

Tutorial

La Blockchain des **fréquences**

V1.2 – MARCH 2022

Goal of the Blockchain's Service for Frequencies



The "Frequency's Blockchain" service enables the **coordination of the fair use of PMSE audio frequencies** during events (trade fairs, festivals, sports events, etc.)

It means that **an event's promoter can register an event including its location(s)** and associated dates via the web application's interface provided by the ANFR.

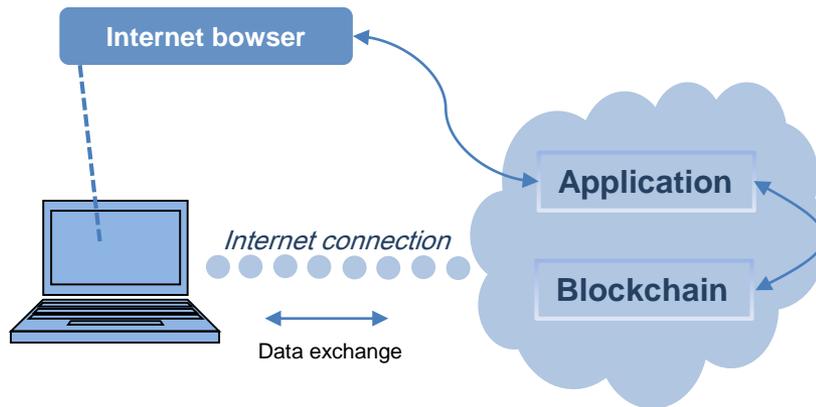
Any organization that wish to broadcast on PMSE audio frequencies during this event can, through the same web interface, **find out available frequencies and book some of them**, according to its needs.

Depending on the location of the events, the forbidden frequencies used by DTT are identified and are not available for booking to PMSE audio equipment.

The information related to the frequency bands available for PMSE audio equipment, the events (dates, locations), the frequencies booked for an event and their users are stored on a dedicated private blockchain. **The request for available frequencies and the tagging of their users is managed, without a third party, through "smart contracts" executed in the blockchain.**

Frequency Blockchain Service Architecture

The "Frequency's Blockchain" service is based on a blockchain, a technology that provides transparency and traceability, enabling the self-regulation of PMSE audio bands.



The use of the "Frequency Blockchain" service requires only, for each user, an account in a web application.

Please note, it is advised to create one account per entity and not one account per individual in the entity.

How to register

Registration to the service

The ANFR is offering its "PMSE Audio frequency's blockchain" solution to audiovisual and entertainment professionals.

The creation of an account requires ANFR validation .

Registration is a **two steps** process:

1. Create an account in the web application via the online form at :

<https://blockchainfrequences.anfr.fr/>

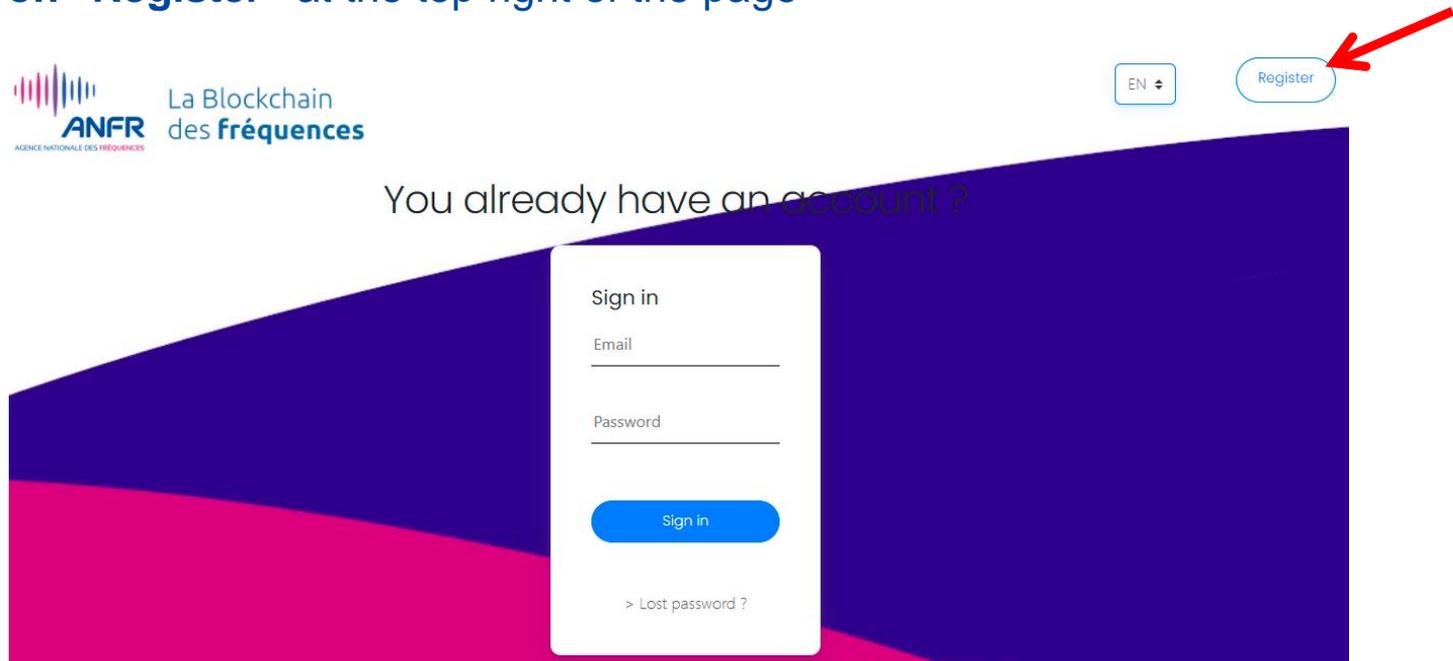
Input the name of the requesting company and the contact details (e-mail address and telephone number) of the person in charge of the account. The person will be contacted by the ANFR to verify the "audiovisual and entertainment professional" status.

2. Once validated by ANFR, the account is activated, and a confirmation email is sent to the address indicated on the form.

It is advised to create one account per entity and not one account per individual. (Events and frequencies declared by one account cannot be changed by another account.)

Create an account on the web application (1/3)

- ✓ Go to the url <https://blockchainfrequencies.anfr.fr>
- ✓ Click on "Register" at the top right of the page



An online registration form is displayed.

Create an account on the web application (2/3)

✓ Fill in the online form

The web application integrates a directory allowing users to contact each other. The user contact information from the form will appear in this directory.

The user e-mail address will be communicated to the other registered users.

The optional avatar is a photo or a pictogram that will appear in the directory of the web application.

The account created allows both the creation of events and the declaration of the use of PMSE Audio frequencies for future events.

Sign up

Lastname *

Firstname *

Company *

Choose an avatar

Choisir un fichier Aucun fichier choisi

Email *

Phone *

FR

Password *

Password confirmation *

By clicking on this checkbox, I accept all terms and conditions [ici](#) *

* Required fields

Register

Reminder : It is advised to create one account per entity and not one account per individual.

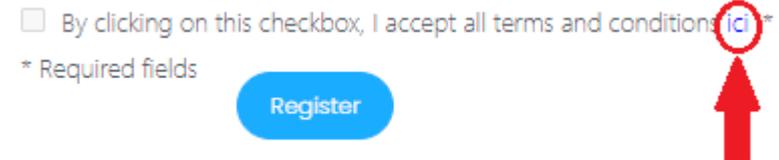
(Events and frequencies declared by one account cannot be changed by another account.)

