



French C-ITS Deployment Coordination committee

# Vro-Global-System 2422\_M – Vro-ITS-S HMI

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## 2.4.2.2\_M\_Vro\_HMI

**Activity 2: Studies**

Sub Activity 2.4 > Specifications

Version 0.40

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06/08/2024	0.40	I.BA	Update of applicable documents	COCSIC Studies.

# Quality rules

## Reference to the version administration

Version number to be composed of 3 digits > vR.XY

- **R** corresponds to the release number: it is upgraded each time SC Studies validates the diffusion of a new release,
- **X** is the major version number: it is upgraded each time SC Studies validates the deliverable,
- **Y** is the minor version number: it is upgraded each time a contributor changes anything.

Once the deliverable is approved, its version number is upgraded from vR.XY to vR.(X+1)0

Once the deliverable is release, its version number is upgraded from vR.XY to v(R+1).00

As illustration:

- 0.03 > Work in progress version
- 0.10 > Del. Approved by SC Studies but not released
- 2.00 > Del. approved & released (in release 2)
- 2.05 > Del. Updated - in progress version

## Requirements identification & traceability

In this document, the following verbal forms are used to indicate requirements: **Shall / Shall not**

Recommendations shall be indicated by the verbal forms: **Should / Should not**

Permissions shall be indicated by the verbal forms: **May / May not**

Possibility and capability shall be indicated by the verbal forms: **Can / Cannot**

Inevitability used to describe behaviour of systems beyond of the scope of this del. shall be indicated by: **Will / Will not**

Facts shall be indicated by the verbal forms: **Is / Is not**

In the table here below:

2.4.X.XX > is the number given to the deliverable (e.g. 2.4.4.8)

YYYY > for digit are given to identifying which component/entity the requirement is addressing (e.g. LTCA for long term certificate authority)

ZZZ > is the numeration of the requirement

<b>ID</b>	<b>2.4.X.XX-YYYY-ZZZ</b>
<b>Component(s)</b>	(e.g.) Vru-ITS-S, Vro-ITS-S, R-ITS-S, PKI
<b>Requirement</b>	(e.g.) An ITS station SHALL be able to request and get a Long-Term Certificate (LTC) from the SCOOP Public Key Infrastructure (PKI).
<b>Acceptance</b>	(e.g.) CA1: Vru-ITS-S sends a LTC request to the LTCA CA2: R-ITS-S relays the LTC request CA3: The LTCA verifies the request and sends a response CA4: The R-ITS-S relays the response CA5: The response is received by the Vru-ITS-S and is valid
<b>Additional information</b>	

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# Abbreviations

All acronyms with their meaning and definition are described in deliverable 2.2.1 Glossary..

Term	Definition
<b>API</b>	Application Programming Interface
<b>CAM</b>	Cooperative Awareness Message
<b>CAN</b>	Car Access Network – standard access bus to the vehicle electronics
<b>C-ITS</b>	Cooperative – Intelligent Transport Systems
<b>CRL</b>	Certificate Revocation List
<b>[DAX]</b>	Document Applicable n°x
<b>DENM</b>	Decentralized Environmental Notification Message
<b>[DRx]</b>	Document de Référence n°x
<b>FLR</b>	Arrow board trailer
<b>HMI</b>	Human-Machine Interface
<b>HSM</b>	Hardware Secure Module
<b>ICPU</b>	Information and Communication Processing Unit
<b>LCP</b>	Long-Term Certificate
<b>Nfr-ITS-S</b>	National French ITS Station
<b>PC</b>	Pseudonym Certificate
<b>PKI</b>	Public Key Infrastructure
<b>POI</b>	Point Of Interest
<b>R-ITS-S</b>	Roadside ITS station
<b>SCOOP@F</b>	French C-ITS pre-deployment project – European Project
<b>TMS</b>	Traffic Management System
<b>TSL</b>	Trust-service Status List
<b>V-ITS-S</b>	Vehicle ITS station
<b>VMS</b>	Variable Message Sign
<b>VroES</b>	Vro Embedded System

# 1 Introduction

## 1.1 Purpose of the document

The objective of this document, developed as part of the joint deliberations of the road operators' network, is to present the major management principles for displays on the HMIs of road operators' OBUs, as well as their practical details.

This document also proposes for each use case the most appropriate pictogram among the current road signs.

For use cases that have no equivalent in the current legislation, this document proposes the creation of specific pictograms.

Its purpose is to help, when drawing up HMI specifications, to choose the pictograms most suited to the message to the driver.

This deliverable is applicable to the all ITSS projects. However, it doesn't deal with "Multimodal cargo transport optimization" use cases which are not in its scope.

This document was drafted based on the recommendations of the national market ergonomist contained in the following two documents:

- Conception IHM Scoop Victorien Marchand 1.2 → recommandation on SCOOP HMI
- 02-08\_A\_BPO\_ETU\_Avis ergonomique sur les nouveaux CU → recommandation on IVI use cases

Note that the two documents above contain recommendations from the ergonomist, the present document is inspired by these recommendations but does not follow them 100%.

## 1.2 Preliminary comment on the impact of displays

The deliberations of the road operators' network are based at this stage on the major principles and the current regulations, especially the inter-ministerial instruction on Road Signs. The major ergonomics rules have been defined from a specific work of a dedicated expert.

The dedicated work on GLOSA use case has given as a conclusion that the French inter-ministerial instruction on road safety is not applicable to the embedded HMI. By the way, this deliverable proposes some new pictograms and displays management rules which could give a better understanding of the messages, then a more appropriate behaviour of the driver.

The ex-ante impact studies do not currently make provision to simulate the impacts of Scoop messages, those new pictograms or those new display management rules on the road operator driver: is the displayed message understood, and beyond this, does the road operator driver adopts the expected behaviour after receiving this message? The project schedule does not provide a

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sufficient period of availability to conduct these studies before the MMI's development phases.

At this stage the following key dual assumptions are made:

- ❑ a very large majority of the road operator OBUs will be used to provide information during an intervention rather than to receive it during a briefing;
- ❑ road operator drivers in user mode are trained to behave next to major events and do not require advisory messages in addition to the display of the use cases as described below.

On the occasion of the project's impact studies, the behavioural impacts of the different messages on the road operator driver will be measured so they can be optimized (Cerema study on the evaluation of the road operator MMI).

Furthermore, in a second phase, the production of recommendation messages (e.g., slow down next to roadwork) may be envisaged based on the initial results of the impact studies and system evaluations.

Note: the 2.2 deliverable proposes a preliminary analysis of the expected benefits and impacts of each use case on the behaviour of the drivers. The following rules should be compatible with the expected behaviour, but they do not substitute any impact studies.

## 1.3 Presentation of the regulations

First of all, article R412-6-2 of the highway code indicates: "It is prohibited to place in the field of vision of a driver of a moving vehicle an operating device equipped with a screen that does not constitute a driving or navigation assistance."

There is no other regulations concerning the items that can be displayed to the user in his vehicle.

Consequently, this document is based on the currently known road sign documents. The amended decree of 24 November 1967 concerning road signs and motorways provides all the usable signs and their meaning. It is an exhaustive list of all the existing road signs. There is also an inter-ministerial directive (decree of 7 June 1997 concerning road signs and motorways), which shows a road operator how to use road signs.

This directive includes 9 parts:

1. General Remarks
2. Danger signs
3. Intersections and priority regulations
4. Regulatory signs
5. Information, service and location signs
6. Permanent traffic lights



- 
7. Pavement markings
  8. Temporary signs
  9. Dynamic signs

There is also a catalogue of road signs.

(\*) To be exact, the 9th part concerns "dynamic signs related to road operation and security, [...] intended to deliver messages that will be modified frequently or will have to be activated on very short notice."

As mentioned in the 1.2 chapter, the French inter-ministerial instruction on road safety is not applicable to the embedded HMI. This deliverable uses most of the rules from this instruction but new pictograms and new displayed management rules are introduced.

