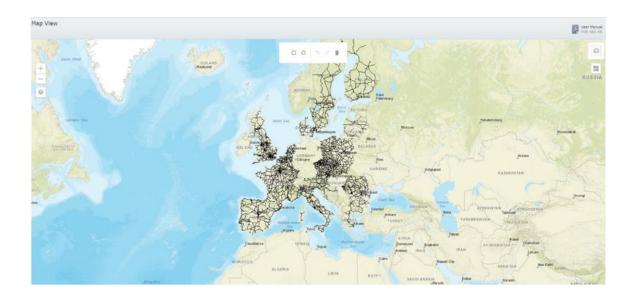


Figure 26: Visual Representation of RINF data

In order to navigate to a specific area of the map, the User can use the mouse for zooming or use the zoom in / zoom out buttons on the top left part of the digital map.

By clicking on an OP (blue dots) or a SoL (black lines connecting OPs) on the map a pop-up will appear to display brief information related to the OP/SoL (see section "2.3.1.4 View search results on map" for additional information).

By clicking on "Draw a rectangle" or "Draw a circle" on the top of the map, the User is able to select a specific area on the map (see Figure 27).



Figure 27: Selection of geographical area

Upon User's selection, the RINF system displays a pop-up window with the RINF description of this geographical area (i.e. Name of Operational Points and IM's Name of SoLs available in the selected area). The pop-up window has two tabs; one tab for the OPs and one for the SoLs. Each tab includes links which redirect the User to the details of the particular object (OP/SoL). The pop-up window also enables the User to export the OPs and SoLs details in RINF Data format and/or in XLS format (see Figure 28).



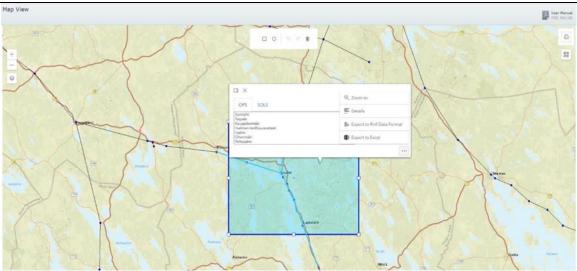


Figure 28: RINF description of the selected geographical area

#### 2.3.3 Route Calculation

To find a route between two or more points within the railway network, the Users clicks on the "Route Calculation" link available at the header section (see Figure 27). Then, the "Route Calculation" page is displayed by the system (see Figure 29).

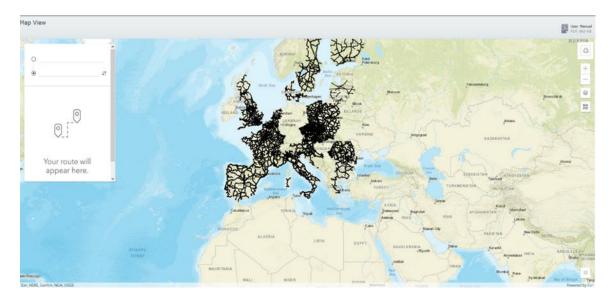
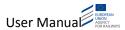


Figure 29: Route calculation

#### 2.3.3.1 Calculate a route

The User can calculate a route by filling in two textboxes defining the names for the start and the end operational points of the route on the railway network. The system will then calculate the route on the basis of these operational points and display an additional layer that will contain the geometrical path f the route (see Figure 30).



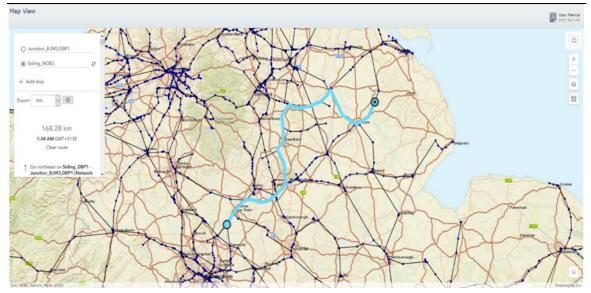


Figure 30: Calculate route

In order to add stops on the selected route, the User clicks on the "Add stop" button. Then the system displays a new textbox. After filling in the corresponding textbox, the system will calculate the route taking into account these locations (on the basis of the Railway network) and display an additional layer containing the geometry of the route (see Figure 31)



Figure 31: Add stop

Furthermore, the User can view the list of all the SoLs of the calculated path. The description of the route will contain the name and length of all sections of line along with the driving instructions (provided by the algorithm that was not specifically elaborated for railway use). Clicking on one SoL of the calculated path it will be highlighted on the map (see Figure 32).





Figure 32: View station in digital map

# 2.3.3.2 **Print map**

The User may print the map from the "Route Calculation" page by clicking on the "Print map" button at the top right corner of the digital map. The system displays a pop-up window that contains the tabs "Layout" and "Map Only". In addition, the "Export" button is displayed underneath the "Layout" and "Map Only" options (see Figure 33).

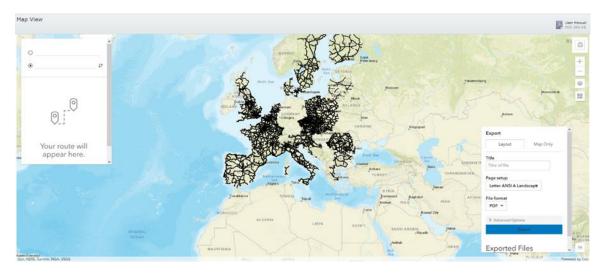


Figure 33: Print map

# 2.3.3.3 Map view

The User can change the map view by clicking on the "Expand" button at the top right corner of the digital map (see Figure 34).





Figure 34: Map view

# 2.3.3.4 Zoom level

The User can adjust the zoom level of the digital map by clicking on the corresponding buttons at the top right corner of the digital map (see Figure 35).

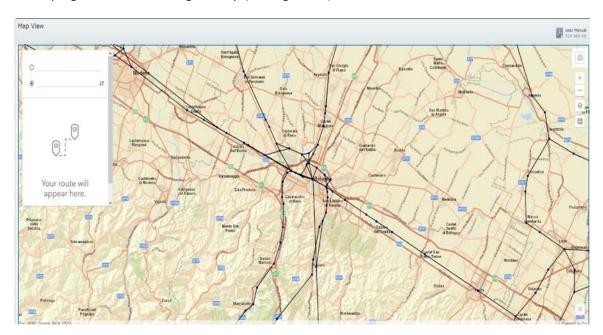


Figure 35: Zoom level

# 2.3.3.5 *Mapping*

The User can toggle between different layers of Sections of Line and Operational Points by clicking on the button at the top right corner of the map (see Figure 36).



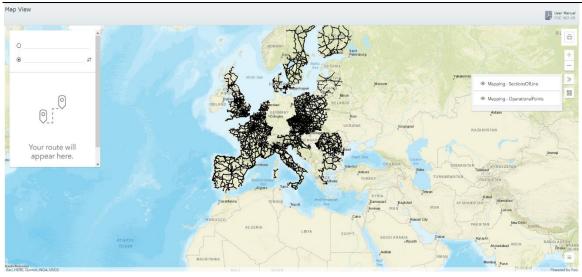


Figure 36: Mapping

# 2.3.3.6 Find User location

The User may geolocalise by clicking on the button at the top right corner of the map. The browser then displays a pop-up window with two options "Allow" & "Block" (see Figure 37).

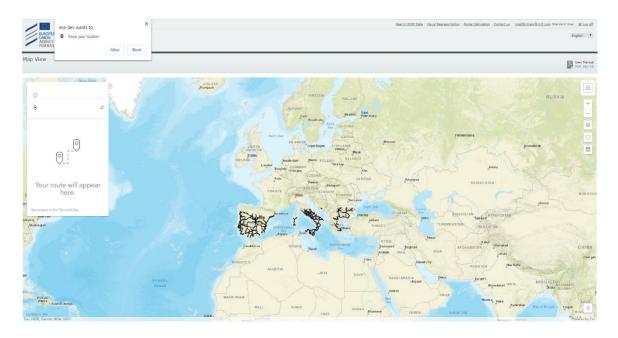


Figure 37: Find User location

# 2.3.3.7 No available route

An error message will appear if there is no path found for the selected route. (see Figure 38).





