

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
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## D4.4-TN9: CERTIFLIGHT Software test report

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		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

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Ref.	File Name	Description
RD 1	D3.2 - CERTIFLIGHT platform user manual	User Manual and Specification of Certiflight platform
RD 2	D4.1 Verification Plan	Document containing the test cases used to generate the procedures for test reporting

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		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

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	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

## SUMMARY

<b>ABSTRACT</b> .....	<b>7</b>
<b>1 INTRODUCTION</b> .....	<b>8</b>
1.1 SCOPE OF THE DOCUMENT .....	8
1.2 ACRONYMS .....	9
<b>2 METHODOLOGY</b> .....	<b>10</b>
<b>3 TEST PROCEDURES AND REPORT</b> .....	<b>11</b>
3.1 REP_CERTISW.0010 PLATFORM CONFIGURATION – DATA ENTRY.....	11
3.1.1 Test execution and results .....	12
3.2 REP_CERTISW.0020 PLATFORM CONFIGURATION - UTM BOX REGISTRATION .....	14
3.2.1 Test execution and results .....	15
3.3 REP_CERTISW.0030 UTM REAL TIME OPERATIONS.....	16
3.3.1 Test execution and results .....	17
3.4 REP_CERTISW.0035 UTM ACTIVITIES STATISTICS.....	20
3.4.1 Test execution and results .....	20
3.5 REP_CERTISW.0040 LIGHT REPORT GENERATION .....	21
3.5.1 Test execution and results .....	22
3.6 REP_CERTISW.0050 DATA ACQUISITION .....	27
3.6.1 Test execution and results .....	29
3.7 REP_CERTISW.0060 FULL REPORT GENERATION.....	32
3.7.1 Test execution and results .....	33
3.8 REP_CERTISW.0070 INTEGRITY OF CERTIFLIGHT DATA – VALID DATASET .....	39
3.8.1 Test execution and results .....	39
3.9 REP_CERTISW.0080 INTEGRITY OF CERTIFLIGHT DATA – INVALID DATASET .....	40
3.9.1 Test execution and results .....	40

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

## LIST OF FIGURES

FIGURE 3-1 LOGIN PAGE .....	12
FIGURE 3-2 CONFIGURATION PAGE - ADD NEW PILOT .....	12
FIGURE 3-3 NEW PILOT PAGE.....	13
FIGURE 3-4 NEW DRONE FROM CONFIGURATION PAGE .....	13
FIGURE 3-5 NEW GNSS TRACKER FROM THE CONFIGURATION PAGE .....	15
FIGURE 3-6 GNSS TRACKER INFORMATION.....	15
FIGURE 3-7 NEW ACTIVITY FROM AN ACTIVE DEVICE.....	17
FIGURE 3-8 TRAJECTORY IS DRAWN ON THE MAP AND LOG IS SHOWED IN THE BOX.....	17
FIGURE 3-9 THE ENABLE MAGNET BUTTON ALLOWS TO FOLLOW THE TRAJECTORY .....	18
FIGURE 3-10 THE DISABLE MAGNET BUTTON ALLOWS TO FREELY MOVE THE MAP .....	18
FIGURE 3-11 THE ACTIVITY BOX IS CLOSED AND THE STATUS FLAG TURNS RED. ....	19
FIGURE 3-12 ACTIVITY PAGE .....	20
FIGURE 3-13 ACTIVITY FILTERING.....	21
FIGURE 3-14 ACTIVITY LIST FROM DASHBOARD.....	22
FIGURE 3-15 REPORT TYPE SELECTION .....	23
FIGURE 3-16 INTRODUCTION SECTION OF THE LIGHT REPORT.....	23
FIGURE 3-17 THE RESPONSIBILITIES SECTION IN THE LIGHT REPORT .....	24
FIGURE 3-18 THE CERTIFIED TRAJECTORY SECTION IN THE LIGHT REPORT .....	24
FIGURE 3-19 MAP AREA SELECTION FOR THE REPORT .....	25
FIGURE 3-20 MAP AREA CONFIRMATION .....	25
FIGURE 3-21 REPORT REMARKS SECTION .....	26
FIGURE 3-22 LIGHT REPORT GENERATION.....	26
FIGURE 3-23 FILE UPLOAD FOR THE REPORT .....	29
FIGURE 3-24 FILE SELECTION FOR THE FILE UPLOAD .....	29
FIGURE 3-25 SUCCESSFUL UPLOAD OF UTM BOX ADDITIONAL DATA .....	30
FIGURE 3-26 UNSUPPORTED FILE (.DOCX NOT SELECTABLE) COMPARED TO A SUPPORTED FILE (.PDF IS SELECTABLE) IN THE FILE EXPLORER WINDOW.....	30
FIGURE 3-27 EVT FILE ANALYSIS NOTICE.....	31
FIGURE 3-28 ACTIVITIES LIST FROM DASHBOARD.....	33
FIGURE 3-29 REPORT TYPE SELECTION .....	34
FIGURE 3-30 THE INTRODUCTION SECTION OF THE LIGHT REPORT .....	34
FIGURE 3-31 THE RESPONSIBILITIES SECTION IN THE FULL REPORT .....	35
FIGURE 3-32 THE CERTIFIED TRAJECTORY SECTION IN THE FULL REPORT .....	35
FIGURE 3-33 MAP AREA SELECTION FOR THE REPORT .....	36
FIGURE 3-34 MAP AREA CONFIRMATION .....	36

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

FIGURE 3-35 REPORT REMARKS SECTION ..... 37

FIGURE 3-36 FULL REPORT GENERATION..... 37

FIGURE 3-37 FULL REPORT DOCUMENT SAMPLE (INCLUDING APP. AND GSD ALGORITHM RESULTS)..... 38

FIGURE 3-38 A VALID FLIGHT DATASET ON THE VERIFICATION PORTAL ..... 39

FIGURE 3-39 VERIFICATION PORTAL IN THE CASE OF AN INVALID FLIGHT DATASET ..... 40

**LIST OF TABLES**

TABLE 0-1 TEST REPORT RESULTS ..... 7

TABLE 1-1 ACRONYMS LIST ..... 9

TABLE 2-1 EXAMPLE OF TEST PROCEDURE ..... 10

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

## Abstract

This document represents the contractual deliverable 4.4-TN9: CERTIFLIGHT Software test report which describes the test procedures and relevant results.

The test status is summarized in the table below.

Procedure ID	Title	Status
REP_CERTISW.0010	PLATFORM CONFIGURATION – DATA ENTRY	Executed, passed
REP_CERTISW.0020	PLATFORM CONFIGURATION - UTM BOX REGISTRATION	Executed, passed
REP_CERTISW.0030	UTM REAL TIME OPERATIONS	Executed, passed
REP_CERTISW.0035	UTM ACTIVITIES STATISTICS	Executed, passed
REP_CERTISW.0040	LIGHT REPORT GENERATION	Executed, passed
REP_CERTISW.0050	DATA ACQUISITION	Executed, passed
REP_CERTISW.0060	FULL REPORT GENERATION	Executed, passed
REP_CERTISW.0070	INTEGRITY OF CERTIFLIGHT DATA – VALID DATASET	Executed, passed
REP_CERTISW.0080	INTEGRITY OF CERTIFLIGHT DATA – INVALID DATASET	Executed, passed

**Table 0-1 Test report results**

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

# 1 Introduction

## 1.1 Scope of the document

The scope of the document is to report the results of test case described in section 4 of the verification plan (D4.1), [RD 2].

In particular, this technical note reports the results of test codes TEST\_CERTISW\_00XX which are about the Certiflight portal.

Certiflight Portal: it is the access point for every user to Certiflight services. Each identified stakeholder may access with his/her profile for configuration, data ingestion, retrieving, visualization and reporting features. The collected data and the final report(s) allow the user to have all the certified information for in-flight and post-flight services.

- **User Authentication:** It is the module responsible for registration and authentication of Certiflight users.
- **Digital Signature:** This module provides a signature of the data provided in input. In the case of PDF reports, documents are issued in the PAdES format, according to the specification reported in ETSI EN319142. This feature is achieved in combination with the Report Generator module.
- **Report Generator:** Certiflight system issues signed reports to the users to guarantee the integrity and authenticity of the exported data.
- **Decryption Module:** This module is used for deciphering the data transmitted by the UTM Box for real time transmission and post flight data download.
- **Metrics Calculator:** Simple metrics related to real time data provided by the UTM Box are calculated in this module for insertion in the Light Report.
- **Data base:** It is the default structure for storing and retrieving data associated to users (Real time data and post-flight data)
- **Blockchain API:** This block provides security chain based on Blockchain Service through a simplified API developed into the Certiflight system for providing long-term data integrity and storage as well as services complementary to the CERTIFLIGHT Portal (e.g. respect of contracts, unlock of payments, ...)
- **Authenticated Position Propagation (APP) Module:** The APP function outcomes will be integrated in the “Full report”. The input to APP algorithm, specified in the requirement CFT-SYS-0950 of D2.6 document allows the algorithm to provide the following information, in post-flight, to be included in the full report:
  - a trustable position information starting from an authenticated position
  - computation of the propagated position to reinforce the authenticity of the PVT solution and the UAS trajectory in post flight phase.
  - authenticated UAS trajectory.
  - protection of the solution from potential spoofing attacks aimed to manipulate the true position
- **Spoofing detection Module (GSD):** The GSD function outcomes will be integrated in the full report. The input to GSD algorithm is specified in the requirement CFT-SYS-0990 of D2.6 document. The purpose of the GSD algorithm is:
  - to guarantee the authenticity of data generated by the UTM Box, providing indications whether the authenticated PVT solution is genuine (Spoofing / Meaconing free).

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

- To be able to indicate the level of confidence/trust of the authenticated position during all flight, providing indicators/metrics in correspondence to significant events (i.e. no OSNMA satellites present in the solution, values below threshold of defined indicator).

## 1.2 Acronyms

Acronyms	Description
API	Application Programming Interface
APP	Authenticated Position Propagation
ETSI	European Telecommunications Standards Institute
GNSS	Global Navigation Satellite System
GSD	GNSS Spoofing Detection
IMU	Inertial Measurement Unit
OSNMA	Open Service Navigation Message Authentication
PAdES	PDF Advanced Electronic Signatures
PVT	Position Velocity Time
UAS	Unmanned Aerial System
URL	Uniform Resource Locator
UTM	Unmanned Traffic Management

**Table 1-1 Acronyms list**

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

## 2 Methodology

CERTIFLIGHT test procedures are built according to the following identification format: PROC\_CERTISW. <NNNNx>, where <NNNN> is the progressive number (E.g. PROC\_CERTISW.0010) and x identifies the substeps of each test. The structure of the test procedure is described in the table below.

PROC_CERTISW.NNNNx. Procedure Title				
Step	Activity description	Expected Result	Obtained results	Notes
S_NN	<Step Title> Procedure description	Test explaining what it is expected for each step of the procedure	Test explaining what it is obtained for each step of the procedure	Notes for further explanation

**Table 2-1 Example of test procedure**

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3 Test procedures and Report

#### 3.1 REP\_CERTISW.0010 Platform Configuration – Data Entry

PROC_SIM.CERTISW.0010 Platform Configuration – Data Entry				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	Open the platform web-app through its URL http://vps-c5627526.vps.ovh.net:8080/	The portal sign-in page is displayed	As expected	
S_02	User introduces its credentials (username and password – admin:admin) and logs into the platform	The user dashboard is displayed	As expected	
S_03	Access the configuration tab	The configuration page appears	As expected	
S_04	Introduce pilot information through the “+” button in the top right corner of the Pilot section	A form for adding a new pilot is displayed and can be fulfilled	As expected	
S_05	Click “save” to add the pilot information to the platform	The pilot is successfully added and displayed in the list	As expected	
S_06	Introduce drone information through the plus button in the top right corner of the Drones section	A form for adding a new drone is displayed and can be fulfilled	As expected	
S_07	Click “save” to add the drone information to the platform	The drone is successfully added and displayed in the list	As expected	

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.1.1 Test execution and results

S\_01, S\_02: Access the web platform using the given URL and log in according to the user account

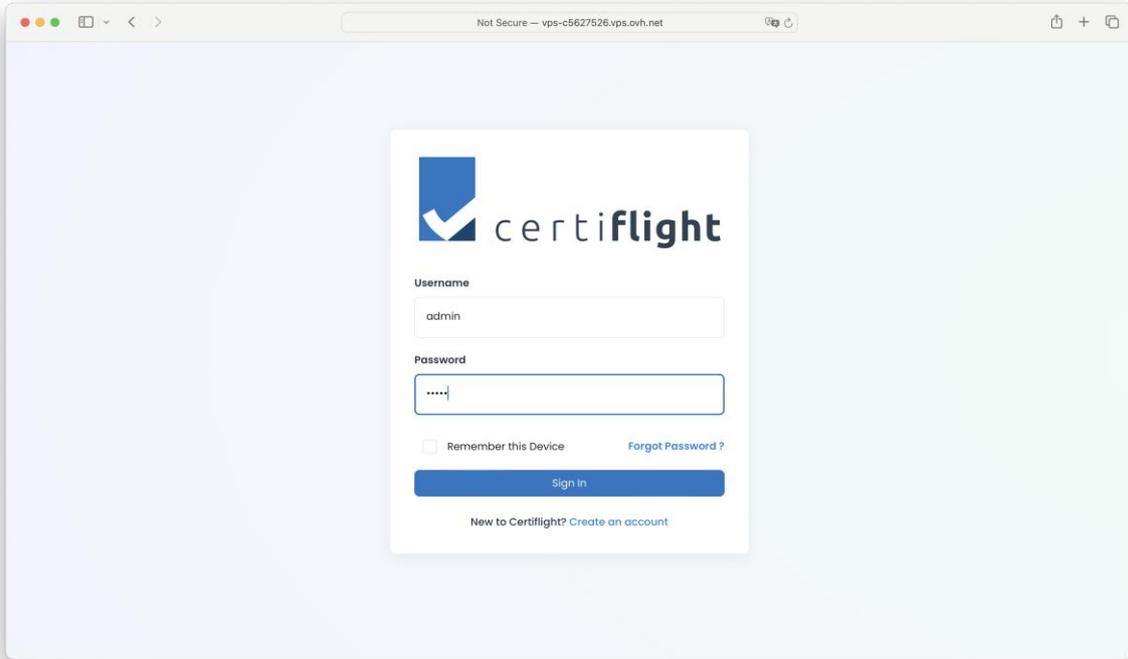


Figure 3-1 Login page

S\_03, S\_04, S\_05, S\_07, S\_08: Access the Configuration page to fulfil Pilots and Drones information

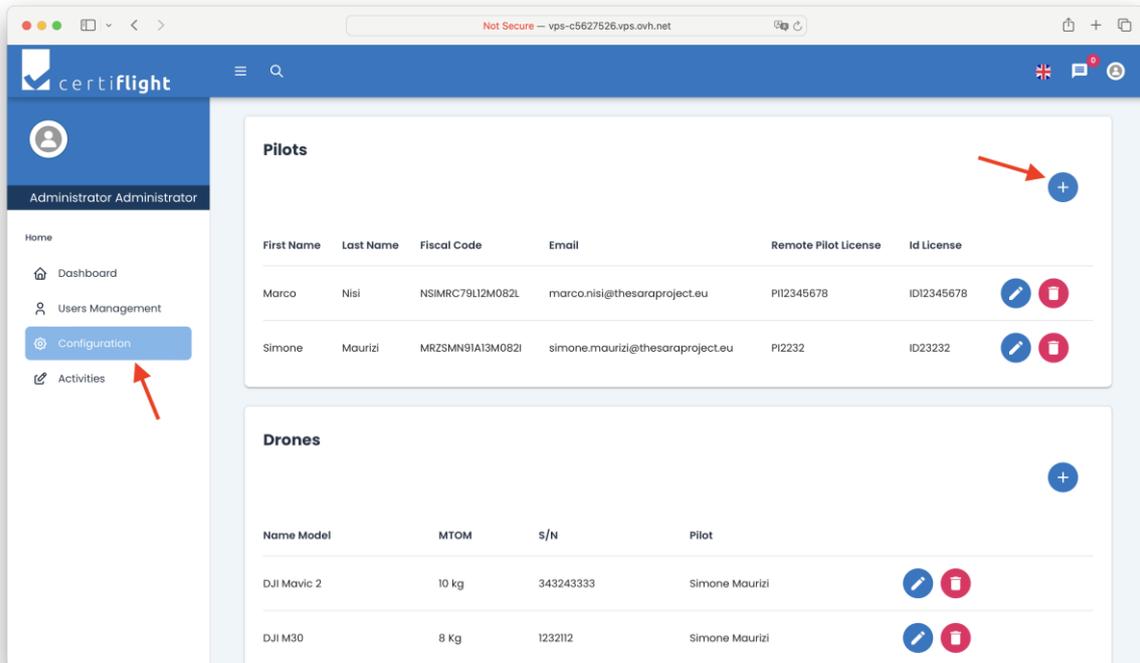


Figure 3-2 Configuration Page - Add new Pilot

	<b>CERTIFLIGHT HORIZON-EUSPA-2021 SPACE PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