Furthermore, OEMs have their own management displays. It is currently impossible to set common rules to the consortium. Road operators have analyzed the current management displays of OEMs and of SmartApps to have an overview of the best principles.

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## 2 Documents

### 2.1 Reference documents

Id.	Reference	Version	Title / Content
[DR1]	-	-	-

### 2.2 Applicable documents

Id.	Reference	Version	Title / Content
[DA1]	2.4.2.2_M_Vro_System	0.40	Specifications of the Vro-Global-System 2422_M - Main Document

## 3 General elements

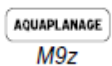
### 3.1 French inter-ministerial instruction on road safety

This document is positioned from the point of view of a vehicle that receives a message. It does not concern SCOOP use cases that do not display information to the user.

You will find below a few extracts of the general terms of the inter-ministerial instruction.



A14



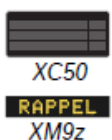
M9z



AK14



XA14



XC50

RAPPEL

XM9z

#### 4th Part – Article 44

"The different types of signs and their exact meaning are indicated [...], and they cannot be given any other meaning."

#### 2nd Part – Article 41. Other dangers

The early warning of dangers other than those for which a specific symbol exists is done using an A14 sign. This symbol should not be used when a specific symbol exists. The A14 sign must, as much as possible, be completed by an M9 tab sign with diverse information indicating the nature of the danger.

[...] The use of the A14 sign does not indicate in any way that the signalled danger is of low importance, but only that at the time it was installed there was no regulatory symbol for this danger.

#### 8th part – Article 130. Temporary dangers and stationary roadwork

[This article specifies the use cases for the AK14 sign]

#### 9th part – Article 152: XA14 signs

To signal a proven danger other than those where a specific symbol exists, we use the XA14 sign. On variable message signs, the message must be associated with a literal information (XC50 signal-text or XM9z tab sign) specifying the nature of the danger.

## 3.2 Deliverable structure

This deliverable is written considering the following groups of functionalities:

- ❑ Equipment requirements
- ❑ Application launch
- ❑ Events management
- ❑ Navigation and localization
- ❑ Emergency call
- ❑ Application deactivation
- ❑ Administration
- ❑ Components and modules status
- ❑ Interfaces with other applications or equipments



## 4 HMI requirements

### 4.1 Equipment requirements

The following equipment specifications were retained as part of the 2.4.2.2 document:

- ❑ Resolution: 1024 x 600
- ❑ Size: 5 inches < T < 8 inches
- ❑ Type of screen: No preference
- ❑ Multipoint: Optional

ID	2.4.2.2_ter-EQU-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The major display principles shall be compatible with the size and resolution of the screen for optimal legibility of the information.
Acceptance	
Additional information	Note: for the needs of some local road operators, the development of a 4-inch size screen is planned.

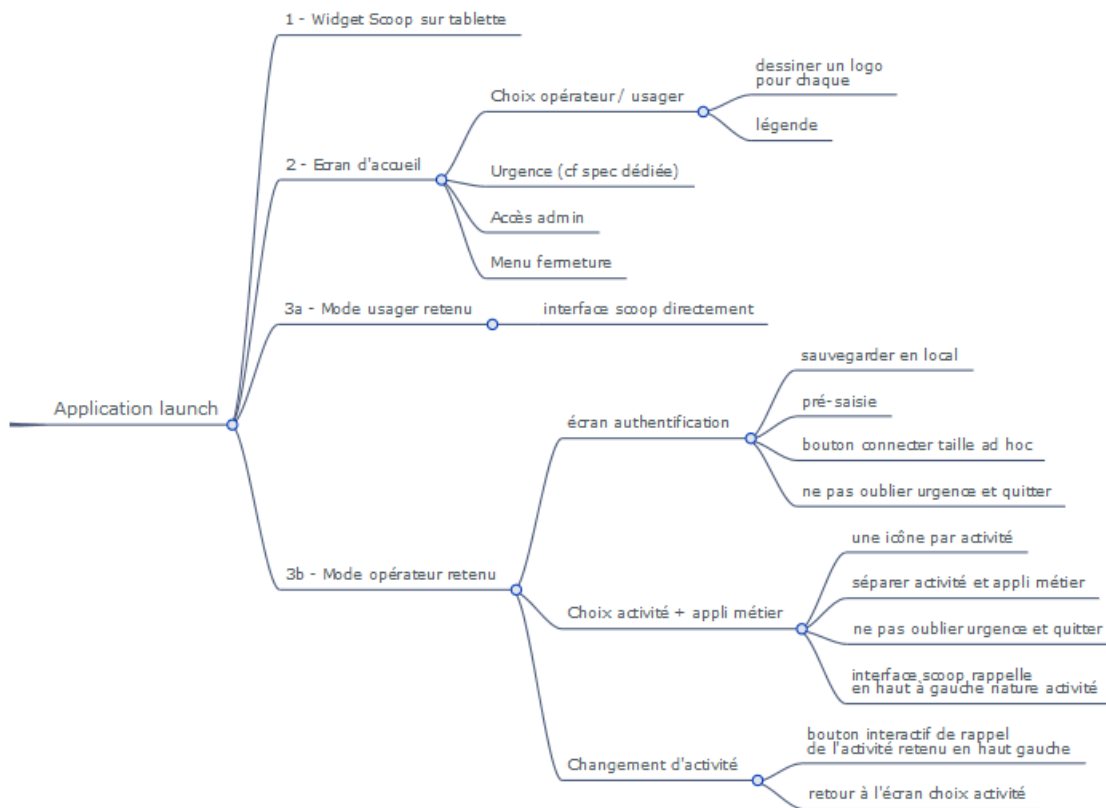
ID	2.4.2.2_ter-EQU-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The user shall be able to configure the display options in terms of luminosity.
Acceptance	
Additional information	From the main menu, it should be possible to adjust the screen's luminosity.

ID	2.4.2.2_ter-EQU-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	The SCOOP Tablet HMI shall have a "night" display mode that is accessible from the menu.
Acceptance	
Additional information	

ID	2.4.2.2_ter-EQU-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	The SCOOP Tablet HMI shall have a landscape orientation.
Acceptance	
Additional information	

The other equipment requirements are set in the 2.4.2.2 deliverable.

## 4.2 Application launch



### 4.2.1 Application access

ID	2.4.2.2_ter-LUN-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	To launch the Scoop application, the user shall use a dedicated widget whose icon could be the project logo.
Acceptance	
Additional information	See project logo below.



ID	2.4.2.2_ter-LUN-002(2)
Component(s)	SCOOP Tablet HMI
Requirement	If the physical SOS button is activated at the SCOOP Tablet application opening, the message displayed on screen shall ask user to deactivate the physical SOS button.
Acceptance	
Additional information	See screen example below.



Figure 1 : Physical button activated

ID	2.4.2.2_ter-LUN-003(2)
Component(s)	SCOOP Tablet HMI
Requirement	If a new update is available at the SCOOP Tablet application opening, a message displayed on screen shall ask user to accept or put it back on the next start the update.
Acceptance	
Additional information	See screen example below.



## MISE A JOUR FACULTATIVE

Nous avons détecté une **mise à jour importante**.  
Souhaitez-vous l'installer **maintenant** ? La mise à jour peut prendre quelques minutes.

Mettre à jour

Plus tard

Figure 2 : update available

ID	2.4.2.2_ter-LUN-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	If the tablet is not charging and its battery provides less than 5 minutes of autonomy, an information message shall be displayed.
Acceptance	
Additional information	See screen example below.





Figure 3 : Low power

## 4.2.2 Home page

ID	2.4.2.2_ter-HOM-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	When the user opens the SCOOP Tablet application, the home screen shall offer the possibility to choose between the user mode and operator's activities while providing access to the administration of the tablet and the emergency call.
Acceptance	
Additional information	See screen example below.