Create an account on the web application (3/3)

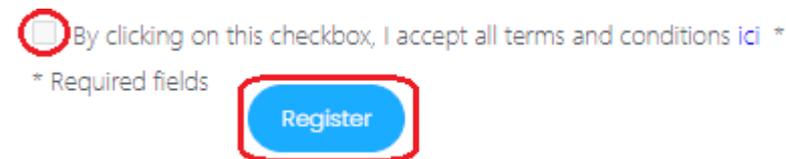
- ✓ **Before registering, you need to read and accept the General Terms and Conditions (GTC)**

At the bottom of the form, click on "here" to access the General Terms and Conditions of use.

The GTC page will open. At the bottom of this page, click on "Accept". The GTC page closes and you will return to the form.



- ✓ **On the form, tick the box** stating that you certify that you have read and accepted the GTC and **then click on "Register"**.



- ✓ A validation request for the activation of your account is sent to the ANFR
- ✓ Once validated (you will receive a confirmation by email at the address provided), your account is immediately activated and accessible at the same address <https://blockchainfrequences.anfr.fr>

User's guide

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- **Deletion of an event** (page 22)

Frequency management

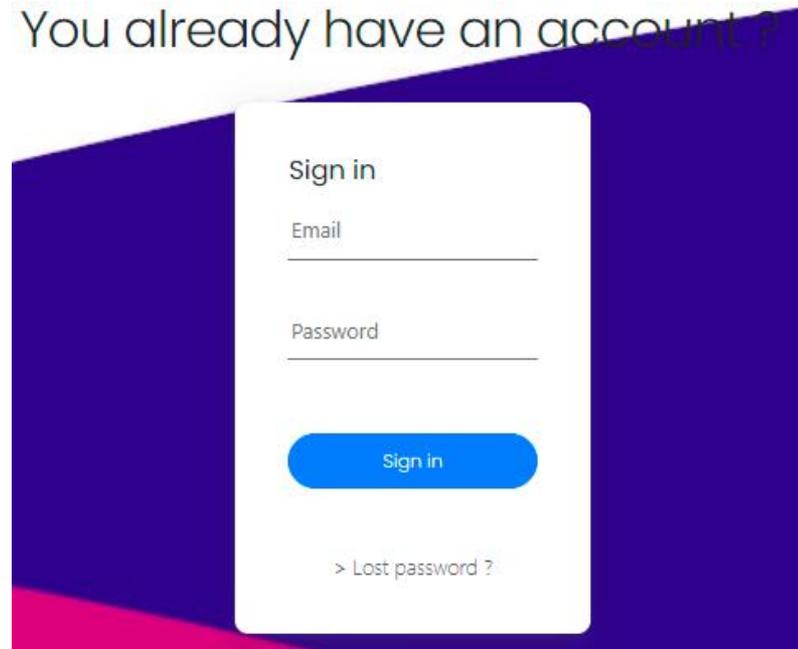
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General

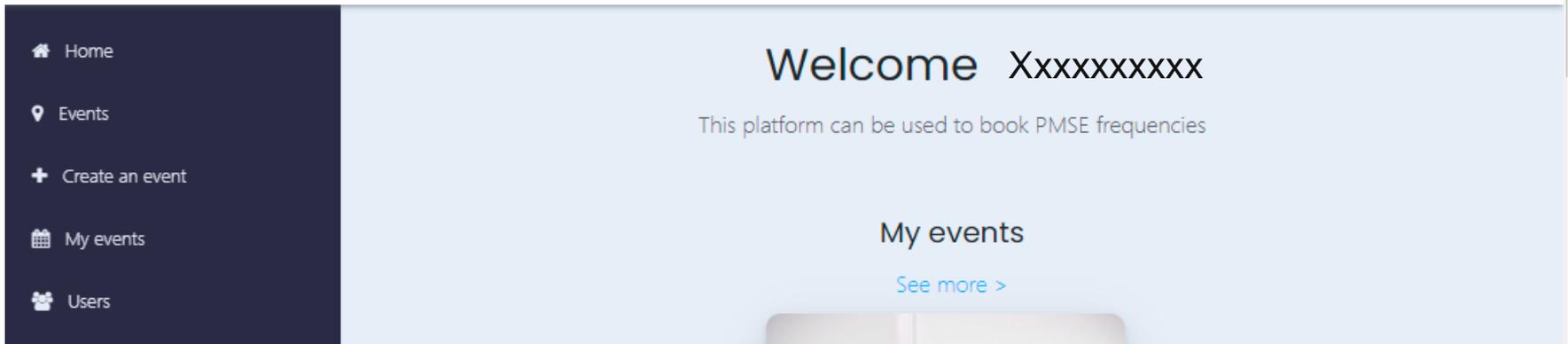
- **Acces to the service** (pages 12)
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- **Search for an event / user** (page 14)

Access to the service

- ✓ **Access the web application at <https://blockchainfrequencies.anfr.fr/>**
- ✓ **The login page of the web application appears.**
- ✓ **Login with your email and password and click on "Login".**
- ✓ **The home page of the web application opens (see next page).**



Home page of the web application

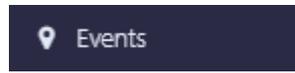


The screenshot shows the home page of the web application. On the left is a dark sidebar with navigation options: Home, Events, Create an event, My events, and Users. The main content area has a light blue background with a 'Welcome' message for the user 'XXXXXXXXXX', a sub-header 'This platform can be used to book PMSE frequencies', and a 'My events' section with a 'See more >' link.

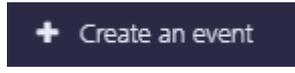
By clicking on :



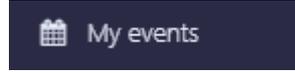
⇒ Access the home screen



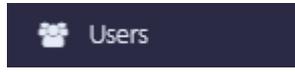
⇒ Access all recorded events



⇒ Create an event



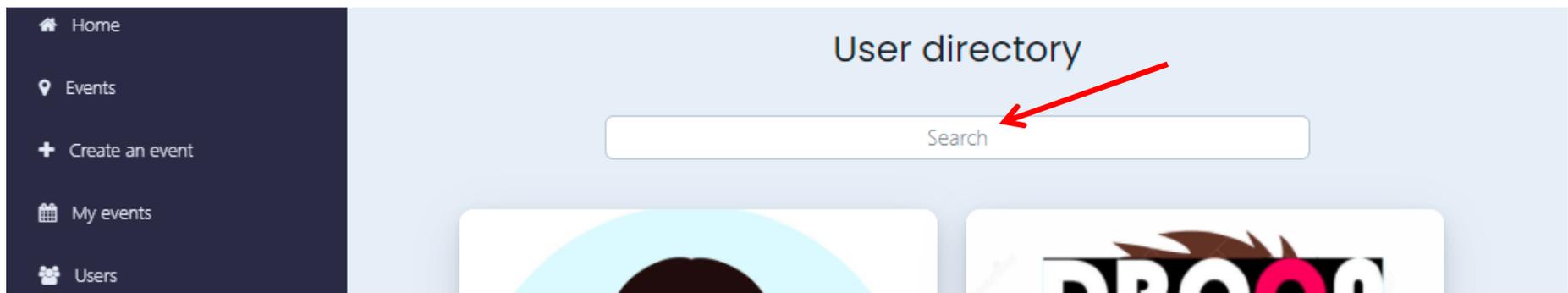
⇒ Access my registered events



⇒ Access the directory of all users on the service

Search for an event / user

- ✓ **On the "Events" and "My Events" pages**, events are listed in descending chronological order. It is possible to search for an event by its name or part of its name via the search bar.
- ✓ **On the "Directory" page**, users are listed in alphabetical order. It is possible to search for a user by name or part of the name via the search bar.