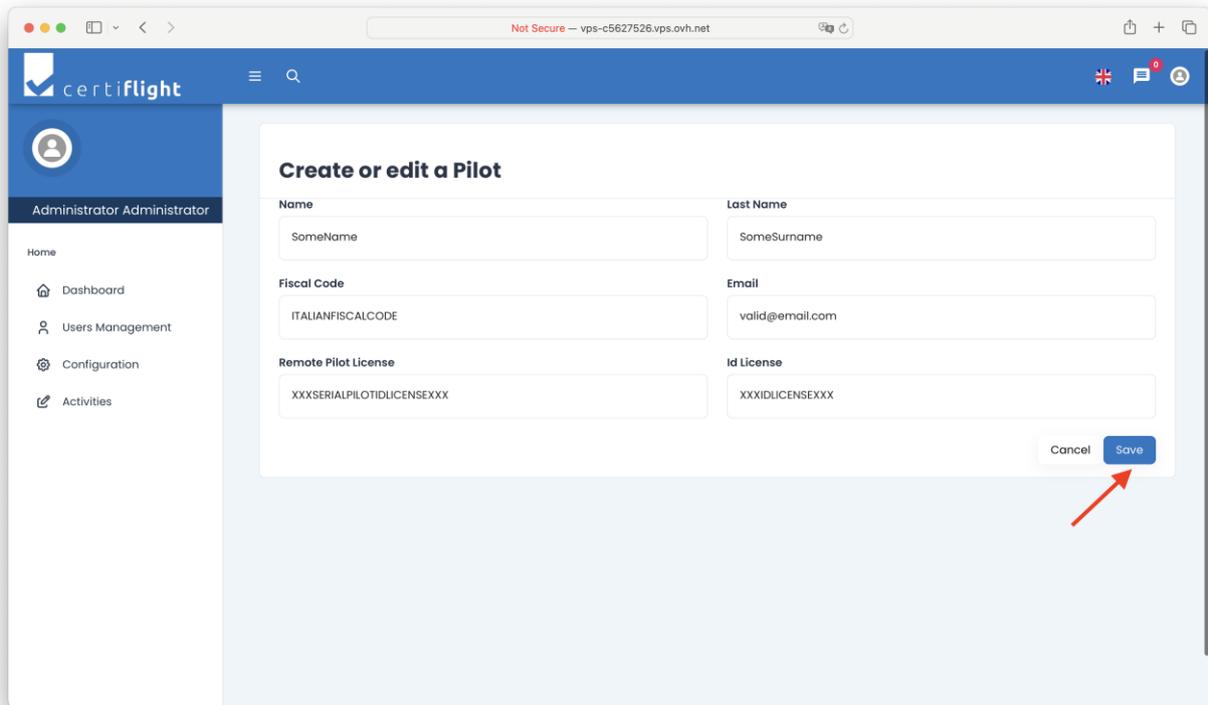


Figure 3-3 New Pilot page

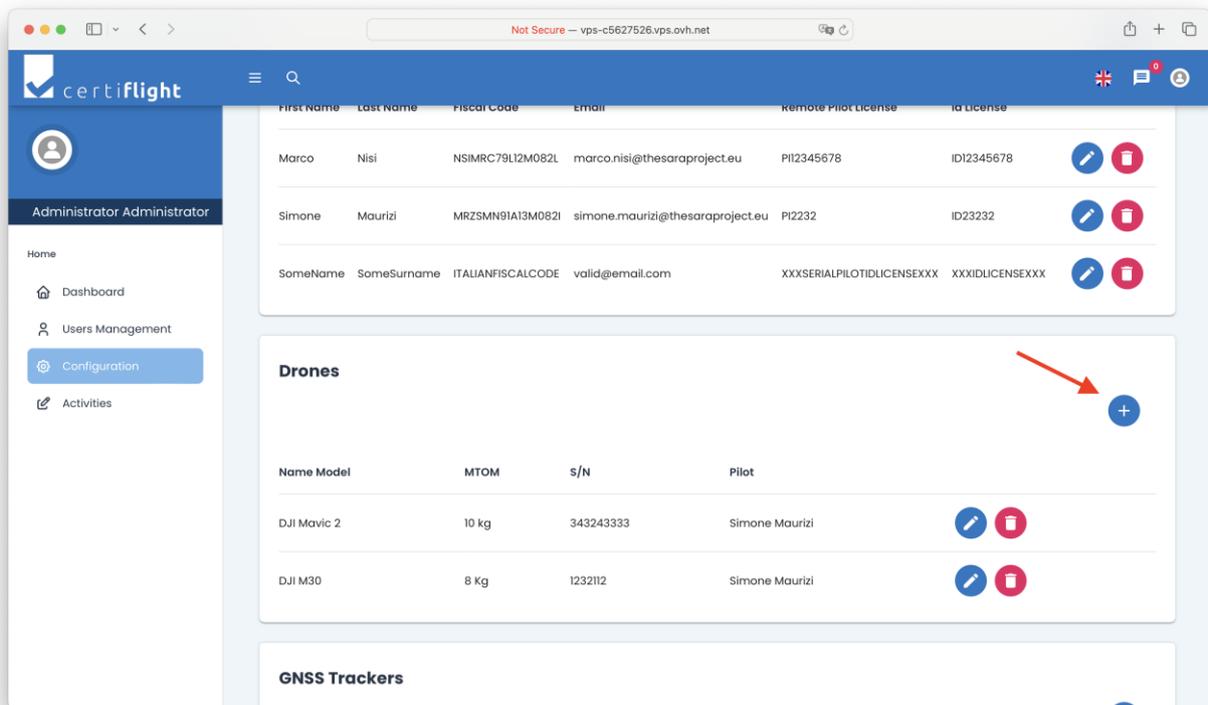


Figure 3-4 New drone from Configuration Page

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.2 REP\_CERTISW.0020 Platform Configuration - UTM Box Registration

PROC_CERTISW.0020 Platform Configuration – UTM box registration				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	Open the platform web-app through its URL http://vps-c5627526.vps.ovh.net:8080/	The portal sign-in page is displayed	As expected	
S_02	User introduces its credentials (username and password – admin:admin) and logs into the platform	The user dashboard is displayed	As expected	
S_03	Access the configuration tab	The configuration page appears	As expected	
S_04	Introduce tracker information through the “+” button in the top right corner of the GNSS Trackers section	A form for adding a new tracker is displayed and can be fulfilled	As expected	
S_05	Fulfil information using the tracker identification data found on the box or on the associated documentation	All the required data are available on the GNSS tracker box and can be provided	As expected	The QR code registration was moved on the gateway registration. User is only required to include the tracker ID.
S_06	Select the associated drone through the Drones dropdown	The dropdown appears showing all the previously registered drones	As expected	
S_07	Click “save” to add the tracker to the platform	The GNSS tracker is successfully added and displayed in the list	As expected	

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.2.1 Test execution and results

S\_01, S\_02: Login as in PROC\_CERTISW.0010

S\_03, S\_04: Add a new GNSS Tracker from the platform configuration page

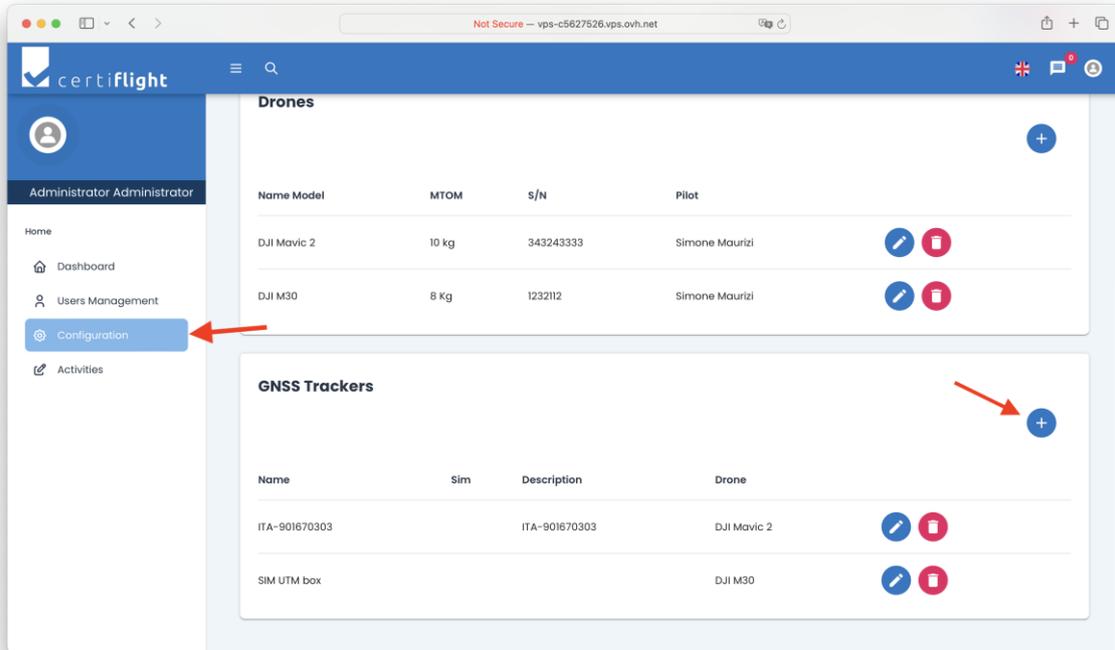


Figure 3-5 New GNSS Tracker from the Configuration page

S\_05, S\_06, S\_07: Fulfil GNSS Tracker information from the Device box and select the assigned drone

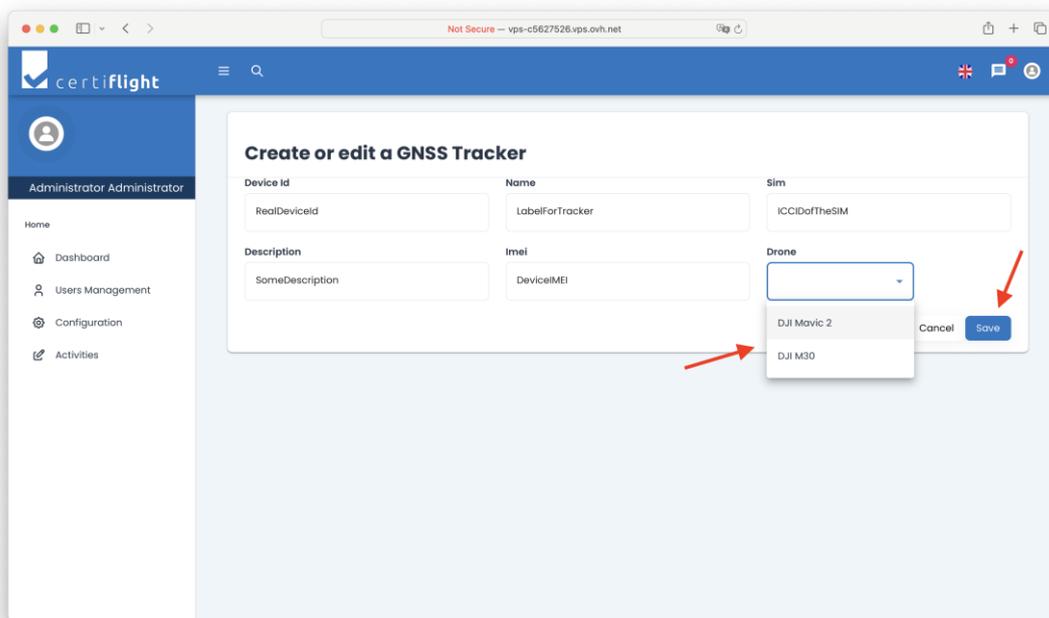


Figure 3-6 GNSS tracker information

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.3 REP\_CERTISW.0030 UTM Real Time Operations

PROC_CERTISW.0030 Real time operations				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User turns on a tracker configured according to TEST_CERTISW.0010 and TEST_CERTISW.0020	The red flag on the dashboard page turns green	As expected	
		The related flight activity is created	As expected	
S_02	User carries out its mission	The Real Time tab show the trajectory on the map	As expected	
		The white console under the map shows the log of received box messages	As expected	
S_03	User clicks on the "Enable Magnet" button	Maps follows the tracked position centring the view on it	As expected	
S_04	User clicks on the "Disable Magnet" button	User can navigate the map again	As expected	
S_05	User turns off the tracker	The box status flag turns red	As expected	

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		<b>REV</b> 00

### 3.3.1 Test execution and results

S\_01: Platform flags active device with a green light and creates an activity for the session data

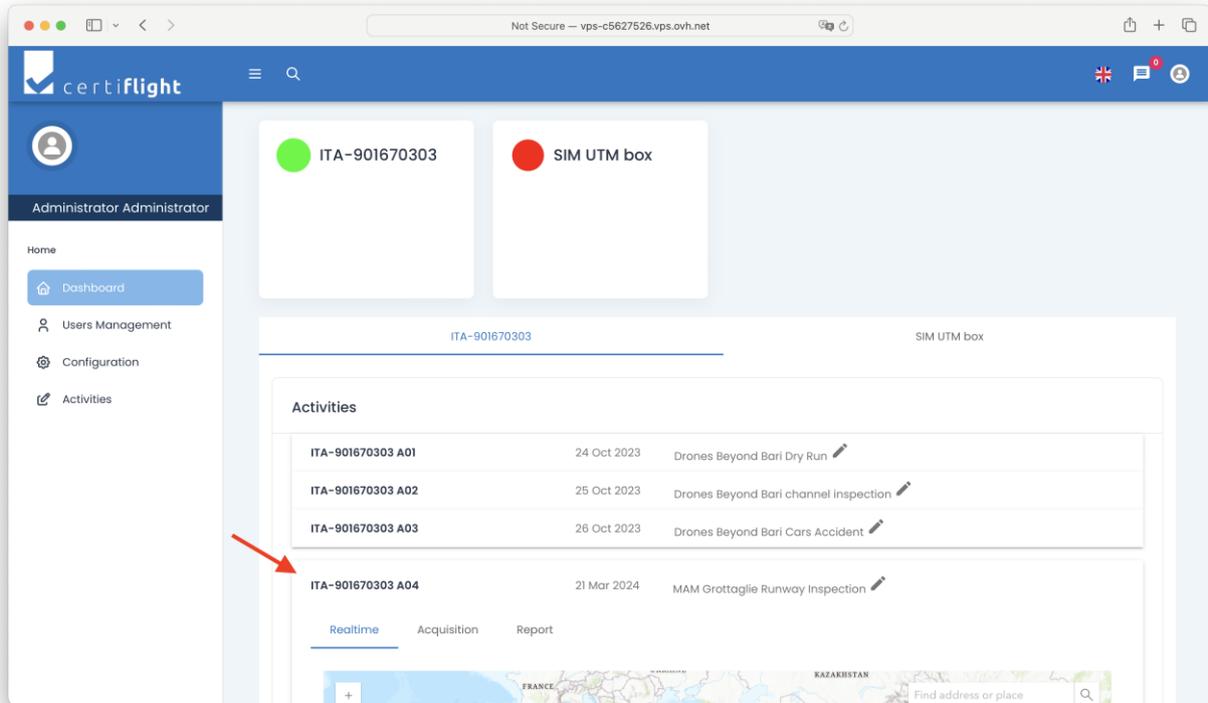


Figure 3-7 New activity from an active device

S\_02: User carries out their mission and log flows through the white console on the bottom

