

ISACC – Innovative Systems to enhance Antifraud Customs Controls

A.T2.3

Development of the IT platform for antifraud customs controls

Report on

D.T2.3.2 - User guide for the correct usage of the IT platform

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1 Introduction

The present document represent the user guide for the correct usage of ISACC platform. The user guide will act as vademecum of Customs administrations servants and will be necessary for the webinar under D.T4.2.1. One of the main purpose of the platform is to make comparison between multiple Custom Footprint (CF) that themselves contain different types of data such as numeric, text and imagery and generate a response with the differences and similarities between them. According to the shared functional requirements, the system is able to provide the following services:

- Create Users
- Manage Users
- Insert a specific type of data (Custom Footprint)
- Upload multiple data
- Compare the content of data and generate a response
- Compare images between them and generate a response
- Display the route it took for the file to arrive from point A to point B
- Add validation on operation based on user logged in

2 User Manual

This application has several components each of which have different functionalities that serve a different purpose but, in most cases, we are going to see that the components functionalities are correlated with each other and each of them serves a purpose. Let's start with the first component.

2.1 Login Component

The “Login” grants the user access to the entirety or some parts of the application. We say same parts because the login has authentication implemented on and based on the credentials of the user logged in one might have access to the entirety of the application or just some parts of the application and might also be restricted to perform some of the actions provided.



Figure 1 Login Component

2.2 Home Component

After the user is logged in, they are presented with the “Home” component which gives the user a structured menu of the components they can navigate to, again based on the credentials of the user logged in the menu presented might differ and some components might not be seen. The user will also have a possibility to navigate to different components with the help of a side navigation menu which is placed on the left of each component because this side navigation is present in all the components.



Figure 2 Home Component

In the top right corner is visualized the username of the user logged in which is present in all the components.

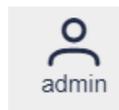


Figure 3 Username of User Logged In

The components displayed in the “Home” component are the following:

- Create User
- Manage User
- Insert CF
- List CF
- Comparison Reports
- Logout (which simply logs the user out and redirects them to Login component)

This is the case when the user logged in is an admin. If the user logged in is not an admin but an operator the “Home” component menu will change and some of the privileges are going to change as well for example an operator cannot access the following components:

- Create User Component
- Manage User Component

Here's how the “Home” component menu and the side navigation menu changes when an operator is logged in:



Figure 4 Home Component Operator Logged in Menu

2.3 Create User component

The “Create User” component allows the user to create new users. It has five fields which are mandatory and the “Save” button is enabled only after all the fields are completed. The “Choose Country” field is a dropdown which gives the user the options to choose the country of origin of the newly added user.

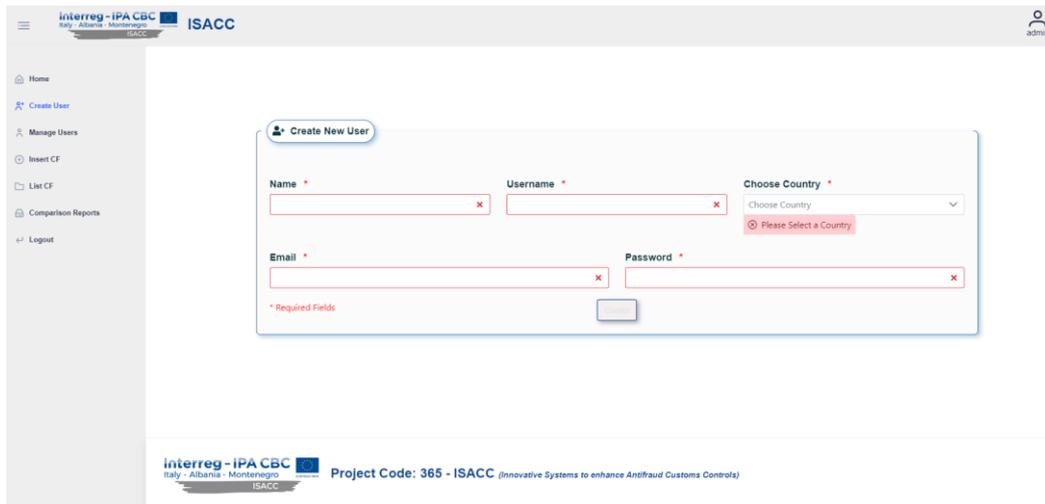


Figure 5 Create User Component

The small 'x' that is presented in all the fields represents that the fields are either empty or that the information the user had inputted is incorrect. When all the fields are completed correctly the form should look like this:

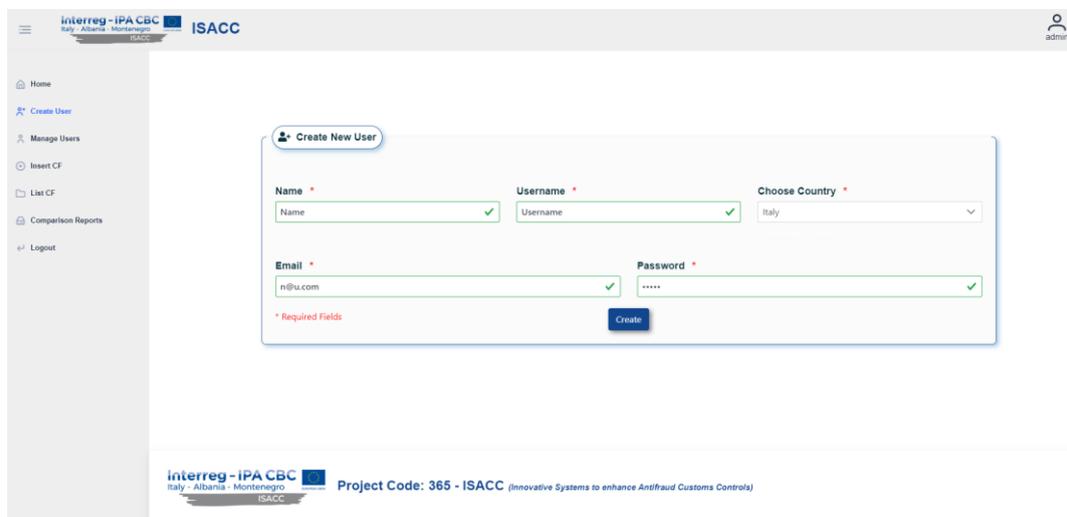


Figure 6 Create User Component

Upon clicking the “Create” button the user will be presented with the following modal:

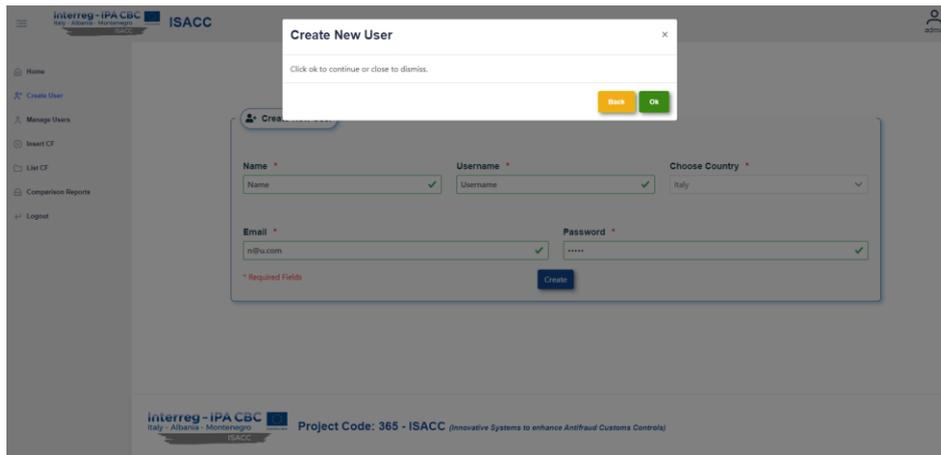


Figure 7 Create User Component Create User Modal

If the user clicks “Back” all the fields of the form will turn back to empty fields and the user will once again have to complete the entire form. If the user clicks “OK” they will be redirected to the “Manage User” component and on the top right side of the window a toast message will pop up with the following message: “User <USERNAME> added successfully”.

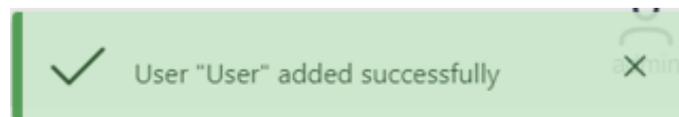


Figure 8 Success Toast Message

The newly created user can log in with the username and password data that was assigned during the creation of this user which is going to be stored in the database. Based on the country that is chosen during the creation of this new user permissions will vary on different components. Some of the functionalities may be disabled and you may note a slight greyish tone on some icons which indicates that this user logged in does not have permission for this specific action on this specific “User”, “CF”, or other things. In case the user which does not have permission for executing a function decides to still click this action a toast with a warning message will appear stating the following:



Figure 9 Warning Toast Message

In the “Create User” component it has been implemented a validation functionality which checks the database if the newly created user’s username already exists and if so, the user is presented with a warning toast message that notifies the user with the following: “Username already exists”.



Figure 10 Warning Toast Message

The fields retain the information, but the user must change the username’s value. Also based on the user logged in the options that are displayed on the dropdown field might change. If the user is a super administrator, they will be able to see all the options in the dropdown if not the dropdown options displayed will vary based on the user logged in country of origin which is saved in the database. For example, if the user logged in is an Italian administrator the options of the dropdown in this case will only be Italy. The same will apply for administrators which the country of origin saved in the database might be Montenegro or Albania. Only a super administrator will be able to see all the options displayed in the dropdown.

2.4 Manage User component

The “Manage User” component displays a table that lists all the users created that are also stored in the database.

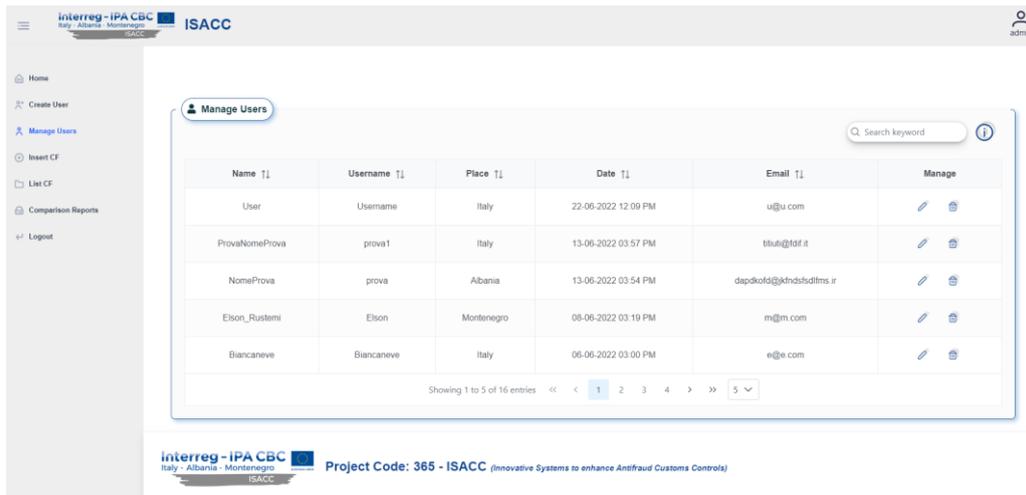


Figure 11 Manage User Component

In the top right of the table, we have a search bar that allows the user to search for a specific user by typing an attribute of this user's data. On the right of the search bar, we have a small icon with the letter "i" that stands for information and if the user hovers the mouse a tooltip will be displayed that reads "Info". When clicking this icon, a modal will open with the following information:

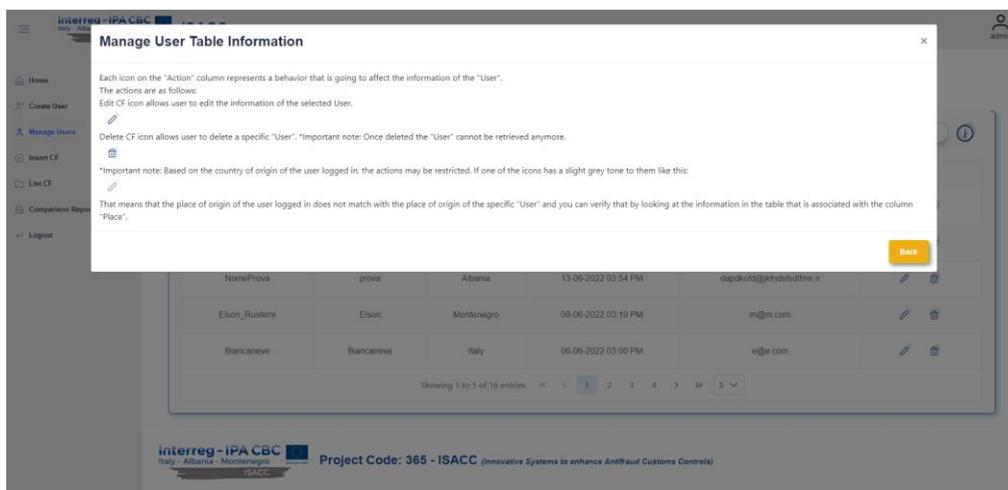


Figure 12 Manage User Component Information Modal

This modal gives the user an overall information of the component and its functionalities. The main functionalities in this component are "Update" and "Delete". Based on the user logged in these functionalities might be disabled for some of the entries in this table. If the user sees that for a specific entry the actions icons have a slight greyish tone to them that means that for that specific entry, they do not have permission perform the update or delete

actions. If the user decides to click on these greyish icons a warning toast message will appear notifying them that they do not have permission to perform this action.

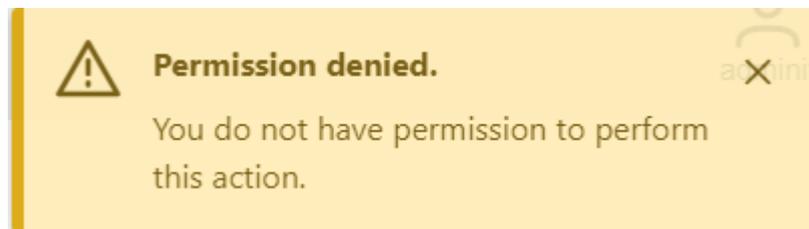


Figure 13 Warning Toast Message

Each field of the table is sortable. At the end of the table, we have a pagination which by default displays ten entries. We can change the number of entries we want to be displayed and navigate to other pages to see other entries.

If the user chooses to update an entry, they will be presented with a modal which has all the fields completed with the information of the entry and the user has the possibility to change which field they want.

Also, the dropdown field options will vary here as well just like in the “Create User” component. Based on the user logged in the options that are displayed on the dropdown field might change. If the user is a super administrator, they will be able to see all the options in the dropdown if not the dropdown options displayed will vary based on the user logged in country of origin which is saved in the database. For example, if the user logged in is an Italian administrator the options of the dropdown in this case will only be Italy. The same will apply for administrators which the country of origin which is saved in the database might be Montenegro or Albania. Only a super administrator will be able to see all the options displayed in the dropdown.

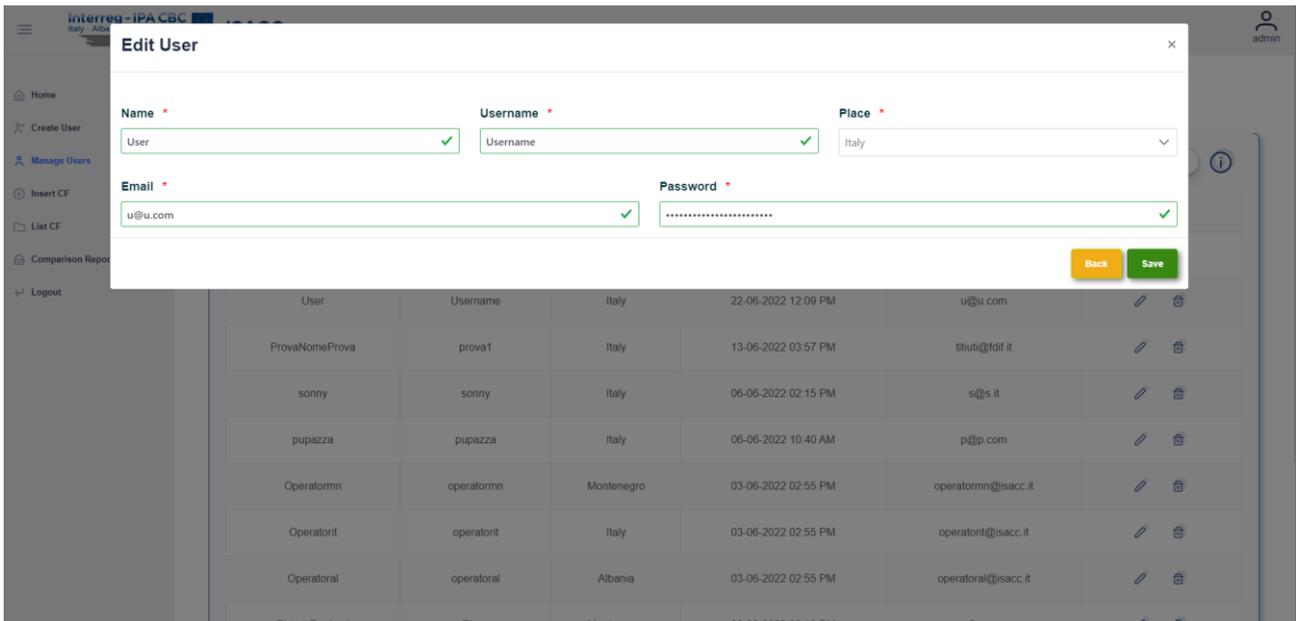


Figure 14 Manage User Component Update User Modal

After the user makes the changes, that they wanted to, and they click on the “Save” button the modal closes the entry is updated and the user is greeted with success toast message with the following content: “User <USERNAME> modified successfully”.

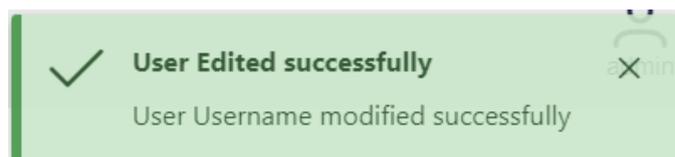


Figure 15 Success Toast Message

If the user decides to delete an entry, they are going to be presented with a modal that asks for confirmation.

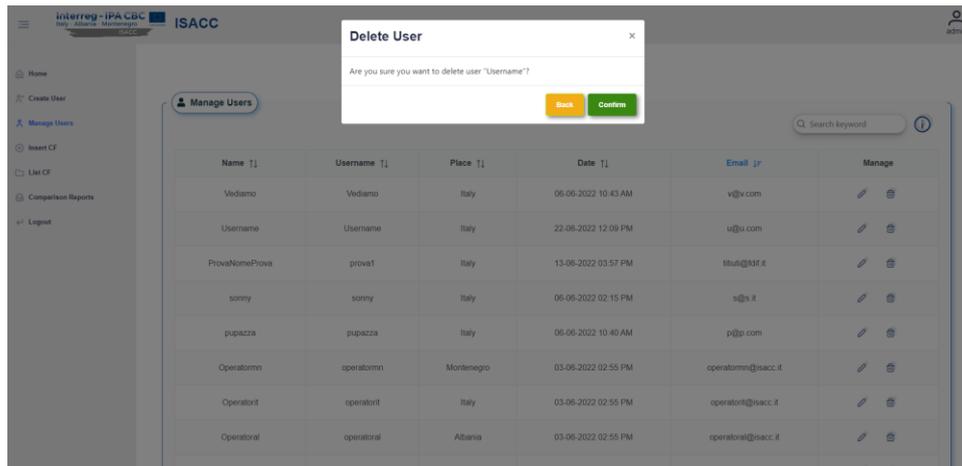


Figure 16 Manage User Component Delete User Modal

If the user clicks on the “Confirm” button the modal will close, and a toast message will appear notifying the user with the following message: “User <Username> successfully deleted”.

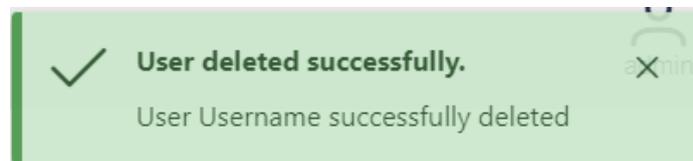


Figure 17 Success Toast Message

2.5 Insert CF component

Insert CF component allows the user to insert a single CF or upload multiple CF all at once.

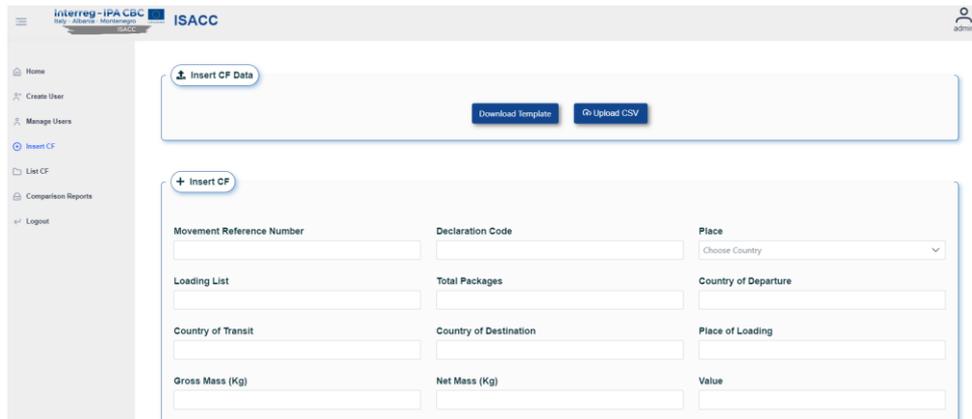


Figure 18 Insert CF Component

At the top of the page in the middle of the component we have two buttons:

- Download Template
- Upload CSV

The “Download Template” button allows the user to download an Excel file that contains instructions about how the CSV file the user might want to upload should be structured so that the procedure ends with success.

The “Upload CSV” button allows the user to upload a .csv file that might contain a single or multiple CF. After choosing the file for upload the user is presented with a modal that asks confirmation for the upload of the file to continue. The modal displays the name of the file, so the user is sure that the file chosen by them is the right one.

Let us explain the “CSV Upload” component first before continuing with the “Insert CF” component.

