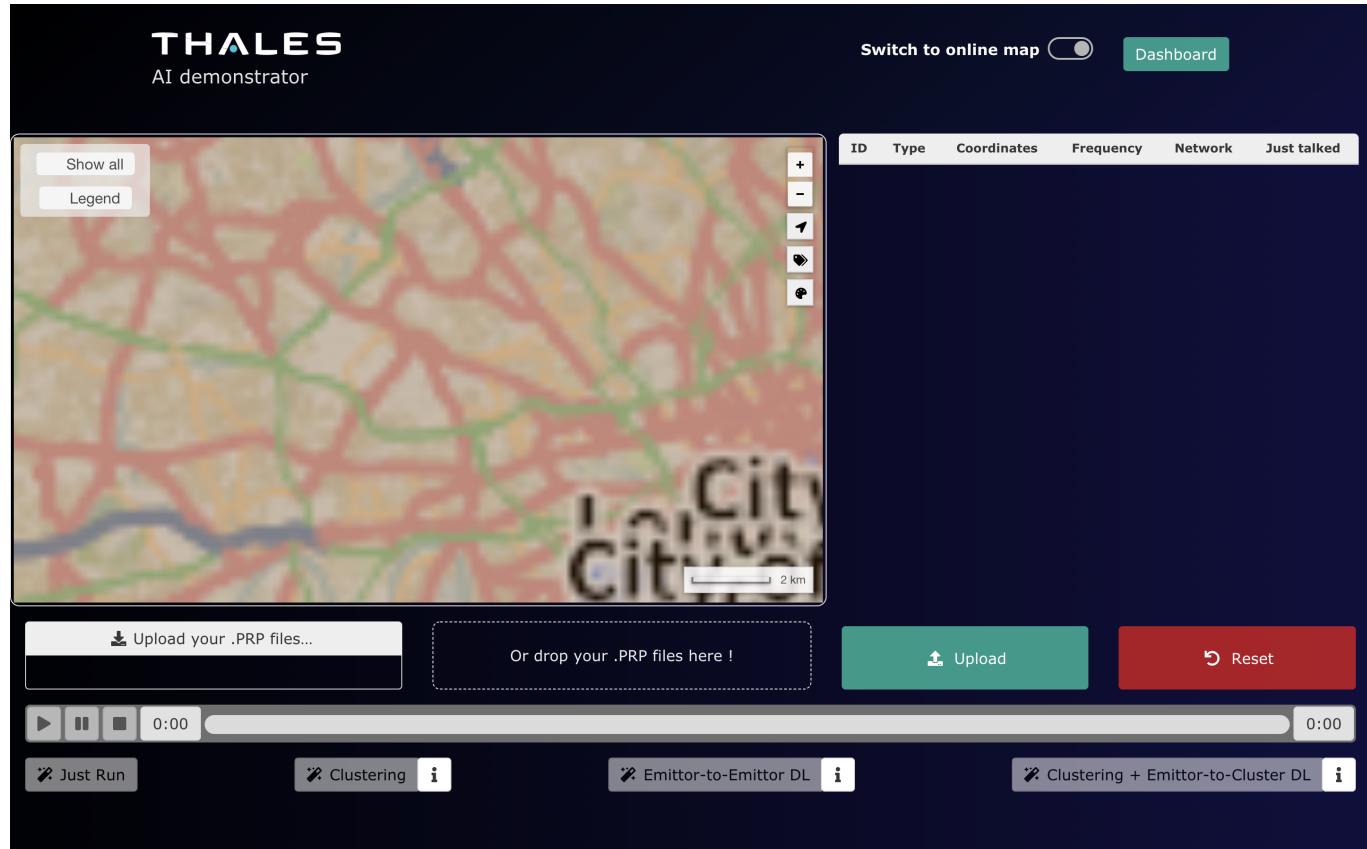


Thales AI Demonstrator User Manual

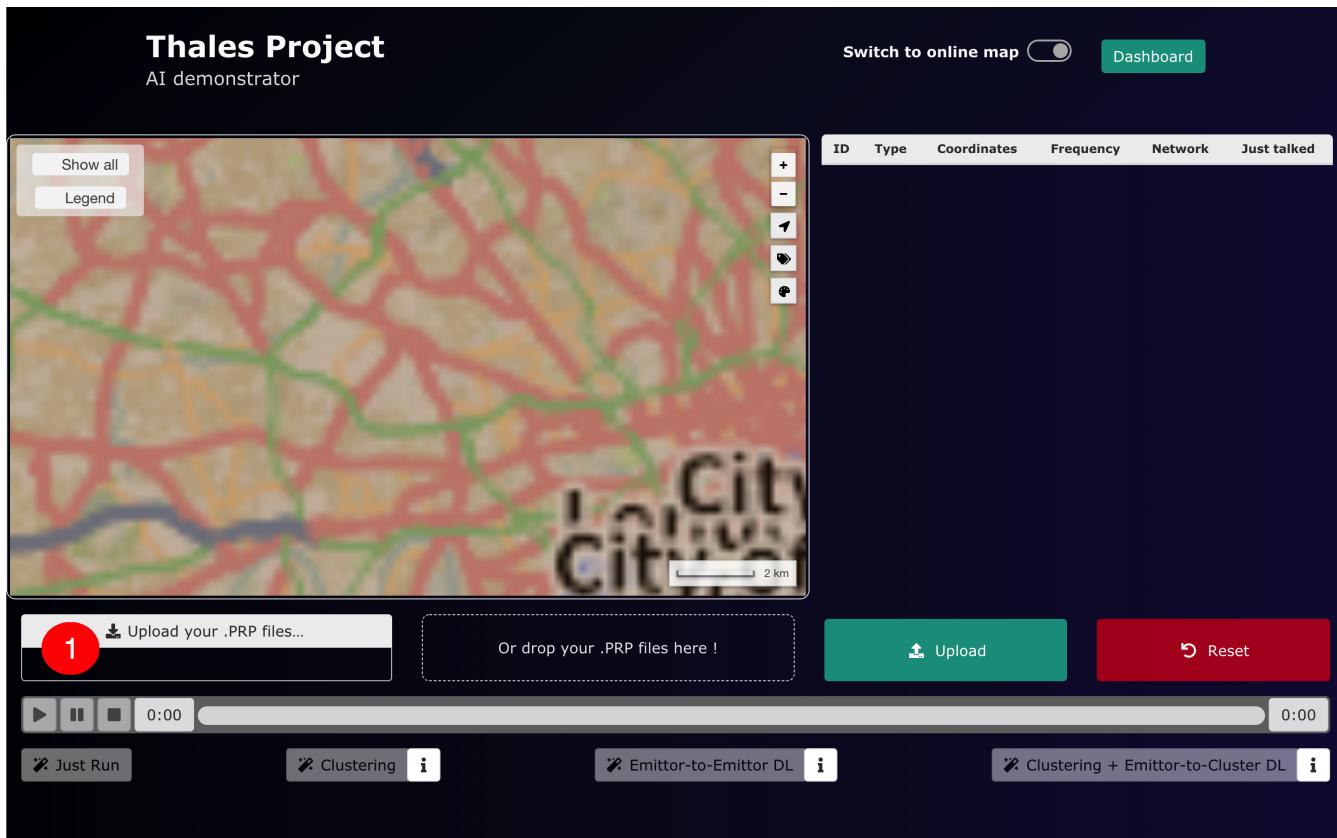
Getting Started

First of all, start up the app using the **start** script. Then, to get to the app, just open a browser on <http://localhost:4200/>.