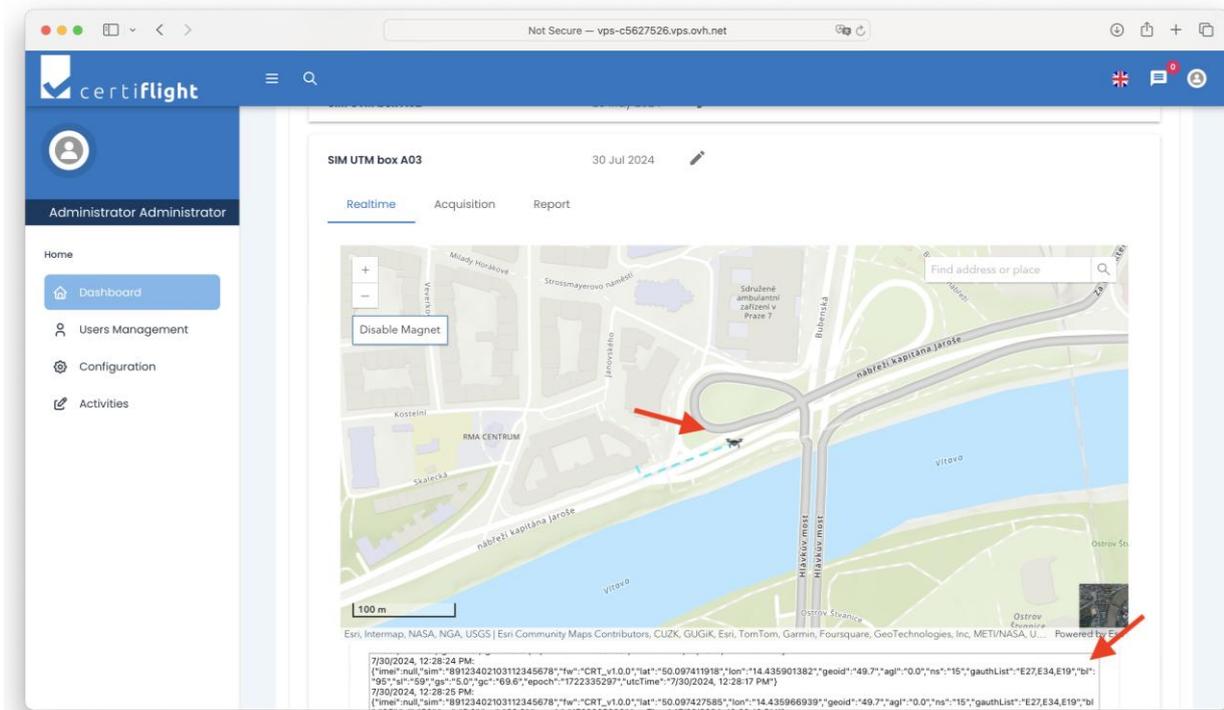


Figure 3-8 Trajectory is drawn on the map and log is showed in the box

	<b>CERTIFLIGHT HORIZON-EUSPA-2021 SPACE PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		<b>REV</b> 00

S\_03: User can press the *Enable Magnet* button to make map follow the device trajectory

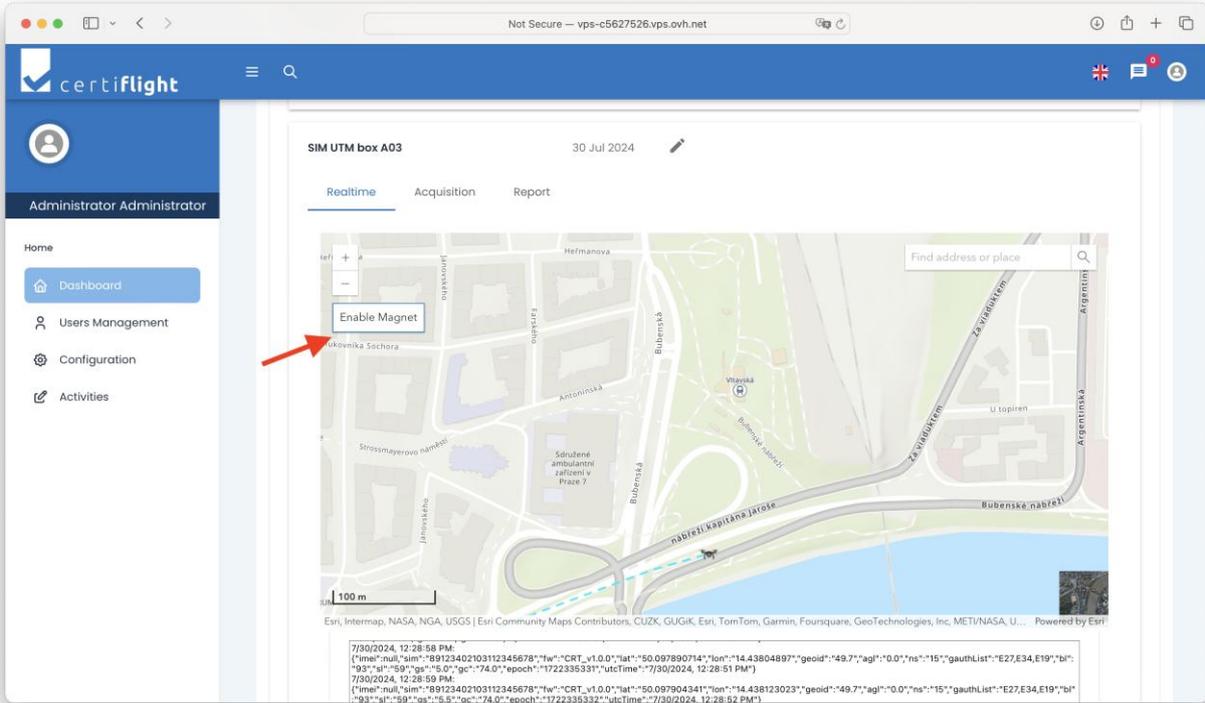


Figure 3-9 The Enable Magnet button allows to follow the trajectory

S\_04: User can press the *Disable Magnet* button to stop following the device and freely move the map

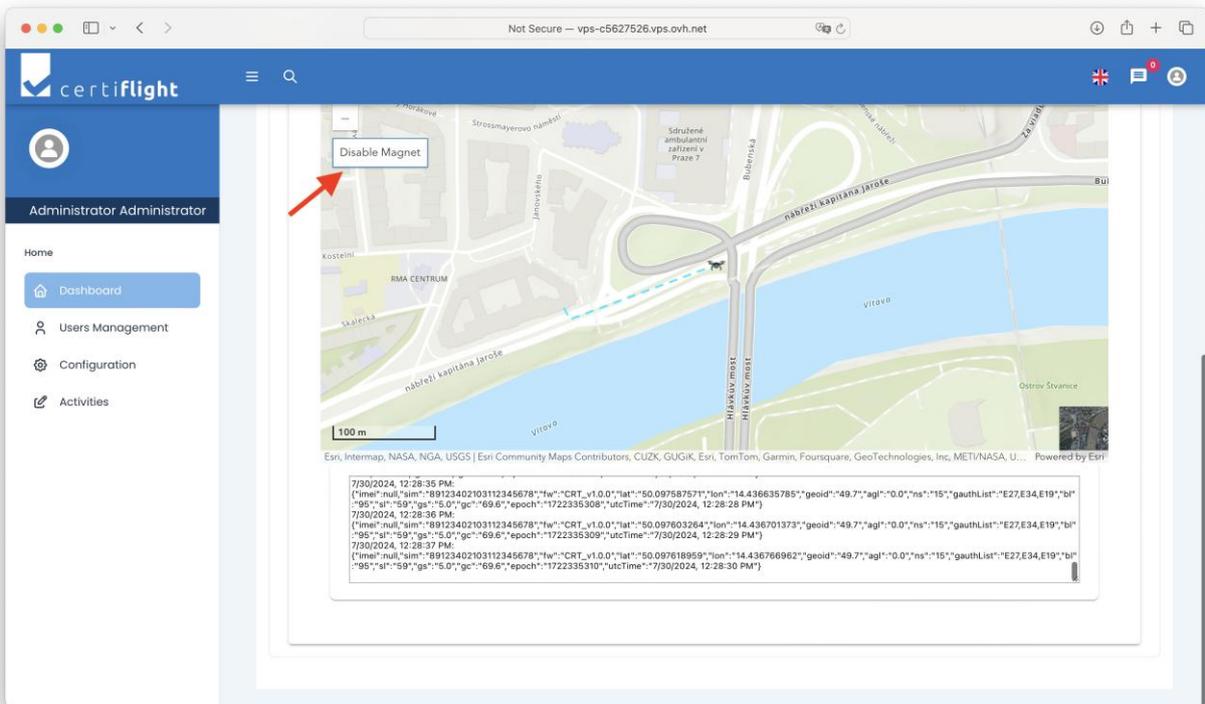


Figure 3-10 The Disable Magnet button allows to freely move the map

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		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

**S\_05:** User turns off the tracker. Platform closes the activity and the status flag get red.

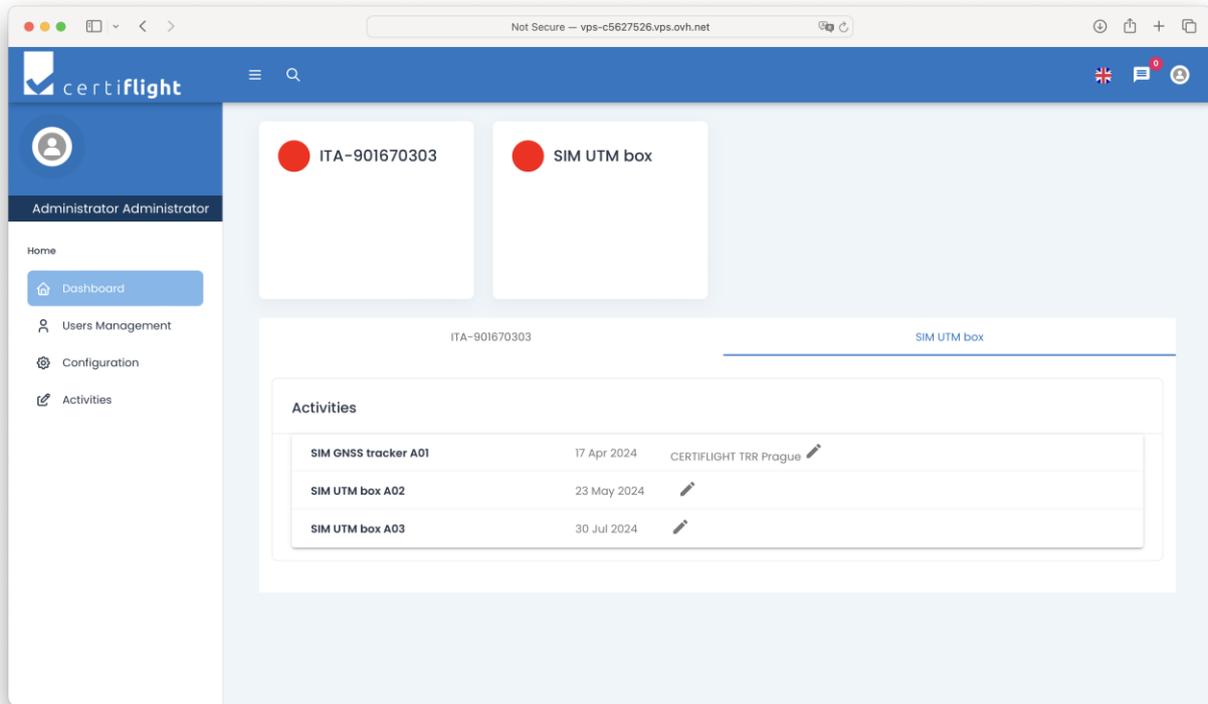


Figure 3-11 The activity box is closed and the status flag turns red.

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.4 REP\_CERTISW.0035 UTM Activities Statistics

PROC_CERTISW.0035 Activities statistics				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User log into the platform as in TEST_CERTISW.0010 and TEST_CERTISW.0020	User is on the dashboard page	As expected	
S_02	User clicks the “Activities” entry in the left sidebar menu	The activities pages are displayed	As expected	
S_03	User selects one of the activities from the left dropdown	The auto generated activities appear in the “Activities” dropdown	As expected	
S_04	Activity date and interested tracker are automatically filled by the platform	Activity date and tracker are fetched from the database and used in the form	As expected	
S_05	User applies the filter through the “Apply” button	Activity data is fetched from the database and populates the overview table and the map	As expected	