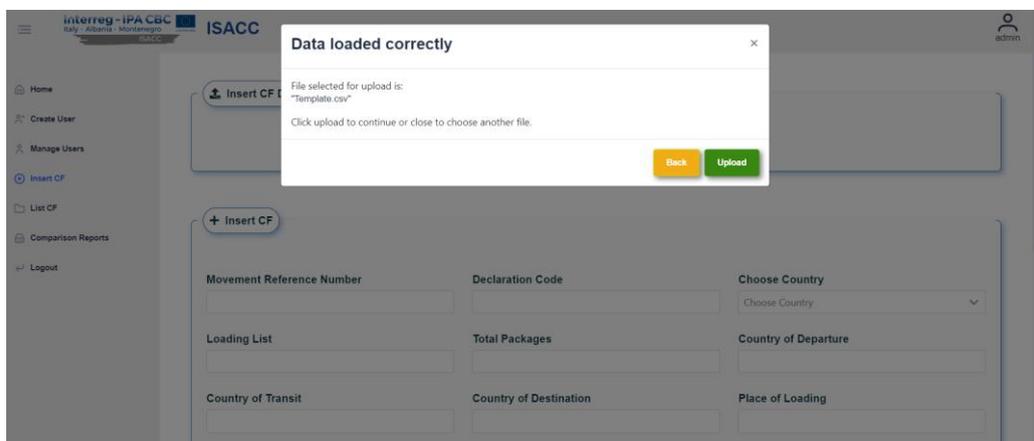


Figure 19 Insert CF Component Upload CSV Modal

2.6 CSV Upload Component

Once the user has clicked “Confirm” they will be redirected to the “Display CSV Component” where the content of the .csv file in our case the CF that this file contains and that we uploaded will be displayed in a table. Before being able to look at the data after being redirected to “Display CSV Component” the user is presented with a modal that has a brief explanation about this component.

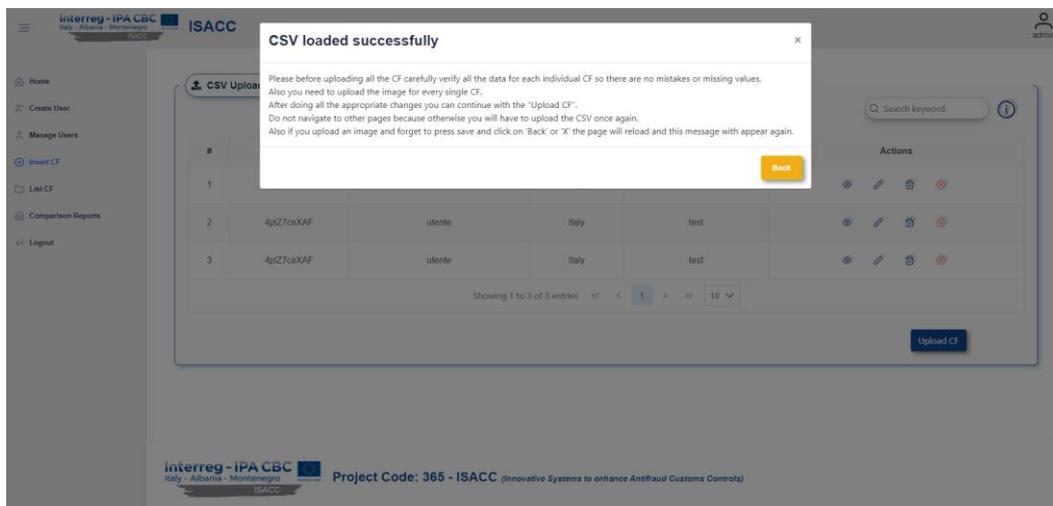


Figure 20 Display CSV Component Information Modal

At the top right of the table, we have a search bar which we can use to search for a specific CF based on the data of the specific CF. Next to the search bar is an “i” icon that if we hover a tooltip with the

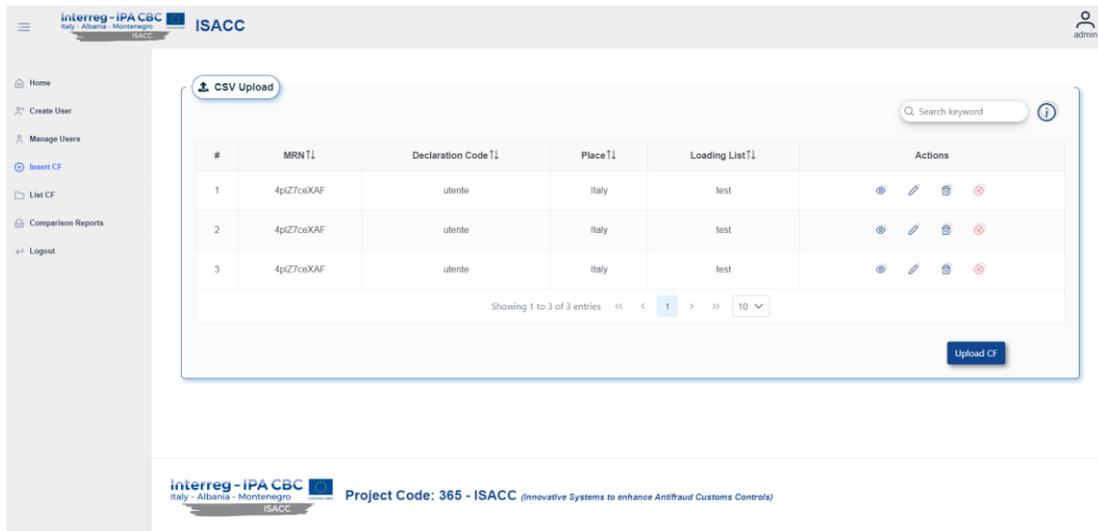


Figure 21 Display CSV Component

word “Info” will appear and if we click on this icon a modal is going to open with explanation about the functionalities available on this table, so the user has a better understanding how this component works.

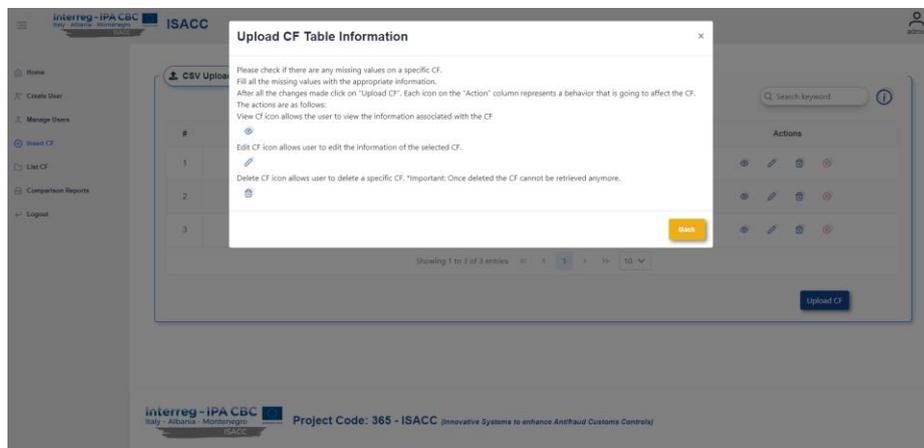
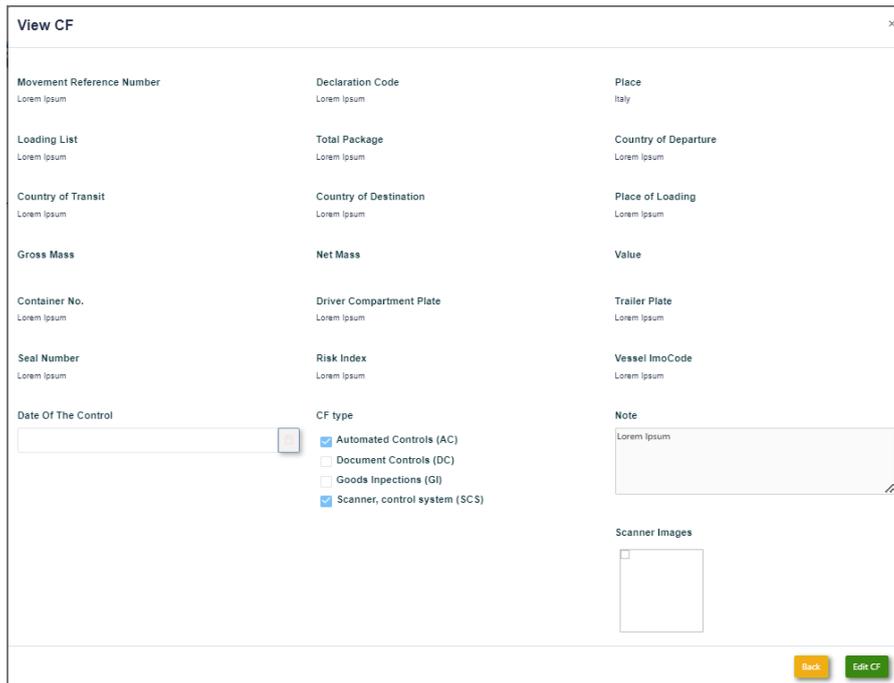


Figure 22 Display CSV Component Info Icon Modal

At the “Action” tab we have for each CF the options to view, update or delete a CF. And for each specific operations the user wants to make a modal will be displayed.

When we click “View” the following modal will appear:



The 'View CF' modal window displays the following information:

- Movement Reference Number:** Lorem Ipsum
- Declaration Code:** Lorem Ipsum
- Place:** Italy
- Loading List:** Lorem Ipsum
- Total Package:** Lorem Ipsum
- Country of Departure:** Lorem Ipsum
- Country of Transit:** Lorem Ipsum
- Country of Destination:** Lorem Ipsum
- Place of Loading:** Lorem Ipsum
- Gross Mass:**
- Net Mass:**
- Value:**
- Container No.:** Lorem Ipsum
- Driver Compartment Plate:** Lorem Ipsum
- Trailer Plate:** Lorem Ipsum
- Seal Number:** Lorem Ipsum
- Risk Index:** Lorem Ipsum
- Vessel ImoCode:** Lorem Ipsum
- Date Of The Control:** [Date Picker]
- CF type:**
 - Automated Controls (AC)
 - Document Controls (DC)
 - Goods Inspections (GI)
 - Scanner, control system (SCS)
- Note:** Lorem Ipsum [Text Area]
- Scanner Images:** [Image Placeholder]

Buttons: **Back** (orange), **Edit CF** (green)

Figure 23 Display CSV Component View CF Modal

This modal displays the information of the CF selected by the user. At the bottom of the modal on the right we have two buttons: “Back” and “Edit CF”. “Back” closes the modal while “Edit CF” makes the fields editable. When clicking “Edit CF” the following modal will appear:

Edit CF
×

Movement Reference Number <input type="text" value="Lorem Ipsum"/>	Declaration Code <input type="text" value="Lorem Ipsum"/>	Place <input type="text" value="Italy"/>
Loading List <input type="text" value="Lorem Ipsum"/>	Total Package <input type="text" value="Lorem Ipsum"/>	Country of Departure <input type="text" value="Lorem Ipsum"/>
Country of Transit <input type="text" value="Lorem Ipsum"/>	Country of Destination <input type="text" value="Lorem Ipsum"/>	Place of Loading <input type="text" value="Lorem Ipsum"/>
Gross Mass <input type="text"/>	Net Mass <input type="text"/>	Value <input type="text"/>
Container No. <input type="text" value="Lorem Ipsum"/>	Driver Compartment Plate <input type="text" value="Lorem Ipsum"/>	Trailer Plate <input type="text" value="Lorem Ipsum"/>
Seal Number <input type="text" value="Lorem Ipsum"/>	Risk Index <input type="text" value="Lorem Ipsum"/>	Vessel ImoCode <input type="text" value="Lorem Ipsum"/>
Date Of The Control <input type="text"/>	CF type <input checked="" type="checkbox"/> Automated Controls (AC) <input type="checkbox"/> Document Controls (DC) <input type="checkbox"/> Goods Inspections (GI) <input checked="" type="checkbox"/> Scanner, control system (SCS)	Note <input type="text" value="Lorem Ipsum"/>

Scanner Images

Upload Image
Remove Image

Back
Save

Figure 24 Display CSV Component Edit CF Modal

We can access this modal either by clicking on “Edit CF” by the view modal or by clicking the pen icon on the table. The modal has a couple of buttons, each serving a purpose. The “Save” button is enabled because no fields are mandatory. The “Upload Image” button allows the user to upload an image. If by any chance the user uploaded the wrong image, they can always click the “Remove Image” button to remove the image and choose another one.