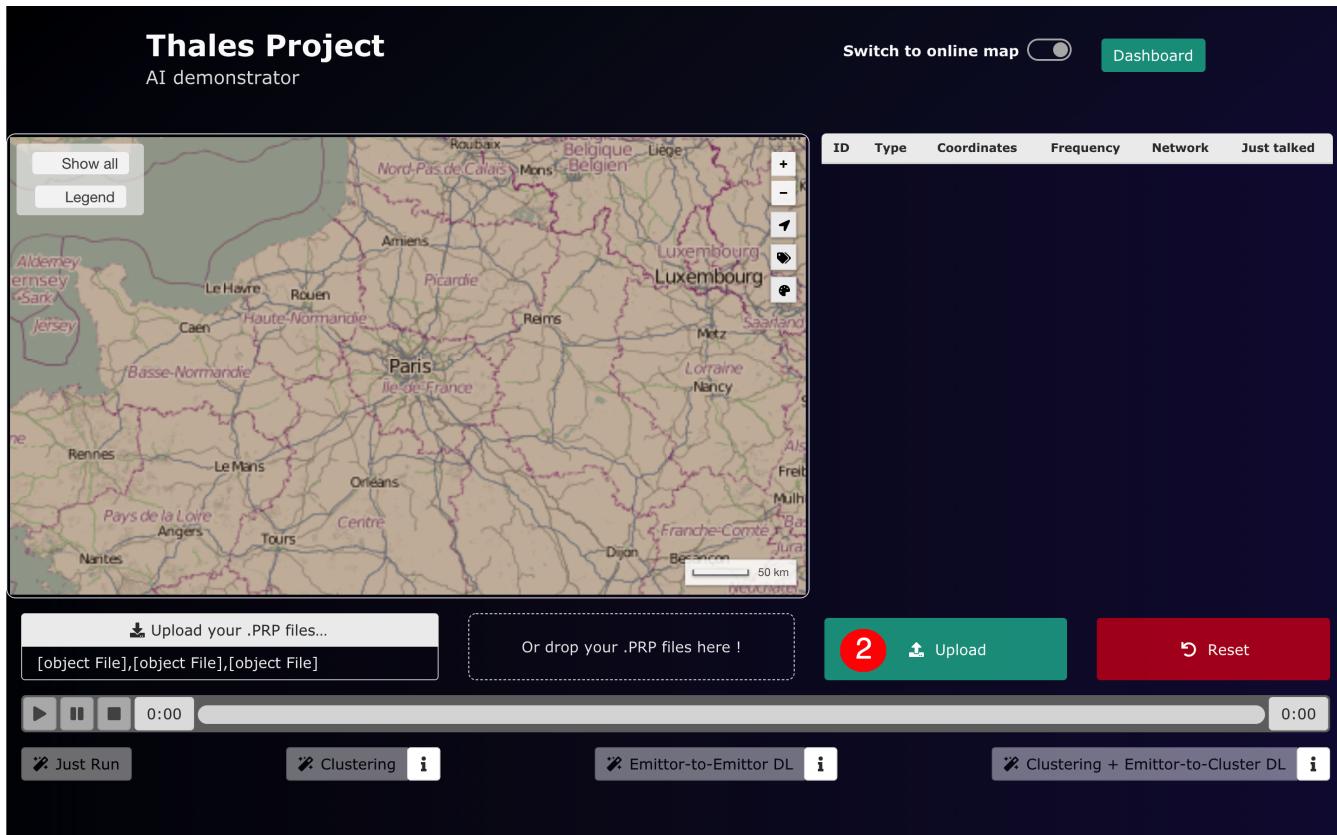
You should get a view like this :