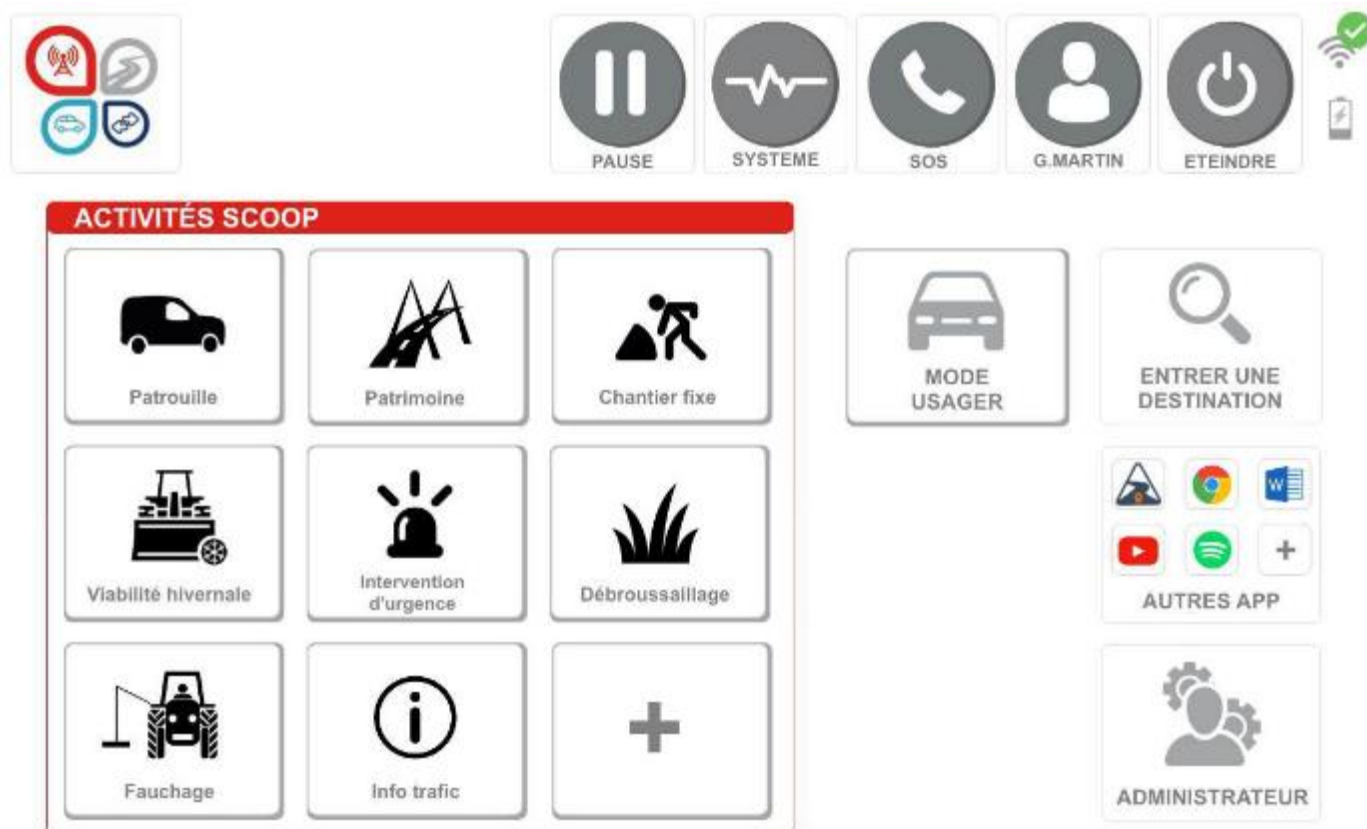


Figure 4 : Home screen

ID	2.4.2.2_ter-HOM-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	No authentication screen shall appear before the home page to allow the user the possibility of using modes that do not require authentication.
Acceptance	
Additional information	

ID	2.4.2.2_ter-HOM-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	The activity access buttons shall be distinctive and completed with captioned text.
Acceptance	
Additional information	

ID	2.4.2.2_ter-HOM-004(2)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of activity access button will be wide enough to be easily used.
Acceptance	
Additional information	At least 3% of the screen

## 4.2.3 Activity selection

ID	2.4.2.2_ter-SEL-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The icons selected for the principal activities should be as follow.
Acceptance	
Additional information	



Figure 5 : Activity icons

ID	2.4.2.2_ter-SEL-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The activities screen shall be configurable to integrate additional activities.
Acceptance	
Additional information	See 2.4.2.2bis

ID	2.4.2.2_ter-SEL-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	If the user chooses the user mode, he shall have direct access to the map interface (see chapter 4.3.1).
Acceptance	
Additional information	

ID	2.4.2.2_ter-SEL-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	The activities not accessible from this vehicle regardless of the identification shall be identifiable visually (thanks to a gray state).
Acceptance	
Additional information	

ID	2.4.2.2_ter-SEL-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	The activities requiring a authentication shall be identifiable visually (thanks to a padlock symbol).
Acceptance	
Additional information	

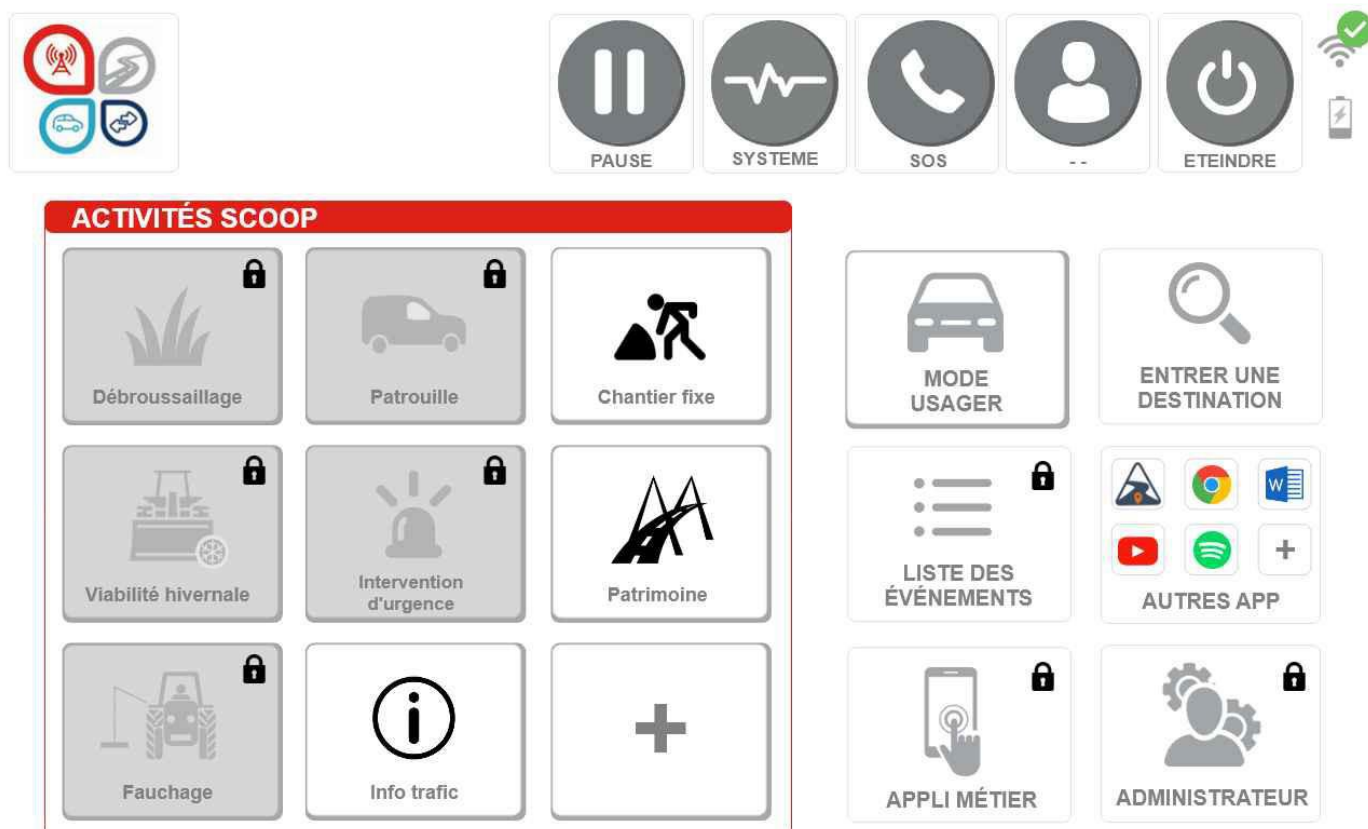


Figure 6 : Home page of a vehicle only allowing certain activities with an unconnected user