If the user wants to see the image uploaded better, they can move the mouse near the image and click on it and another modal will open with the image zoomed. They can do the same while on View CF modal.

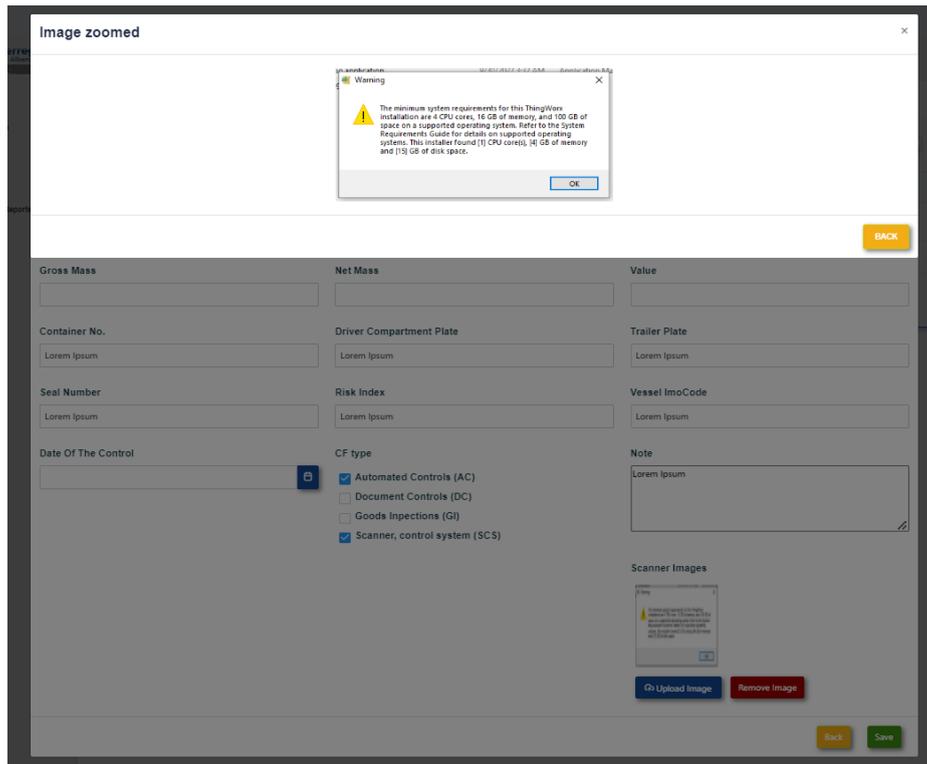


Figure 25 Display CSV Component Image Zoom Modal

When the user clicks on “Save” if we look carefully on the “Action” tab in the table we are going to see a change on the last icon from left to right.

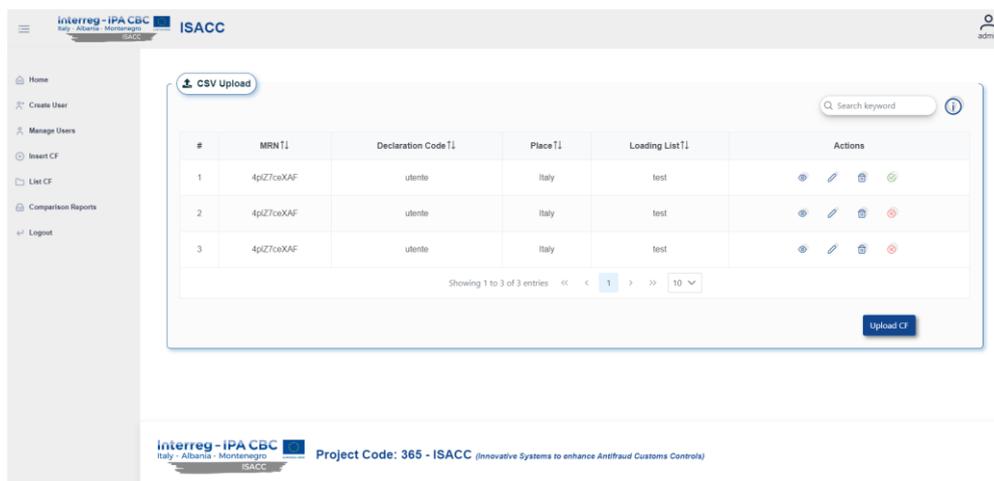


Figure 26 Display CSV Component

The last icon from left to right for the CF the user updated the information and then clicked save became from “x” to “✓”, this indicates that this CF has been successfully saved with the correct data.

If by any chance the user decides to proceed and click the “Upload CF” button at the bottom right of the table while one or some of the CF still has the “x” icon on, a modal will pop up with the following message:

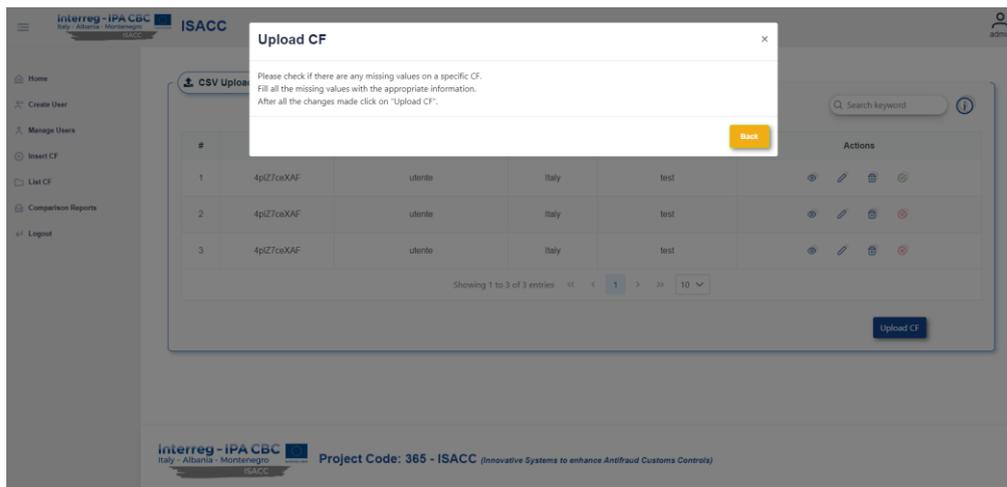


Figure 27 Display CSV Component Upload CF Modal

For the user to be able to upload a single or multiple CF they first need to fill all the fields and upload an image for each CF and when the all the icons in the “Action” tab change from “x” to “✓” that indicates that the CF can be uploaded.

After the user clicks the “Upload CF” button they will be redirected to “List CF” component with the uploaded CF being displayed at the top of the table.

If the image that the user has chosen for upload while updating information on a CF is too large of a file after the user clicks “Save” a warning toast message will appear with the following: “The file size is too large”.

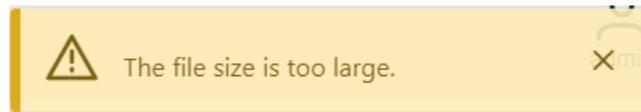


Figure 28 Warn toast

The user also has the possibility to delete a CF before choosing to click upload or make any changes by simply clicking the little trash-can icon. If the user clicks on the little trash-can icon a modal is going to open asking the user for confirmation on the deletion of the CF and specifying the name of the CF, the user has selected to delete.

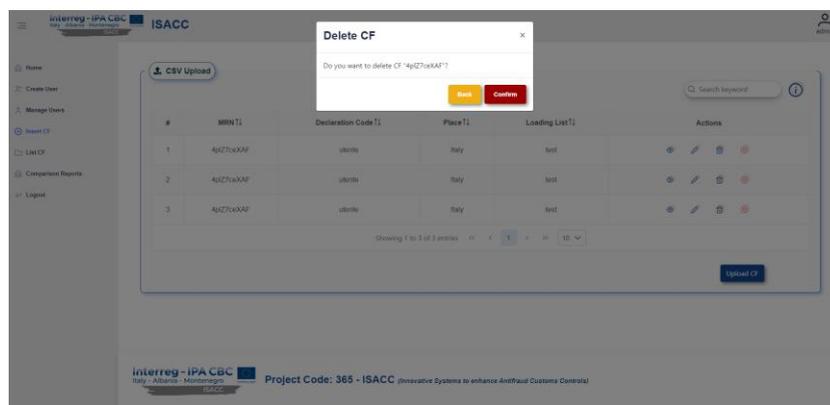


Figure 29 Display CSV Component Delete CF Modal

Back on the “Insert CF” component if the user wants to just add a single CF or add multiple CF one by one, they can fill all the fields with the appropriate data and upload an image and then click “Save”. After clicking “Save” a modal will be displayed asking again for confirmation for the continuation of the procedure.

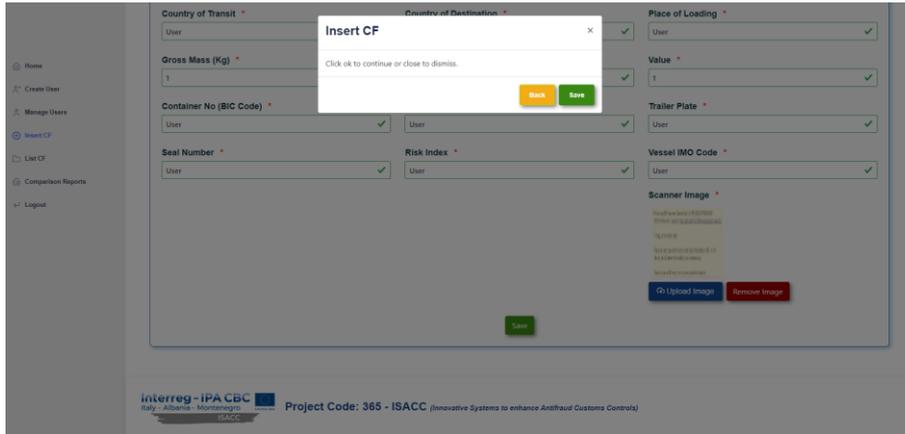


Figure 30 Insert CF Component Confirmation Insert CF Modal

If the user clicks “Back” they will stay on the “Insert CF” components and the fields will all be emptied. If the user clicks “Save” a message will appear notifying the user with the following message: “CF is being added, please wait”.

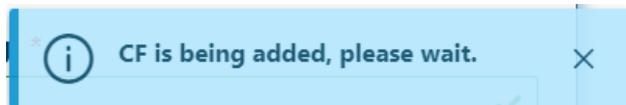


Figure 31 Information Toast

Then the user will be redirected to the “List CF” component where another toast with the success message will appear with the following: “CF <CF NAME> added successfully”.



Figure 32 Success Toast

The CF added will be displayed on top of the table. The “Save” button in the “Insert CF” component is going to be enabled only if all the fields are completed with the correct information and we say correct information because the fields “Gross Mass (Kg)”, “Net Mass (Kg)”, and “Value” accept only full or decimal number values. Also, the field “Choose Country” based on the user logged in might display all the options for the user to choose or limited options.

If the user is a super administrator, they will be able to see all the options in the dropdown if not the dropdown options displayed will vary based on the user logged in country of origin which is saved in the database. For example, if the user logged in is an Italian administrator the options of the dropdown in this case will only be Italy. The same will apply for administrators which the country of origin saved in the database might be Montenegro or Albania. Only a super administrator will be able to see all the options displayed in the dropdown.