#### 3.4.1 Test execution and results

S\_01: Login as in PROC\_CERTISW.0010

S\_02, S\_03: User selects an activity from the Activity page

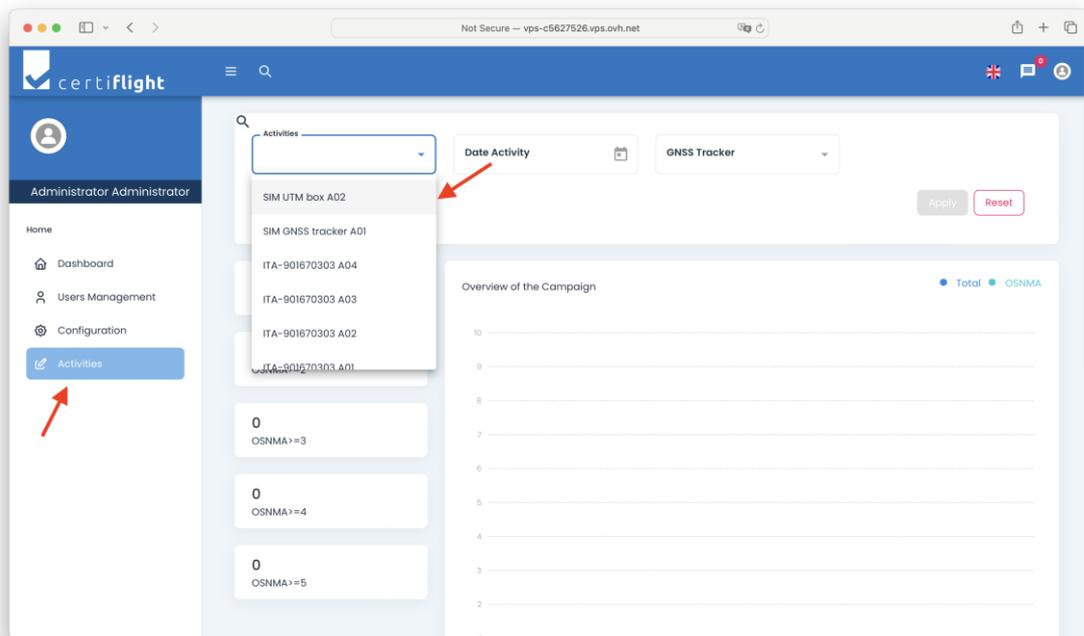


Figure 3-12 Activity page

S\_04, S\_05: Activities data is filtered according to the selected activity

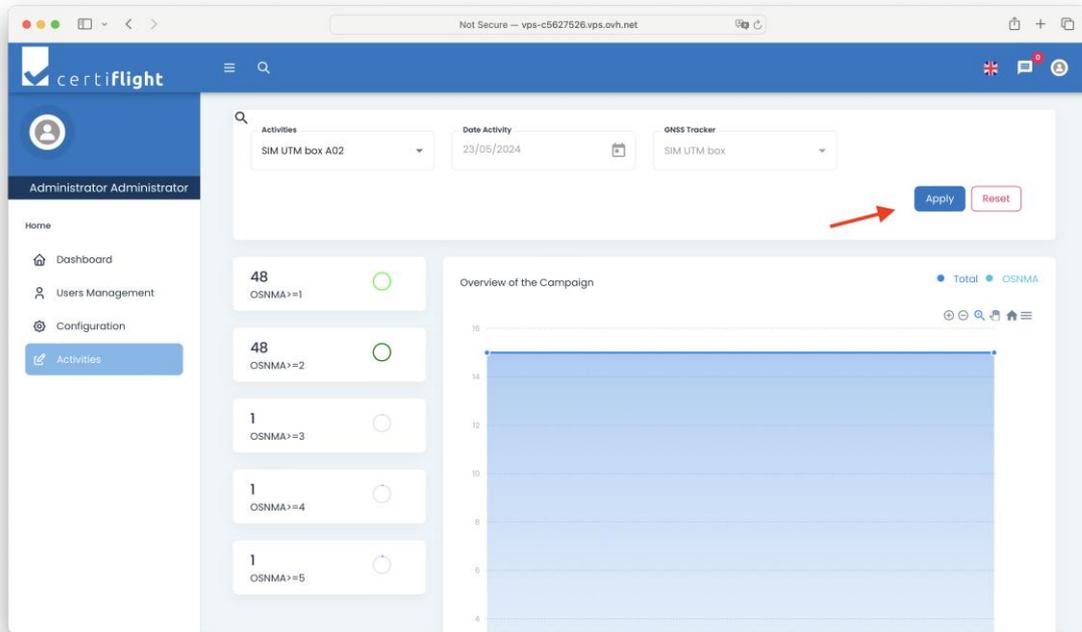


Figure 3-13 Activity filtering

### 3.5 REP\_CERTISW.0040 Light Report Generation

PROC_CERTISW.0040 Light Report generation				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User log into the platform as in TEST_CERTISW.0010 and TEST_CERTISW.0020	User is on the dashboard page	As expected	
S_02	From the “Activities” panel user selects the desired activity	The specific activity panel is showed	As expected	
S_03	In the “Report” tab user selects “Light Report” from the dropdown	The dropdown shows possible reports	As expected	
S_04	User opens and checks the “Introduction” section	The “Introduction” section shows up	As expected	
S_05	User opens and checks the “Responsibilities” section	The “Responsibilities” section shows up	As expected	
S_06	User opens and the “Certified Trajectory” section to select the map portion to include	The “Certified Trajectory” section shows up	As expected	
S_07	User clicks the “Select Screenshot Area” button to	Area can be selected on the map	As expected	

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

	select the map portion to include			
S_08	User confirms their selection	The confirmation menu shows up	As expected	
S_09	User adds custom remarks in the “Remarks” section	The “Remarks” text area shows up	As expected	
S_10	User scrolls up and clicks on the “Generate Report” button to finalize and download the report	The report is generated and downloaded	As expected	Light Report and Full report are always generated with data previously accepted during data entry, ingestion or real time acquisition

### 3.5.1 Test execution and results

S\_01: Login as in PROC\_CERTISW.0010

S\_02: User selects an activity from the platform dashboard

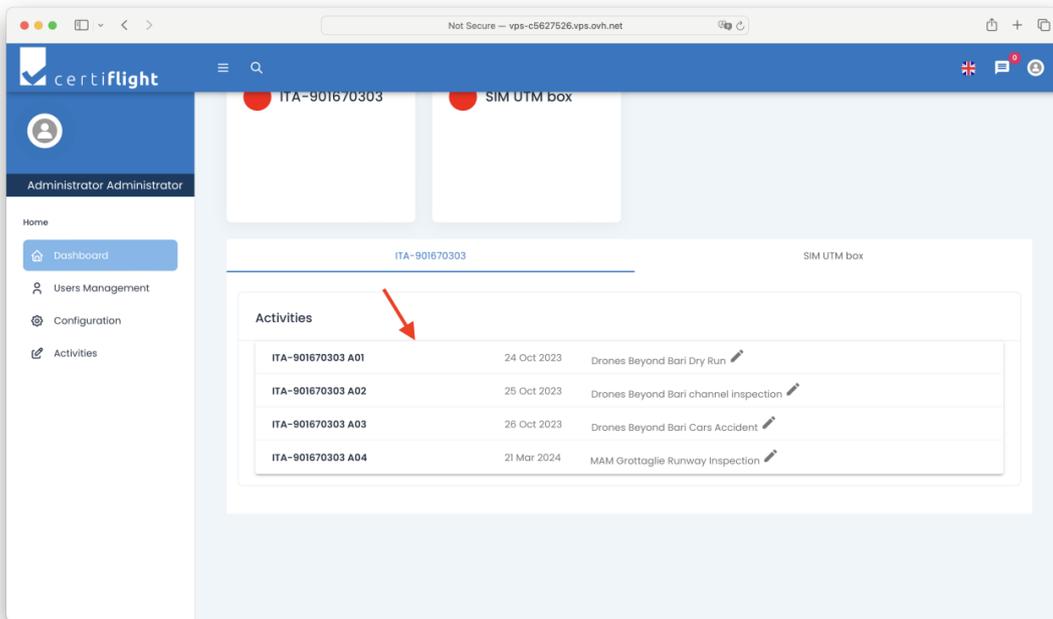


Figure 3-14 Activity list from dashboard

S\_03: User selects “Light Report” from the Report tab

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

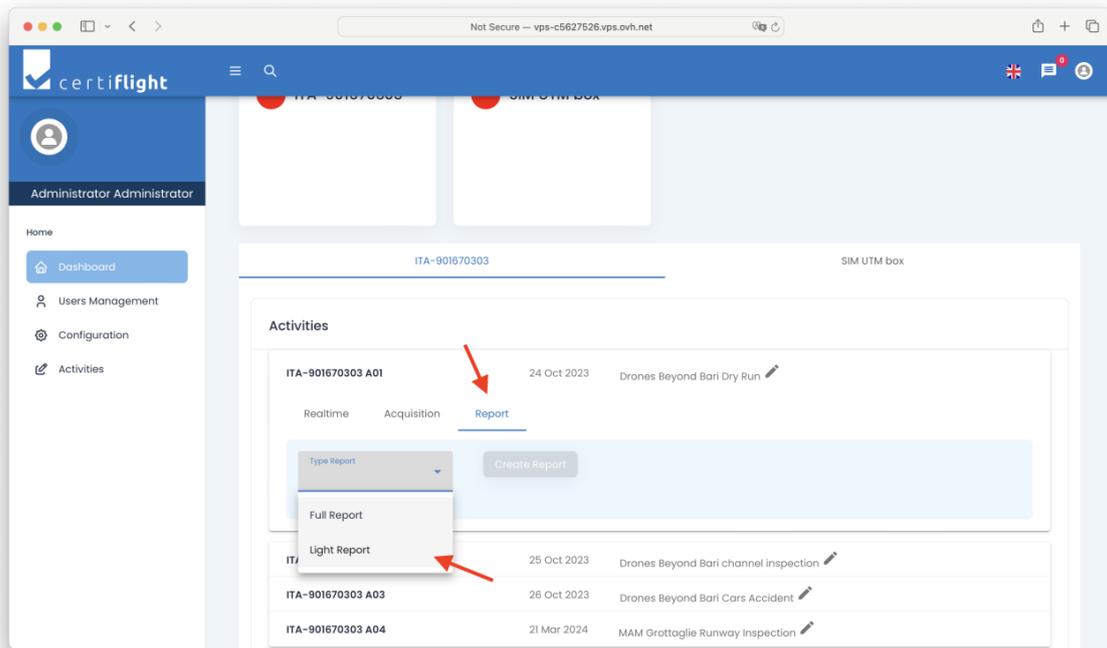


Figure 3-15 Report type selection

S\_04, S\_05, S\_06: User revises data in the report sections

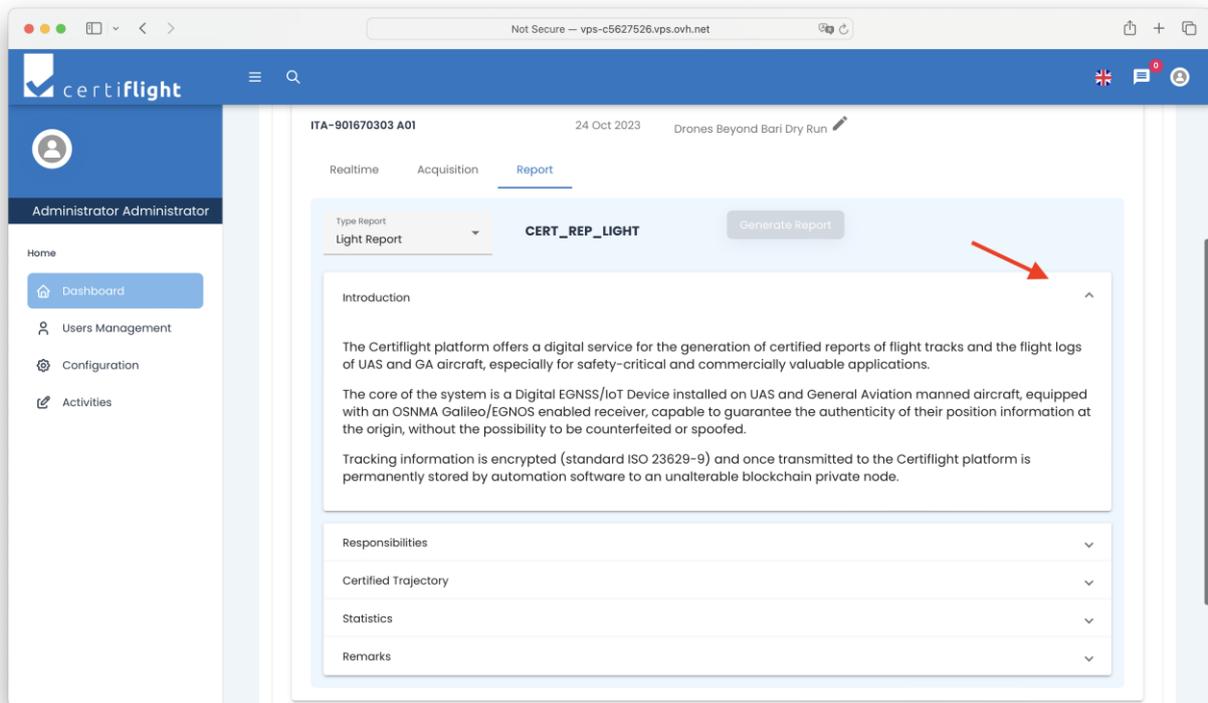


Figure 3-16 Introduction section of the Light Report

	<b>CERTIFLIGHT HORIZON-EUSPA-2021 SPACE PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

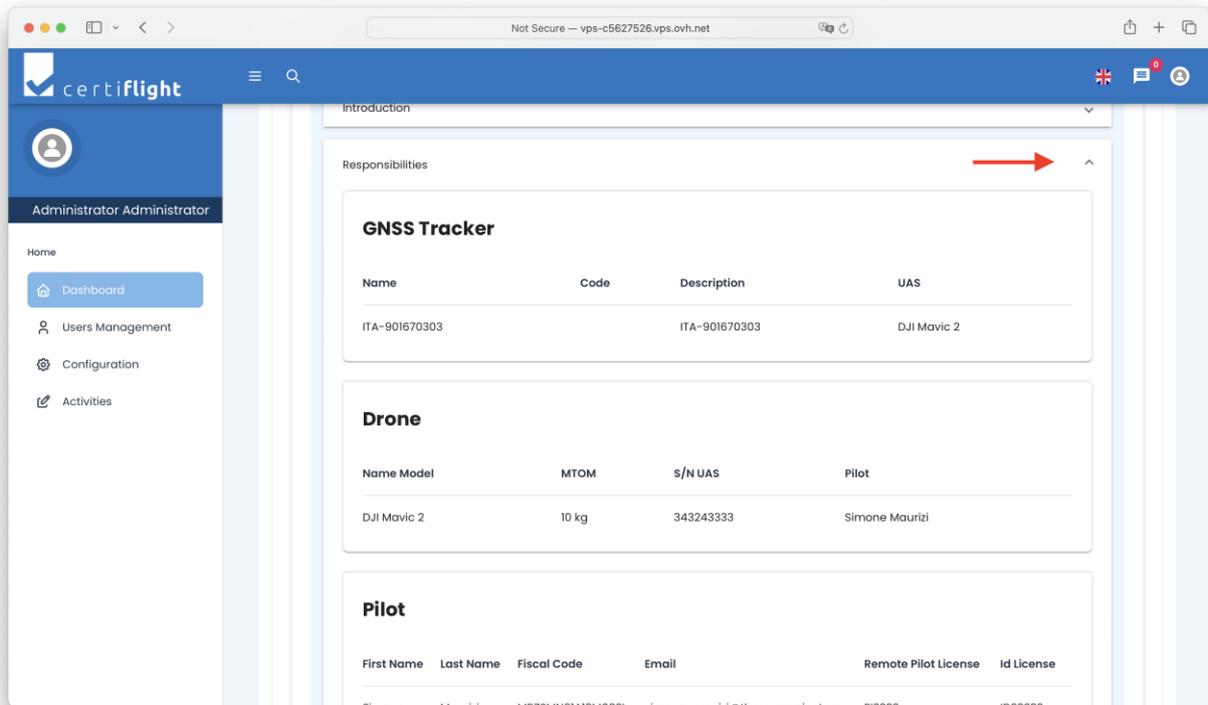


Figure 3-17 The responsibilities section in the Light Report

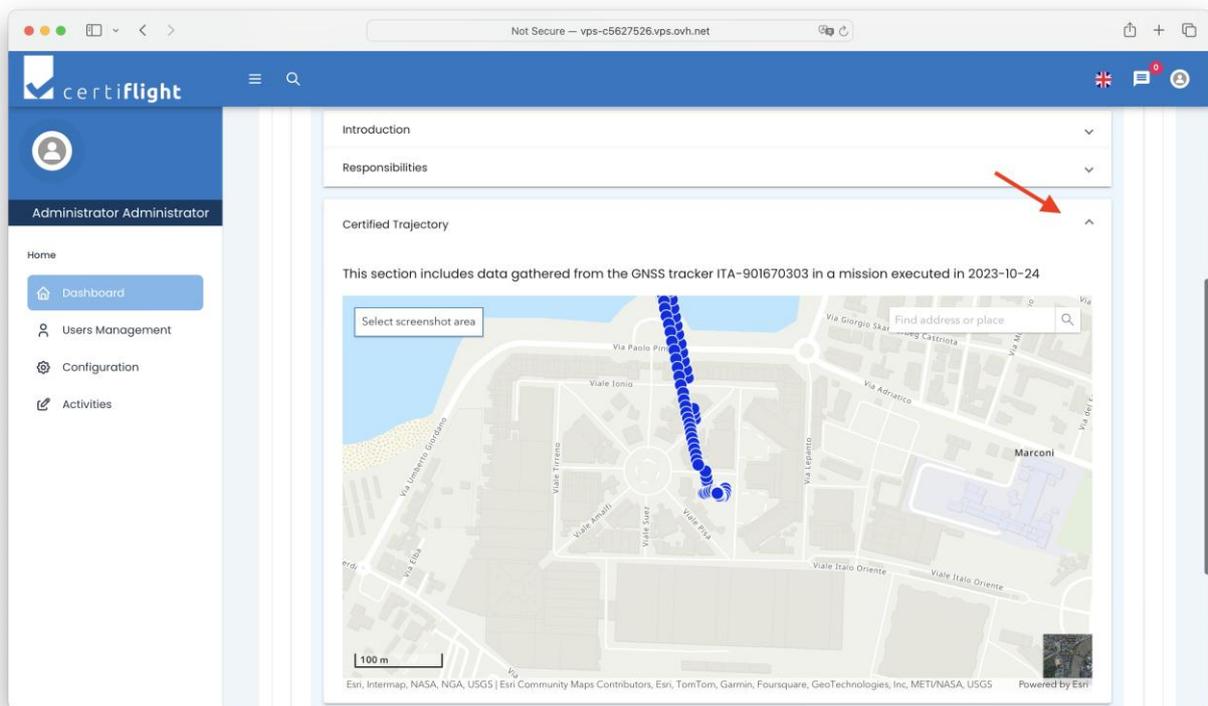


Figure 3-18 The Certified Trajectory section in the Light Report

S\_07, S\_08: User can select the map area to visualize in the report

	<b>CERTIFLIGHT HORIZON-EUSPA-2021 SPACE PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		<b>REV</b> 00