<b>ID</b>	<b>2.4.2.2_ter-SEL-007(2)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The user shall be able to connect himself through the user authentication button before selecting an activity.
<b>Note:</b> the requirement 2.4.2.2_ter-SEL-007 has been deleted.	
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-SEL-008(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The user authentication button shall be distinctive and located in the top of the screen.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-SEL-009(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	Before any authentication, the user authentication button shall be accompanying by the following text: "--".
<b>Acceptance</b>	
<b>Additional information</b>	The text is used to display the user's name. See 2.4.2.2_ter-SEL-017(1)

<b>ID</b>	<b>2.4.2.2_ter-SEL-010(2)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The dimension of the user authentication button will be wide enough to be easily used.
<b>Acceptance</b>	
<b>Additional information</b>	At least 2% of the screen

<b>ID</b>	<b>2.4.2.2_ter-SEL-011(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The authentication process shall be a login / password process.
<b>Acceptance</b>	
<b>Additional information</b>	



The image shows a login interface on a tablet. On the left, there is a logo consisting of four colored circles (red, grey, blue, blue) with icons inside. To the right of the logo, the text 'Identifiant' is followed by a dropdown menu with a person icon and the text 'Sélectionner votre identifiant opérateur'. Below this, the text 'Mot de passe' is followed by a password input field with a lock icon and the text 'Entrer votre mot de passe'. At the bottom, there is a button labeled 'Se connecter'.

Figure 7 : Authentication screen

ID	2.4.2.2_ter-SEL-012(1)
Component(s)	SCOOP Tablet HMI
Requirement	Entering in one of the identification fields shall trigger the appearance of a numeric keypad in the lower part of the screen.
Acceptance	
Additional information	

ID	2.4.2.2_ter-SEL-013(1)
Component(s)	SCOOP Tablet HMI
Requirement	This keyboard shall not cover any of the fields regardless of the display mode (landscape / portrait) or the screen size.
Acceptance	
Additional information	Usage conventions will be used for the keyboard and input, including: <ul style="list-style-type: none"> <li>an azerty page</li> <li>a numbers and symbols page accessible by a dedicated button on the keyboard</li> <li>the "Enter" key is used to switch from the first field to the second field or to validate the login / password entry depending on the active field.</li> </ul>



Figure 8 : Virtual keyboard

Note: the requirement 2.4.2.2\_ter-SEL-014 has been deleted.



Figure 9 : Input help

<b>ID</b>	<b>2.4.2.2_ter-SEL-015(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	After validating their authentication, the user shall access to the requested activity with the map and access to the various menus.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-SEL-016(2)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The in-progress activity shall be recalled in the top of the screen using the name of current activity.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-SEL-017(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	After validating their authentication, the SCOOP Tablet HMI shall display a user authentication button recalling the name of the currently registered user.
<b>Acceptance</b>	
<b>Additional information</b>	

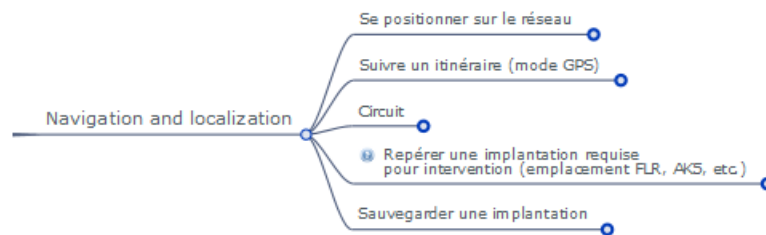
## 4.2.4 Change of activity

<b>ID</b>	<b>2.4.2.2_ter-CHA-001(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The user shall be able to change activity by: <ul style="list-style-type: none"> <li>Pressing the return button of the Tablet</li> <li>pressing the application icon button on the main application screen returning to the previous activity choice screen.</li> </ul>
<b>Acceptance</b>	
<b>Additional information</b>	

Note: the requirement 2.4.2.2\_ter-CHA-002 has been deleted.



## 4.3 Navigation and localization



### 4.3.1 Cartography management

ID	2.4.2.2_ter-CAR-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The basic display shall be based on OpenStreetMap oriented according to the heading of the vehicle.
Acceptance	
Additional information	The cartography can be represented in a 3D effect to give the user more orientation.

ID	2.4.2.2_ter-CAR-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The vehicle shall be represented by an arrow pointing in the flow direction.
Acceptance	
Additional information	

ID	2.4.2.2_ter-CAR-003(2)
Component(s)	SCOOP Tablet HMI
Requirement	The positioning indication (PR + Abs) shall be displayed [TBD with the ergonomist, in process].
Acceptance	
Additional information	

ID	2.4.2.2_ter-CAR-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	The user shall be able to move the map around the position of the vehicle by a slipped touch on the touch screen.
Acceptance	
Additional information	

ID	2.4.2.2_ter-CAR-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	If the map is thus offset from the position of the vehicle by user action, a “recenter” button shall allow the user to return to the current position of the vehicle.
Acceptance	
Additional information	