The user needs to also upload an image of their choice and they also have the possibility to remove the image chosen and choose another image for upload. Depending on the size of the image chosen for upload the operation might take a couple of seconds that is why the user is being notified with the info toast to please wait.

If the user wants to see the image uploaded better, they can move the mouse near the image and click on it and another modal will open with the image zoomed.

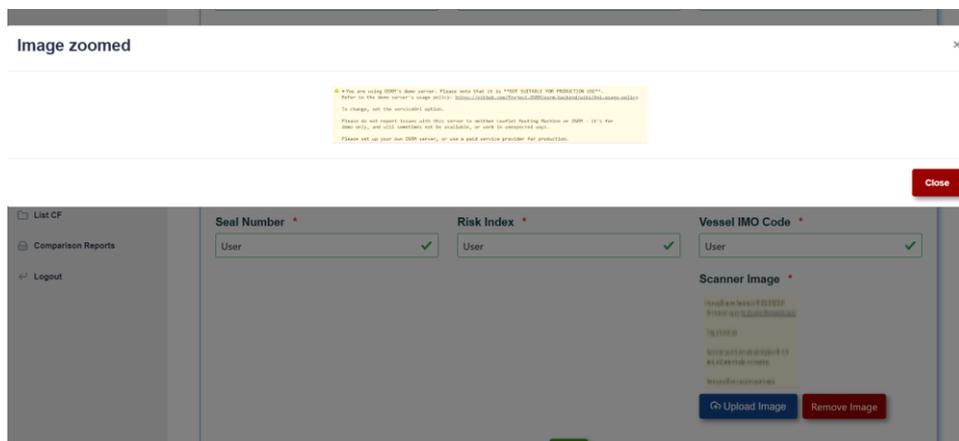
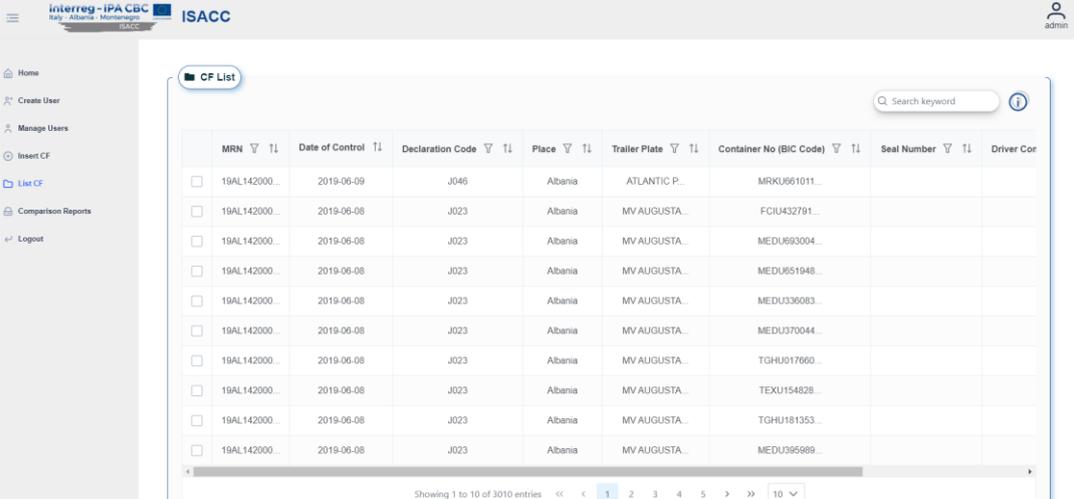


Figure 33 Insert CF Component Image Zoom Modal

2.7 CF List Component

CF List Component is the component where the user will be presented with all the CFS that are stored in the database. Here the user has the possibility to perform a couple of actions/operations which we are going to explain step by step.



MRN	Date of Control	Declaration Code	Place	Trailer Plate	Container No (BIC Code)	Seal Number	Driver Cor
19AL142000...	2019-06-09	J046	Albania	ATLANTIC P...	MRKU661011...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	FCIU432791...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	MEDU693004...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	MEDU651948...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	MEDU336083...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	MEDU370044...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	TGHU017660...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	TEXU154828...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	TGHU181353...		
19AL142000...	2019-06-08	J023	Albania	MV AUGUSTA...	MEDU395989...		

Figure 34 CF List Component

At the top left of the table there is a search bar which the user can use to search for a specific CF by an attribute of the CF. Next to the search bar we have an “i” icon that if we hover over it with the mouse a tooltip that will display the word “Info”. This icon represents information about the “CF List” component. If we click on it a modal will appear. This modal contains information about the component so that the user is clearer on how the interface and all the actions they can perform work.



Figure 35 CF List Component Information Modal

Each of the fields of the table are sortable except for the “Action” tab. The tab “Place” has also the option “Filter” to it. The “Action” tab gives the user the options to: “View”, “Update”, “Delete” a CF. These actions are represented by icons and if the user hovers their mouse to these icons a tooltip will appear with the name of the action the user has the possibility to make. A fourth icon is present which redirects the user to “Analyze CF” component where the user can register the paths/travel that have been taken for this specific CF.

If the user clicks on the eye icon on the “Action” tab a modal will open with the information for that specific CF.

CF
✕

Movement Reference Number <input type="text" value="Test"/>	Declaration Code <input type="text" value="Test"/>	Place <input type="text" value="Italy"/>
Loading List <input type="text" value="Test"/>	Total Packages <input type="text" value="Test"/>	Country of Departure <input type="text" value="Test"/>
Country of Transit <input type="text" value="Test"/>	Country of Destination <input type="text" value="Test"/>	Place of Loading <input type="text" value="Test"/>
Gross Mass (Kg) <input type="text" value="2"/>	Net Mass (Kg) <input type="text" value="2"/>	Value <input type="text" value="1"/>
Container No (BIC Code) <input type="text" value="Test"/>	Driver Compartment Plate <input type="text" value="Test"/>	Trailer Plate <input type="text" value="Test"/>
Seal Number <input type="text" value="Test"/>	Risk Index <input type="text" value="Test"/>	Vessel IMO Code <input type="text" value="Test"/>
Date Of The Control <input type="text" value="12/05/2022"/>	CF type <input checked="" type="checkbox"/> Automated Controls (AC) <input type="checkbox"/> Document Controls (DC) <input checked="" type="checkbox"/> Goods Inspections (GI) <input type="checkbox"/> Scanner, control system (SCS)	Note <div style="border: 1px solid #ccc; min-height: 40px; padding: 5px;"> Test </div>

Scanner Image


Figure 36 List CF Component View CF Modal

Here the user can view the information of the CF, enter edit mode so they can edit one or all the fields. They also have the possibility to delete this CF. If the user wants to see better the image, they can do so by simply moving the mouse to the image and clicking it. When doing so a modal will open with the image zoomed.

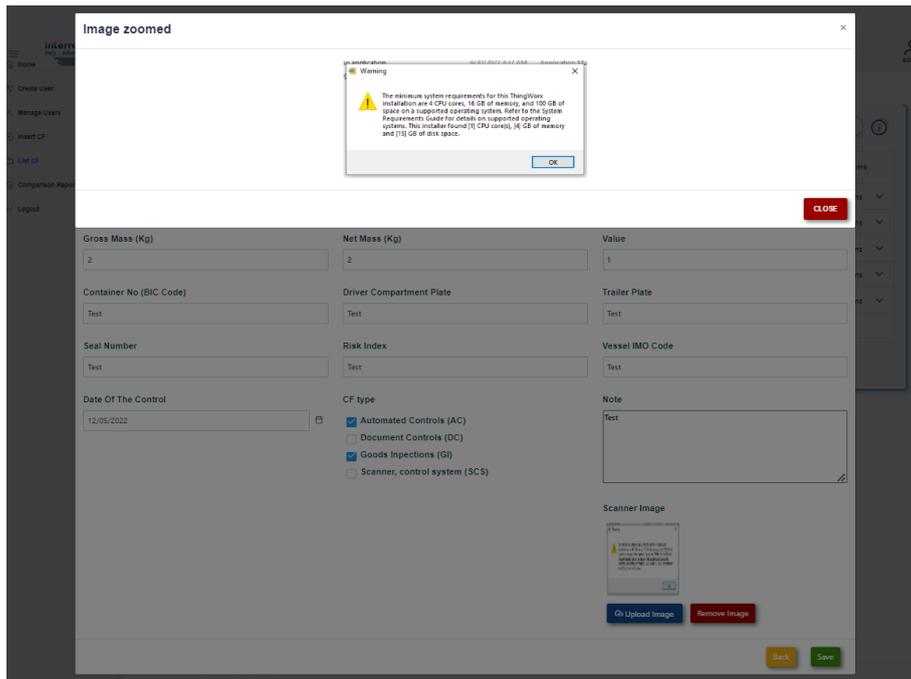
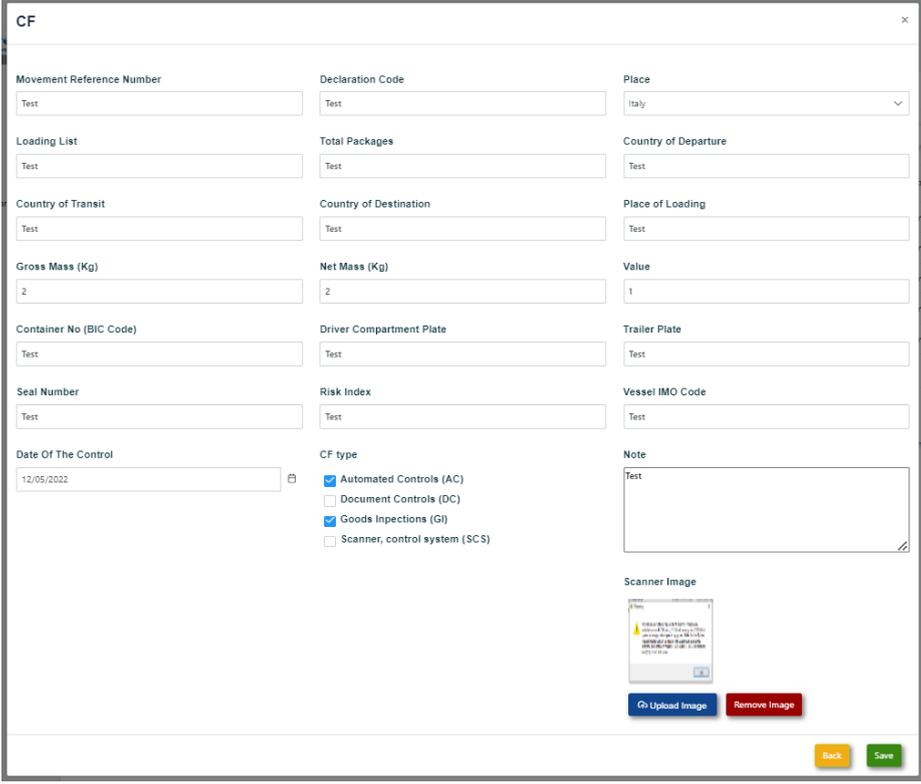


Figure 37 CF List Component Image Zoom Modal

If the user clicks on “Edit CF” button all the fields will be editable and also the “Remove Image” button will appear and will enable the user to remove the image and upload another one.