Figure 38: Warning message

# 2.3.3.8 Export of a route

The User may export the elements (SOLs and OPs) of a route to a specific file format by clicking on the "Export" button. A new page will allow User to download the file or to close the page (see Figure 39).

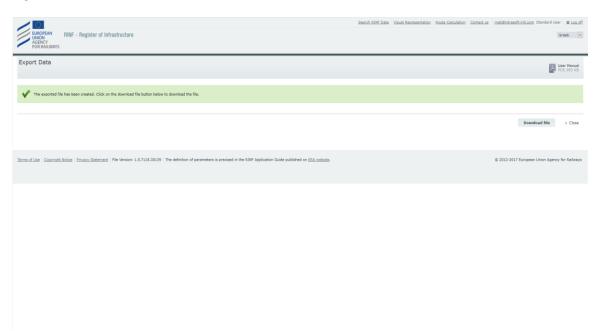
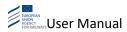


Figure 39: Export

# 2.3.4 Contact us

In order to access the Contact us page, the User clicks on the "Contact us" link available at the header section (see Figure 4). Then, the "Contact us" page is displayed by the system (see Figure 40).



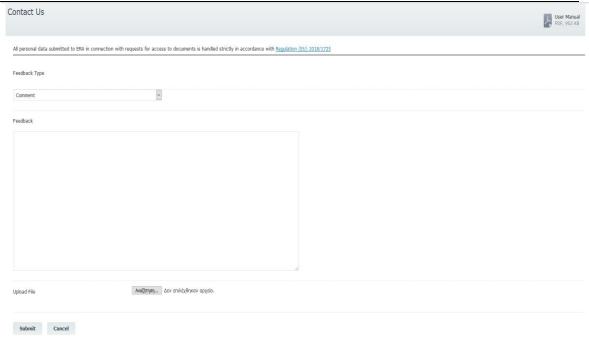


Figure 40: Contact form

## **2.3.4.1** Upload file

In order to upload a file the User clicks on "Choose Files" button. The system displays the corresponding pop-up window for attaching files (see Figure 41).

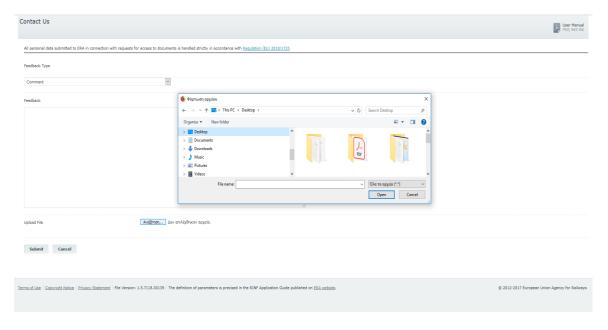
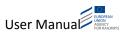


Figure 41: Upload file

# 2.3.4.2 Submit contact form

The User selects the desired Feedback Type from the respective list. Moreover, the User shall fill in the "Feedback" text field.

Upon clicking on the "Submit" button, the User can submit the contact form. Then a confirmation message is displayed by the system indicating that the message was sent successfully to the RINF Administrator (see Figure 42).



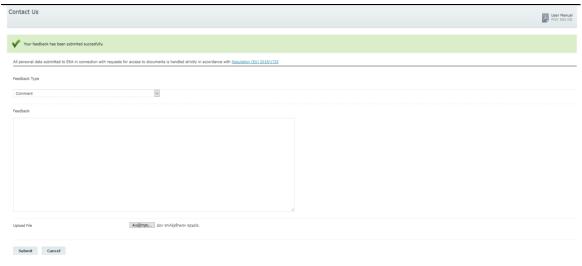


Figure 42 : Submit contact form

#### 2.3.4.3 Cancel submission

The User may cancel the operation by clicking on the "Cancel" button. The system redirects the User to the "Contact us" section of the RINF application (see Figure 43).

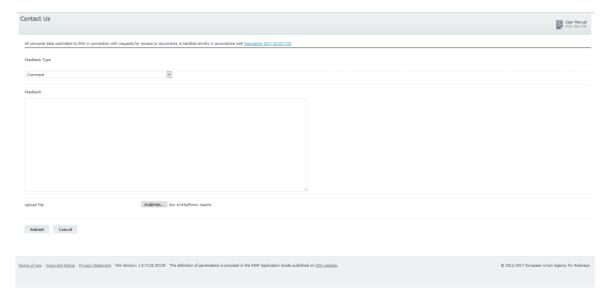


Figure 43: Cancel submission

# 2.4 NRE Users

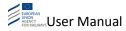
The NRE Users can perform the actions described in the following sections.

# 2.4.1 Search RINF Data

The process of searching for RINF data for NRE Users is the same one as described in section "2.3.1 Search RINF Data" for the Standard Users.

# 2.4.2 Visual Representation

The process of viewing the RINF data on the map for NRE Users is the same one as described in section "2.3.2 Visual Representation" for the Standard Users.



## 2.4.3 Route Calculation

The process required for finding and calculating a route between two or more points within the railway network is the same one as described in section "2.3.3 Route Calculation" for the case of the Standard Users.

## 2.4.4 Data Management

In order to access the Data Management page, the User clicks on the "Data Management" link available at the header section (see Figure 1 or Figure 4). Then, the respective page is displayed (see Figure 44).

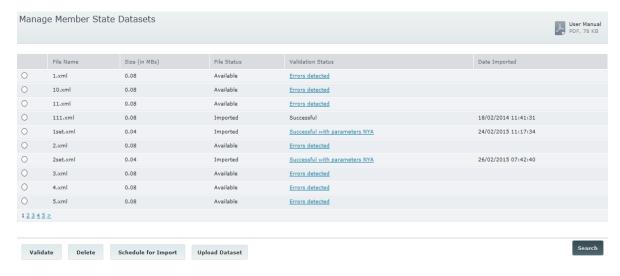


Figure 44: Data Management page

By default, all the datasets of the User's country are displayed in a list.

#### 2.4.4.1 Upload Dataset

In order to upload a dataset to the RINF, the User clicks on the "Upload Dataset" button (see Figure 45). Then the respective pop-up window is displayed The dataset must be in XML format and compressed within a .zip file.

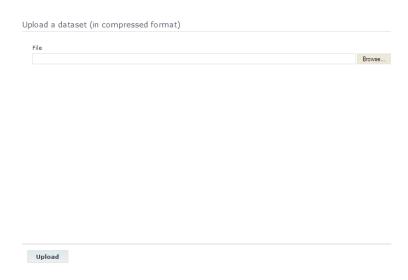


Figure 45: Upload dataset pop-up window



The User then selects the desired ZIP file and clicks on the "Upload" button. The system will then validate the uploaded file; an error message will be displayed the file to be uploaded it is not in .zip format or the .zip file does not contain an XML file.



Figure 46: Error message when the uploaded file is not in .zip format

After validation, the system will upload the file, unzip it, close the pop-up, and display an informative message at the top of the Data Management page to confirm the successful upload of the dataset (see Figure 47).

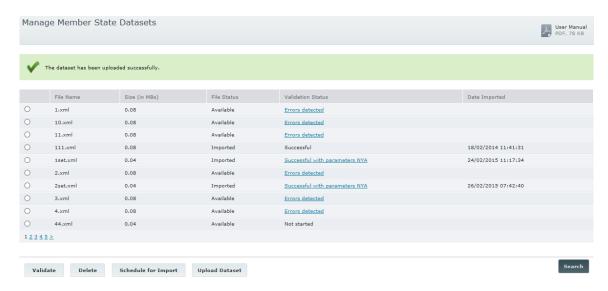


Figure 47: Successful upload of RINF dataset

The "File Status" of the uploaded RINF dataset is "Available" and the "Validation Status" is "Not started".

#### 2.4.4.2 Validate Dataset

In order to validate a dataset, the User selects the desired dataset and click on the "Validate" button (see Figure 48). The system then displays a pop-up prompting the User to confirm the action.

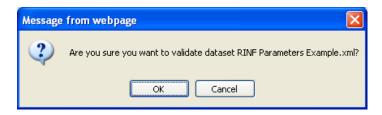


Figure 48: RINF dataset validation, confirmation pop-up



Upon User confirmation, the system initiates the validation process (Validation status = "In progress") and an informative message is displayed at the top of the Data Management page (see Figure 49).