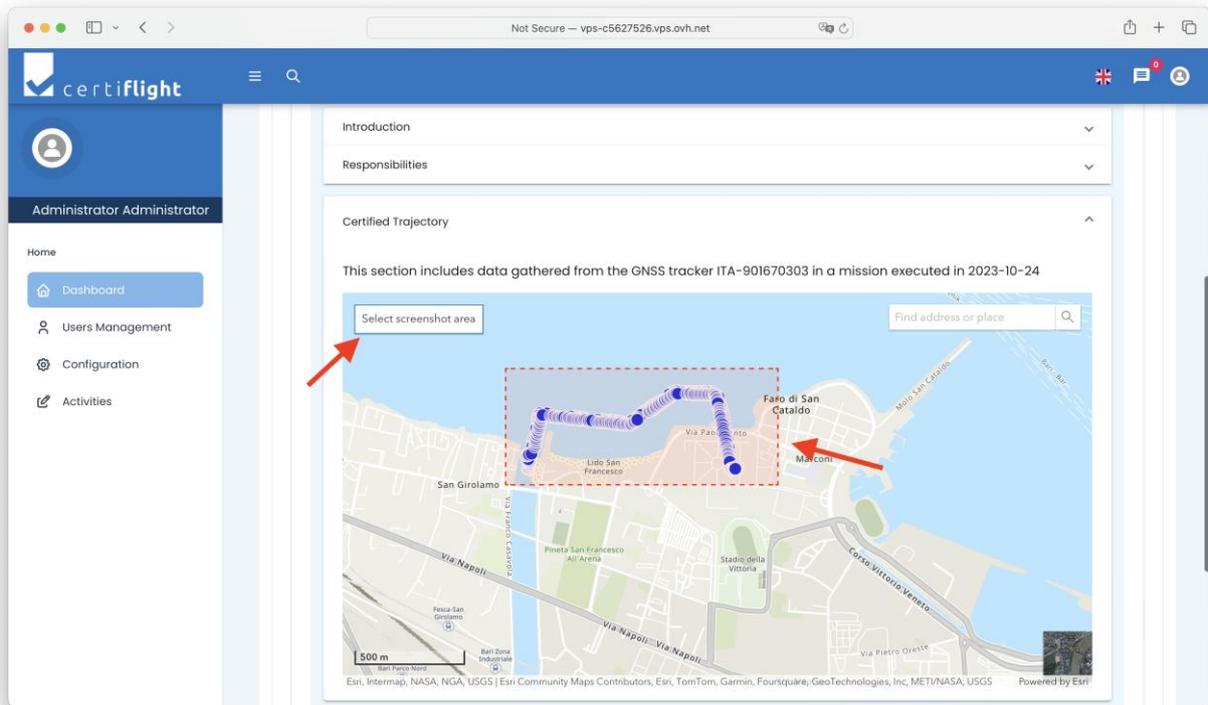


Figure 3-19 Map area selection for the report

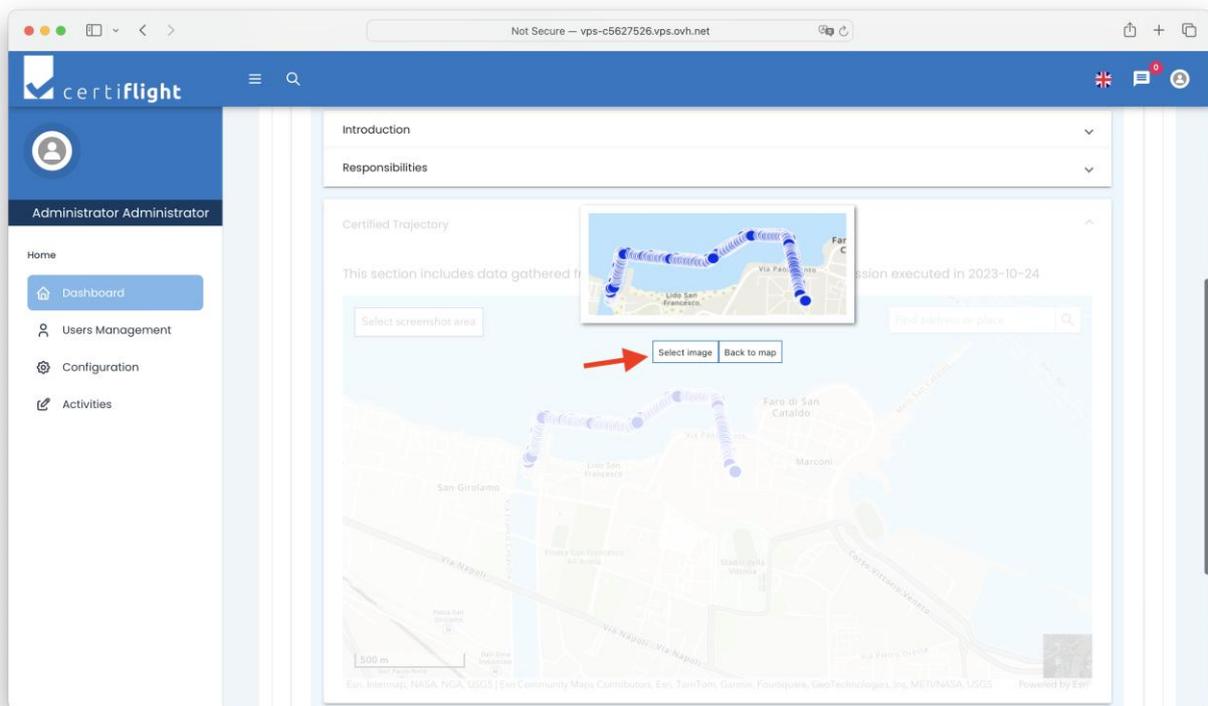


Figure 3-20 Map area confirmation

S\_09: User can add final custom remarks to the report

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

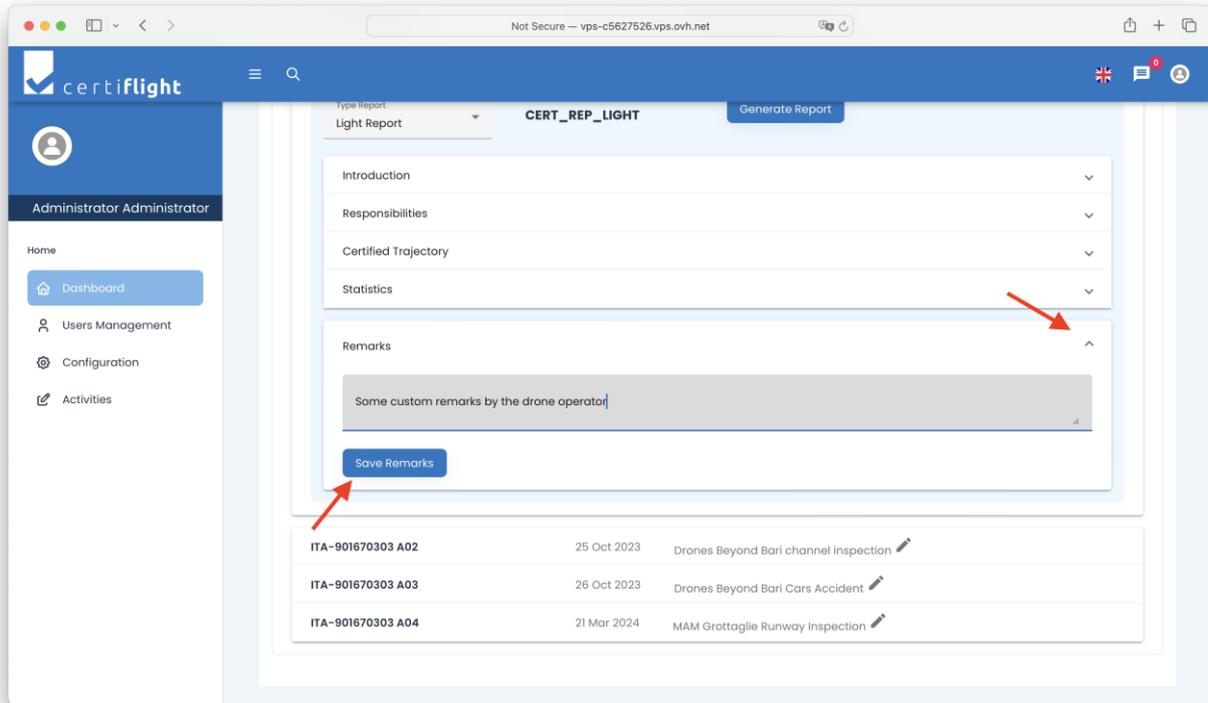


Figure 3-21 Report Remarks section

S\_10: User generates the report

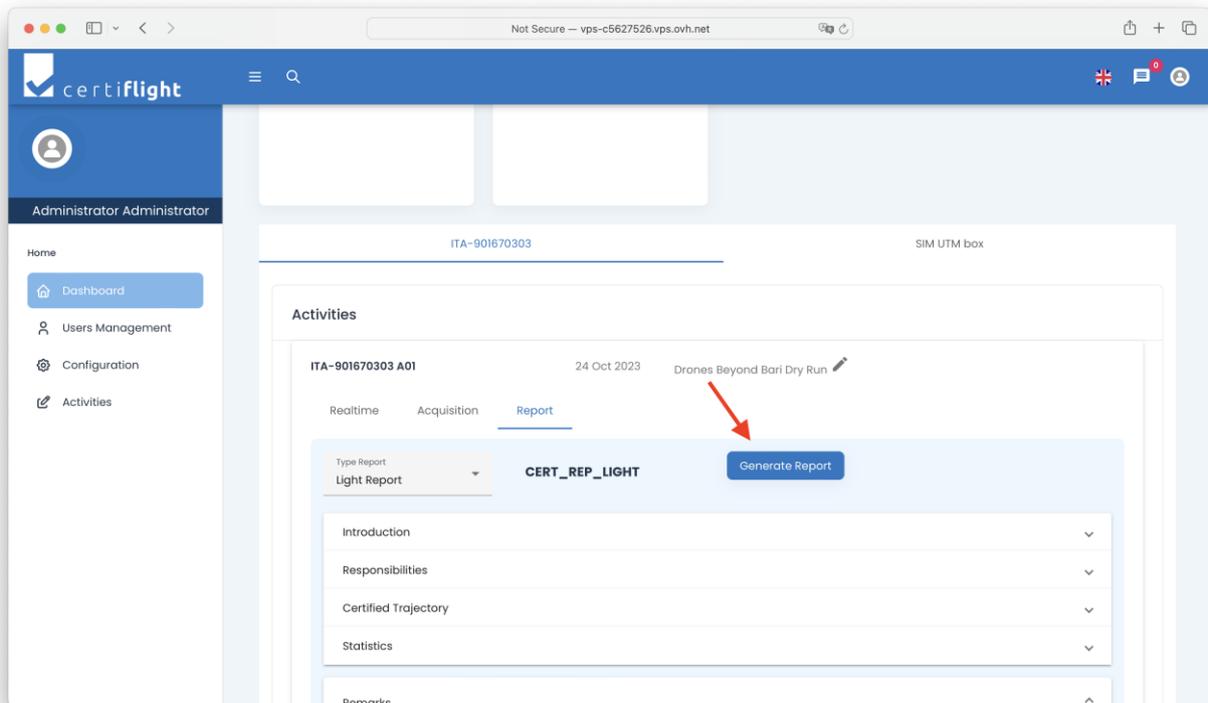


Figure 3-22 Light Report generation

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.6 REP\_CERTISW.0050 Data Acquisition

PROC_CERTISW.0050 Data Acquisition				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User log into the platform as in TEST_CERTISW.0010 and TEST_CERTISW.0020	User is on the dashboard page	As expected	
S_02	From the “Activities” panel user selects the desired activity	The specific activity panel is showed	As expected	
S_03	From the “Acquisition” tab user selects the “Upload” button	The file upload window shows up	As expected	<p>The following files are allowed to be ingested in the platform:</p> <ul style="list-style-type: none"> <li>• IMU file (.csv)</li> <li>• GNSS file (.sbf)</li> <li>• Event file (.evt)</li> <li>• Photo(s) (.jpg)</li> <li>• APP file (.csv)</li> <li>• GSD file (.csv)</li> <li>• PDF file (.pdf)</li> </ul> <p>Each file (type1 to 4) will be verified in integrity with the public key</p>
S_04	User selects file to upload in the report, i.e. IMU.csv .sbf EVT.txt photo folder	File is uploaded on the portal	As expected	
		File is showed in a tabular way	As expected	
		EVT.txt file is processed and a dedicated notice appears	As expected	<p>Following use cases are experienced as a dedicated notice alert appears</p> <ul style="list-style-type: none"> <li>• Success. Correctly imported x events of x read</li> <li>• Warning. Imported y events of x read (y&lt;x)</li> <li>• Error. wrong signature (No data is uploaded)</li> </ul>

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

S_04	CERTIFLIGHT operator selects file to upload after processing i.e. APP.csv GSD.csv	File is uploaded on the portal	As expected	
		File is showed in a tabular way	As expected	
		Files are processed and a dedicated notice appears	As expected	Following use cases are experienced as a dedicated notice alert appears <ul style="list-style-type: none"> <li>• Success. Correctly imported x positions of x read</li> <li>• Warning. Imported y positions of x read (y&lt;x)</li> </ul> Results (augmentation and spoofing check) appear when final full report is exported (see REP_CERTISW.060)

	<b>CERTIFLIGHT HORIZON-EUSPA-2021 SPACE PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.6.1 Test execution and results