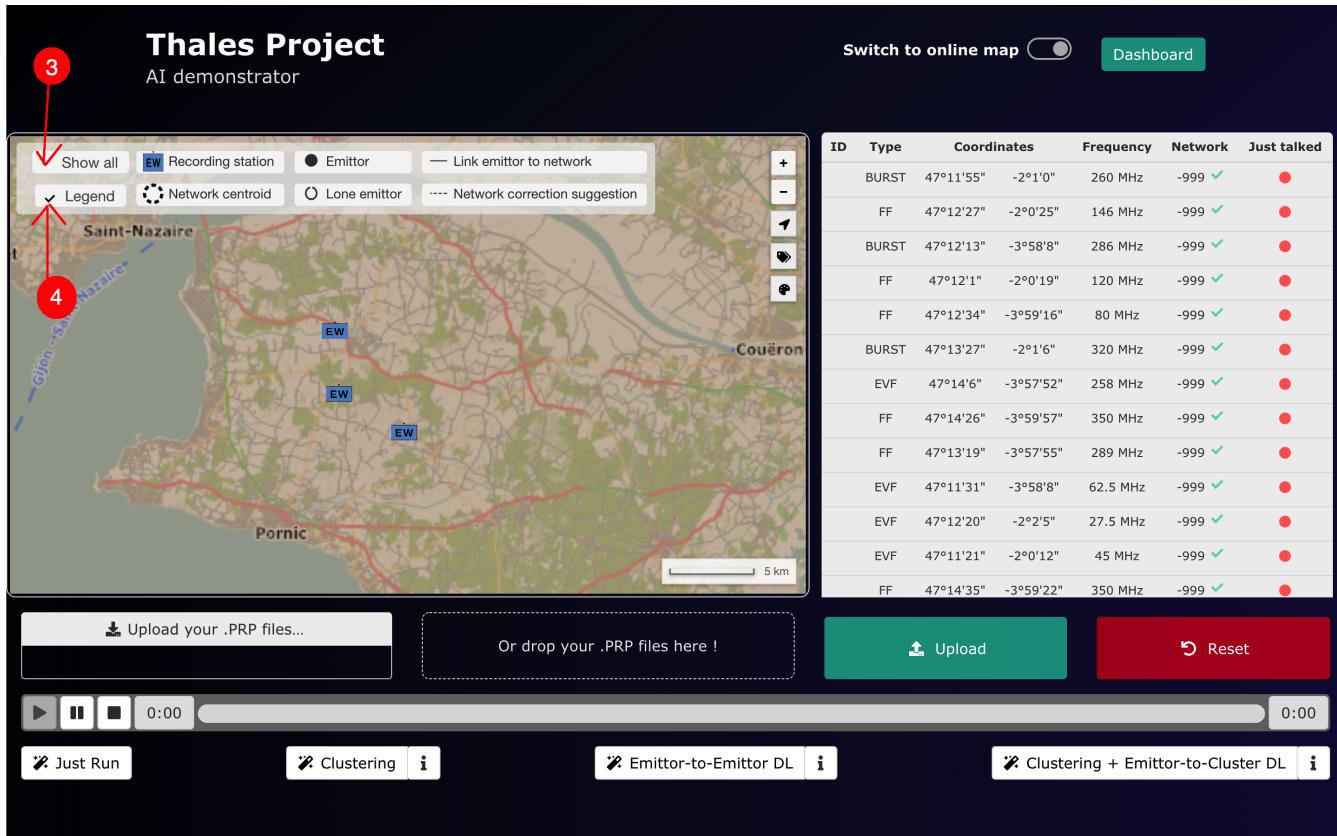
There you go, you're ready to use the app. The app is divided into 5 sections.