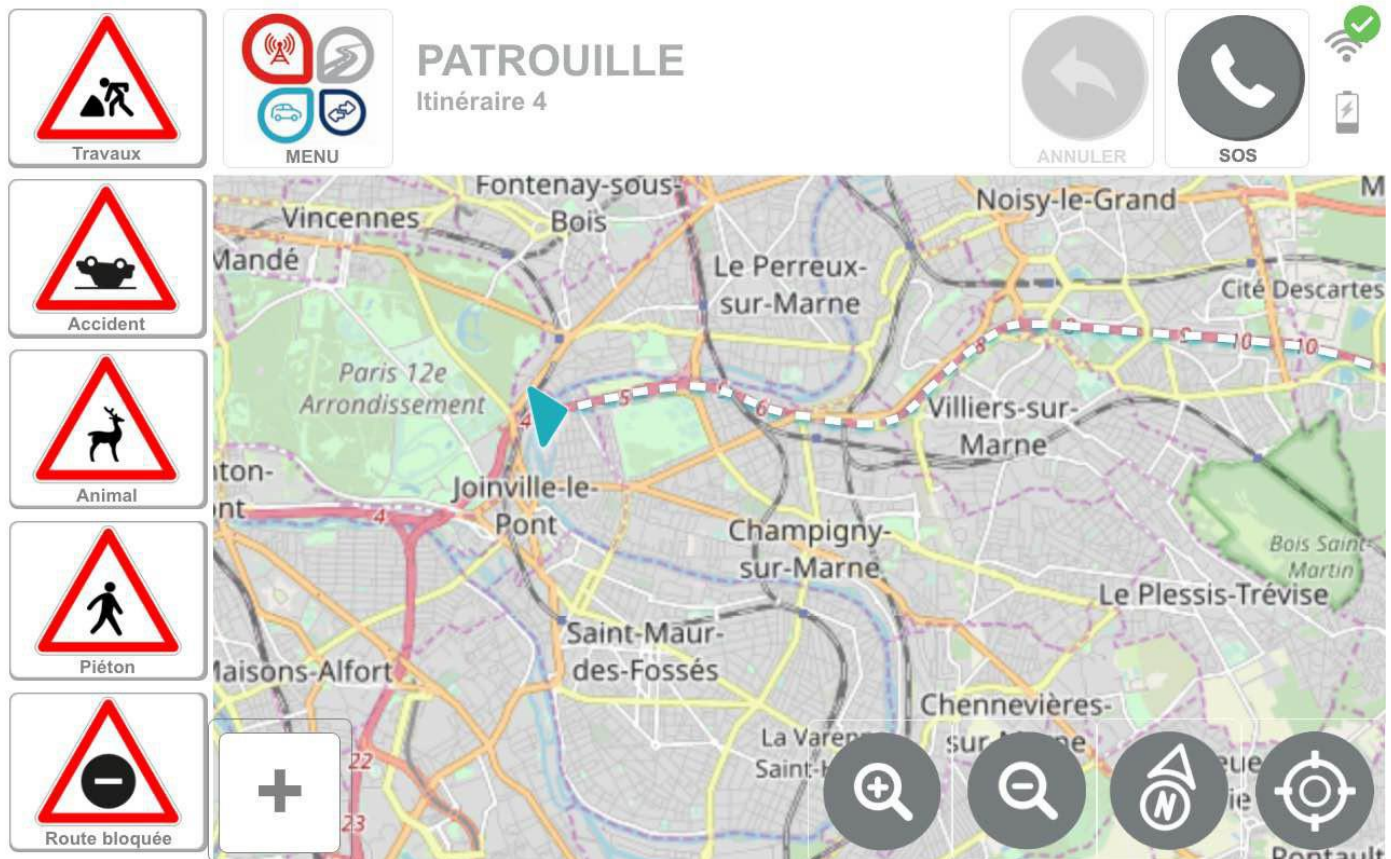


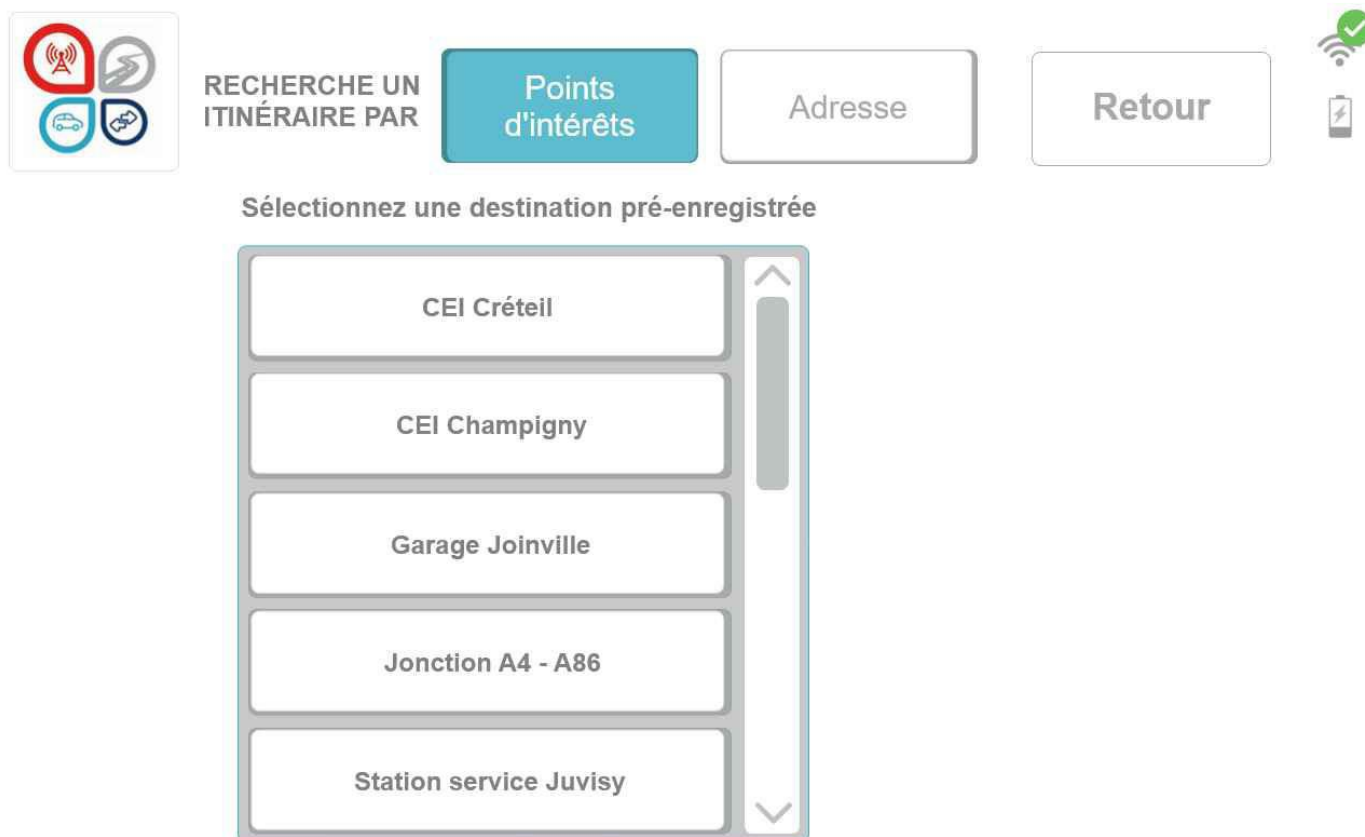
Figure 10 : Map screen

### 4.3.2 Follow an itinerary: GPS mode

ID	2.4.2.2_ter-GPS-001(2)
Component(s)	SCOOP Tablet HMI
Requirement	The itinerary selection shall be accessible through a button preferably positioned on the home screen.
Acceptance	
Additional information	

ID	2.4.2.2_ter-GPS-002(2)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of GPS access button shall be wide enough to be easily used.
Acceptance	
Additional information	At least 3% of the screen

ID	2.4.2.2_ter-GPS-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	The GPS access button shall give access to the input interface of the destination. The destination can be entered: <ul style="list-style-type: none"> <li>□ or by postal address</li> <li>□ or by POI (eg: CEI of XXX).</li> </ul>
Acceptance	
Additional information	



The screenshot shows the SCOOP Tablet HMI interface. At the top left is a logo with four icons: a red circle with a white 'X', a blue circle with a white 'X', a blue circle with a white 'X', and a blue circle with a white 'X'. To the right of the logo is the text "RECHERCHE UN ITINÉRAIRE PAR". Below this text are three buttons: "Points d'intérêts" (blue), "Adresse" (white), and "Retour" (white). To the right of the buttons is a green checkmark icon and a battery icon. Below the buttons is the text "Sélectionnez une destination pré-enregistrée". Below this text is a list of five destinations: "CEI Créteil", "CEI Champigny", "Garage Joinville", "Jonction A4 - A86", and "Station service Juvisy". The list is enclosed in a light blue border with a vertical scrollbar on the right side.