S\_01 as in PROC\_CERTISW.0010

S\_02 as in PROC\_CERTISW.0040

S\_03, S\_04, S\_05: Additional data upload from the UTM Box

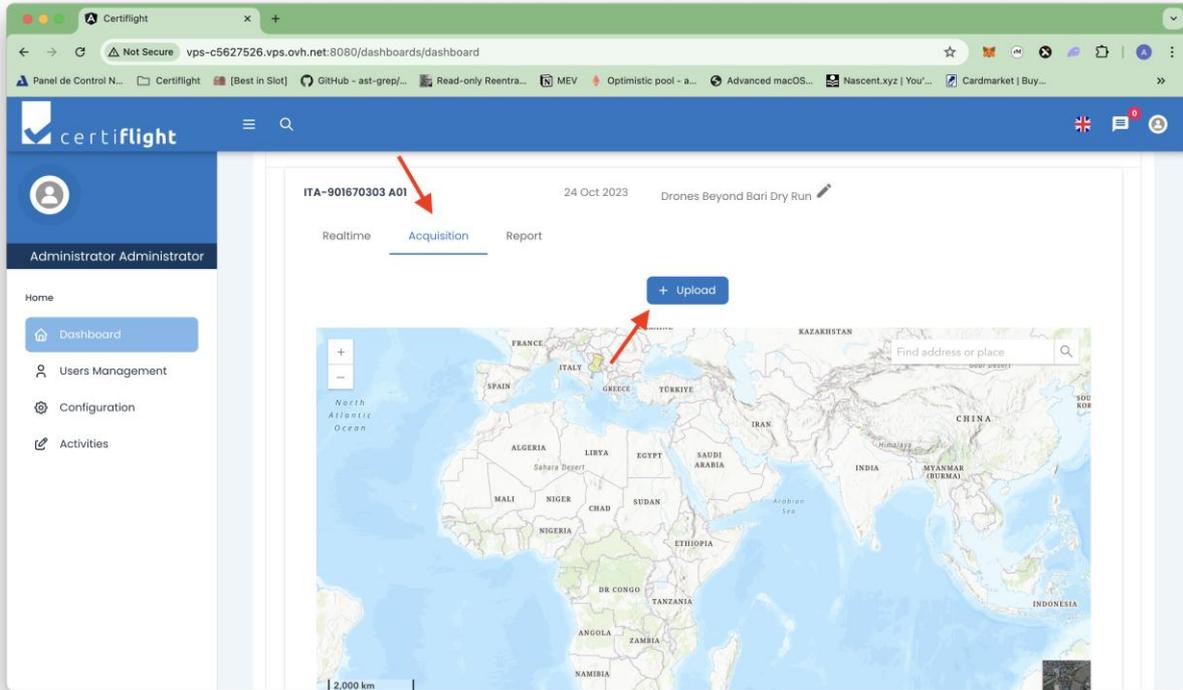


Figure 3-23 File upload for the report

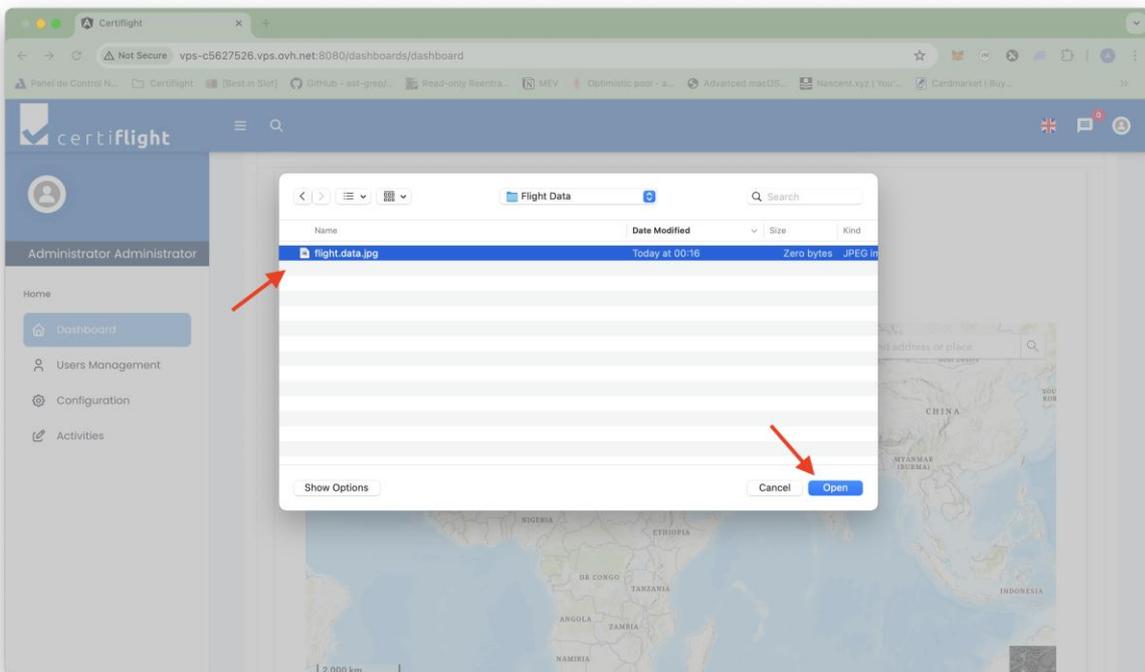


Figure 3-24 File selection for the file upload

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

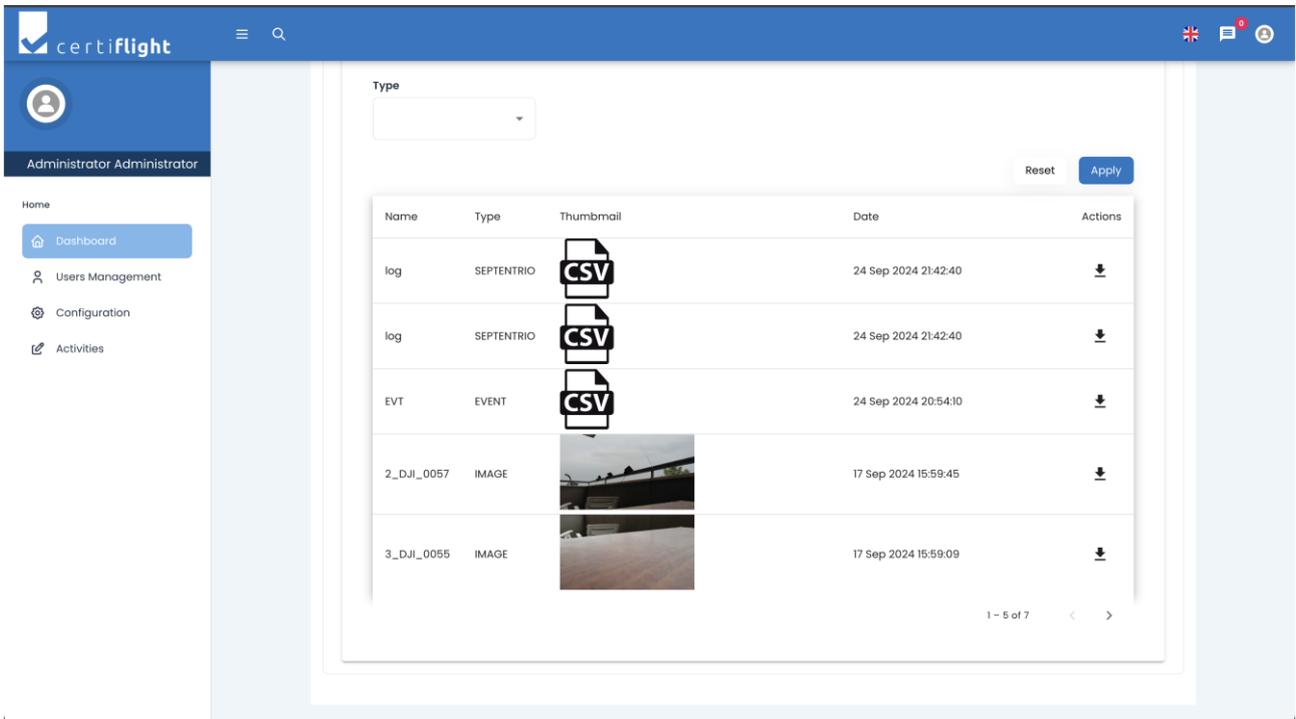


Figure 3-25 Successful upload of UTM Box additional data

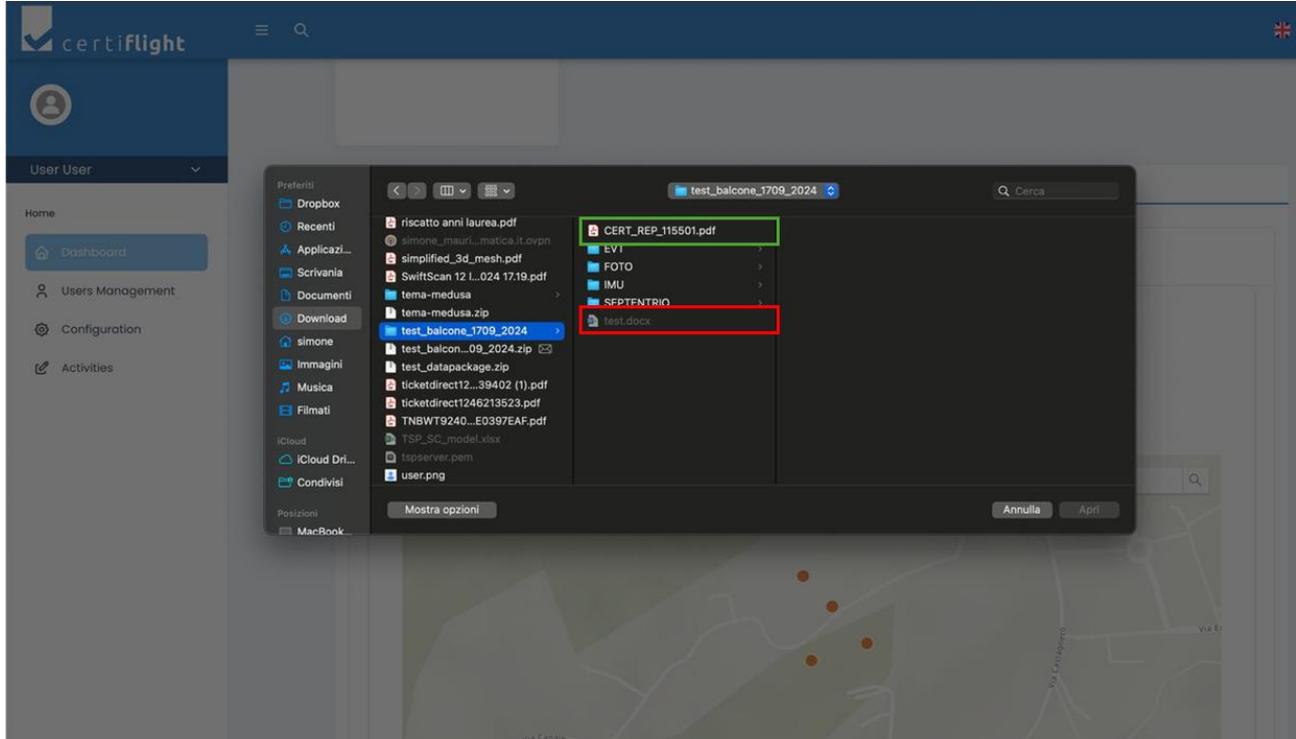


Figure 3-26 unsupported file (.docx not selectable) compared to a supported file (.pdf is selectable) in the file explorer window

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

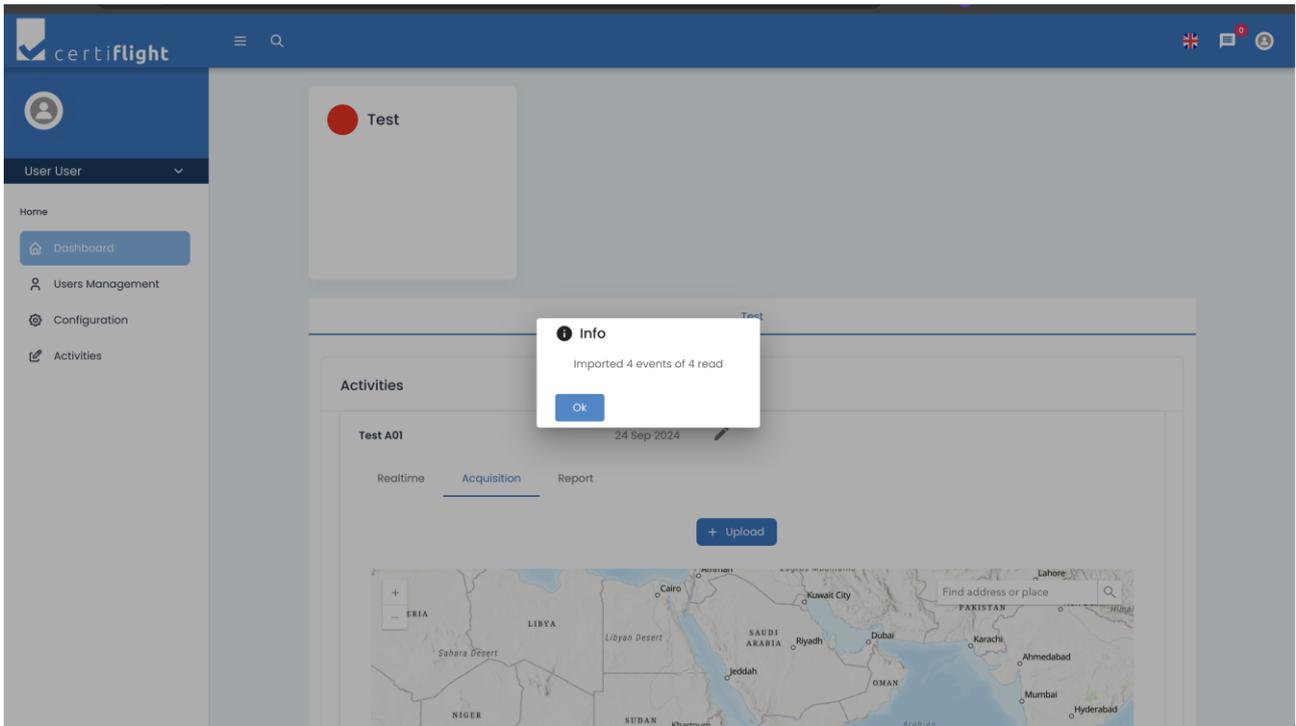


Figure 3-27 EVT file analysis notice

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.7 REP\_CERTISW.0060 Full Report Generation

PROC_CERTISW.0060 Full Report generation				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User log into the platform as in TEST_CERTISW.0010 and TEST_CERTISW.0020	User is on the dashboard page	As expected	
S_02	From the “Activities” panel user selects the desired activity	The specific activity panel is showed	As expected	
S_03	In the “Report” tab user selects “Full Report” from the dropdown	The dropdown shows possible reports	As expected	
S_04	User opens and checks the “Introduction” section	The “Introduction” section shows up	As expected	
S_05	User opens and checks the “Responsibilities” section	The “Responsibilities” section shows up	As expected	
S_06	User opens and the “Certified Trajectory” section to select the map portion to include	The “Certified Trajectory” section shows up	As expected	
S_07	User clicks the “Select Screenshot Area” button to select the map portion to include	Area can be selected on the map	As expected	
S_08	User confirms their selection	The confirmation menu shows up	As expected	
S_09	User adds custom remarks in the “Remarks” section	The “Remarks” text area shows up	As expected	
S_10	User scrolls up and clicks on the “Generate Report” button to finalize and download the report	The report is generated and downloaded	As expected	Light Report and Full report are always generated with data previously accepted during data entry, ingestion or real time acquisition

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.7.1 Test execution and results