1. Click on this button to upload the stations scenarios as a PRP file.

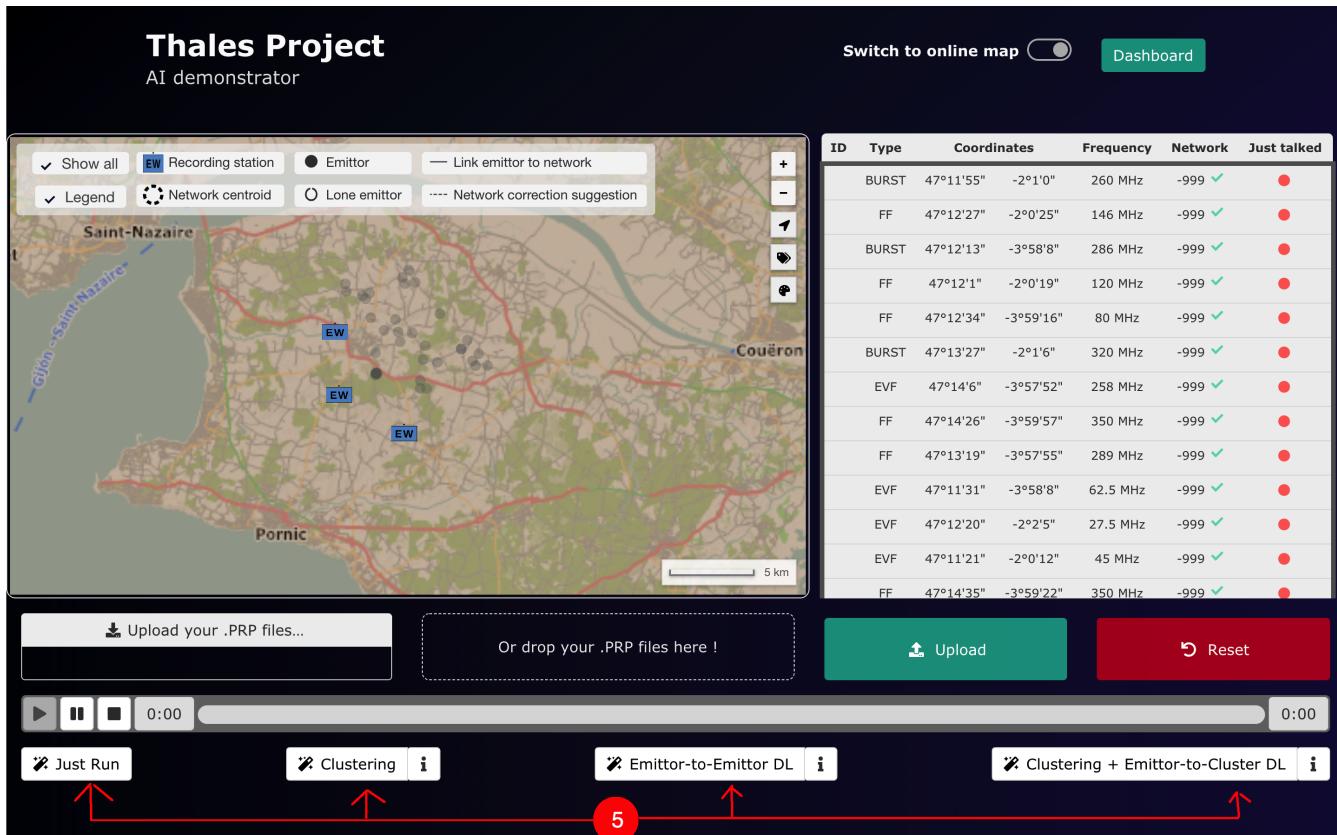


2. Once your PRP files are loaded in the browser, click the upload button.



3. Click here to show all the emitters of the uploaded scenario.

4. Click here to show/hide the legend of the map.



5. You can choose any of the machine learning models to run, or just choose to play the scenario without any model running by clicking "Just Run".

Thales Project
AI demonstrator

Clustering

ID	Type	Coordinates	Frequency	Network	Just talked
1_1	BURST	47°11'55"	-2°1'0"	260 MHz	1 ✓
2_1	FF	47°12'27"	-2°0'25"	146 MHz	2 ✓
3_1	BURST	47°12'13"	-3°58'8"	286 MHz	3 ✓
4_1	FF	47°12'1"	-2°0'19"	120 MHz	4 ✓
5_1	BURST	47°13'27"	-2°1'6"	320 MHz	5 ✓
6_1	FF	47°14'26"	-3°59'57"	350 MHz	6 ✓
6_2	FF	47°14'35"	-3°59'22"	350 MHz	6 ✓
6_3	FF	47°14'49"	-3°59'40"	350 MHz	6 ✓
7_1	FF	47°13'19"	-3°57'55"	289 MHz	7 ✓
8_1	EVF	47°11'31"	-3°58'8"	62.5 MHz	8 ✓
8_2	EVF	47°11'35"	-3°58'13"	62.5 MHz	8 ✓
8_3	EVF	47°11'34"	-3°58'8"	62.5 MHz	8 ✓

Upload your .PRP files... Or drop your .PRP files here !