Figure 11 : POI available

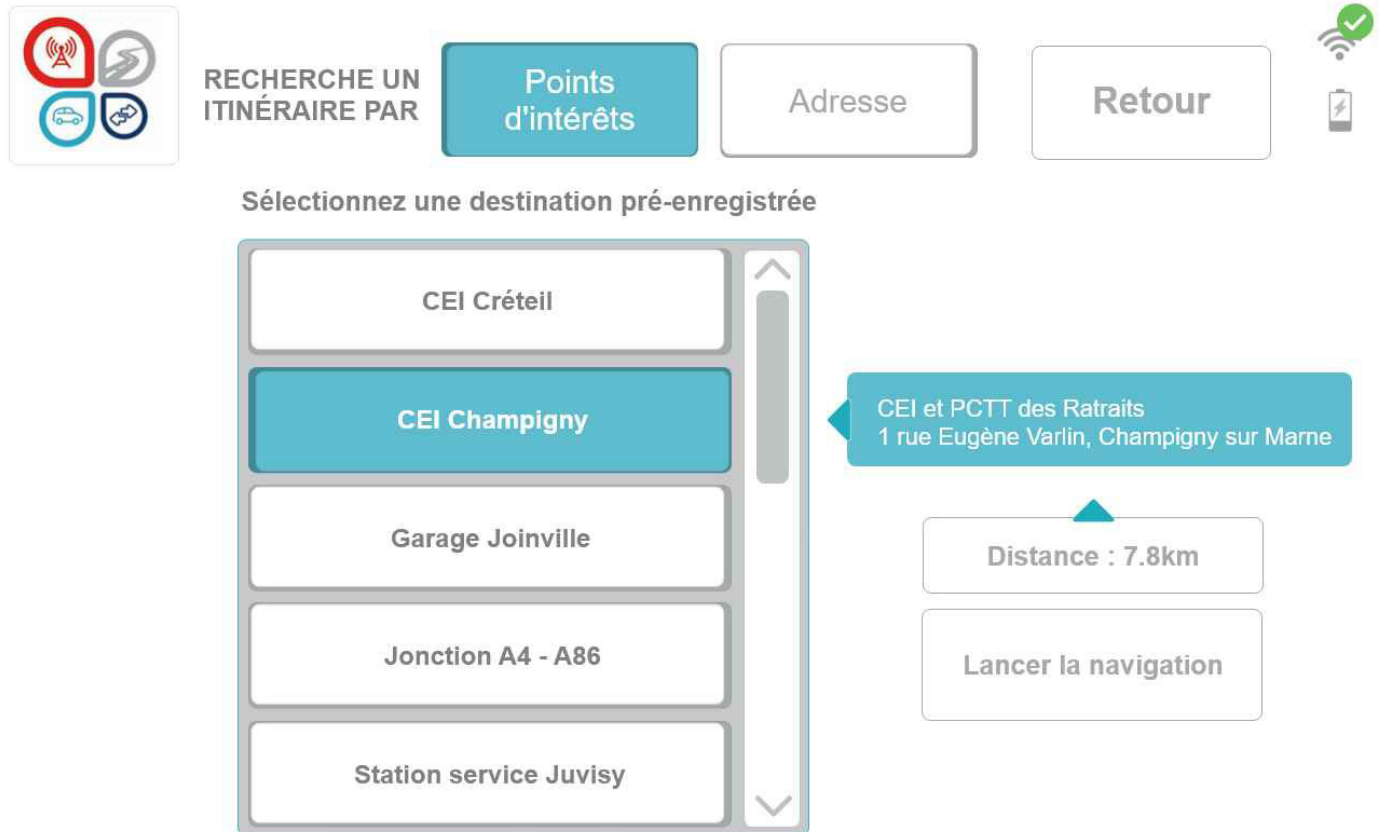


Figure 12 : POI selected

ID	2.4.2.2_ter-GPS-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	When entering a postal address, the usage conventions for fields shall be observed with from top to bottom: <ul style="list-style-type: none"> <li>city</li> <li>street</li> <li>number</li> </ul>
Acceptance	
Additional information	

ID	2.4.2.2_ter-GPS-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	Entering a postal field shall trigger the appearance of a numeric keypad.
Acceptance	
Additional information	The same usage conventions as for the keyboard on the authentication screen are required and are not repeated here (see 2.4.2.2_ter-SEL-013(1)).

RECHERCHE UN ITINÉRAIRE PAR

Points d'intérêts

Adresse

Retour

Entrez une adresse de destination

Ville: Créteil

Rue:

N°:

Virtual keyboard with keys: Q, W, E, R, T, Y, U, I, O, P, [Back], A, S, D, F, G, H, J, K, L, [Return], [Up], Z, X, C, V, B, N, M, [Comma], [Period], [Up], [123], [Globe], [Microphone], [Search], [123], [Enter].

Figure 13 : Postal address input

ID	2.4.2.2_ter-GPS-008(1)
Component(s)	SCOOP Tablet HMI
Requirement	When user starts typing in a field, the SCOOP Tablet HMI shall propose real corresponding proposal to avoid entering an incorrect address.
Acceptance	
Additional information	

ID	2.4.2.2_ter-GPS-009(1)
Component(s)	SCOOP Tablet HMI
Requirement	All postal fields shall be correctly filled by the user before displaying the "Lancer la navigation" button.
Acceptance	
Additional information	



RECHERCHE UN ITINÉRAIRE PAR

Points d'intérêts

Adresse

Retour

Entrez une adresse de destination

Ville: Créteil

Rue: Rue des Archives

N°: 12

Distance : 7.8km

Lancer la navigation

Figure 14 : Postal address selected

ID	2.4.2.2_ter-GPS-006(1)
Component(s)	SCOOP Tablet HMI
Requirement	Selecting a destination (by point of interest or address) shall display the distance from the current position.
Acceptance	
Additional information	

ID	2.4.2.2_ter-GPS-007(1)
Component(s)	SCOOP Tablet HMI
Requirement	By clicking on "Lancer la navigation", the user validates his entry and the system shall display the map interface with the guidance.
Acceptance	
Additional information	



ID	2.4.2.2_ter-GPS-008(1)
Component(s)	SCOOP Tablet HMI
Requirement	The route is displayed on the OSM map with a colored line.
Acceptance	
Additional information	

ID	2.4.2.2_ter-GPS-009(1)
Component(s)	SCOOP Tablet HMI
Requirement	Navigation information shall be provided in a dedicated area in the right of the screen.
Acceptance	
Additional information	

ID	2.4.2.2_ter-GPS-010(1)
Component(s)	SCOOP Tablet HMI
Requirement	Dedicated area of the navigation information shall have a field height $H > \text{or} =$ at 15 mm, accompanied by an orientation pictogram minimum dimension 20mm x 20mm.
Acceptance	
Additional information	