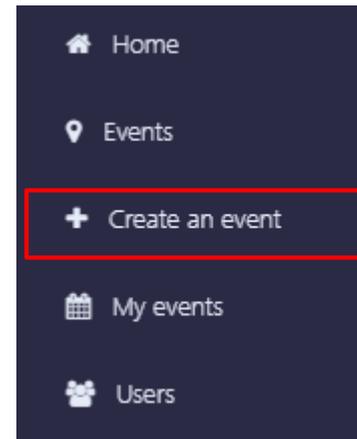


Event management

- **Creating an event** (pages 16-19)
- **Modification of an event** (pages 20-21)
- **Deletion of an event** (page 22)

Creating an event (1/4)

- ✓ On the home page, click on **"Create an event"**.



- ✓ A new window with two sections appears (see next page):
 - the first section is the **"Event Info"** window to fill in the general characteristics of an event
 - the second section, **"Add your locations"**, allows you to fill in the location or locations associated with the event

For example, an event could be a sports tournament and the locations each venue for the tournament's matches.

Creating an event (2/4)

- ✓ **Fill in the "Event info" section:**
Name of the event, start and end dates, possible host broadcaster, description of the event, upload of an image or logo representing the event.

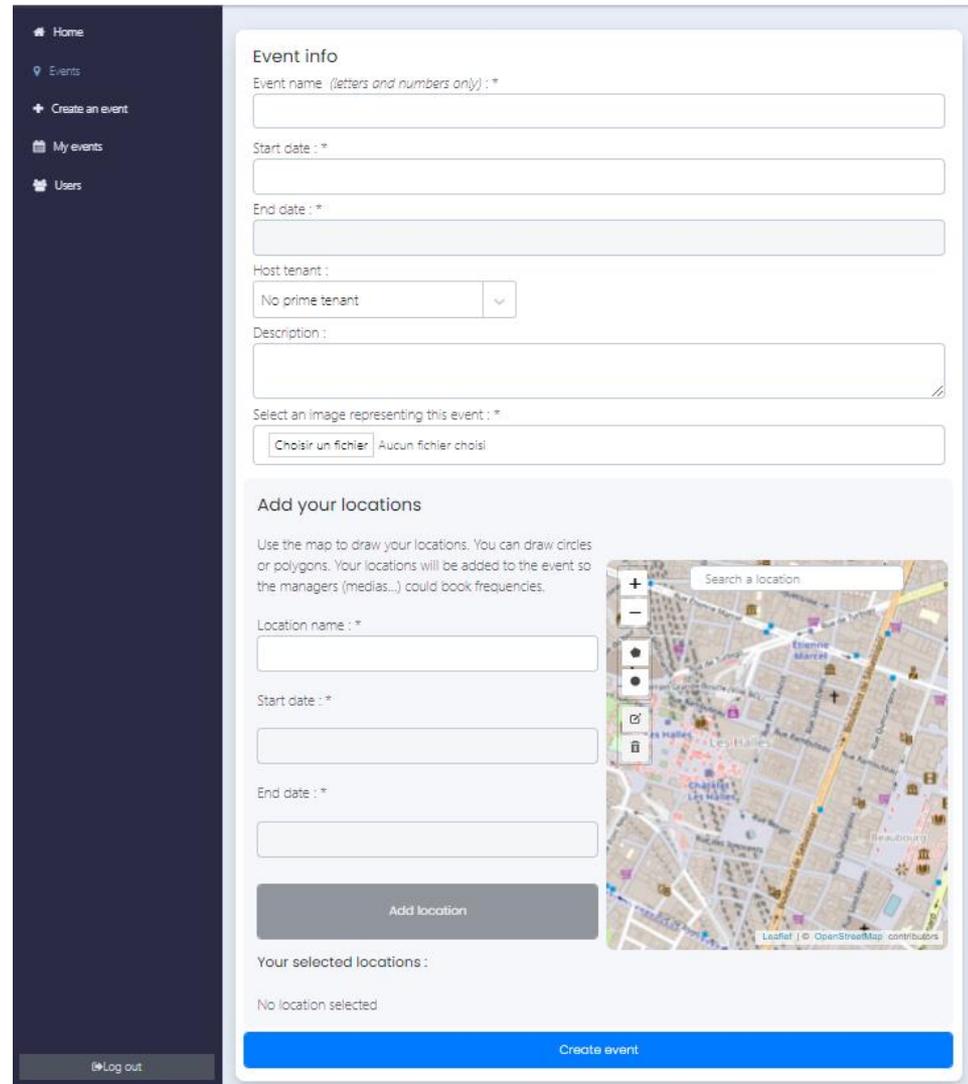
The description of the event and its image/logo will be visible to all users.

The host broadcaster must have an account in the web application to appear in the list of selectable broadcasters.

- ✓ **Fill in the "Add your locations" section :**
Name of the location, start and end dates, precise identification of the location, drawing of the location on the map (see next page).

Precise identification of the location can be done via the search engine at the top of the map by entering a town name or address. The map can be dragged and dropped.

The start and end dates of a location are necessarily between the start and end dates of the event..



Home
Events
Create an event
My events
Users

Log out

Event info

Event name (letters and numbers only) : *

Start date : *

End date : *

Host tenant :
No prime tenant

Description :

Select an image representing this event : *

Choisir un fichier | Aucun fichier choisi

Add your locations

Use the map to draw your locations. You can draw circles or polygons. Your locations will be added to the event so the managers (medias...) could book frequencies.

Search a location

Location name : *

Start date : *

End date : *

Add location

Your selected locations :
No location selected

Create event

Creating an event (3/4)

Plot of the location's boundaries:

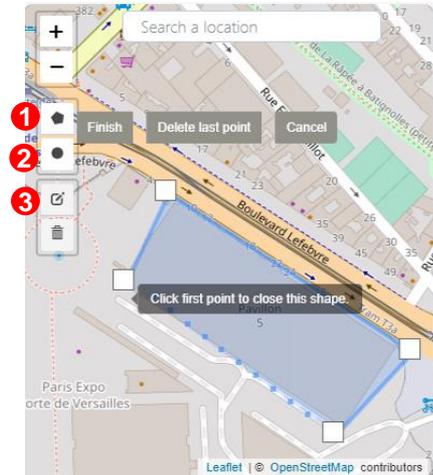
- ✓ The location's boundaries can be drawn as a polygon by clicking on ❶ or as a circle by clicking on ❷.
- ✓ In the case of a polygon, each right-click draws a vertex. The last click must be made on the first vertex to close the polygon - see screenshot.

Modification of the location's boundaries :

- ✓ If the location's boundaries does not suit the user, it can be changed by clicking on ❸.
In the case of a polygon, the position of the vertices and sides centres can be moved.
In the case of a circle, the position of its centre and its radius can then be changed.
- ✓ After modification, click on "Save".

Deletion of the location's plot :

- ✓ The location's plot can also be deleted by clicking on the bin icon and then "Clear All".



Creating an event (4/4)

- ✓ After filling in the name of the location, its start and end dates and plotting its geographical area, **click on "Add location"**.
- ✓ If the event takes place in several locations, save them one by one by clicking "Add location" once you have completed a location boundaries.
- ✓ When all locations have been defined, click on "Create Event".

Add your locations

Use the map to draw your locations. You can draw circles or polygons. Your locations will be added to the event so the managers (medias...) could book frequencies.