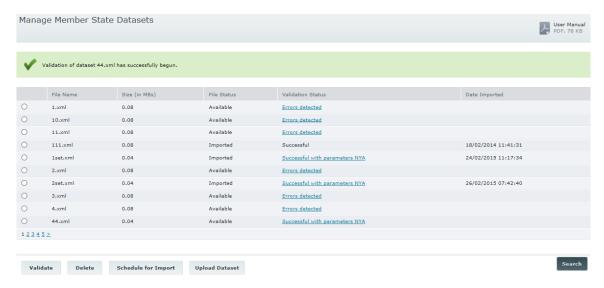


Figure 49: Initiation of dataset validation process

The User clicks on the "Search" button in order to refresh the page and view the outcome of the validation.

If there are no validation errors, then the "Validation Status" will change to "Successful". Otherwise, the "Validation Status" will change to "Errors detected" or "Successful with parameters NYA" (active link). The User may click on the link "Errors detected" or "Successful with parameters NYA" in order to view the validation errors in a pop-up window.



Figure 50 : Dataset validation error message



To download the validation results in a txt file, the User clicks on the "Download Validation Results" button.

#### 2.4.4.3 Delete Dataset

In order to delete a dataset, the User selects the desired dataset and click on the "Delete" button (see Figure 51). Only one dataset can be selected for the deletion process. The application will display a pop-up asking User to confirm the action.

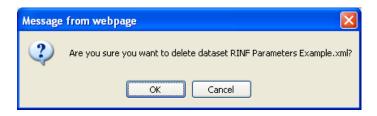


Figure 51: RINF dataset deletion, confirmation pop-up

Upon User confirmation, the system deletes the selected dataset and an informative message is displayed at the top of the Data Management page (see Figure 52).

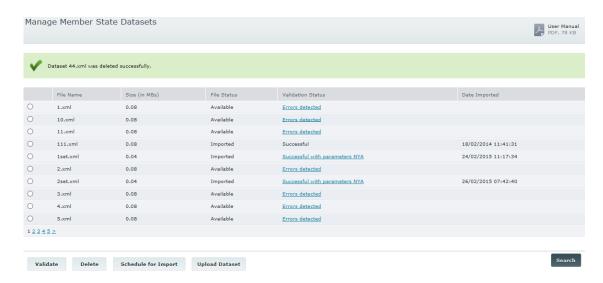


Figure 52: Successful deletion of RINF dataset

The "File Status" of the selected dataset must be "Available", since only available files can be deleted.

#### 2.4.4.4 Import Dataset

In order to import a dataset, the User selects the desired dataset and click on the "Import Now" button (see Figure 44). The "File Status" and the "Validation Status" of the selected dataset are respectively "Available" and "Successful" or "Successful with parameters NYA". Otherwise, an error message will be displayed at the top of the Data Management page.



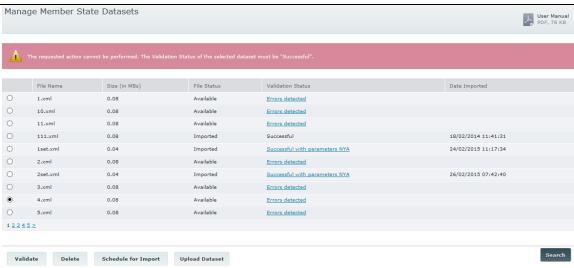


Figure 53: Error message when importing invalid dataset

Upon clicking on the "Import Now" button, a pop-up is displayed asking User to confirm the action.

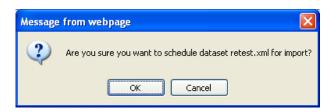


Figure 54 :RINF dataset import, confirmation pop-up

Upon User confirmation, the import process is initiated and a confirmation message is displayed at the top of the Data Management page.

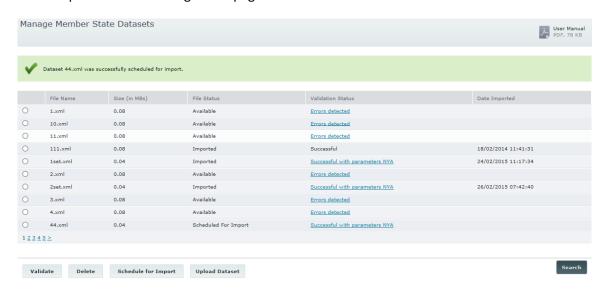


Figure 55: Scheduled for import success message

In addition, the "File Status" of the dataset is changed from "Available" to "Scheduled for Import". Please note that the import process is asynchronous and it is scheduled to take place during off-peak hours due to the potentially large size of the XML files.

Until the import process is finished, the User is not able either to schedule another dataset for import or to upload a new dataset for the specific country (see Figure 56).





Figure 56: Error message when trying to upload a dataset while importing is scheduled

When the importing is completed, the "File Status" of the imported file will change from "Scheduled for Import" to "Imported".

#### 2.4.4.5 New data submition notification for RRUs

RRUs can select the MSs they want to get notifications from, in case of new data submission. They will receive emails whenever the chosen member state NREs update the railway data.

## 2.4.5 RINF Data Sets Management

By clicking the "RINF Data Sets Management" link the following page is displayed to the NRE User:

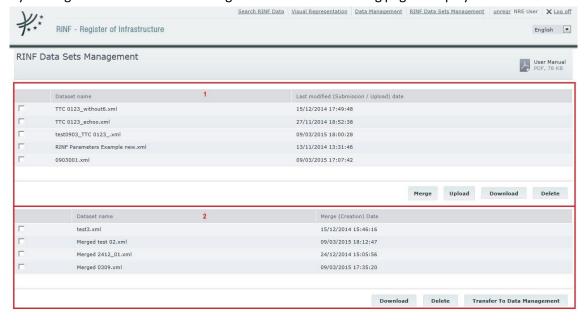


Figure 57: RINF Data Sets Management page

All the subsets of RINF data that have been created and sent by the IM of the NRE country are listed in the first list. The list contains the datasets that have been uploaded by the NRE User. In addition, pagination is not available in this dataset list.

Through the first list, the NRE User can perform the following actions regarding the RINF datasets:



- Merge
- Upload
- Download
- Delete

Through the RINF Data Sets Management, the NRE User is able to select and merge the desired datasets into a single dataset. The new dataset that is created after the merging process is listed in the second list.

Through the second list, the NRE User can perform the following actions:

- Download
- Delete
- Transfer to Data Management

The above actions are described in detail in the following sections.

## 2.4.5.1 Merge RINF Datasets

To merge RINF datasets, the NRE User selects at least two datasets and clicks on the "Merge" button. Then a pop-up window opens, the NRE User defines the "Name" of the merged dataset and clicks on the "Save" button (see Figure 58).



Figure 58 : Merge datasets

The pop-up window closes and an informative message is displayed at the top of the page to confirm that the datasets have been successfully merged (see Figure 59).

.



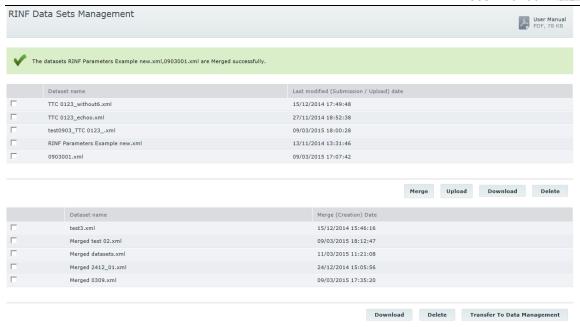


Figure 59: Successfully merged RINF datasets

The newly created dataset containing the merged data will be displayed in the second list.

#### 2.4.5.2 Upload Dataset

The NRE User can upload a new dataset by clicking on the "Upload" button. The process is similar to the process described in section "2.4.4.1 Upload Dataset".

Upon a successful dataset uploading, an informative message is displayed at the top of the RINF Data Sets Management page.