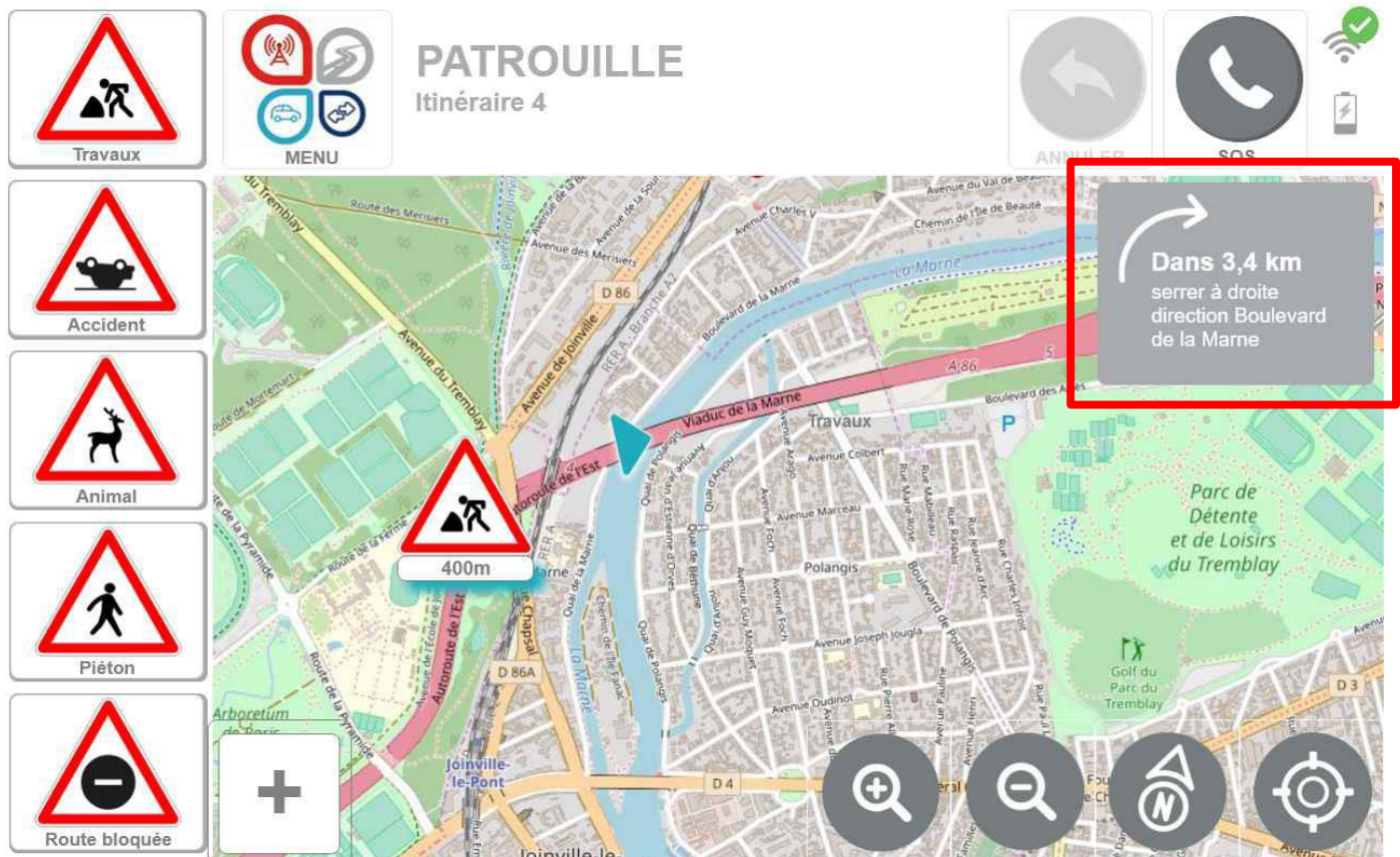


Figure 15 : Dedicated area for navigation information

ID	2.4.2.2_ter-GPS-011(1)
Component(s)	SCOOP Tablet HMI
Requirement	An option to stop guidance shall be provided.
Acceptance	
Additional information	Accessible for example by new access to the "GPS mode" button.

### 4.3.3Circuits management

ID	2.4.2.2_ter-CIR-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	In the particular case of the selection of certain modes such as Patrol or VH, the system shall display an intermediate screen allowing the user to choose a circuit to perform.
Acceptance	
Additional information	



#### SELECTIONNER UN CIRCUIT DE PATROUILLE

A4 W vers A86

A4 W vers A86

A4 W vers A86

A4 W vers A86

A4 W vers A86

A4 W vers A86

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed non risus. Suspendisse lectus tortor, dignissim sit amet, adipiscing nec, ultricies sed, dolor. Cras elementum ultrices diam. Maecenas ligula massa varius a, semper congue, euismod non, mi...

Valider

Retour

Figure 16 : Selection of circuit for patrol activity



<b>ID</b>	<b>2.4.2.2_ter-CIR-002(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	A validation button for the selected circuit allows it to be loaded.
<b>Acceptance</b>	
<b>Additional information</b>	

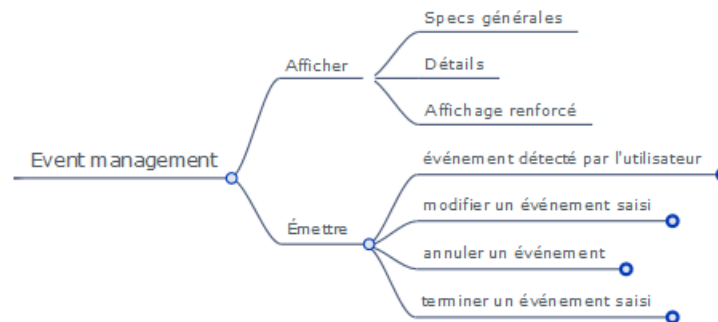
<b>ID</b>	<b>2.4.2.2_ter-CIR-003(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The circuit shall be represented on the OSM map by a colored trace.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-CIR-004(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The same guidance instructions as for a GPS route shall be required.
<b>Acceptance</b>	
<b>Additional information</b>	See chapter 4.3.2; However, the guidance options for a route should be able to be easily deactivated.

<b>ID</b>	<b>2.4.2.2_ter-XXX-005(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	In case of an activity changing, particularly between patrol and intervention, the circuit shall be kept.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-CIR-006(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	A new entry on the GPS access button shall offer the options to pause / resume and stop the circuit guidance.
<b>Acceptance</b>	
<b>Additional information</b>	

## 4.4 Event management



### 4.4.1 Major ergonomic display principles

#### 4.4.1.1 Introduction

The French ITS-projects are a major technological innovation project that will significantly modify the professional environment of road operators. Their purpose is to improve the security of service personnel and users through the exchange of information and alerts about traffic conditions.

Consequently, the appropriation and acceptance issue of the technological system is significant. In order to achieve an optimal handover of the tool, and especially the Scoop application itself, considerable discussion and reflection must be carried out about the ergonomics of the system.

Ergonomics are defined as the "scientific study of the relation between man and his means, methods and work environment" and the application of this knowledge to the design of systems "that can be used with the maximum comfort, security and efficiency by the most people".

Therefore, maximum refinement must be sought to avoid overloading the displays, which should not mix text and mapping.

ID	2.4.2.2_ter-DIS-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The display shall clearly display the map part, the "buttons" part and the information part.
Acceptance	
Additional information	

### 4.4.1.2 Mapping and general information

ID	2.4.2.2_ter-MAP-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The user shall be able to navigate on the map to identify potential events and alerts on the network beyond the current position and its level of zoom.
Acceptance	
Additional information	

ID	2.4.2.2_ter-MAP-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	The zoom level shall be automatically adapted to suit the activity or the density of events.
Acceptance	
Additional information	

Note: the requirements 2.4.2.2\_ter-MAP-001, 2.4.2.2\_ter-MAP-005, and 2.4.2.2\_ter-MAP-006 have been deleted.

ID	2.4.2.2_ter-MAP-007(1)
Component(s)	SCOOP Tablet HMI
Requirement	The quality of information shall be reflected in the display in the form of full circle on the bottom of the icon: <ul style="list-style-type: none"> <li>level 1 for a confirmed event,</li> <li>level 2 for an event of the "Possibility of" type</li> <li>level 3 for an event of the "Risk of".</li> </ul>
Acceptance	
Additional information	



ID	2.4.2.2_ter-MAP-008(2)
Component(s)	SCOOP Tablet HMI
Requirement	The emitted events shall be visually distinguished from the received events by a turquoise background on the under sign.
Acceptance	

## Additional information

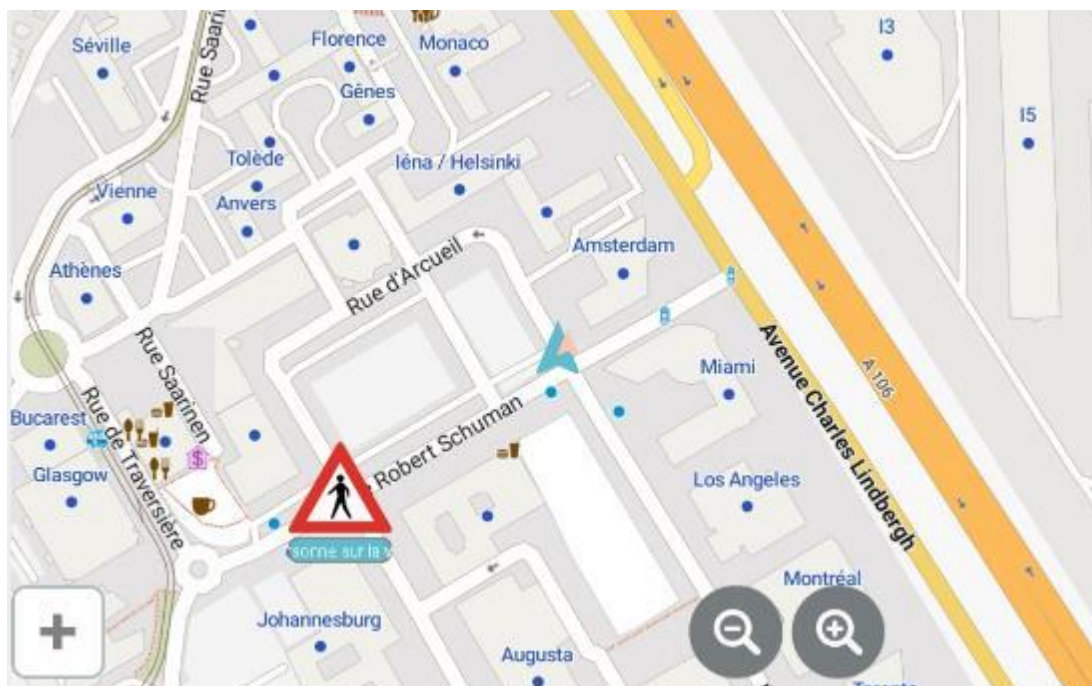


Figure 17 : Emitted event with a turquoise background

### 4.4.1.3 Information banner

ID	2.4.2.2_ter-INF-001(2)
Component(s)	SCOOP Tablet HMI
Requirement	An alert about the next event shall be provided in the same dedicated area in the right of the screen as navigation information.
Acceptance	
Additional information	See chapter 4.3.2