Location name : *

Start date : *

End date : *

Add location



Your selected locations :

Location 1 test

08/12/2022
10/12/2022

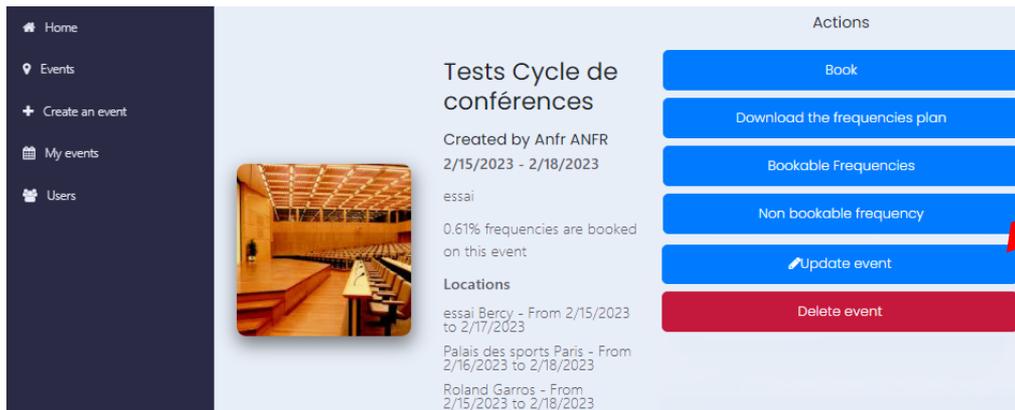
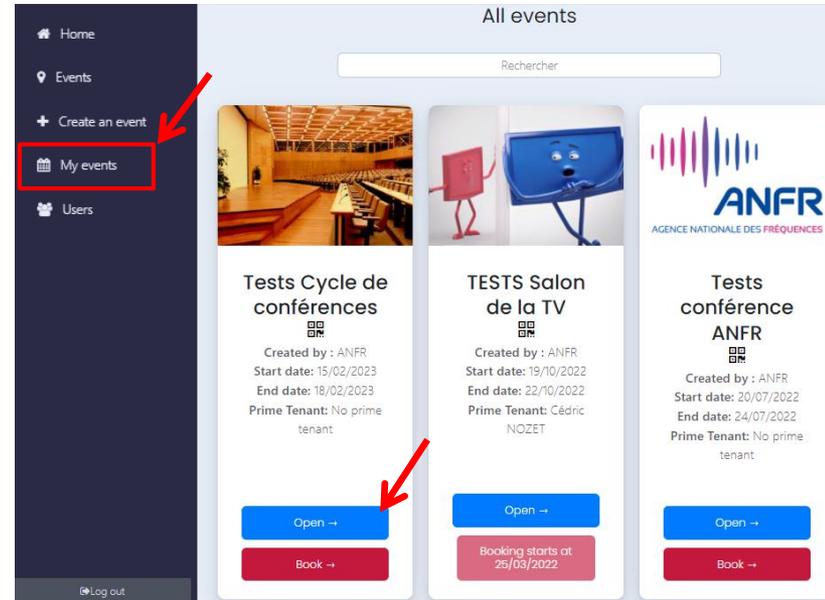
Delete

Create event

Modification of an event (1/2)

Once an event is saved, some of its characteristics can still be modified by the user who created it.

- ✓ Go to the "My events" section
- ✓ Click on "Open" for the event that you wish to modify.
- ✓ The event window opens. Click on "Update event".



- ✓ A "Edit an event" window opens (see next page)

Modification of an event (2/2)

✓ **You can modify:**

- The event name;
- The host tenant;
- The logo;
- The description;
- The start date of the event (provided that the new date is not later than the start date of one of the locations);
- The end date of the event (provided that the new date is not earlier than the end date of one of the locations).

Edit an event

Fill the form and submit it

Event info

Event name *(letters and numbers only)* : *

Start date : *

End date : *

Host tenant :

Description :

Select an image representing this event : *

✓ **An existing event's location cannot be modified but can be deleted.**

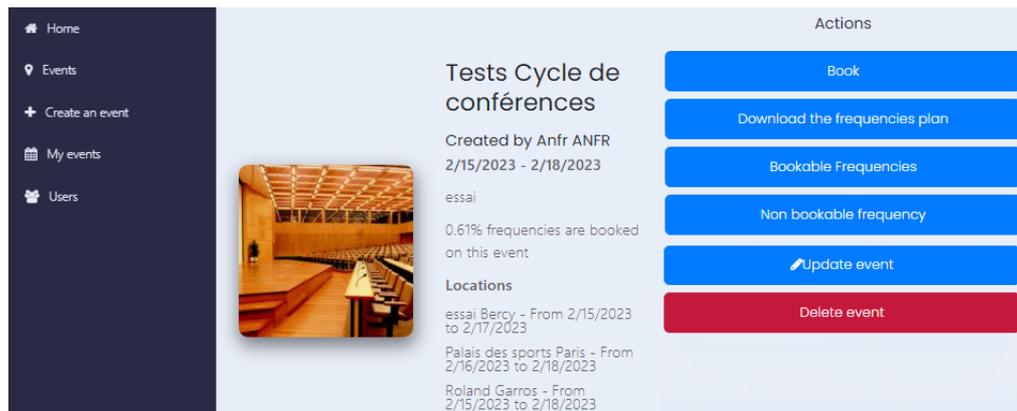
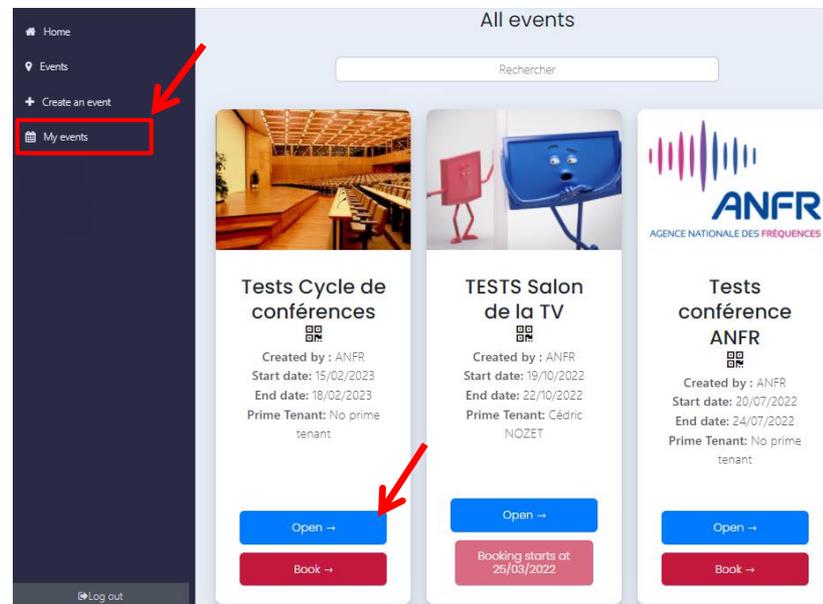
✓ **A new location can be created for that event.**

✓ When all the changes have been made, click on **"Save event editing"**.

Deletion of an event

As long as the event has not started, the event can be deleted by the user who created it.

- ✓ Go to the "My events" section.
- ✓ Click on "Open" for the event that you wish to delete.
- ✓ The event window opens. Click on "Delete Event".

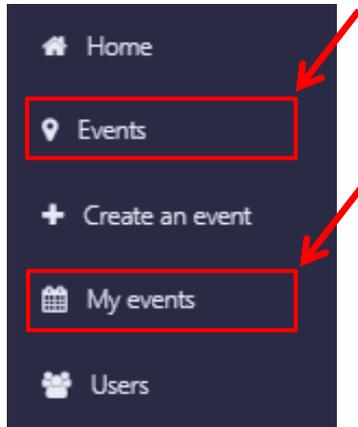


- ✓ The deletion of the event is registered in the blockchain.