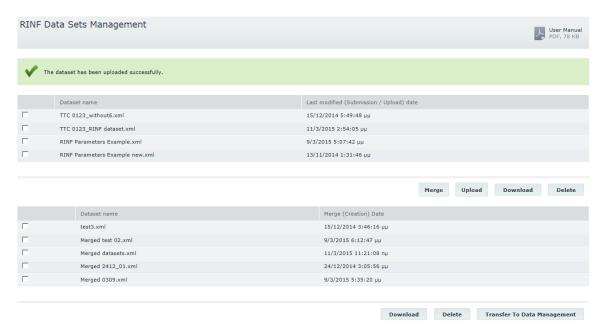


Figure 60: Successful dataset uploading

#### 2.4.5.3 Download Dataset

To download a RINF dataset, the NRE User selects the desired dataset from the respective list (either from list 1 or list 2) and clicks on the "Download" button of the respective list. The RINF system prompts the NRE User to open or save the XML file.



Only one RINFdataset must be selected for the downloading process.

If the NRE User does not select a RINF dataset from the respective list, then the RINF system displays a warning message indicating that one RINF dataset must be selected for the downloading process.

#### 2.4.5.4 Delete Dataset

The NRE User selects the desired dataset(s) from the respective list (either from list 1 or list 2) and clicks on the "Delete" button of the respective list. A confirmation pop-up window opens that prompts the NRE User to confirm the deletion of the selected dataset.

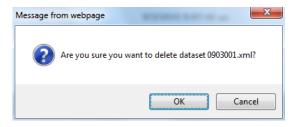


Figure 61 : Confirmation message for Dataset deletion

Upon confirmation by the User, the pop-up window closes. The RINF system deletes the selected dataset(s) and an informative message appears on the page, indicating that the deletion of the selected dataset(s) has been successful.

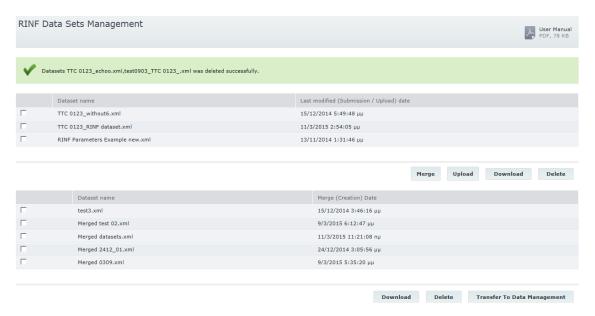


Figure 62: Successful dataset deletion

The NRE User can select more than one datasets to delete.

If the NRE User does not select a RINF dataset from the respective list and clicks on the "Delete" button, then an informative error message is displayed indicating that a RINF dataset must be selected for this process.

## 2.4.5.5 Transfer to Data Management

The NRE User selects the desired RINF dataset(s) from the respective second list and clicks on the "Transfer To Data Management" button. A pop-up window is displayed and the RINF system prompts the NRE User to confirm the transfer. By confirming the action, the RINF system transfers



the merged RINF dataset(s) to the list of datasets available at the "Data Management" page. An informative message is displayed at the top of the page indicating that the selected dataset has been transferred successfully to Data Management.

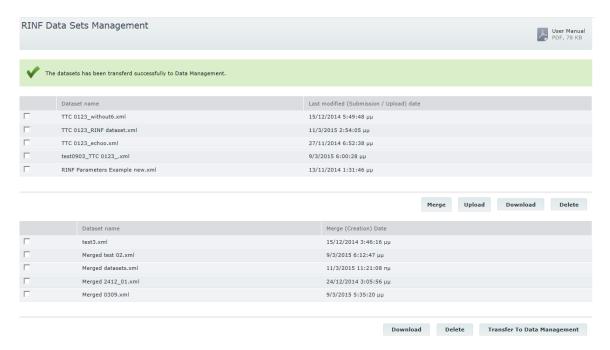


Figure 63: Successful dataset(s) tranfer to Data Management

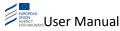
Please note that the transferred dataset is copied and not moved in the Data Management. Therefore it remains visible and available in the second list.

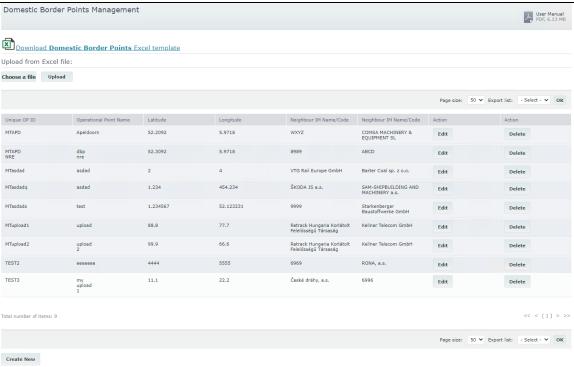
If the NRE User does not select a RINF data set from the second list and clicks on the "Transfer To Data Management" button, then an informative error message is displayed indicating that a RINF dataset must be selected for this process.

#### 2.4.6 Domestic border point management

This is a functionality introduced with version 1.6 of the RINF application, allowing NREs to manage the domestic border points at national level.

The data set validation process is checking for any provided operational points of type "domestic border point" and verify if its details exists in this list. For a correct validation of a domestic border point, there should be a match of Unique OP ID and geographical coordinates with one of the records in the domestic border points in the list.





The NRE will only be able to see all the domestic border points.

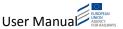
The NRE use rcan perform the following actions:

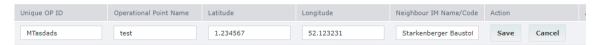
- 1. Download the Domestic border points Excel template to be used for bulk upload
- 2. Bulk upload of domestic border points the user provides an Excel file with data in the same table format as the Domestic Border Points Excel template
- 3. Create a new individual domestic border point without bulk upload, by clicking on the "Create New" button.



All fields are mandatory. The user needs to provide the National Unique OP ID in the CCAAAAAAAAA format, where the CC is the member state country code. There are 2 Neighbour IM Name/Code fields, that should contain the organisation code of the IMs sharing this operational point. While typing into the Neighbour IM Name/Code fields, there will be an autocomplete functionality, providing a list of organisation names related to the typed in text. If there is a relevant result, it can be selected from the list and the new domestic border point can be saved. If there is no result or no relevant one, then the organisation code (sometimes called IM code, TAF/TAP code, company code or 4 alpha-numeric code) should be provided before saving the changes.

4. Update domestic border point information – by clicking on the "Edit" button located on the same row.





After the changes are applied, the user needs to click on the "Save" button to save the modification, or "Cancel" button to come back to the initial data. After each operation a popup message will be displayed.



5. Delete a domestic border point – by clicking the "Delete" button on the same row. A confirmation message is displayed to prevent unwanted deletions.



#### 2.4.7 Contact us

The process for submitting a comment, propose a change or notify an issue in the system is the same described for Standard Users in section "2.3.4 Contact us".

## 2.5 IM Users

The IM Users can perform the actions described in the following sections.

#### 2.5.1 Search RINF Data

The process for searching for RINF data for IM Users is the same process that is described in section "2.3.1 Search RINF Data" for Standard Users.

## 2.5.2 Visual Representation

The process for viewing the RINF data on the map for IM Users is the same process that is described in section "2.3.2 Visual Representation" for Standard Users.

#### 2.5.3 Route Calculation

The process for finding and calculating a route between two or more points within the railway network is the same as described in section "2.3.3 Route Calculation" for Standard Users.

#### 2.5.4 RINF Datasets Management

By clicking the "RINF Data Sets Management" link, the following page is displayed to the IM User (see Figure 64):



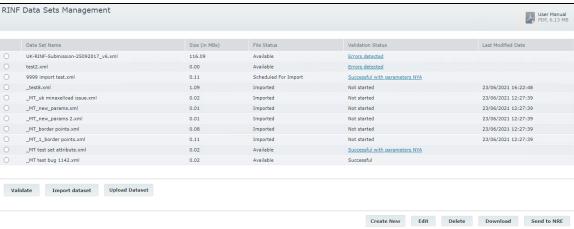


Figure 64: RINF Data Sets Management page

The RINF system displays a list with the datasets that have already been created and uploaded by the IM User and/or currently logged in by other IM Users who belong to the same IM Organisation. Please note that pagination is not available in this list.