S\_01: Login as in PROC\_CERTISW.0010

S\_02: User selects an activity from the platform dashboard

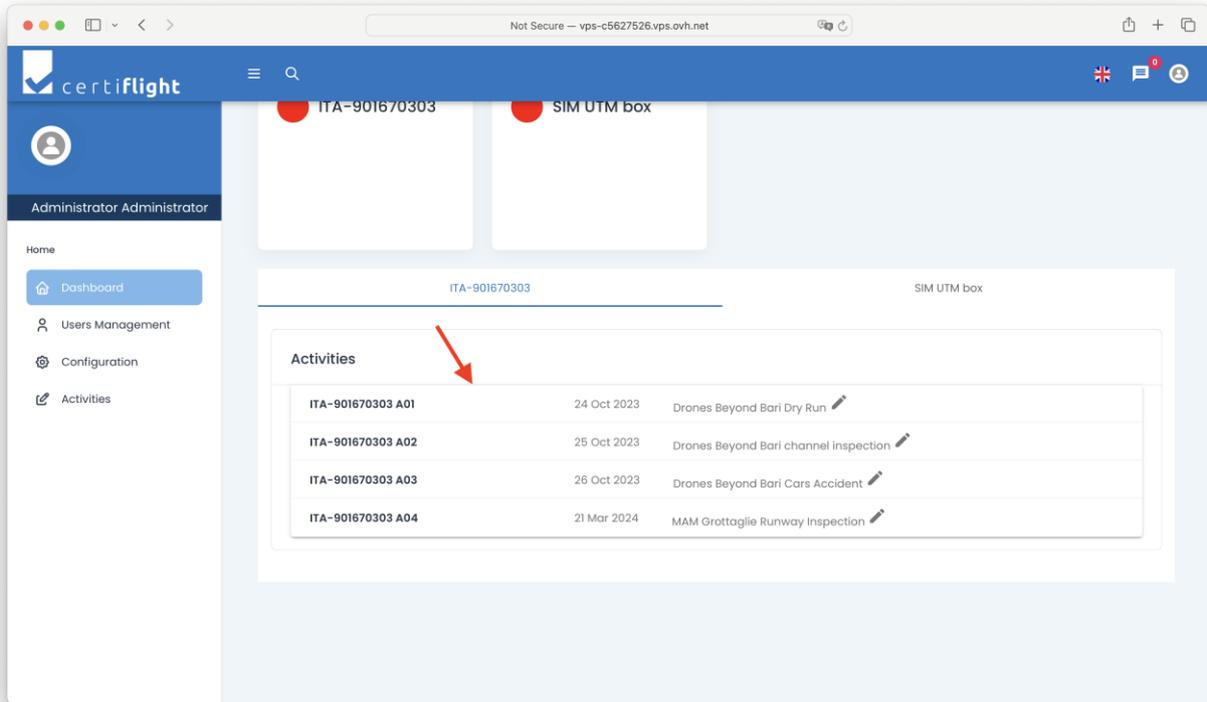


Figure 3-28 Activities list from dashboard

S\_03: User selects "Full Report" from the Report tab

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

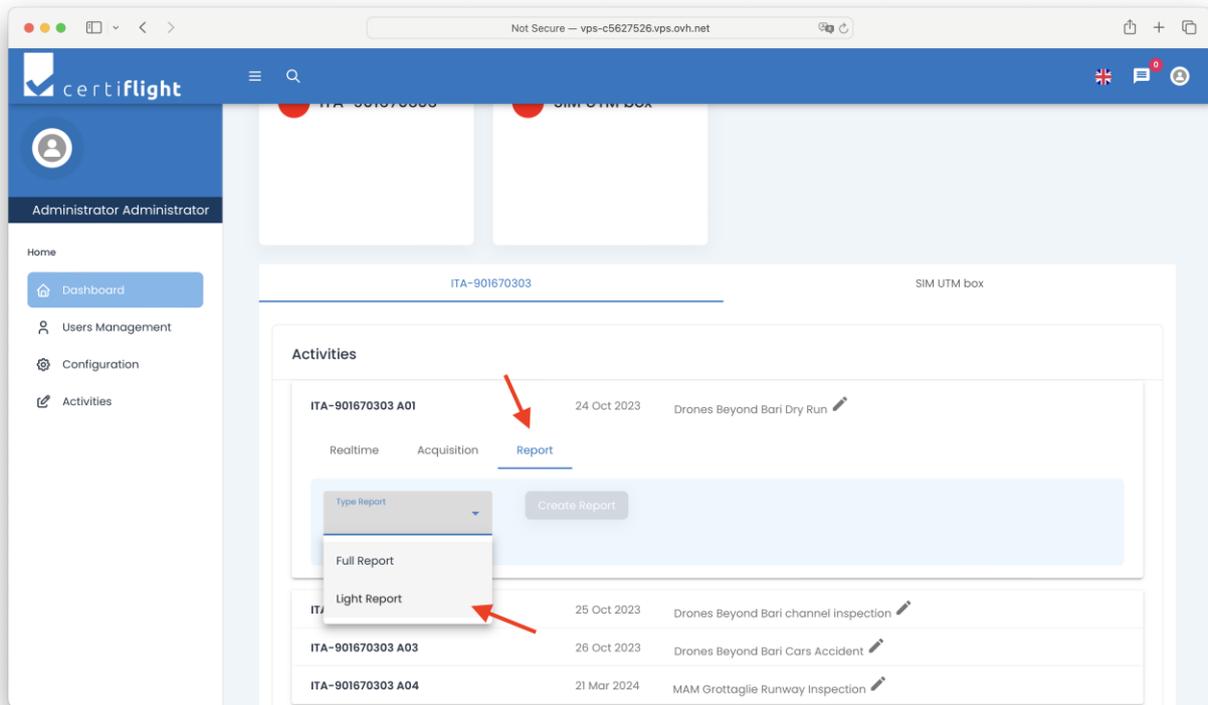


Figure 3-29 Report type selection

S\_04, S\_05, S\_06: User revises data in the report sections

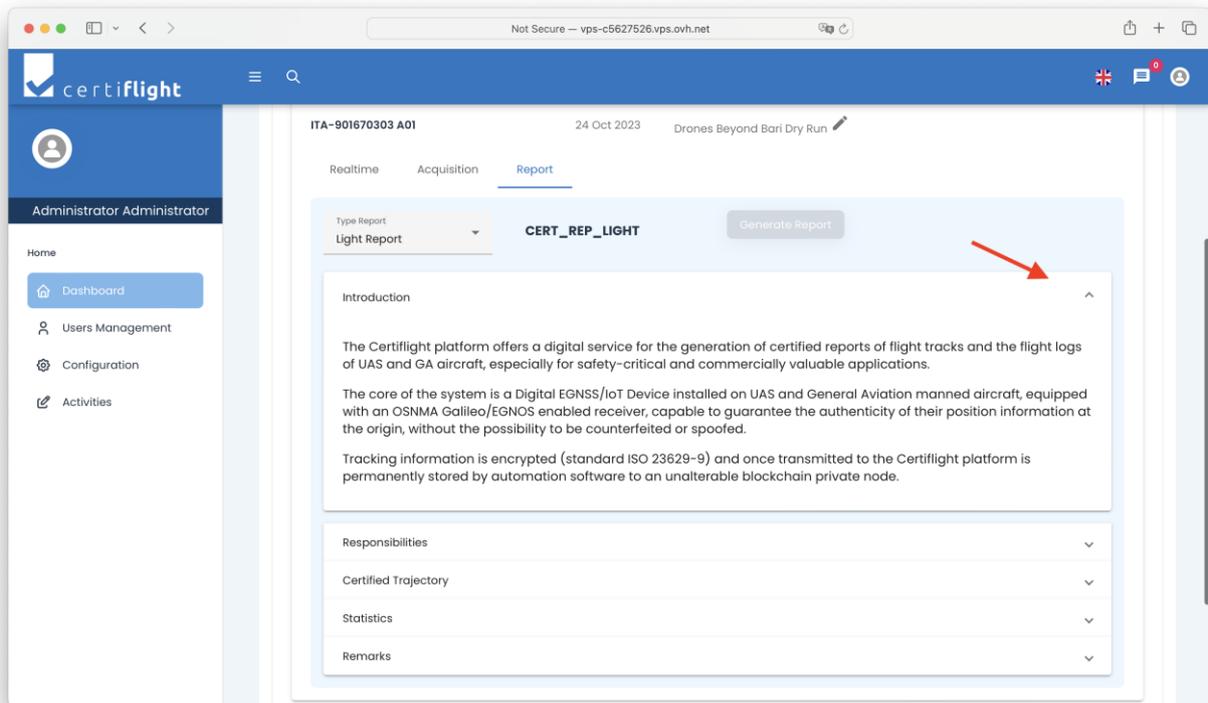


Figure 3-30 The introduction section of the Light Report

	<b>CERTIFLIGHT HORIZON-EUSPA-2021 SPACE PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

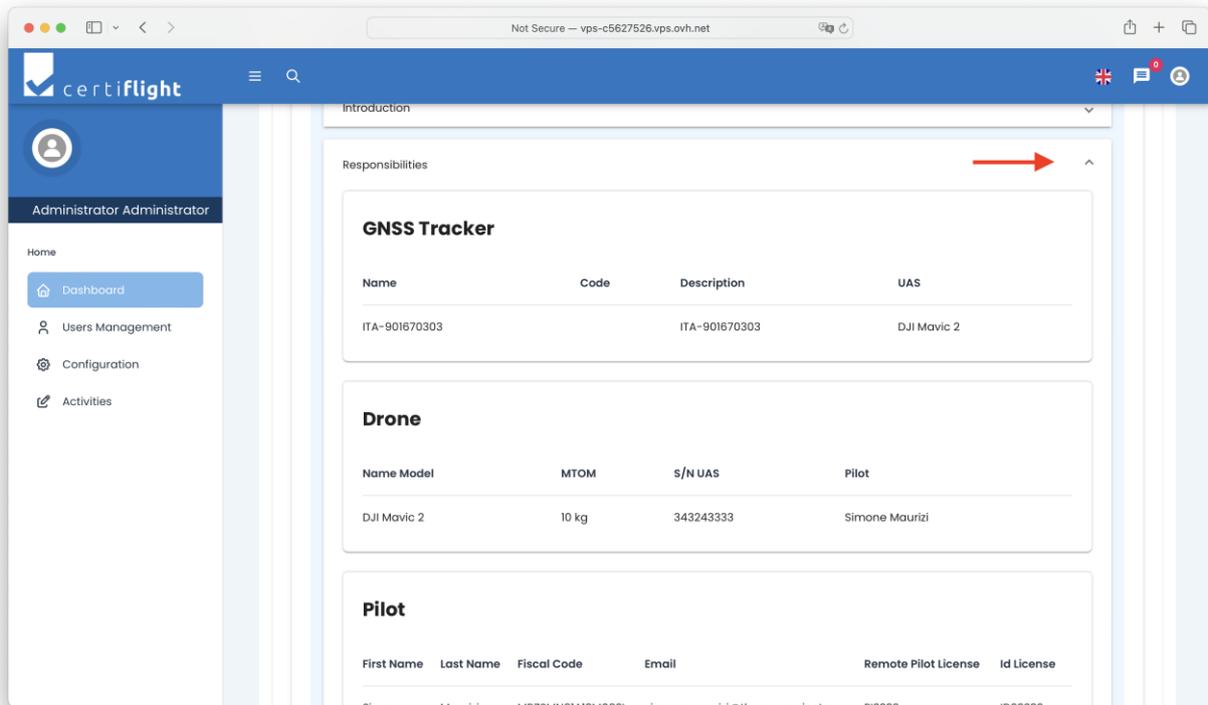


Figure 3-31 The responsibilities section in the Full Report

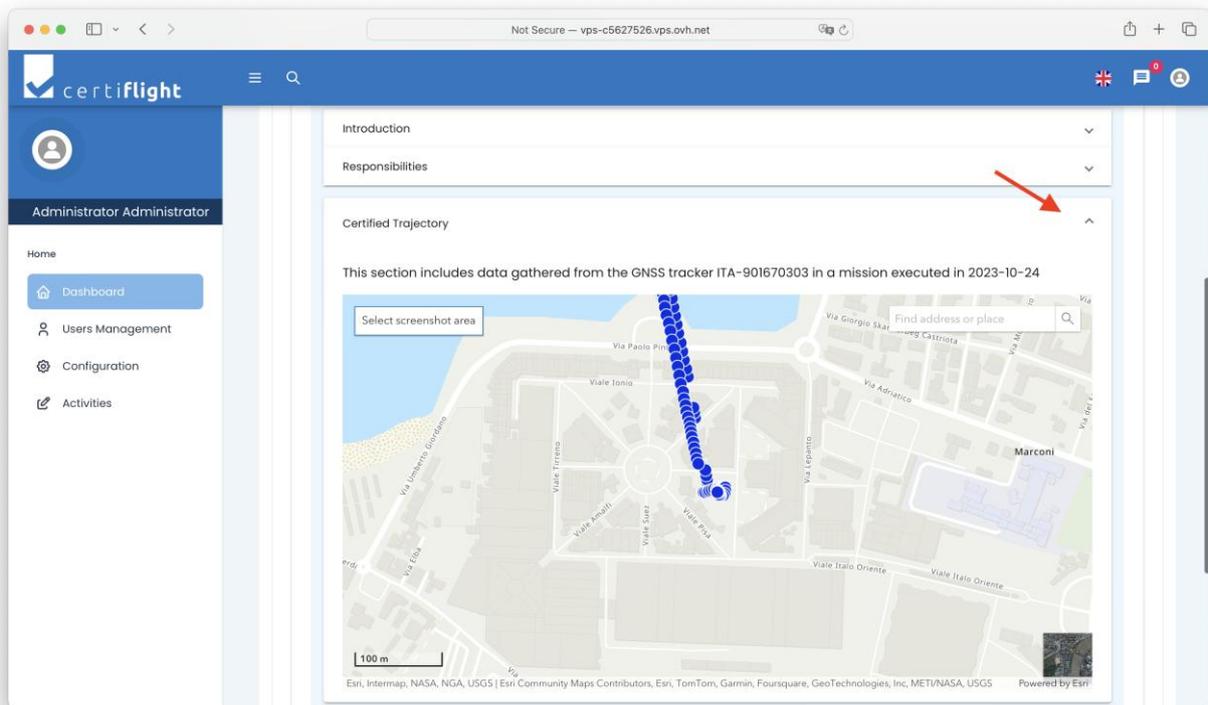


Figure 3-32 The Certified Trajectory section in the Full Report

S\_07, S\_08: User can select the map area to visualize in the report

	<b>CERTIFLIGHT HORIZON-EUSPA-2021 SPACE PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		<b>REV</b> 00