Upload Reset

0:56 9:12

Just Run Clustering Emitter-to-Emitter DL Clustering + Emitter-to-Cluster DL

6. You can choose to expand a network by clicking on its centroid.

Thales Project
AI demonstrator

Clustering

ID	Type	Coordinates	Frequency	Network	Just talked
1_1	BURST	47°11'55"	-2°1'0"	260 MHz	1 ✓
2_1	FF	47°12'27"	-2°0'25"	146 MHz	2 ✓
3_1	BURST	47°12'13"	-3°58'8"	286 MHz	3 ✓
4_1	FF	47°12'1"	-2°0'19"	120 MHz	4 ✓
5_1	BURST	47°13'27"	-2°1'6"	320 MHz	5 ✓
6_1	FF	47°14'26"	-3°59'57"	350 MHz	6 ✓
6_2	FF	47°14'35"	-3°59'22"	350 MHz	6 ✓
6_3	FF	47°14'49"	-3°59'40"	350 MHz	6 ✓
6_4	FF	47°14'24"	-3°59'30"	350 MHz	6 ✓
7_1	FF	47°13'19"	-3°57'55"	289 MHz	7 ✓
8_1	EVF	47°11'31"	-3°58'8"	62.5 MHz	8 ✓
8_2	EVF	47°11'35"	-3°58'13"	62.5 MHz	8 ✓

Upload your .PRP files... Or drop your .PRP files here !

Upload Reset

1:41 9:12

Just Run Clustering Emitter-to-Emitter DL Clustering + Emitter-to-Cluster DL

7. The network infos show in this part of the web application, with the tab colors matching the map colors.

You can click on a network in this tab to show it on the map. The green tick indicates that the model associated the emitter to a network.

Thales Project
AI demonstrator

Clustering

ID	Type	Coordinates	Frequency	Network	Just talked
1_1	BURST	47°11'55"	-2°1'0"	260 MHz	1 ✓
2_1	FF	47°12'27"	-2°0'25"	146 MHz	2 ✓
3_1	BURST	47°12'13"	-3°58'8"	286 MHz	3 ✓
4_1	FF	47°12'1"	-2°0'19"	120 MHz	4 ✓
5_1	BURST	47°13'27"	-2°1'6"	320 MHz	5 ✓
6_1	FF	47°14'26"	-3°59'57"	350 MHz	6 ✓
6_2	FF	47°14'35"	-3°59'22"	350 MHz	6 ✓
6_3	FF	47°14'49"	-3°59'40"	350 MHz	6 ✓
6_4	FF	47°14'24"	-3°59'30"	350 MHz	6 ✓
7_1	FF	47°13'19"	-3°57'55"	289 MHz	7 ✓
8_1	EVF	47°11'31"	-3°58'8"	62.5 MHz	8 ✓
8_2	EVF	47°11'35"	-3°58'13"	62.5 MHz	8 ✓

Upload your .PRP files... Or drop your .PRP files here !

Upload Reset

Just Run Clustering Emitter-to-Emitter DL Clustering + Emitter-to-Cluster DL

Runs the scenario and uses the DBSCAN

8. You can hover on a model name to find summarized information on the model, or click on the "info" button to show detailed information.
9. You can click here to reset the scenarios uploaded, and upload a new scenario.

Thales Project
AI demonstrator

Switch to online map Dashboard

Show all Legend

Or drop your .PRP files here !

Upload Reset

Just Run Clustering Emitter-to-Emitter DL Clustering + Emitter-to-Cluster DL

Runs the scenario and uses the DBSCAN

10. This JavaScript animation indicates that the files are being uploaded to the server.

The screenshot shows the Thales Project AI demonstrator interface. At the top, it says "Thales Project" and "AI demonstrator". Below that is the title "Clustering + Emitter-to-Cluster DL". On the right, there is a table of emitter data with a red circle labeled "12" pointing to the "Just talked" column. The table has columns for ID, Type, Coordinates, Frequency, Network, and Just talked. The "Just talked" column contains several yellow warning icons. At the bottom, there are buttons for "Just Run", "Clustering", "Emitter-to-Emitter DL", and "Clustering + Emitter-to-Cluster DL". The "Emitter-to-Emitter DL" button is highlighted with a red circle labeled "11".