Through this page, the IM User can perform the following actions regarding the RINF datasets:

- Create New
- Edit
- Delete
- Download
- Upload
- Validate

ImportSend to NRE The above actions are described in detail in the following sections.

## **2.5.4.1** *Create New*

When the IM User clicks on the "Create New" button, the RINF system opens the pop-up form displayed in Figure 65:

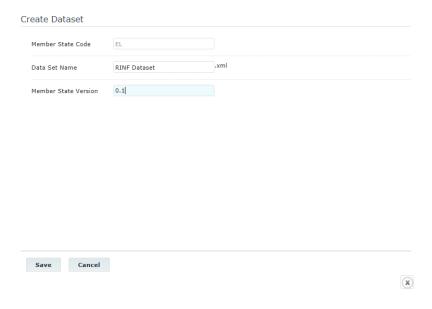


Figure 65 : Create new dataset



The MS Code is displayed in read-only mode and is the code of the IM User's MS. The IM User provides the desired dataset name and the version in the respective fields and clicks on the "Save" button. The RINF system opens the "Edit RINF XML Data" page as depicted in Figure 66.

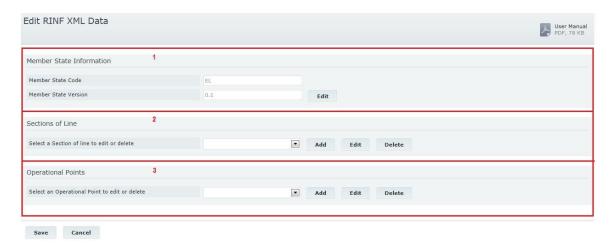


Figure 66: Create new RINF XML Data

Three list forms are available:

- 1 MS Information, displaying the following information:
  - o MS Code (read-only, based on the MS of the IM User)
  - MS Version
- 2 Sections of Line: at this stage the dropdown list is empty and the following actions are available:
  - o Add
  - o Edit
  - o Delete
- 3- Operational Points: at this stage the dropdown list is empty and the following actions are available:
  - o Add
  - o Edit
  - o Delete

The following actions are available through this form:

- Save
- Cancel

The IM User clicks on the "Add" button next to the list of SoLs or OP and the RINF system opens a new page that contains the RINF parameters that are applicable either for the SoL or for the OP.

When the IM User clicks on the "Add" button in the SoLs list, the following page opens (see Figure 67):



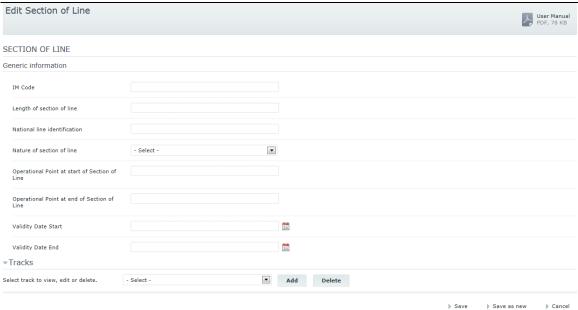


Figure 67: Create new SoL

For repeatable parameters and "Location Points" the possibility to add / remove a new parameter or Location Point is provided through the respective buttons . Figure 68 illustrates an example of the displayed page in case the IM User defines the parameters of a new SoL.



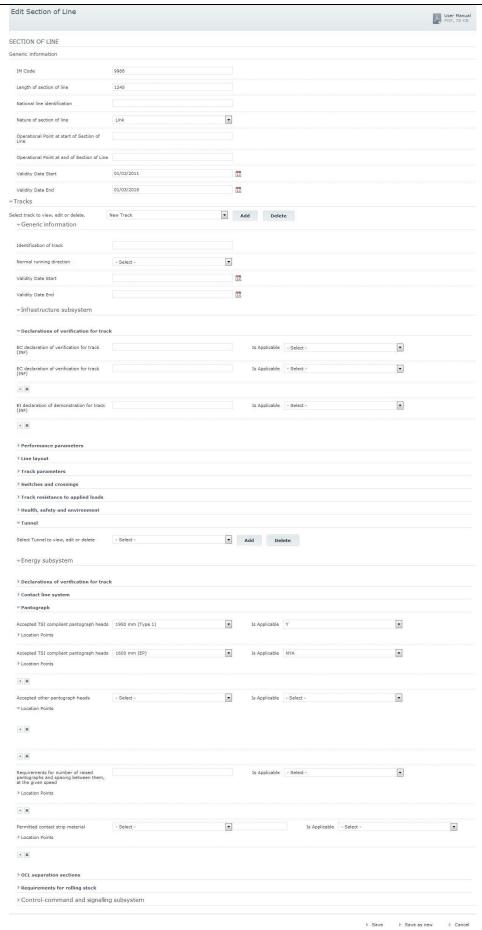


Figure 68 : SoL parameters definition



The IM User fills in the desired parameters and clicks on the "Save" option. The RINF system creates temporarily the new SoL item and the IM User is redirected to the "Edit RINF XML Data" page. At the top of the page is displayed an informative message confirming that the SoL has been temporarily saved. To save permanently the SoL, the IM User clicks on the "Save" button.

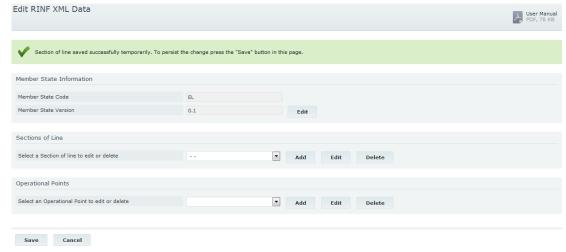


Figure 69: Temporarily saved dataset for newly created SoL

The RINF system permanently saves the dataset for the SoL definition and the IM User is redirected to the "RINF Data Sets Management" page. An informative message is displayed at the top of the page confirming that the dataset has been saved successfully.



Figure 70: Dataset has been saved permanently

Figure 71 illustrates an example of the page displayed when the IM User defines the parameters of a new OP.



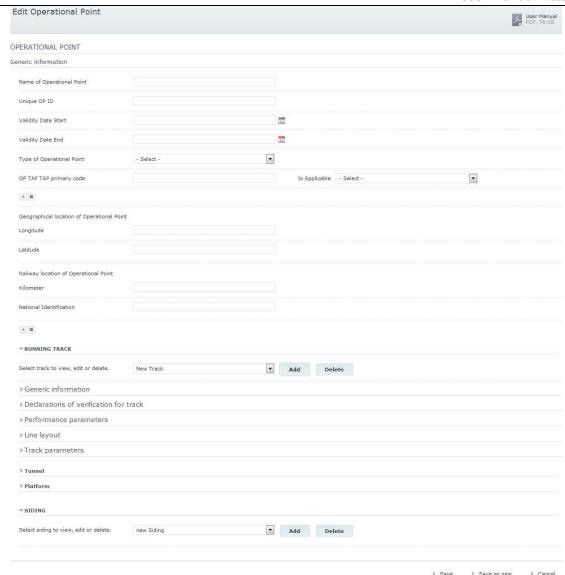


Figure 71: OP parameters definition

The process to create a new OP is similar to the process described above to create a SoL.

#### 2.5.4.2 Edit

The IM User selects the desired RINF dataset from the displayed list and clicks on the "Edit" button. The following page is displayed.