CF

Movement Reference Number: Test

Declaration Code: Test

Place: Italy

Loading List: Test

Total Packages: Test

Country of Departure: Test

Country of Transit: Test

Country of Destination: Test

Place of Loading: Test

Gross Mass (Kg): 2

Net Mass (Kg): 2

Value: 1

Container No (BIC Code): Test

Driver Compartment Plate: Test

Trailer Plate: Test

Seal Number: Test

Risk Index: Test

Vessel IMO Code: Test

Date Of The Control: 12/05/2022

CF type:

- Automated Controls (AC)
- Document Controls (DC)
- Goods Inspections (GI)
- Scanner, control system (SCS)

Note: Test

Scanner Image:

Go Upload Image Remove Image

Back Save

Figure 38 List CF Component Edit CF Modal

Here also the user can view a zoomed version of the image. All the fields need to be completed and the image uploaded to save the changes because otherwise the “Save” button is disabled.

After clicking “Save” two toast will appear one that notifies the user that the CF is being updated and to please not close the window and after the operation is finished another one that notifies the user that the CF has been modified successfully.

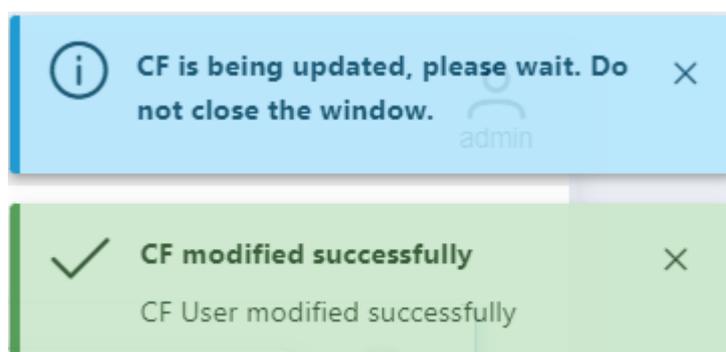


Figure 39 List CF component Info and Success toast

If the image chosen for upload is of too large of a size the operation might take a couple of seconds. Please wait until it finishes. The user can also choose to open the edit modal by simply clicking on the pen icon in the table and perform the same actions.

The user can delete a CF by either clicking on the trash-can icon on the action tab in the table or by clicking “Delete CF” button while having the “View CF” modal open. In both cases a modal that asks the confirmation from the user will open with the following message: “Do you want to delete CF <Name>”



Figure 40 List CF Component Delete Cf Modal

If the users click “Back” the modal will close and the CF won’t be deleted but if the user clicks “Confirm” the modal will close and a toast will appear notifying the user that the CF has been deleted.

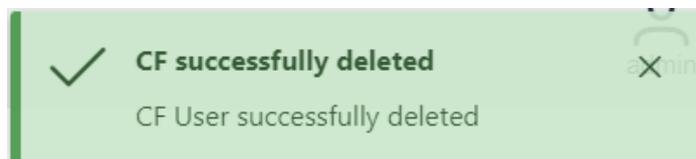


Figure 41 List CF Component success toast

In the “Actions” tab we also have an icon that when we hover over it, it is going to display a tooltip that reads “Analyze Cf”. If the user clicks on this icon, they will be redirected to the “Analyze CF” component.

The table also has checkboxes which are used to select the CFS which the user wants their information alongside with the images associated with them to be compared. The user cannot select more than three CF for comparison and must at least select two for the following buttons to be enabled and the comparison procedure to happen.

The buttons that make possible the comparison between CF to happen are located at the bottom right of the table and are called respectively: “Compare Selected” and “Order CF”. When the user has checked the checkboxes of the CF, they want to compare these buttons are going to be enabled.

“Compare Selected” button starts the comparison procedure between CF but keep in mind that in this case the order in which the data will be compared is based on the order which the user checked the checkboxes so the CF which is going to be considered as the “sample” for the comparison process is going to be the first CF which the user checked its checkbox. After clicking “Compare Selected” a toast will open notifying the user the comparison started.

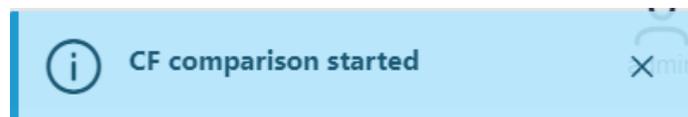


Figure 42 List CF information toast

When the comparison is finished, another toast will appear notifying the user that the comparison has concluded. While waiting for the second toast to appear the user has the possibility to navigate to other components and perform other operations.

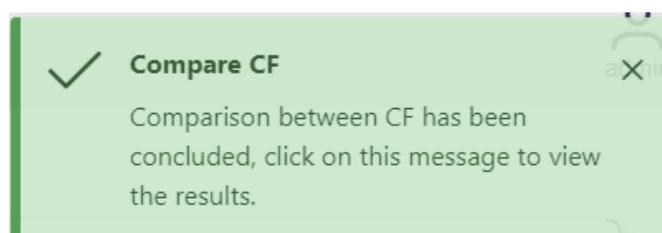


Figure 43 List CF success toast

When this toast appears, it will stay until the user clicks on it and the moment the user clicks it, they are going to be redirected to the “Comparison Reports” component where the comparison the user created is displayed in a table.

A different scenario might be that after the user checked the checkboxes of the CF they want to compare before clicking on compare selected the user wants to be sure which is the order of this comparison before requesting it but somehow, they forgot which CF they choose first or second or third and they would like to review their order. In this case before clicking the “Compare Selected” button they can click on “Order Cf” button and the following modal will open:

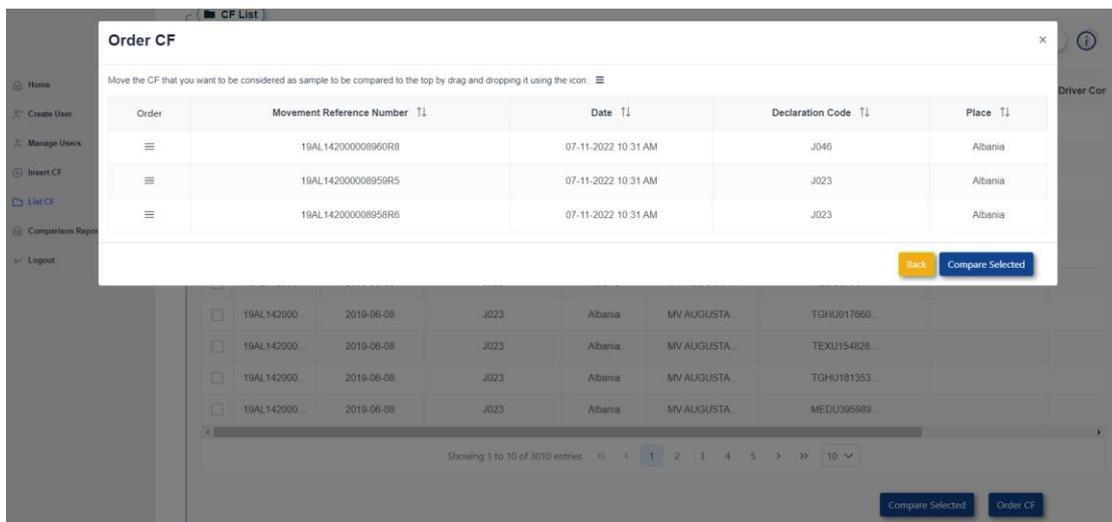


Figure 44 List CF Order Cf Modal

In this modal it is explained at the top of the table how the user by drag and dropping the icon under the “Order” tab can change the sample CF for comparison. The CF that is listed on the top of the table is the sample CF and the other one or two is there are three CF chosen for comparison will be compared with the first one. Once changing the order of the CF to the users liking they can click the “Compare Selected” button in this modal and start the comparison process or can click back and click the “Compare Selected” button in the “List CF” component table, the order if they change it has already been saved. In case the user does not to reorder the CF for comparison they can just continue with the comparison the way the CFS are ordered.

If the user has selected CF for comparison and they click on either of the actions in the “Action” tab view, update, or delete or change pages the checkboxes will be unchecked. In case the user has only one CFs checkbox checked or more then three the “Compare Selected” and “Order CF” buttons will remain disabled. As we explained in the beginning the comparison process is only made between two or three CFs.

2.8 Analyze CF Component

Analyze CF component is going to be used to create the paths/travels in which a CF has transported to. That is why in this component it is integrated a map to visualize the paths which are also displayed snapped to road.

In this component we can add, delete, and update a path. The paths are displayed in two different forms:

- Visualized as lines in a map
- Data in a table

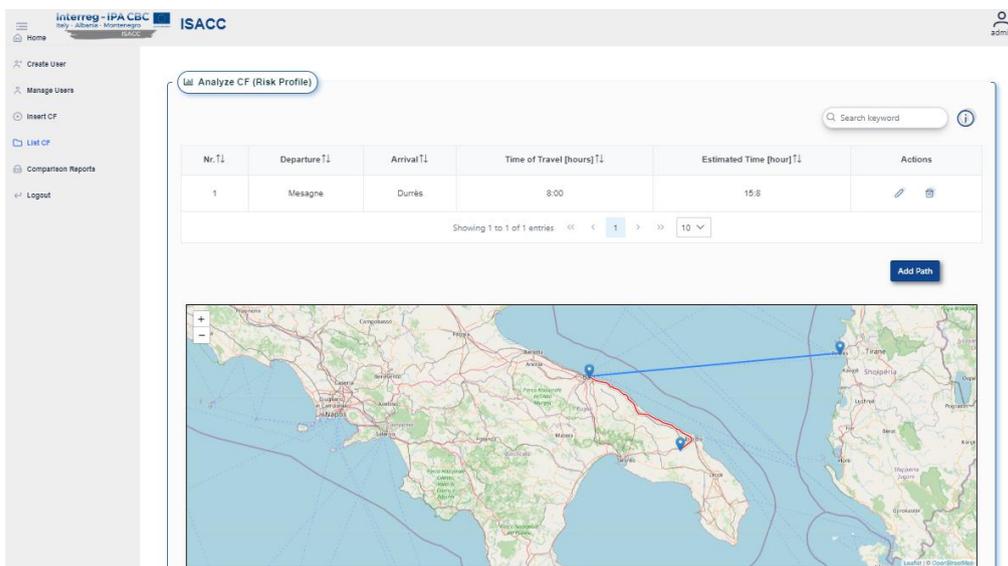


Figure 45 Analyze CF Component

Here there is also a graph component which shows the difference between the “Estimated Duration” and “Real Duration” so the difference between the time it took the CF to be transported from point A to point B and a calculated time in which indicates the time in which it should have taken for the CF to be transported from point A to point B. These data are being rendered by the backend and are also displayed in the table.

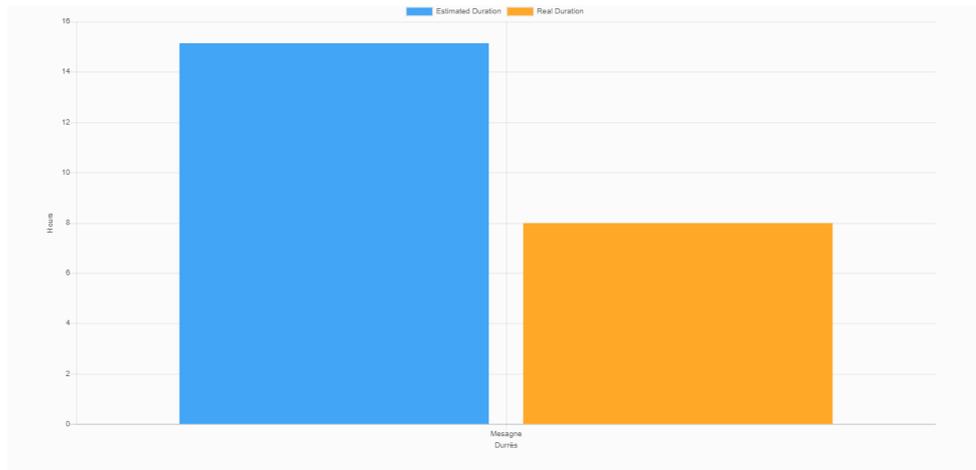


Figure 46 Analyze CF Histogram

To access this component, we must first go to “List CF” component and on the table in the “Actions” tab click the last icon from left to right. And then we are redirected to the “Analyze CF” component, and we can add paths/travels for the CF. Remember that we must be careful which CF we want to create paths/travels for, we have to click the icon for that specific CF because if by mistake we select the icon for another CF, we are going to be adding path for another unrelated CF which can be deleted easily but its just an advice to prevent errors.