ID	Type	Coordinates	Frequency	Network	Just talked
1_1	EVF	46°33'46" -1°45'34"	31.32 MHz	1	⚠️
1_2	EVF	46°34'8" -1°50'17"	31.32 MHz	1	✓
1_3	EVF	46°32'58" -1°47'25"	31.32 MHz	1	✓
1_4	EVF	46°33'26" -1°48'49"	31.32 MHz	1	⚠️
1_5	EVF	46°32'17" -1°46'3"	31.32 MHz	1	✓
1_6	EVF	46°33'28" -1°46'50"	31.32 MHz	1	✓
1_7	EVF	46°31'21" -1°48'18"	31.32 MHz	1	✓
1_8	EVF	46°32'59" -1°47'0"	31.32 MHz	1	⚠️
1_9	EVF	46°33'38" -1°48'48"	31.32 MHz	1	✓
2_1	BURST	46°32'37" -1°46'21"	1766.75 MHz	2	✓
3_1	EVF	46°33'32" -1°47'28"	424.51 MHz	3	✓
4_1	BURST	46°34'17" -1°40'2"	2650.65	4	✓

11. We have selected the Clustering+ Emitter-to-Cluster Deep Learning method, so we run both models.

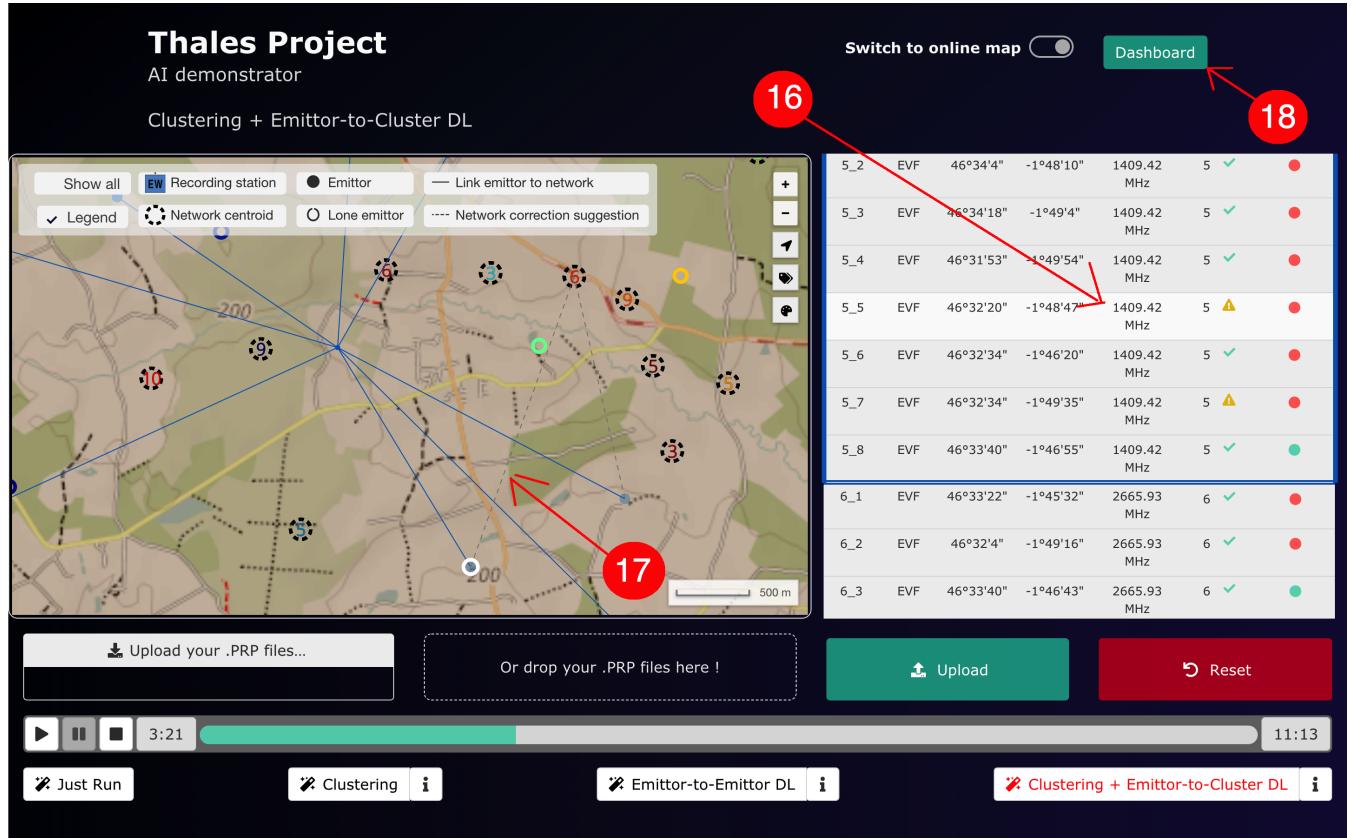
12. With this Machine Learning, we have a warning sign indicating that the Deep Learning thinks this emitter could be in a different network based on temporal information.