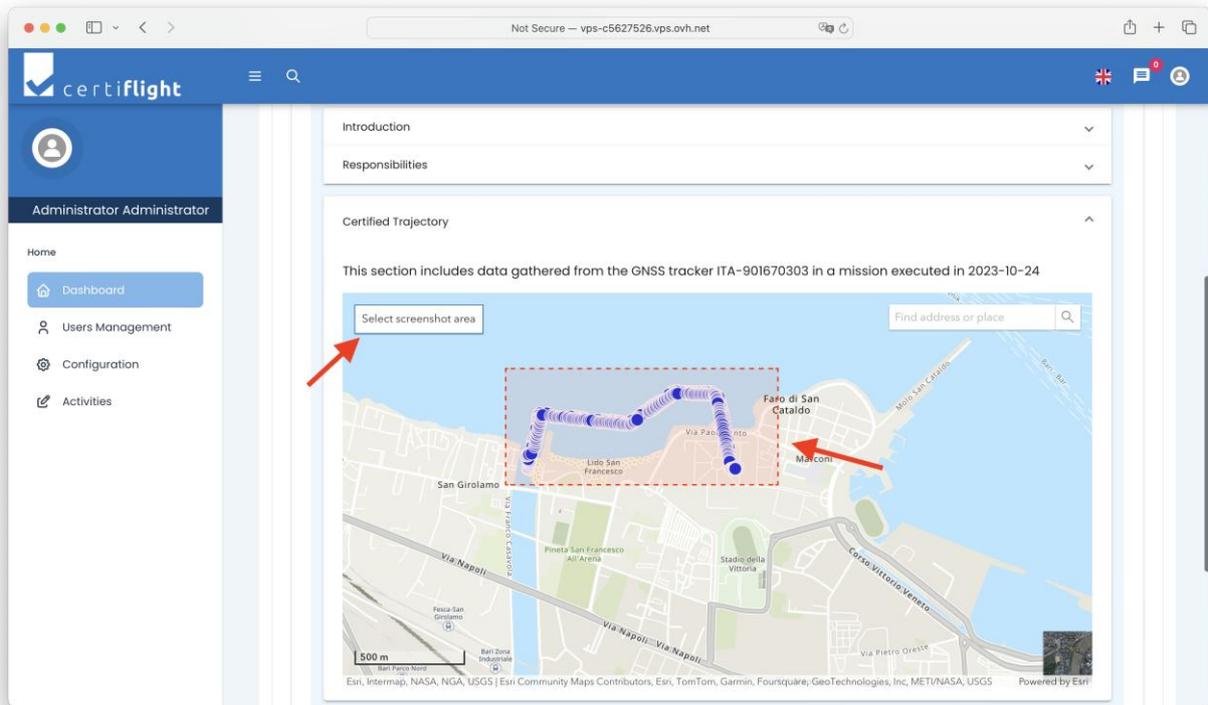


Figure 3-33 Map area selection for the report

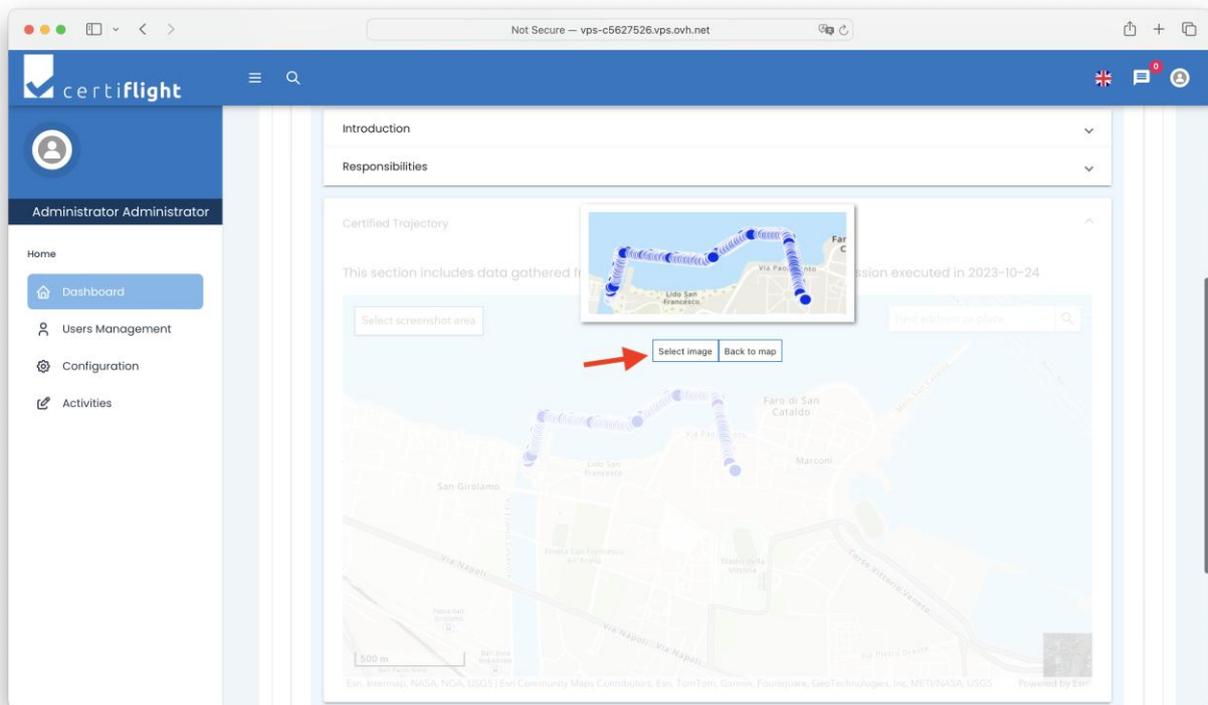


Figure 3-34 Map area confirmation

S\_09: User can add final custom remarks to the report

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

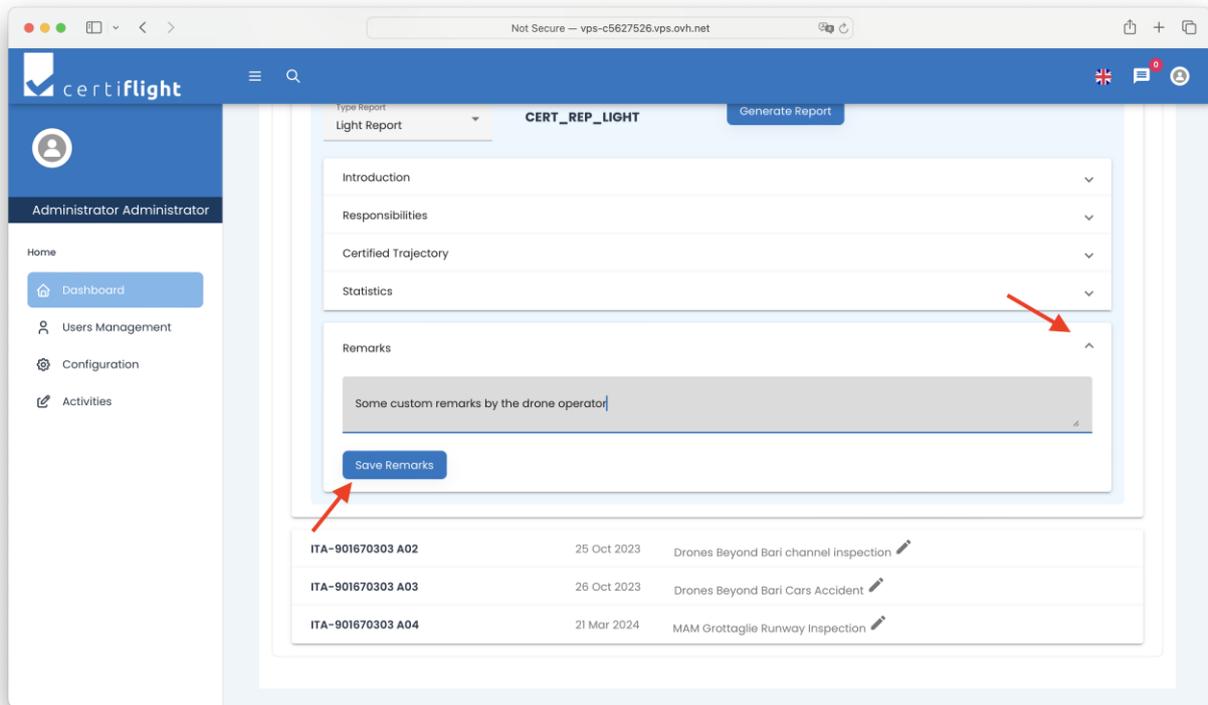


Figure 3-35 Report Remarks section

S\_10: User generates the report

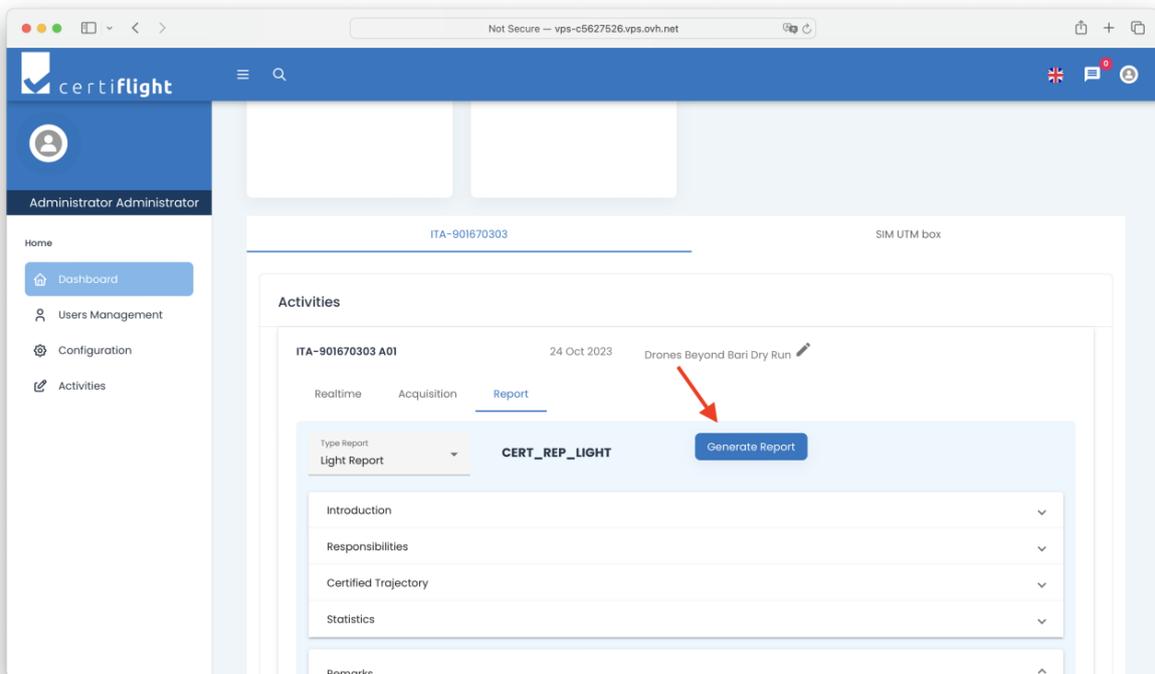


Figure 3-36 Full Report generation

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		



CERT\_REP\_115502  
 09/24/2024  
 Page 6

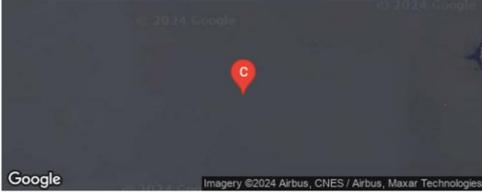
	<p>24/09/2024 07:29</p> <p>Lat, Lon: 50.094249 14.430470</p> <p>Augmented: Y</p> <p>Spoofed:</p> <p>Total sats: 15</p> <p>Galileo auth sats: E15,E12,E10,E36,E24</p> <p>Ground speed: 5.0 m/s</p> <p>Ground heading: 260.9 degrees</p>	
	<p>24/09/2024 07:30</p> <p>Lat, Lon: 50.094170 14.427019</p> <p>Augmented: Y</p> <p>Spoofed: Y</p> <p>Total sats: 15</p> <p>Galileo auth sats: E10,E19,E34,E11,E03</p> <p>Ground speed: 5.0 m/s</p> <p>Ground heading: 350.9 degrees</p>	

Figure 3-37 Full Report document sample (including APP. And GSD algorithm results)

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.8 REP\_CERTISW.0070 Integrity of Certiflight data – Valid Dataset

PROC_CERTISW.0070 Integrity of Certiflight data – Valid dataset				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	At least one between TEST_CERTISW.0040 and/or TEST_CERTISW.0060 was executed	User has a light or full report	As expected	
S_02	User scans one of the QR from the report <a href="#">(link)</a>	User is redirected to the verification portal	As expected	The QR code contains the reported link
S_03	User obtains a successful validation page	Integrity data are displayed (blockchain transaction(s))	As expected	

#### 3.8.1 Test execution and results

**S\_03:** The Verification Portal declares result as valid if it was included in the blockchain

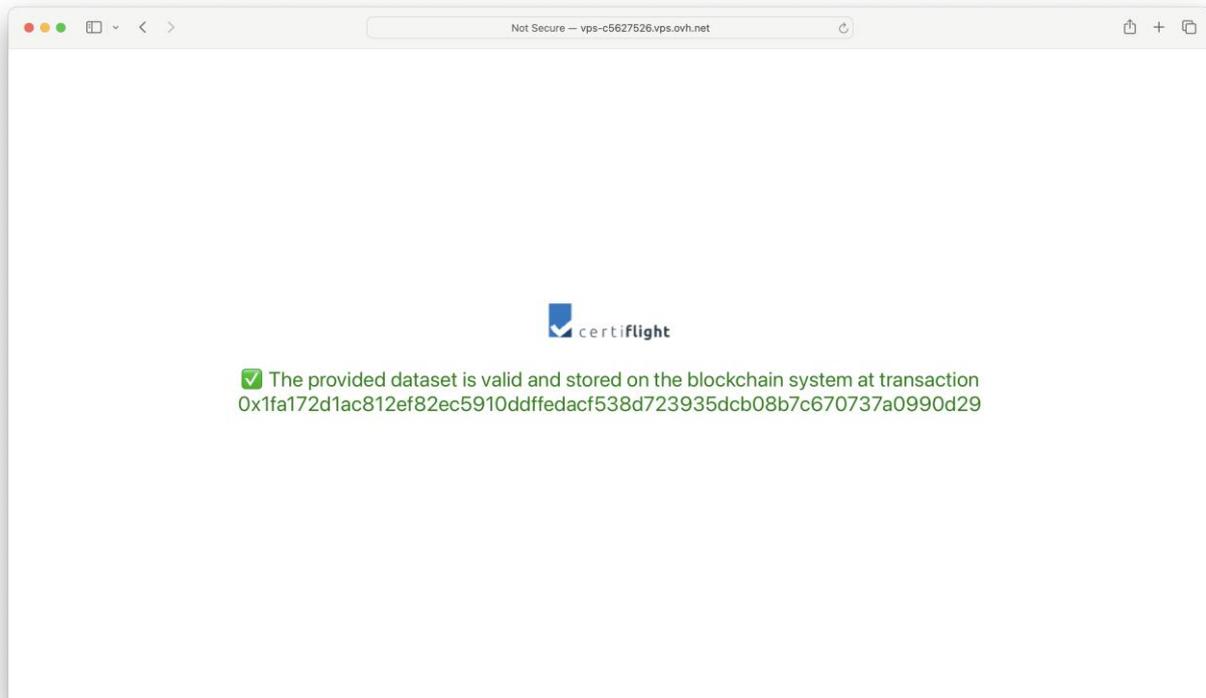


Figure 3-38 A valid flight dataset on the Verification Portal

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

### 3.9 REP\_CERTISW.0080 Integrity of Certiflight data – Invalid Dataset

PROC_CERTISW.0080 Integrity of Certiflight data – Invalid dataset				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User scans a QR from an unverified origin or makes a mistake in the URL ( <a href="#">link</a> )	User is redirected to the verification portal	As expected	The QR code or untrusted origin contains the reported link
S_02	User obtains a failed validation page	User can recognize the invalid/fake data	As expected	

#### 3.9.1 Test execution and results

**S\_02:** The Verification Portal shows a failure if the provided data was never included in the blockchain during a flight activity

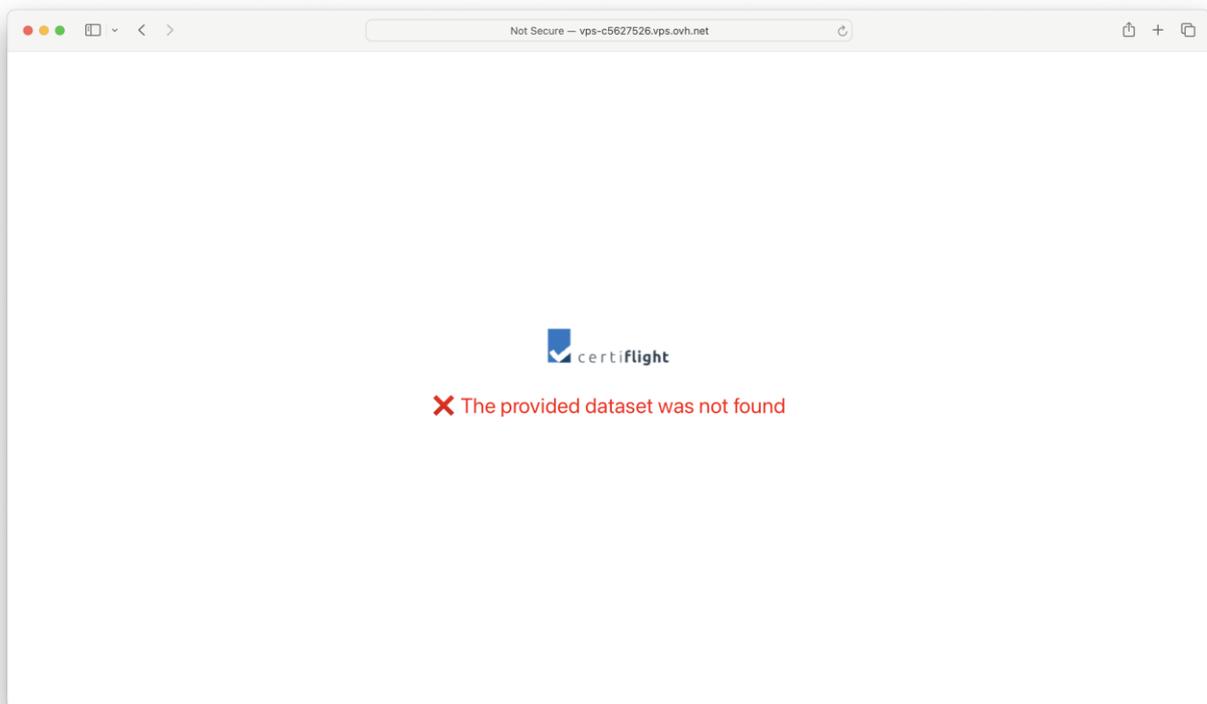


Figure 3-39 Verification Portal in the case of an invalid flight dataset

	<b>CERTIFLIGHT</b> <b>HORIZON-EUSPA-2021 SPACE</b> <b>PROJECT 101082484</b>	<b>DISSEMINATION LEVEL</b> PU	<b>DELIVERABLE NR</b> D4.4	<b>PAGES</b> 41
		<b>TITLE</b> TN9: CERTIFLIGHT Software test report		