Frequency management

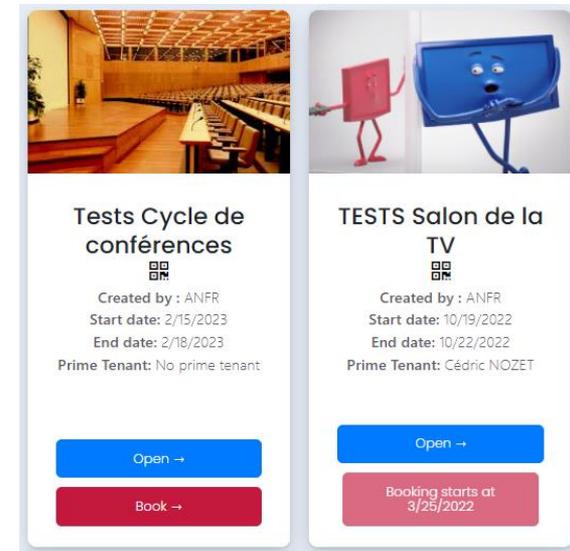
- **Booking frequencies for an event** (page 24)
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Booking frequencies for an event



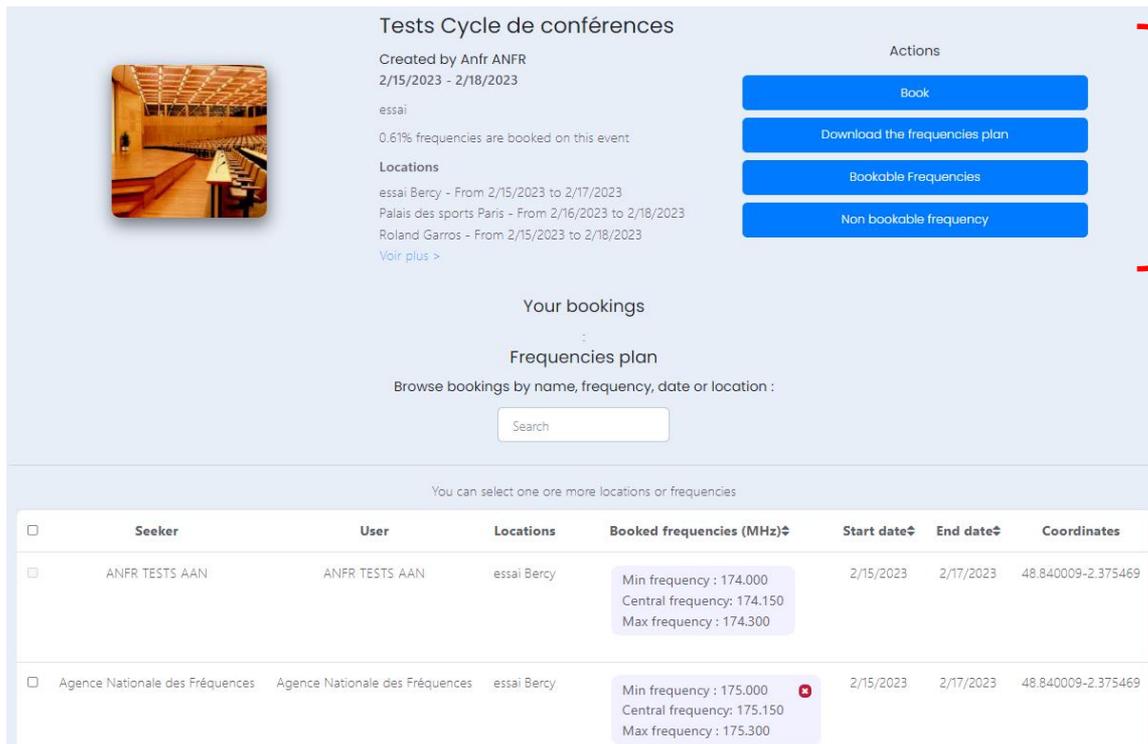
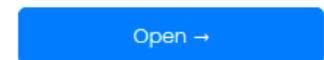
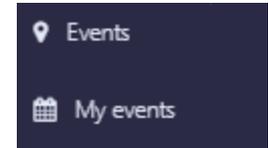
- ✓ From the Home page, click on "Events" for a first frequency booking, or on "My events" for resuming the booking of frequencies for a specific event.

- ✓ You can directly book frequencies for events identified by a **"Book" button on a dark red background**.
- ✓ You can not book frequencies for events identified by:
 - a "Booking starts at xx/xx/xxxx" button on a light red background which indicates that a host broadcaster has a booking priority until the date mentioned;
 - the presence of a single "Open" button for finished events.



Visualisation of the frequency plan (1/3)

- ✓ Click on "Events" or "My Events" on the left-hand side of the homepage to display the events on the screen.
- ✓ Click on the "Open" button of the event whose frequency plan you want to display.
- ✓ The event window open.



Tests Cycle de conférences

Created by Anfr ANFR
2/15/2023 - 2/18/2023

essai

0.61% frequencies are booked on this event

Locations

essai Bercy - From 2/15/2023 to 2/17/2023
Palais des sports Paris - From 2/16/2023 to 2/18/2023
Roland Garros - From 2/15/2023 to 2/18/2023
[Voir plus >](#)

Actions

- Book
- Download the frequencies plan
- Bookable Frequencies
- Non bookable frequency

Your bookings

Frequencies plan

Browse bookings by name, frequency, date or location :

You can select one ore more locations or frequencies

<input type="checkbox"/>	Seeker	User	Locations	Booked frequencies (MHz)↕	Start date↕	End date↕	Coordinates
<input type="checkbox"/>	ANFR TESTS AAN	ANFR TESTS AAN	essai Bercy	Min frequency : 174.000 Central frequency: 174.150 Max frequency : 174.300	2/15/2023	2/17/2023	48.840009;-2.375469
<input type="checkbox"/>	Agence Nationale des Fréquences	Agence Nationale des Fréquences	essai Bercy	Min frequency : 175.000 Central frequency: 175.150 Max frequency : 175.300	2/15/2023	2/17/2023	48.840009;-2.375469

In the upper part of the window, various functions allow the identification of available and reserved frequencies (see details on the following pages).

In the lower part of the window, a table shows the frequencies already booked. A search bar allows searches by applicant, user, location and frequency.

Visualisation of the frequency plan (2/3)

✓ Fonction

Download the frequencies plan

Clicking on "Download the frequencies plan" will download a file containing the frequency plan. The typical information contained in this spreadsheet-type file is described below.

Location	Tenant	User	Min. Frequency (MHz)	Central Frequency (MHz)	Max. Frequency (MHz)	Bandwidth (MHz)	Starting time	Ending Time
essai Bercy	NON BOOKABLE	NON BOOKABLE	582	586	590	8	2/15/2023	2/17/2023
essai Bercy	BOOKABLE	BOOKABLE	590	590.4375	590.875	0.875	2/15/2023	2/17/2023
essai Bercy	ANFR	ANFR	590.875	591.025	591.175	0.3	2/15/2023	2/17/2023

The wording "BOOKABLE" in the "Tenant" column indicates that frequencies between the "Min. Frequency" and the "Max. Frequency" columns are available.

The wording "NON BOOKABLE" in the "Tenant" column indicates that the frequencies between the "Min. Frequency" and the "Max. Frequency" are reserved by DTT or a another declared system under experimentation.

If frequencies are already booked, the name of the tenant and the forecasted user of the frequencies (they may be different) appear, as well as the declared central frequency and the high and low frequencies of the reserved band.

(A reserved band of 0.15 MHz on either side of the central frequency is allocated by default.)