Once we are redirected to the “Analyze CF” component we have the possibility to add paths by simply clicking the “Add Path” button which is located right above the map on the right side or at the bottom of the table on the right side again.

By clicking the “Add Paths” button a modal will open.

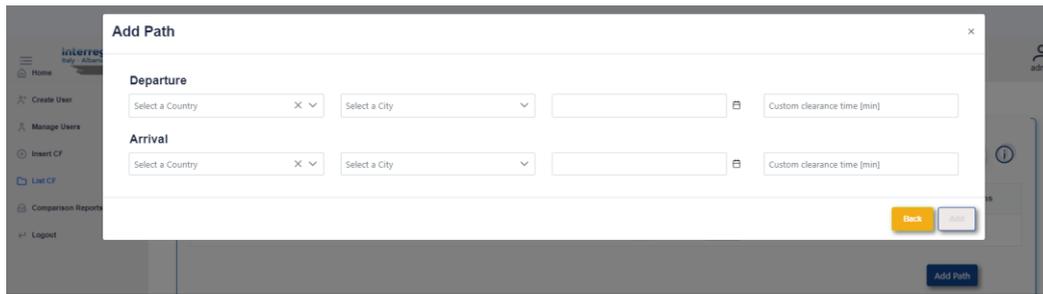


Figure 47 Analyze CF Component Add Path Modal

Here we must fill this form which has a couple of dropdowns and a calendar. These represent the country, city, time and custom clearance time of departure and country, city, time and custom clearance time of arrival of the CF. The dropdown which says “Select a city” will only populate until the user has selected a country first then this dropdown will be populated with the cities associated with the country selected. The button “ADD” on the bottom right will be enabled only when all the fields are completed. After we click “ADD” the table, map and graph are going to be updated respectively at the same time.

The table in the “Analyze CF” component has a search bar which will filter the information of a path searched by the user, next to it is in “i” icon which by hovering over with the mouse will display a tooltip that reads info and if we click on it a modal will open. This modal contains general information for the component.

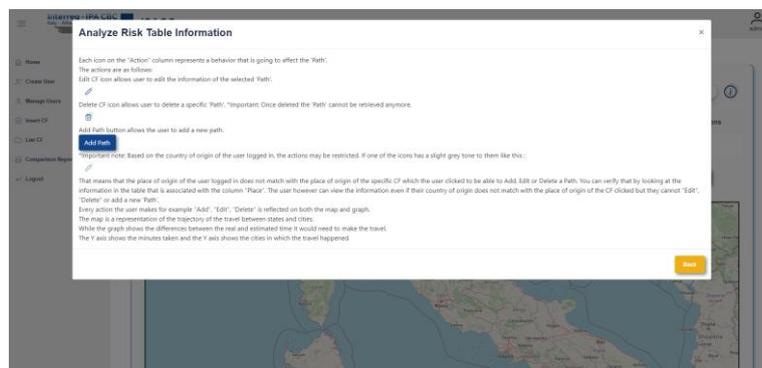


Figure 48 Analyze CF Component Information Modal

In the “Action” tab of the table we have two icons which if we hover on with our mouse tooltips are going to appear one reading, “Edit Path” and the other “Delete Path”.

We can update the information of the paths in the table for the already existing ones or the newly added ones by clicking the pen icon on the “Action” tab in the table. After we click this icon, a modal will open with the information of the selected path displayed on the fields.

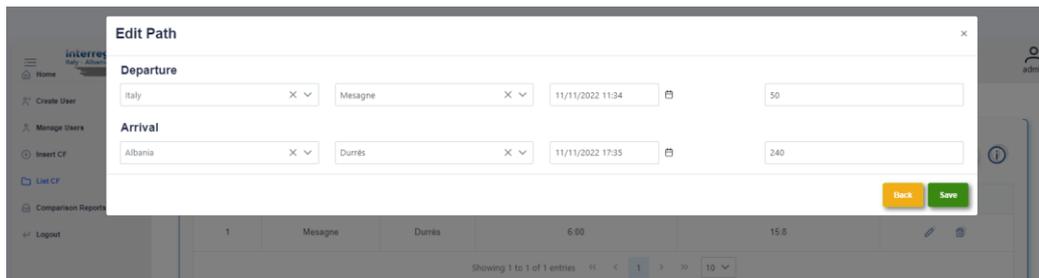


Figure 49 Analyze CF Component Edit Path Modal

Remember that to update the information all the fields must be completed because if by mistake we remove a value and don't update it the “Save” button will be disabled. The field which is empty will have red borders as an indication that it needs to have a value selected.

Once the user changes the value or values and clicks “Save” all the information for this path is going to be updated in the table, map, and graph.

This component can be accessed by all users but based on the user logged in they might not be able to perform actions such as: add, update, or delete path in some cases they might just read information.

2.9 Comparison Reports Component

The “Comparison Reports” component is the component which stores comparison between CFs made by the user. There are two types of comparison the user is able visualize here:

- Not Saved (Pending Comparison)
- Saved Comparison

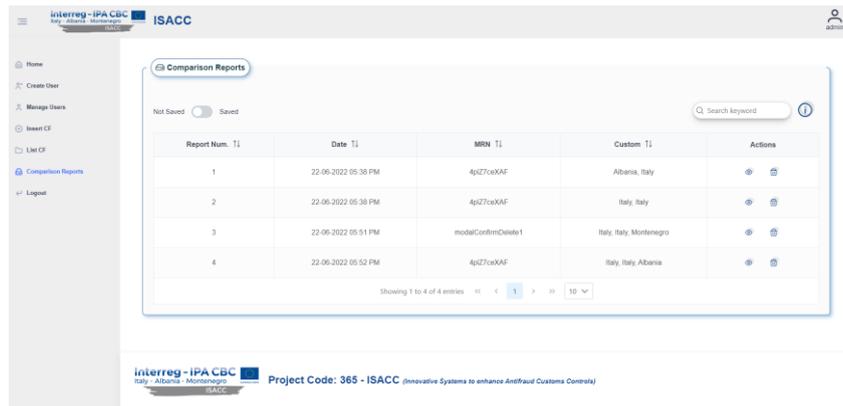


Figure 50 Comparison Reports Component

To access these two types of comparisons this component makes use of a switch which switches between two tables and depending on which side the switch is the user might be seeing either the comparison which are in pending mode not saved yet or the already saved ones.



Figure 51 Comparison Reports Component Switch

Both tables on the top right have a search bar and an information icon. With the help of the search bar, they can filter the comparison by their data and by clicking the “i” icon a modal will open with information on the component.

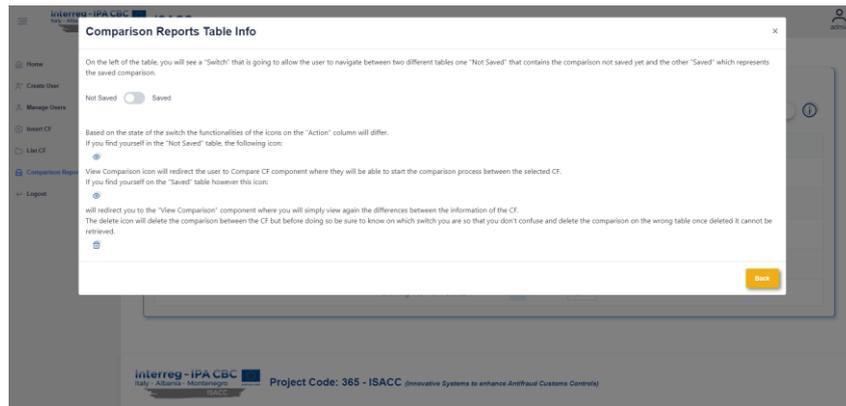


Figure 52 Comparison Reports Component Information Modal

We can access this component either by the clicking on the side navigation or by going on the “Home Component” and clicking the icon that reads “Comparison Reports”. Another way this component is accessed is when the user starts a comparison between CFs from the “List CF” component and when the toast of success opens and notifies the user that the comparison requested by them is finished when the user clicks on this toast they are redirected to the “Comparison Reports” component visualizing the pending comparison table with the comparison being added to the table. We visualize this comparison in the pending comparison table because when a user requests a new comparison this comparison is not saved yet. We will explain how to save a comparison in a moment.

In the table we have an “Action” tab that has two icons and if we hover over these icons each of them will display their respective tooltip one will say “View Comparison” and the other “Delete Comparison”. When we click on the icon to delete a comparison a modal will open asking for confirmation.

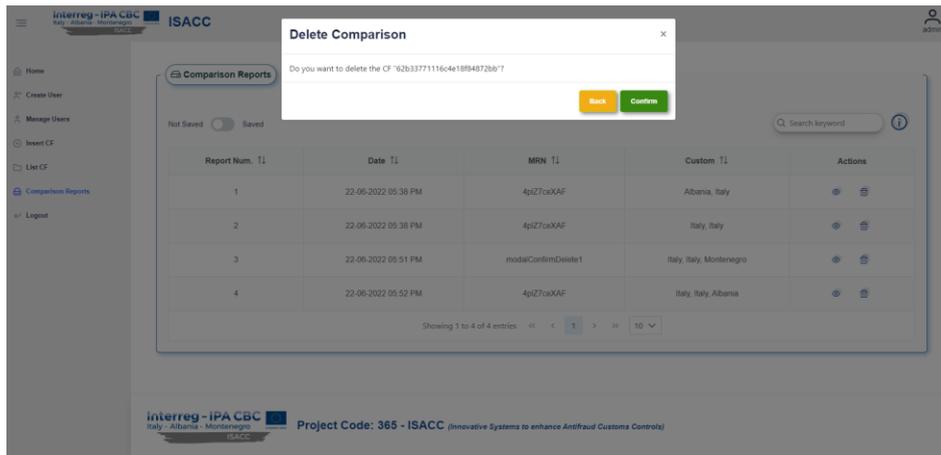


Figure 53 Comparison Reports Delete Modal

Then after confirming a tooltip will open saying:



Figure 54 Comparison Reports Success Tooltip

If the user wants to see the result of the comparison, they requested then they must click the little eye icon. After clicking on the eye icon, the user will be redirected to the “Compare CF” component where the CF they initially asked for comparison will be displayed with their differences and the images associated for each CF. The comparison between images needs to be requested by the user to be visible we are going to explain this briefly.

If we turn the switch to the saved side, we are going to be displayed with a table that contains comparison between CFs that have already been saved. Here we can also delete one of the entries but in this table the eye icon sends us to the “View Comparison” component which visualizes the result of the saved comparisons and here the user does not have to request the comparison between images because it has already been saved.