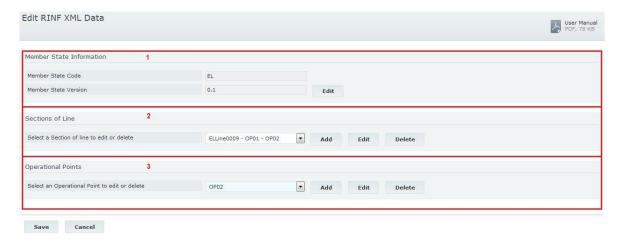




Figure 72: Edit RINF XML dataset

The page is similar to the page displayed in case of dataset creation. Therefore, three lists are available:

- 1- Member State Information, displaying the following information:
  - o MS Code (read-only, based on the MS of the IM User)
  - o MS Version: the "Edit" action is available for the MS Version.
- 2 -Sections of Line: the following actions are available:
  - Add
  - o Edit
  - o Delete
- 3 Operational Points: The following actions are available:
  - Add
  - o Edit
  - o Delete

The following actions are available through this form:

- Save
- Cancel

The IM User selects an item either from the SoLs list or from the OPs list and clicks on the respective "Edit" button. The RINF system displays a new page displaying the applicable RINF parameters and their values according to the IM User's selection. Moreover, the following actions are available:

- Save
- Save as new
- Cancel

When the IM User clicks on the "Edit" button in the SoLs list, the following page opens (see Figure 73):



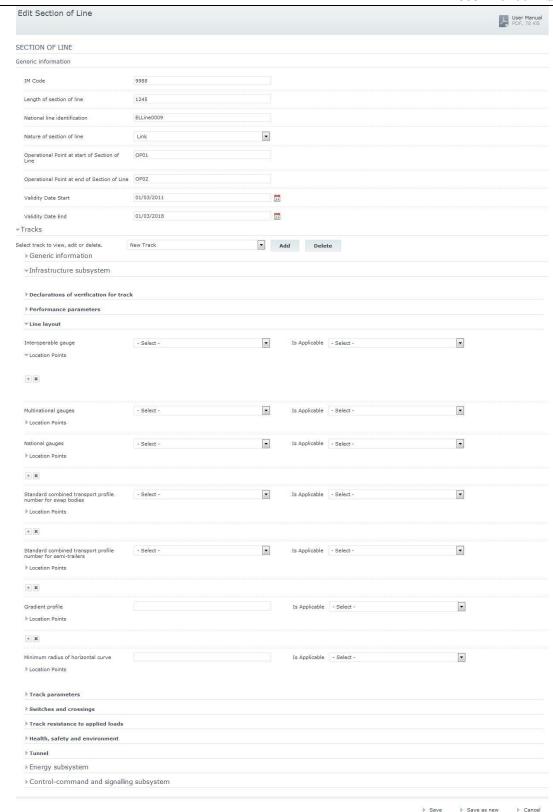


Figure 73 : Edit SoL

For repeatable parameters and "Location Points", the possibility to add / remove a new parameter or Location Point is provided through the respective buttons

The IM User updates the desired parameters and clicks on the "Save" option.



The RINF system updates temporarily the SoL item and the IM User is redirected to the "Edit RINF XML Data" page. Then the system displays an informative message at the top of the page and the updated list of SoLs (see Figure 74). At this stage, the IM User may temporarily update more SoLs.

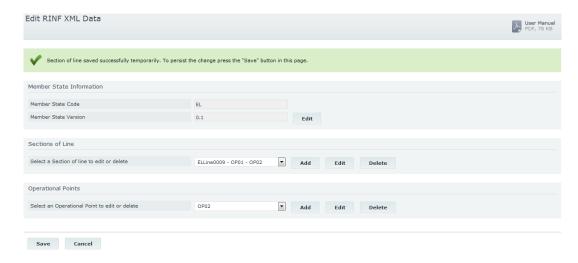


Figure 74: Temporarily saved updated dataset for SoL

In order to permanently save the SoL change, the IM User clicks on the "Save" button. Then the RINF system permanently saves the updates and redirects the IM User to the "RINF Data Sets Management" page. An informative message is displayed at the top of the page indicating the successful dataset storage (see Figure 75)

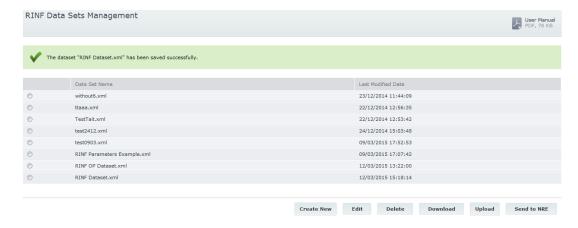


Figure 75: Updated dataset has been saved permanently

Figure 76 illustrates an example of the page displayed when the IM User edits the parameters of an OP.



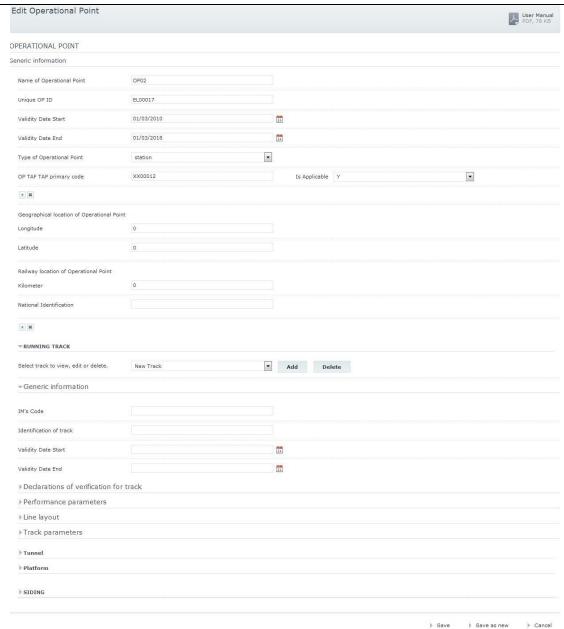


Figure 76 : Edit OP

The process for editing an existing OP is similar to the above described process for editing SoL.

If the IM User does not select a RINF dataset from the respective list and clicks on the "Edit" option, an informative error message is displayed indicating that one RINF data set must be selected for this operation.

#### 2.5.4.3 Delete

To delete a RINF dataset; the IM User selects the desired RINF dataset from the displayed list and clicks on the "Delete" button. A confirmation pop-up window opens prompting the IM User to confirm the deletion of the selected dataset (see Figure 77). Upon confirmation by the IM User the pop-up window closes.

The RINF system deletes the selected dataset and an informative message appears on the page, indicating that the deletion of the selected dataset has been successful.



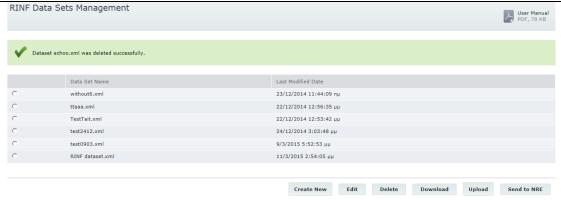


Figure 77: Dataset deletion

Only one dataset can be selected for the deletion process.

If the IM User does not select a RINF dataset and clicks on the "Delete" button, then an informative error message is displayed indicating that a RINF dataset must be selected for this process.

Only the datasets having "Available" as the File Status can be deleted. The deletion is restricted for any other file status.

#### 2.5.4.4 Download

The IM User selects the desired dataset from the displayed list and clicks on the "Download" button. The RINF system prompts the IM User to open or save the XML file.

Only one RINF dataset can be selected for the downloading process.

If the IM User does not select a RINF dataset from the respective list, the RINF system displays an informative error message indicating that one RINF dataset must be selected for the downloading process.

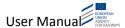
#### 2.5.4.5 Upload

The IM User can upload a new dataset by clicking the "Upload" button. The process is similar to the process described in section "2.4.4.1 Upload Dataset".

Upon successful dataset uploading, an informative message is displayed at the top of the RINF Data Sets Management page.



Figure 78: Successful dataset uploading



#### 2.5.4.6 Validate Dataset

In order to validate a dataset, the User selects the desired dataset and click on the "Validate" button (see Figure 48). The system then displays a pop-up prompting the User to confirm the action.

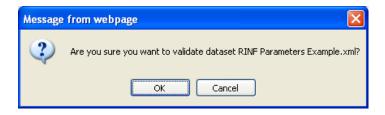


Figure 79: RINF dataset validation, confirmation pop-up

Upon User confirmation, the system initiates the validation process (Validation status = "In progress") and an informative message is displayed at the top of the RINF Data Set Management page (see Figure 49).

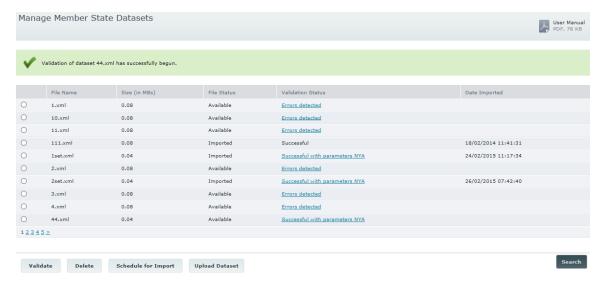


Figure 80: Initiation of dataset validation process

The User can refresh the page to view the outcome of the validation.