Visualisation of the frequency plan (3/3)

✓ Fonction

Bookable Frequencies

Press "Bookable frequencies" to display a table listing all available frequencies for that event/location

On this page, press "Download" to download a spreadsheet file containing all available frequencies and their information.

Bookable frequencies

Download

Back

Location	Minimal Frequency (MHz)	Maximal Frequency (MHz)	Starting Time	Ending Time
essai Bercy	174.3	175	2/15/2023	2/17/2023
essai Bercy	175.3	223	2/15/2023	2/17/2023
essai Bercy	470	478	2/15/2023	2/17/2023

✓ Fonction

Non bookable frequency

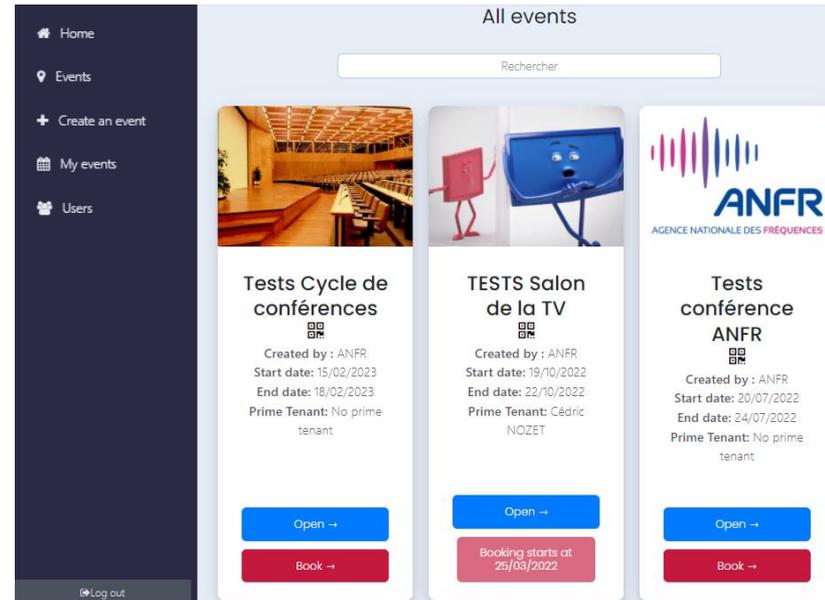
Identical to the button "Bookable frequencies" but for unavailable frequencies.

Frequency booking (1/7)

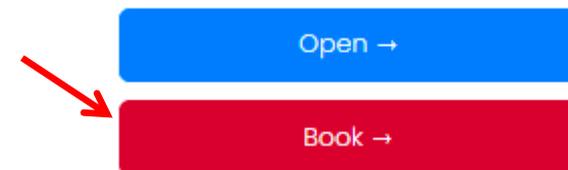
- ✓ In the "Events" section of the home page, **identify the event for which you wish to book frequency.**

If you have already book frequencies for that event and want to make changes, it will be accessible in "My Events" section.

Events are listed in descending chronological order and can be searched by keyword via the search bar.



- ✓ Once you have identified the event, click on "Book". Press "Open" to get more information about the event (and then click on "Book" in the window that opens).



Frequency booking (2/7)

- ✓ After clicking on "Book", **the new window allows you to:**
 - **Select the location ❶** on which you wish to book frequencies;
 - **Choose the mode for the booking of the frequencies (booking mode) either : ❷ :**
 - **Single booking** via the central frequency,
 - **Mass booking** via a spreadsheet-type file.

Book a frequency band

Fill the form and submit it

Event name : *

TESTS Salon de la TV

Location : *

Select a location

Select a location ❶

Porte de Versailles -- (48.832681-2.286402)

Bercy -- (48.838608-2.378722)

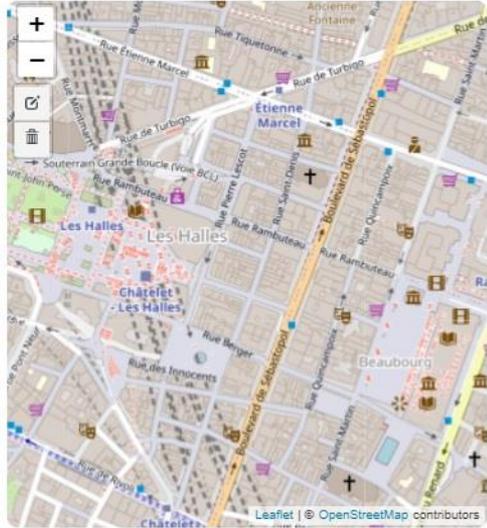
Select a booking mode

Select a booking mode ❷

Central frequency

Mass booking

* Shared spectrum bands implying in particular for Programme Making and Special Events (PMSE) equipment the possibility to use them providing you do not cause electromagnetic interference to primary services. The use of these frequency bands by PMSE equipment has no right to protection against interferences caused by primary services. In particular, all PMSE equipment must ensure it can coexist, under these terms, with digital terrestrial television, digital terrestrial radio, and radio-communication services. Information concerning the use of spectrum by these services is available on the websites of ARCEP (French telecommunications regulator) and CSA (French audio-visual regulatory authority).



Leaflet | © OpenStreetMap contributors

Frequency booking (3/7)

SINGLE BOOKING VIA THE CENTRAL FREQUENCY:

- In the "Booking mode" field, **select "Central frequency"**.
- Under the field "Enter a central frequency", **enter the desired central frequency** (put a dot and not a comma before the decimal points).

A guard band of 0.15 MHz on either side of the central frequency is allocated by default.

- **Click on "Book"** to start the treatment.

Booking mode : *

Central frequency

Enter a central frequency (MHz) : *

475.2

Book *

Frequency booking (4/7)

MASS BOOKING VIA A SPREADSHEET-TYPE FILE:

- In the “Booking mode” field, **select "Mass booking"**.
- In the “Load a CSV file for mass booking” field, click on the "Download a mass booking template file" link to download the file template to use

See explanations on the use of this file in the following two pages

Booking mode : *

Mass booking

Load a CSV file for mass booking : *

[Download a mass booking template file](#)

Choisir un fichier Aucun fichier choisi

Book *

- Once the file is filled in, click on “Choisir un fichier” to select it on your computer and upload it to the web application.
- **Click on "Book"** to start the treatment.

Frequency booking (5/7)

Using the template for mass booking (1/2)

- ✓ 1st sheet "APPLICATION REQUEST".

Id	BANDE DE REGLAGE / ALTERNATIVES TUNING RANGE (X XXX.XXX MHz)		POUR EQUIPEMENT AVEC FREQ. PREDEFINIES UNIQUEMENT / FOR EQUIPMENT WITH PREDEFINED FREQ. ONLY	FREQ. PREFEREE / PREFERRED FREQ (X XXX.XXX MHz)	LARGEUR DE BANDE / TOTAL CHANNEL SPACING (XXX KHz)
	FREQUENCE MIN. / MIN. FREQUENCY	FREQUENCE MAX. / MAX. FREQUENCY	N° DE REFERENCE DES FREQUENCES PERMISES / REFERENCE NUMBER OF PERMITTED FREQUENCIES		
1	174.000	223.000			300
2				626.500	300
3				634.300	300
4			1		300

- Put a dot and not a comma before the decimal points.
- By default, a 150 kHz guard band on either side of the central frequency is applied

Enter one row per PMSE Audio device.

- 1 If only the columns "min. frequency" and "max. frequency" are filled in, the tool will assign the first available frequency between the minimum and maximum frequency.
- 2 If only the "preferred frequency" column is filled in, the tool will check the availability of the requested frequency and assign it if it is available.
- 3 If the column "preferred frequency" and the columns "min. frequency" and "max. frequency" are filled in, the tool will first look for the requested preferred frequency, and if it is not available, it will look for a frequency between the minimum and maximum frequency.
- 4 If the column "Reference number of permitted frequencies" is filled in, the columns "Min. frequency", "Max. frequency" and "Preferred frequency" must be empty. The tool will link to the reference in the desired frequencies column from the 2nd sheet.