The screenshot shows the Thales Project AI demonstrator interface. At the top, it says "Thales Project" and "AI demonstrator". Below that is the title "Clustering + Emitter-to-Cluster DL". On the right, there is a table of emitter data with a red circle labeled "13" pointing to the "Just talked" column. The table has columns for ID, Type, Coordinates, Frequency, Network, and Just talked. The "Just talked" column contains several yellow warning icons. At the bottom, there are buttons for "Just Run", "Clustering", "Emitter-to-Emitter DL", and "Clustering + Emitter-to-Cluster DL". The "Clustering + Emitter-to-Cluster DL" button is highlighted with a red circle labeled "11". On the map, there are several interaction points: a red circle labeled "14" points to the zoom controls; another red circle labeled "15" points to the center map button.

ID	Type	Coordinates	Frequency	Network	Just talked
1_1	EVF	46°33'46" -1°45'34"	31.32 MHz	1	⚠️
1_2	EVF	46°34'8" -1°50'17"	31.32 MHz	1	✓
1_3	EVF	46°32'58" -1°47'25"	31.32 MHz	1	✓
1_4	EVF	46°33'26" -1°48'49"	31.32 MHz	1	⚠️
1_5	EVF	46°32'17" -1°46'3"	31.32 MHz	1	✓
1_6	EVF	46°33'28" -1°46'50"	31.32 MHz	1	✓
1_7	EVF	46°31'21" -1°48'18"	31.32 MHz	1	✓
1_8	EVF	46°32'59" -1°47'0"	31.32 MHz	1	⚠️
1_9	EVF	46°33'38" -1°48'48"	31.32 MHz	1	✓
2_1	BURST	46°32'37" -1°46'21"	1766.75 MHz	2	✓
3_1	EVF	46°33'32" -1°47'28"	424.51 MHz	3	✓
4_1	BURST	46°34'17" -1°40'2"	2650.65	4	✓

13. This button is used to center the map on a simulation.

14. This button allows you to choose between showing the amount of emitters in a network inside its centroid or the network's number.
15. This button is used to change the color range, to adapt to the background (for instance we don't want yellow color chart on a simulation running in the desert).



16. If we hover on an emitter in the tab part, it shows on the map with a white circle around it.
17. An emitter with a warning side in the network column will have a dashed line linking it to the network the Deep Learning thinks he belongs to.
18. Click here to open the dashboard to monitor resources and have more information



19. This chart shows the ressources dedicated to the execution of the demonstrator.

20. This chart show the time needed to perform clustering and processing operations on server-side.

21. This chart summarizes the different networks, stating the number of emitters per network and the type of emission in the network. You can click on one of the bars to show the infos of it in 22.

22. This diagram shows the speaking distribution inside a network.