If there are no validation errors, then the "Validation Status" will change to "Successful". Otherwise, the "Validation Status" will change to "Errors detected" or "Successful with parameters NYA" (active link). The User may click on the link "Errors detected" or "Successful with parameters NYA" in order to view the validation errors in a pop-up window.



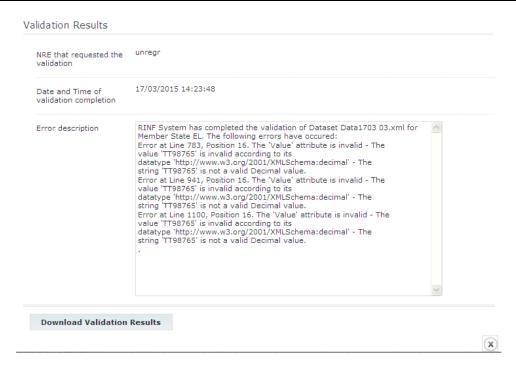


Figure 81: Dataset validation error message

To download the validation results in a txt file, the User clicks on the "Download Validation Results" button.

#### 2.5.4.7 Import Dataset

In order to import a dataset, the User selects the desired dataset and click on the "Import Now" button (see Figure 4482). The "File Status" and the "Validation Status" of the selected dataset are respectively "Available" and "Successful" or "Successful with parameters NYA". Otherwise, an error message will be displayed at the top of the Data Management page.

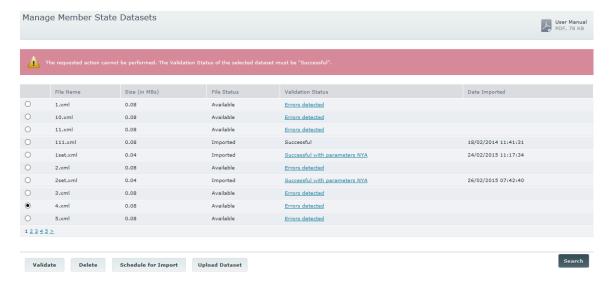
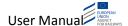


Figure 82: Error message when importing invalid dataset

Upon clicking on the "Import Now" button, a pop-up is displayed asking User to confirm the action.



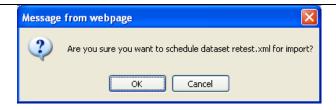


Figure 83: RINF dataset import, confirmation pop-up

Upon User confirmation, the import process is initiated and a confirmation message is displayed at the top of the IM Dataset Management page.

#### 2.5.4.8 Send to NRE

The IM User selects the desired RINF dataset and clicks on the "Send to NRE" button.

A confirmation pop-up window opens, prompting the IM User to confirm the sending of the RINF data set.



Figure 84: Confirmation for sending data set to NRE

The IM User clicks on the "OK" option and the pop-up window closes. The RINF system submits the RINF Data set to the NRE and an information message appears on the page, indicating that the RINF data has been sent successfully to NRE (see figure 80).

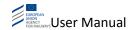


Figure 795: Dataset successfully sent to NRE

In case another dataset with the same filename from the same IM Organisation has already been sent to the NRE, then the new dataset will overwrite the already existing dataset.

When a dataset has been sent to NRE, its name will be prefixed by the folder name of the respective IM Organisation in order to ensure unique filenames in the NRE folder.

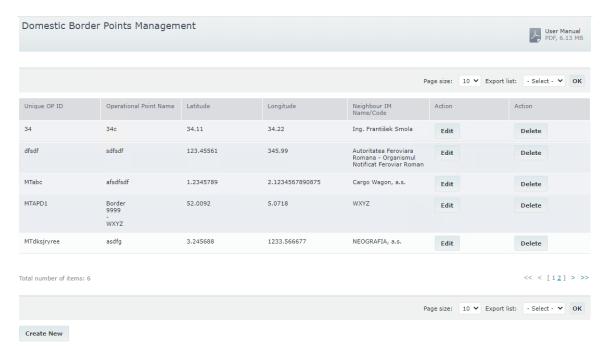
Furthermore, the XML file is copied and not moved to the NRE folder. Therefore, the XML file remains visible and available in the "RINF Data Sets Management" page.



If the IM User does not select a RINF dataset from the respective list and clicks on the "Send to NRE" option, the RINF system displays an informative error message indicating that one RINF dataset must be selected for this operation.

#### 2.5.5 Domestic border point management

This is a functionality introduced with version 1.6 of the RINF application, allowing IMs to manage their domestic border points. The data set validation process is checking for any provided operational points of type "domestic border point" and verify if its details exists in this list. For a correct validation of a domestic border point, there should be a match of Unique OP ID and geographical coordinates.



The list of domestic border points is also manageable by the National Registration Entity. The Infrastructure Managers will only be able to see their own domestic border points.

If the list is empty it means that there was no domestic border point defined, which could result in a failed dataset validation if any operational points of type "domestic border point" was provided.

If there exist some domestic borde points, it means that the National Registration Entity already managed the list, providing the necessary details. Even if those details were provided by the NRE, the IM is still able to edit or delete them. In consequence, the neighbour IM will also be affected. In this case, any modification should be agreed between IMs (or eventually the NRE can be involved) before it is applied.

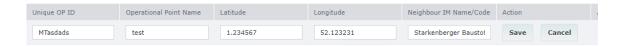
The IM has the possibility to create a new domestic border point by clicking the "Create New" button.





All fields are mandatory. The IM need to provide the National Unique OP ID in the CCAAAAAAAAA format, where the CC is the member state country code. The Neighbour IM field should contain the organisation code of the neighbour IM. While typing into the Neighbour IM Name/Code field, there will be an autocomplete functionality, providing a list of organisation names related to the typed in text. If there is a relevant result, it can be selected from the list and the new domestic border point can be saved. If there is no result or no relevant one, then the organisation code (sometimes called IM code, TAF/TAP code or company code) should be provided before saving the changes.

The details of a domestic border point can be modified by clicking on the "Edit" button located on the same row.



After the changes. You need to click on the "Save" button to save the modification, or "Cancel" button to come back to the initial data. After each operation a popup message will be displayed



A domestic border point can be deleted by clicking the "Delete" button on the same row. A confirmation message is displayed to prevent unwanted deletions.



## 2.5.6 Contact us

The process for submitting a comment, proposed a change or notify an issue in the system is the same described in section "2.3.4 Contact us" for the Standard Users.

#### 2.6 RRU Users

The RRU Users can perform the actions described in the following sections.

#### 2.6.1 Search RINF Data

The process of searching for RINF data for RRU Users is similar to the process that is described in section "2.3.1 Search RINF Data" for the Standard Users.



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## 2.6.2 Visual Representation

The process of viewing the RINF data on the map for RRU Users is similar to the process that is described in section "2.3.2 Visual Representation" for the Standard Users.

#### 2.6.3 Route Calculation

The process required for finding and calculating a route between two or more points within the railway network is the same as described in section "2.3.3 Route Calculation" for the Standard Users.

## 2.6.3.1 Generate an RCC Certificate

The User can generate an RCC Certificate by clicking on the "Generate Certificate" button. The system starts the loading process of generating the RCC Certificate (see Figure 80).

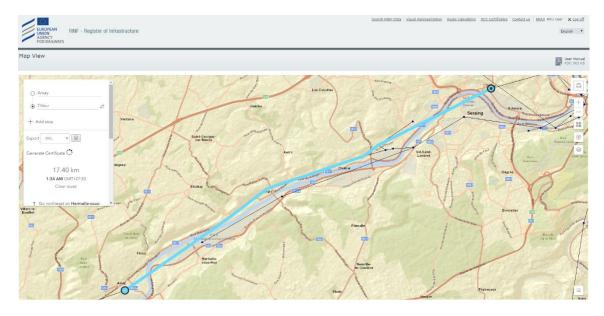


Figure 80 : Generate an RCC Certificate

After completing the procedure the system displays a unique Certificate ID number for the RCC Certificate (see Figure 81).