Frequency booking (6/7)

Using the template for mass booking (2/2)

- ✓ 2nd sheet "PREDIFINED FREQ.

N° REF. / REF. No.	PRESET 1 (X XXX.XXX MHz)	PRESET 2 (X XXX.XXX MHz)	PRESET 3 (X XXX.XXX MHz)	PRESET 4 (X XXX.XXX MHz)	PRESET 5 (X XXX.XXX MHz)	PRESET 6 (X XXX.XXX MHz)	PRESET 7 (X XXX.XXX MHz)
1	591.025	591.875	592.400				
2	593.350	594.000					
3	585.250	586.500	587.250	587.750	588.250		

- This sheet is used for PMSE Audio equipment operating on pre-defined frequencies. Each line corresponds to a PMSE Audio device of this type (e.g. Overlines).
- In the absence of specific constraint for the frequency used to operate your equipment, you can fill the line with several authorised frequencies for your equipment. The tool will then check the availability of the frequency indicated in the "PRESET 1" column, if it is not available, it will then check the availability of the frequency indicated in the "PRESET 2" column, and so on.
- In order for the software to process the frequencies, the reference number in the "REF No." column must correspond to the "Reference number of permitted frequencies" of the " DEMANDE APPLICATION " - see for example the previous page, 4th line of the table.

Frequency booking (7/7)

- ✓ After clicking on **"Book"**

Booking mode : *

Mass booking

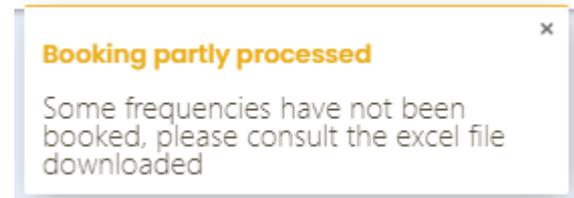
Load a CSV file for mass booking : *

[Download a mass booking template file](#)

Choisir un fichier | Aucun fichier choisi

Book *

- **If all the requested frequencies are available**, the following confirmation appears on the screen
- **If some requested frequencies are unavailable** (*), the following notification appears on the screen and a file containing the non-reserved frequencies is downloaded to your PC



(*) *In the case of a mass booking, if the preferred frequency is unavailable and, in cases where a minimum and a maximum frequency are indicated, if no frequency is available in the interval and, in the case of equipment with predefined frequencies, if none of the indicated frequencies are available.*

- **If all requested frequencies are unavailable**, the following notification appears on the screen



Deleting a declaration of use (1/2)

- ✓ In the "My events" section accessible from the home page, identify the event for which you wish to delete one or more frequency booking
- ✓ In the label of this event, click on "Open".
- ✓ In the event window that opens, use the scroll bar on the right of the screen to scroll down the table of booked frequencies

<input type="checkbox"/>	Seeker	User	Locations	Booked frequencies (MHz)↕	Start date↕	End date↕	Coordinates
<input type="checkbox"/>	ANFR	ANFR	Bercy	Min frequency : 174.000 Central frequency: 174.150 Max frequency : 174.300	10/19/2022	10/22/2022	48.838608-2.378722
<input type="checkbox"/>	Agence Nationale des Fréquences	Agence Nationale des Fréquences	Bercy	Min frequency : 174.350 Central frequency: 174.500 Max frequency : 174.650	10/19/2022	10/22/2022	48.838608-2.378722
<input type="checkbox"/>	ANFR	ANFR	Bercy	Min frequency : 174.850 Central frequency: 175.000 Max frequency : 175.150	10/19/2022	10/22/2022	48.838608-2.378722

- ✓ The frequencies you have booked appear with a white cross on a red background

Deleting a declaration of use (2/2)

- ✓ To delete a frequency you have booked, click on the symbol

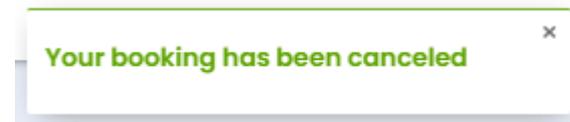


- ✓ A new confirmation window opens
- ✓ Click on "**Delete**"

Do you wish to
cancel your
booking



- ✓ A **notification** confirms the deletion.



Frequency user different from the applicant (1/3)

- ✓ During major events, some broadcasters book frequencies that will be used by other third-party broadcasters. The Frequency Blockchain makes it possible to specify the names of these third-party broadcasters.
- ✓ A "User" column appears in the table of booked frequencies displayed on the event home page (as well as in the downloadable frequency plan file).

<input type="checkbox"/>	Seeker	User	Locations	Booked frequencies (MHz)↕	Start date↕	End date↕	Coordinates
<input type="checkbox"/>	Agence Nationale des Fréquences	Agence Nationale des Fréquences	Bercy	Min frequency : 174.350 Central frequency: 174.500 Max frequency : 174.650	10/19/2022	10/22/2022	48.838608-2.378722

- ✓ In the case of a single or a mass booking of frequencies, the "User" column contains the name of the original broadcaster that booked the frequencies (the same name that is in the "Seeker" column).

Frequency user different from the applicant (2/3)

- ✓ **The user name of each booked frequency can be changed by clicking on the checkbox to the left of the frequency's line. Several boxes can be selected at the same time. As soon as a checkbox is selected, two buttons appear at the top of the table of booked frequencies.**

You can select one or more locations or frequencies

Transfer frequencies **Modify user**

<input type="checkbox"/>	Seeker	User	Locations	Booked frequencies (MHz)↕	Start date↕	End date↕	Coordinates
<input checked="" type="checkbox"/>	Agence Nationale des Fréquences	Agence Nationale des Fréquences	Bercy	Min frequency : 174.350 Central frequency: 174.500 Max frequency : 174.650	10/19/2022	10/22/2022	48.838608-2.378722
<input type="checkbox"/>	Agence Nationale des Fréquences	Agence Nationale des Fréquences	Porte de Versailles	Min frequency : 486.850 Central frequency: 487.000 Max frequency : 487.150	10/20/2022	10/21/2022	48.832681-2.286402

- ✓ **Click on "Modify user".** A new field appears between the two buttons and the table of booked frequencies (see the next page).

Frequency user different from the applicant (3/3)

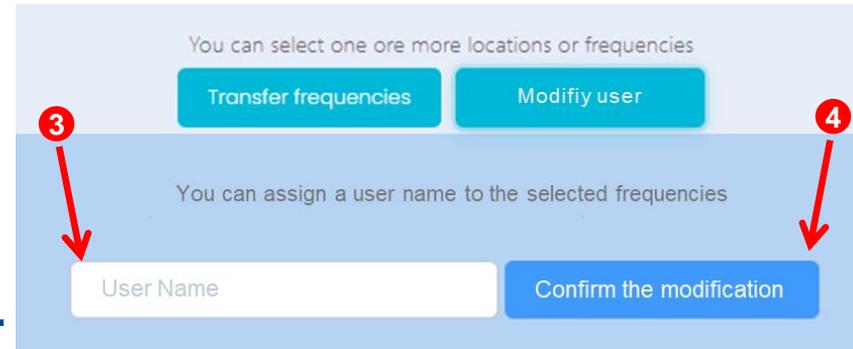
- ✓ In the "User name" field, type the name of the third-party user for whom you have booked the frequencies.
- ✓ Then click on "Confirm the modification".
- ✓ In the "User" column of the booked frequencies table, the name of the third party user appears for all frequencies selected.
- ✓ A notification confirms the changes of frequencies' users.