There is an exception, however. If the user decides to visualize a comparison which has the state still pending and decides to save this comparison without requesting to visualize the comparison between images this comparison will be saved but when the user decides to go and visualize again this comparison this time in the

saved comparison table, they will not be able to visualize the comparison between images because they did not request it in the first place. In this case the user must request the comparison between the same CF once again and they must make sure to make the request for the comparison between images before clicking save. Only after the result of the comparison between images is visible the user must click on save; they must wait for the result to be displayed.

The user can delete the saved comparison which does not have the image comparison result.

In both tables the tabs are sortable and at the bottom of the table in the middle we have a pagination.

2.10 CF Comparison Component

When the user is on the “Comparison Reports” component on the pending comparison table and wants to visualize a pending comparison to view the results they must click on the eye icon on the “Action” tab in the “Comparison Reports” table. After clicking the eye icon, the user is redirected to the “CF Comparison” component where the CF they initially choose for comparison will be displayed in column with the sample CF being placed the first from the left and the other/s right beside the sample.

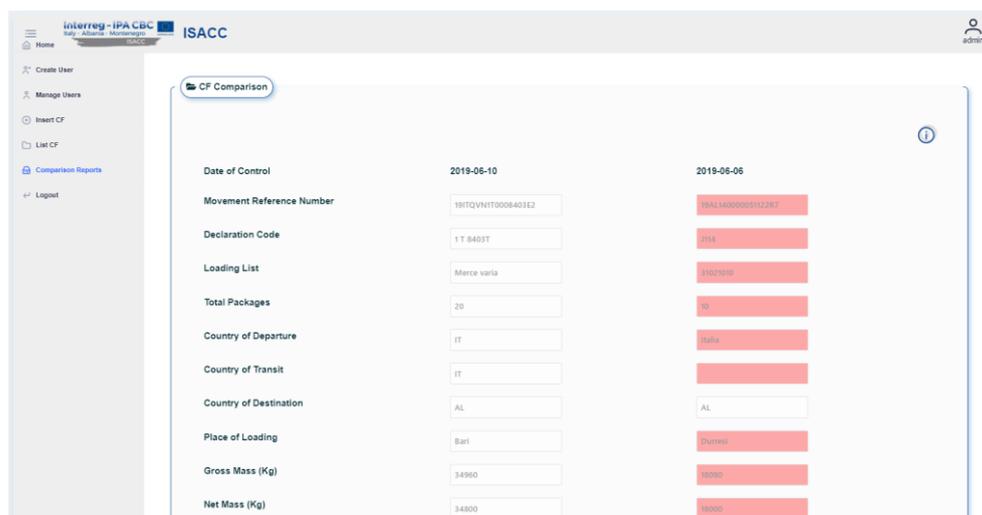


Figure 55 CF Comparison Component

At the top on the left there is in “i” icon that if the user hovers the mouse, it will display a tooltip reading info and if we click it a modal with the information associated with the reason on why the fields of the CF are colored

and what each color represents.

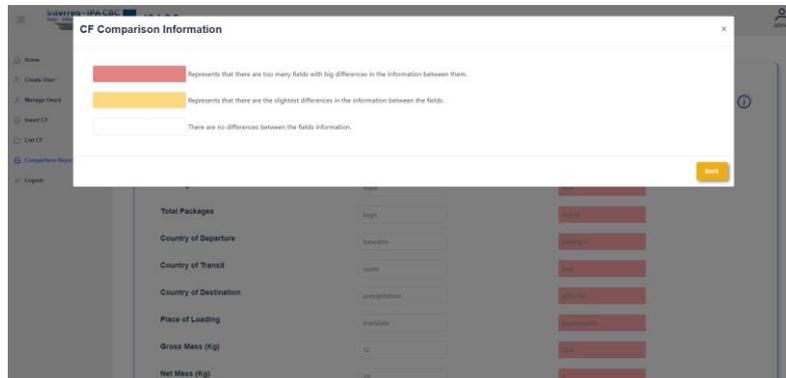


Figure 56 CF Comparison Component Information Modal

While scrolling down the user is going to be able to see all the differences between the fields. At the bottom of the page the images for each CF will be displayed.



Figure 57 CF Comparison Component

If the user wants to see a zoomed version of these images, they can simply click on one of the images and a modal will open with the images zoomed.



Figure 58 CF Comparison Component Image Zoom Modal

The result of the comparison between images is not visible until the user requests so. On the right side of the last image there is an icon which if we hover over a tooltip will display reading “View Image Differences”. If the user wants to know the difference between the images, they must click this icon. The moment the user requests for the image difference result until the request has arrived the user is free to navigate to other components and the moment the result arrives the user will be notified with the following toast:

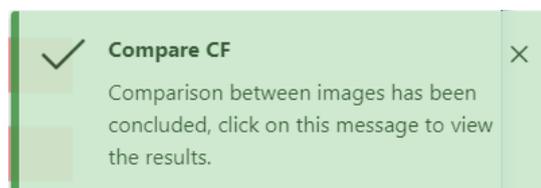


Figure 59 CF Comparison Component Success Toast

This toast will remain until the user clicks on it and upon clicking the user will be redirected to “CF Comparison” component where they are going to be able to see the result of the difference between images.

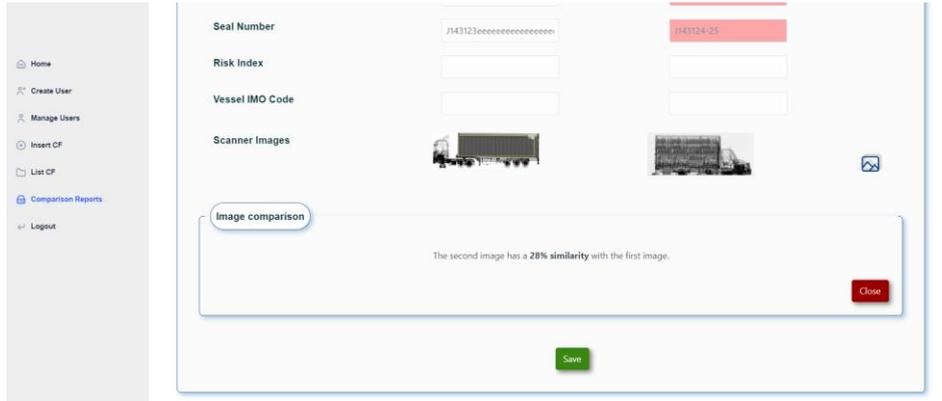


Figure 60 CF Comparison Component Image Comparison Result

At this moment the user has two options/operations they might want to do. They can go back and this comparison will still remain on the pending comparison table or if the user decides they want to save this comparison result alongside the image comparison result they simply have to click on the “Save” button and once the user clicks on the “Save” button they will once again be redirected to “Comparison Reports” component but this time around the switch will be on the “Saved” comparison table and the comparison they just saved will be displayed on the table and if the user checks the pending comparison table by changing the switch to “Not Saved” they will be able to see that this comparison is no longer listed on this table.

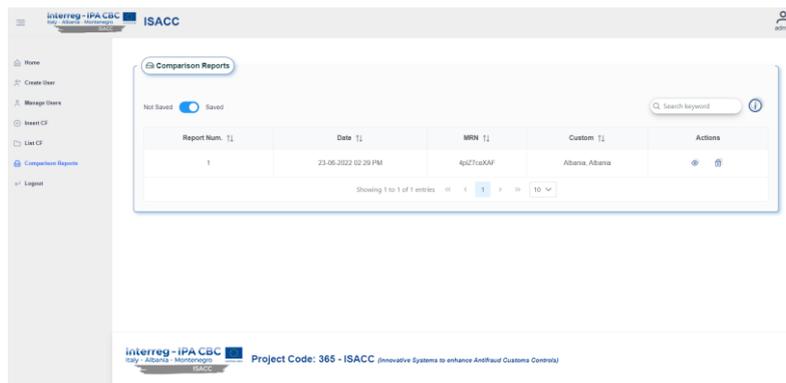


Figure 61 CF Comparison Reports Component Saved Comparison Table

2.11 View Comparison Component

If the user wants to see again the results of a comparison, they have saved they can achieve that by simply going to the “Comparison Reports” component turning the switch on the “Saved” side and the table will be populated with the saved comparisons.

Notice that on the “Action” tab there are two icons one that allows the user to delete a comparison but before deleting a modal will open asking for confirmation and after confirming a toast will appear notifying that the comparison has been deleted and the table is going to be updated without this comparison.

The other icon the eye icon with the tooltip that reads view comparison if clicked will redirect the user to the “View Comparison” component where the user will be able to see again the result of the comparison and has almost the same structure as “CF Comparison” component with the exception that at the bottom of the page the result of the comparison between images is displayed directly, and it does not need to be required by the user.

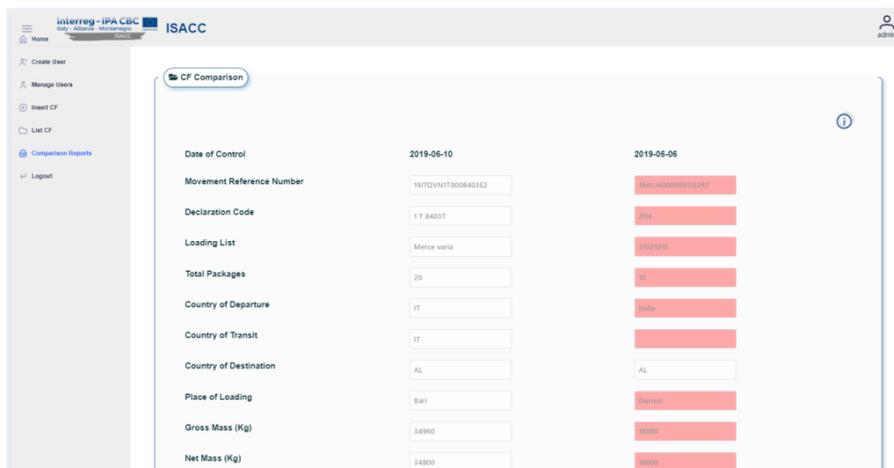


Figure 62 View Comparison Component

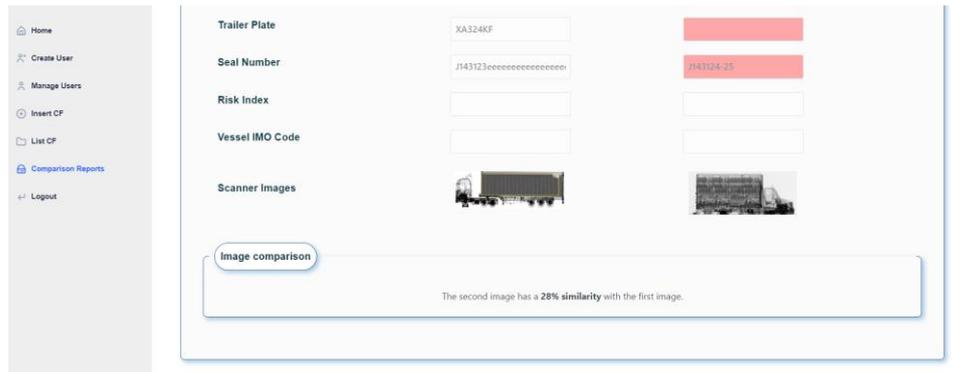


Figure 63 View Comparison Component Image Comparison Result

Again, as mentioned above there is an exception. If the user decides to visualize a comparison which has the state still pending and decides to save this comparison without requesting to visualize the comparison between images this comparison will be saved but when the user decides to go and visualize again this comparison this time in the saved comparison table, they will not be able to visualize the comparison between images because they did not request it in the first place. In this case the user must request the comparison between the same CF once again and not forget to request the comparison between images before clicking save. Only after the result of the comparison between images is visible the user must click on save; they must wait for the result to be displayed.