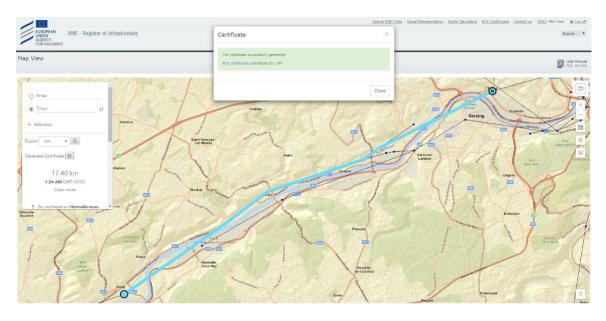
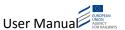


Figure 81: Certificate ID number



Moreover, the pop-up window contains a hyperlink that redirects the User in Route Compatibility Check Certificates page by clicking on it.

#### 2.6.4 RCC Certificates

In order to access the Route Compatibility Check Certificates page, the User clicks on the "RCC Certificates" link available at the header section. By default, all the RCC Certificates are displayed in the list (see Figure 82).

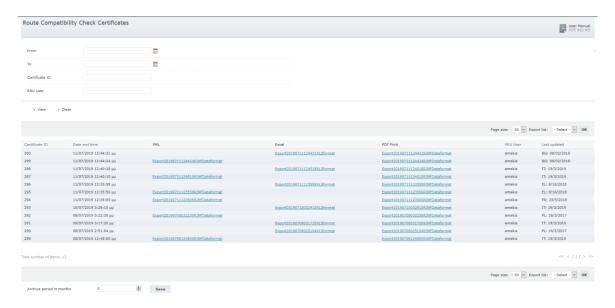


Figure 82: RCC Certificates page

#### 2.6.4.1 Search for RCC Certificate

The User can search an RCC Certificate by clicking on "View" button after specifying at least one of the search criteria. The system displays the Certificates that match the provided search criteria (see Figure 83).

Furthermore, the system displays the option for choosing the number of results to be shown per page; the export features are displayed together with the list of the search results (see Figure 83).

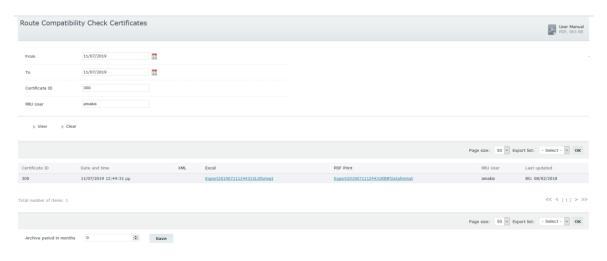
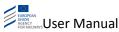


Figure 83: Search

If the User clicks on the "Clear" button, the search criteria is cleared by the system. Moreover, all the RCC Certificates are displayed in the list (see Figure 84).



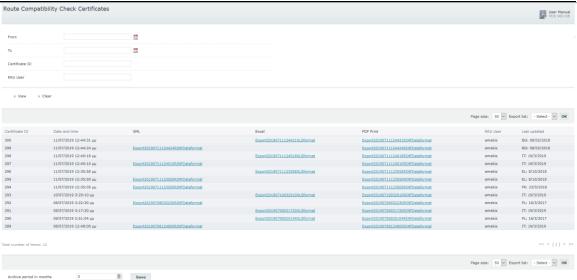


Figure 84: Clear

## 2.6.4.2 Sort the search results

The user can sort the search results by clicking on the headers of the list. The system displays the search results in ascending order (see Figure 85).

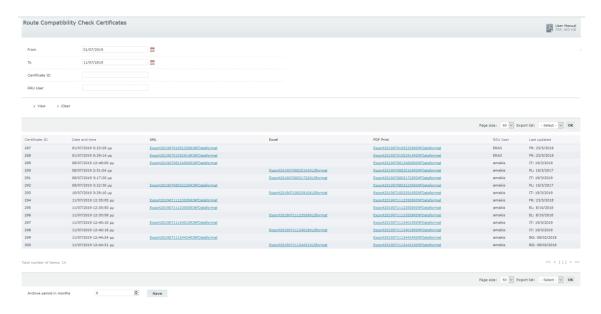
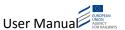


Figure 85 : Sorting

## 2.6.4.3 Download an RCC Certificate

In order to download an RCC Certificate, the user clicks on the respective hyperlink in the corresponding columns. Then, the system prompts the User to open or save the RCC Certificate (see Figure 86).



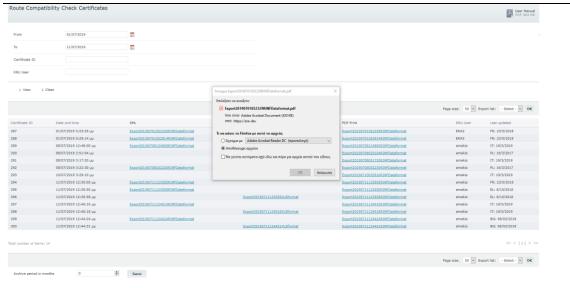


Figure 86: Download an RCC Certificate

#### 2.6.4.4 Archive period

In order to archive the content of the table of RCC Certificates after a certain period of time, the User shall set an integer number in the "Archive period in months" field and then click on the Save" button. The system will then display a message of confirmation at the top of the page (see Figure 87).

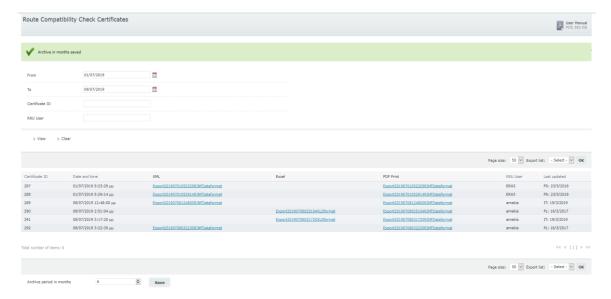


Figure 87 : Archive period

## 2.6.5 Contact us

The process required for submitting a comment, propose a change or notify an issue in the system is the same as described in section "2.3.4 Contact us" for Standard Users.



## 2.6.6 Getting notified for data updates by NREs

In the "View Profile" page, the user can manage to get notified by email in case of data update by country (NRE). From the displayed list/table, the RRU can select one ore more countries by checking the respective checkbox (see Figure 6 or Figure 88).

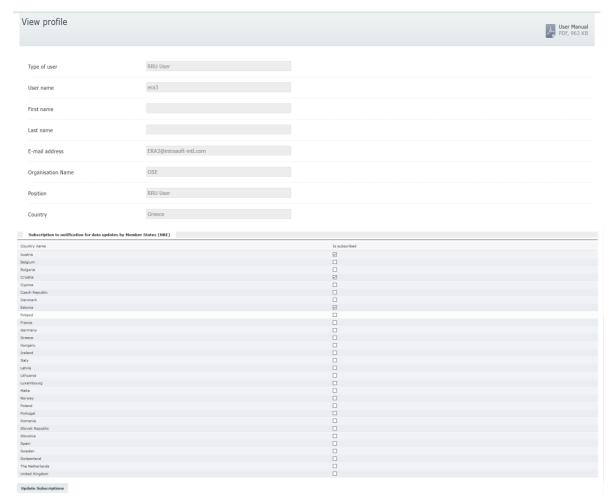


Figure 88: Subscription management

Upon clicking on "Update Subscriptions" button, the RINF system opens the pop-up window displayed in Figure 90:



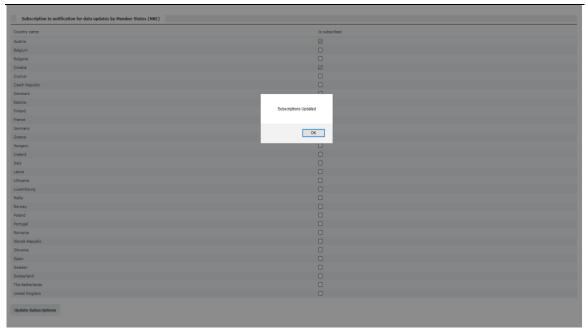


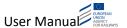
Figure 89 : Update notification

Upon clicking on "OK" button, the pop-up window closes.



# 3 Troubleshooting

Not applicable.



## 4 References

- Commission Decision 2014/880/EC (<a href="http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L">http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L</a> .2014.356.01.0489.01.ENG )