You can select one ore more locations or frequencies

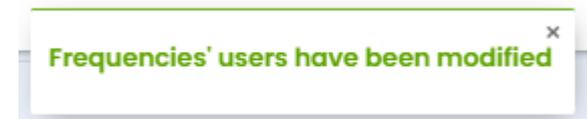
Transfer frequencies Modify user

You can assign a user name to the selected frequencies

User Name Confirm the modification

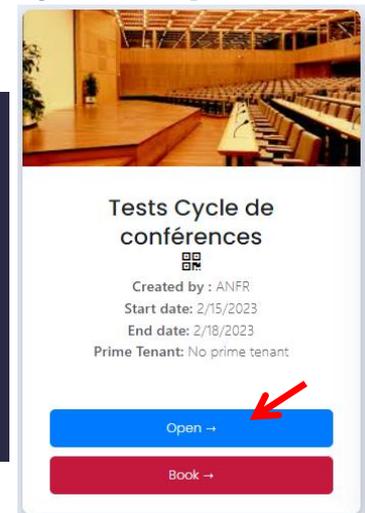
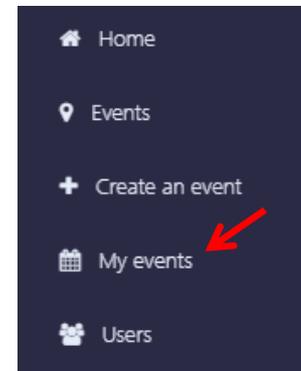
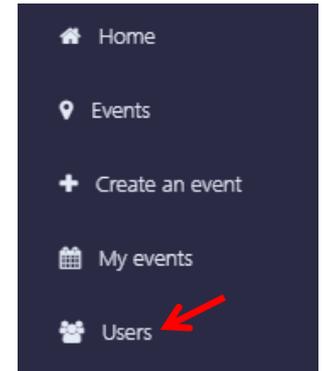


<input type="checkbox"/>	Seeker	User	Locations
<input type="checkbox"/>	Agence Nationale des Fréquences	Third party user	Bercy



Transfer of Frequency between users (1/4)

- ✓ **A broadcaster may, for example for technical reasons, wish to use a frequency already booked by another broadcaster for the same location at an event.**
- ✓ **By clicking on “Users”, he can request the transfer by email.** (In general, any account holder on the Frequency Blockchain can exchange mails (address available in the directory) with another account holder)
- ✓ **The broadcaster who has already booked the frequency may accept the transfer to the requesting broadcaster:**
 - **Trough the "My events" menu, open the relevant event and then the table of booked frequencies.**



Transfer of Frequency between users (2/4)

- On the list of booked frequencies, select the frequencies to transfer by **clicking on the checkbox on the left for each line representing a frequency**. Several checkboxes can be selected at the same time. **As soon as a box is selected, two buttons appear at the top of the booked frequencies table.**

You can select one ore more locations or frequencies

1 → 2 → **Transfer frequencies** Modify user

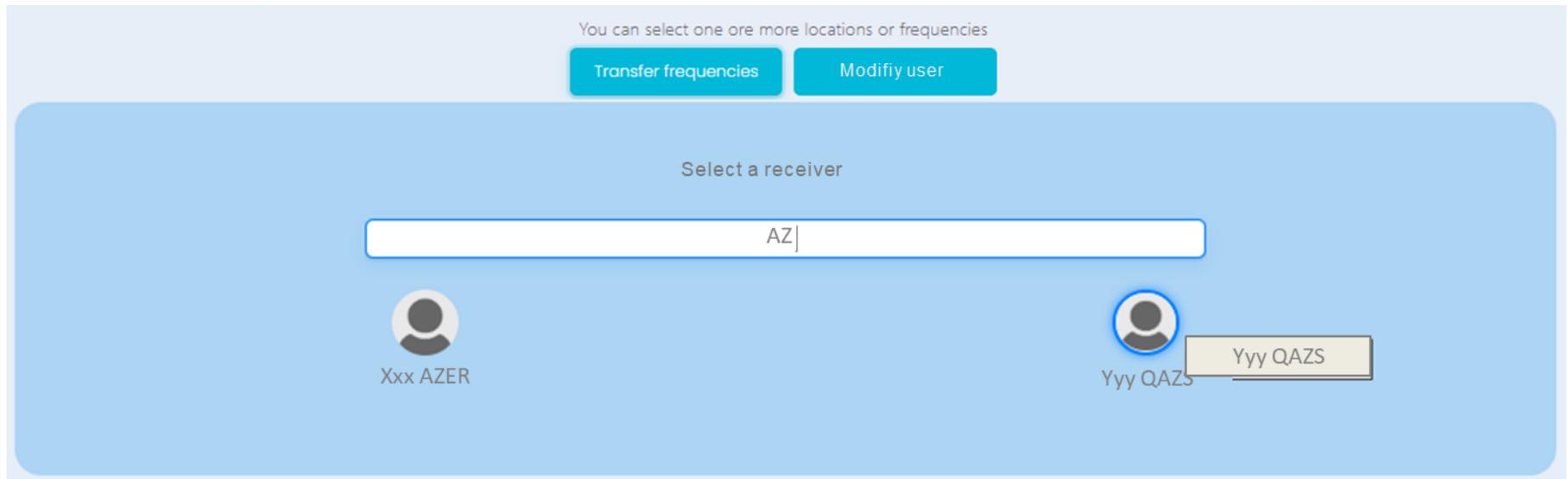
<input type="checkbox"/>	Seeker	User	Locations	Booked frequencies (MHz)↕	Start date↕	End date↕	Coordinates
<input checked="" type="checkbox"/>	Agence Nationale des Fréquences	Agence Nationale des Fréquences	Bercy	Min frequency : 174.350 Central frequency: 174.500 Max frequency : 174.650	10/19/2022	10/22/2022	48.838608-2.378722
<input type="checkbox"/>	Agence Nationale des Fréquences	Agence Nationale des Fréquences	Porte de Versailles	Min frequency : 486.850 Central frequency: 487.000 Max frequency : 487.150	10/20/2022	10/21/2022	48.832681-2.286402

- Click on "Transfer frequencies"**. A new banner with the names of the account holders for the Frequencies appears between the two buttons and the table of booked frequencies (see next page).

Transfer of Frequency between users (3/4)

- **Select the broadcaster that will receive the transferred frequencies :**
 - **by clicking directly on the broadcaster's avatar^(*)** if available on the banner
 - **or by searching its full or partial name** via the search bar to bring up its avatar and **then clicking on that avatar.**

() The selected avatar is circled in blue and a label with its name appears.*



You can select one ore more locations or frequencies

Transfer frequencies Modify user

Select a receiver

AZ|

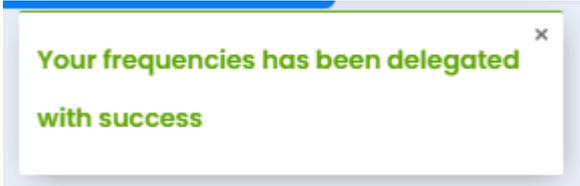
Xxx AZER

Yyy QAZS

Yyy QAZS

Transfer of Frequency between users (4/4)

- A registration **notification** confirm the transfer of frequencies.
- **The frequency's transferee has no action to take.** The owner's name of the transferred frequencies becomes by default the transferee's name. The transferee can then change the owner's name - see section "Frequency user different from the applicant".
- **The booked frequencies table is automatically updated** once the assignment is registered in the blockchain.



Your frequencies has been delegated
with success