ID	2.4.2.2_ter-INF-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	<p>The next event information shown in the banner shall be limited to</p> <ul style="list-style-type: none"> <li>❑ the name of the use case,</li> <li>❑ the distance to the event,</li> <li>❑ an event pictogram,</li> <li>❑ possible drawdown lane,</li> <li>❑ possible speed limit,</li> <li>❑ reliability indicated by circles</li> </ul>
Acceptance	

## Additional information

See chapter 4.4.1.2 for reliability

ID	2.4.2.2_ter-INF-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of the event pictogram in the dedicated area shall be of minimum dimension 20mm x 20mm in order to ensure the best possible visibility.
Acceptance	
Additional information	

The requirements 2.4.2.2\_ter-INF-004, 2.4.2.2\_ter-INF-006, 2.4.2.2\_ter-INF-007 have been deleted.

ID	2.4.2.2_ter-INF-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	If navigation is active and an event alert must be displayed, the event alert shall be displayed under the navigation information.
Acceptance	
Additional information	

ID	2.4.2.2_ter-INF-009(1)
Component(s)	SCOOP Tablet HMI
Requirement	The alerts display and navigation banner shall be not interactive and not deactivatable.
Acceptance	
Additional information	





Figure 18 : Navigation and next event information displayed in dedicated area

## 4.4.2 Enhancing information

ID	2.4.2.2_ter-ENH-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The concept retained for the specific event display should be a black screen and a sound alarm.
Acceptance	
Additional information	

Note: the requirements 2.4.2.2\_ter-ENH-001 and 2.4.2.2\_ter-ENH-003 have been deleted.

ID	2.4.2.2_ter-ENH-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	A sound alarm, accompanying the black screen, shall be: <ul style="list-style-type: none"> <li>□ Punctual: it sounds only once per event and is brief,</li> <li>□ non-stressful: to redirect the driver's attention.</li> <li>□ Unambiguous: it must indicate to the driver the action to be taken, not the event.</li> </ul>
Acceptance	
Additional information	

ID	2.4.2.2_ter-ENH-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	The black screen shall disappear immediately if the screen is touched below the configuration time.
Acceptance	
Additional information	

## 4.4.3 Inputting of events

### 4.4.3.1 General specifications

One of the MMI's functions is the user's input of events encountered on the network.

ID	2.4.2.2_ter-GEN-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	Given the priority of driving tasks, this input shall be as intuitive as possible to limit the driver's distraction.
Acceptance	
Additional information	For example, a button (input an event, close a window, exit, emergency call, etc.) should always be at the same place on the screen. This results in minimising the number of actions and maximising the icons' legibility.

ID	2.4.2.2_ter-GEN-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	Inputting basic information about an event should not take more than 2 clicks in traffic.
Acceptance	
Additional information	



### 4.4.3.2 Event creation – Priority list

<b>ID</b>	2.4.2.2_ter-SLI-001(2)
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	Whatever mode activated, the five most relevant events for that mode shall be displayed in a priority list on the left of the screen.
<b>Acceptance</b>	
<b>Additional information</b>	<ul style="list-style-type: none"> <li>❑ in user mode, all “user” use cases are displayed in this quick entry column;</li> <li>❑ in operator mode, only the icons "authorized" by the activity are available in quick entry. The "user" use cases are then accessible through a "Plus" (see chapter 4.4.3.3) menu except in the case where they all fit in this quick entry menu. In the latter case, a horizontal separation materializes the difference between “user” use case and “operator” use case;</li> </ul>

<b>ID</b>	2.4.2.2_ter-SLI-002(2)
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	By clicking on an event type icon on the left of the screen the event sign shall be immediately displayed on the map, at the location of the vehicle, without asking for confirmation
<b>Acceptance</b>	
<b>Additional information</b>	



Figure 19 : Display on the left of quick access events

#### 4.4.3.3 Event creation – Full list

ID	2.4.2.2_ter-FLI-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The complete list of events shall be displayed by clicking on the "plus" button.
Acceptance	
Additional information	

ID	2.4.2.2_ter-FLI-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The "plus" button shall be displayed in or close to the priority list.
Acceptance	
Additional information	

ID	2.4.2.2_ter-FLI-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	By clicking on the "plus" button, a window shall be displayed with the maximum hierarchical list of all the events that can be declared in the in-process activity.
Acceptance	
Additional information	

ID	2.4.2.2_ter-FLI-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	On the full list window access with “Plus” button, clicking on an event icon immediately shall declare it immediately on the position of the vehicle.
Acceptance	
Additional information	



Figure 20 : Full list of available events on 'Plus' button action

#### 4.4.3.4 Event update

ID	2.4.2.2_ter-UPD-001(2)
Component(s)	SCOOP Tablet HMI
Requirement	The user shall be able to update an event by clicking on the sign
Acceptance	
Additional information	

ID	2.4.2.2_ter-UPD-002(1)
Component(s)	SCOOP Tablet HMI

<b>Requirement</b>	<p>On the update screen, the user shall be able to:</p> <ul style="list-style-type: none"> <li>❑ modify its location: by default, it is placed on the vehicle's position when the event is created, but it is possible to modify it manually on the map;</li> <li>❑ modify its direction: by default, on the current direction of travel, but it can be indicated in both directions or the opposite direction;</li> <li>❑ open the road operator specific application;</li> <li>❑ end the event.</li> </ul>
<b>Acceptance</b>	
<b>Additional information</b>	



Figure 21 : Modify extern event

#### 4.4.3.5 Add ponctual events directly on the map by long press

<b>ID</b>	2.4.2.2_ter-EXT-001(1)
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	A long press (> 2s) at a location on the map shall open the full list window (as for pressing the "plus" button).
<b>Acceptance</b>	

Additional information	Same windows described in chapter 4.4.3.3
ID	2.4.2.2_Vro-EXT-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The user shall be able then select the type of event he wants to create, or press the “back” or “cancel” button
Acceptance	
Additional information	

<b>ID</b>	<b>2.4.2.2_ter-EXT-003(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	On the full list window access with long press on the map, clicking on an event icon immediately shall declare it immediately on the position entered by the user (with the long press).
<b>Acceptance</b>	
<b>Additional information</b>	It is not possible by this means to create vehicle centric events.

#### 4.4.3.6 Auto triggered and mobile event

<b>ID</b>	<b>2.4.2.2_ter-CEN-001(2)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The HMI management for auto triggering and mobile event shall stand out from the other events.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-CEN-002(2)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	Once activated, the mobile event button shall be display like a “button down” and a formalism indicating that an action is in progress.
<b>Acceptance</b>	
<b>Additional information</b>	

Note : the requirements 2.4.2.2\_ter-CEN-003 and 2.4.2.2\_ter-CEN-004 have been deleted.

<b>ID</b>	<b>2.4.2.2_ter-CEN-005(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The automatic triggering on a centred event shall be announced by an AUTO banner on the event launch button.
<b>Acceptance</b>	
<b>Additional information</b>	For example, the user is warned that the snow removal event will be started automatically with the activation of the blade and stopped automatically. The absence of this AUTO banner indicates that this event must be started manually.

<b>ID</b>	<b>2.4.2.2_ter-CEN-006(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	In the case of a mobile event triggered manually, pressing this button a second time shall stop the event.
<b>Acceptance</b>	
<b>Additional information</b>	





Figure 22 : Manual centred event

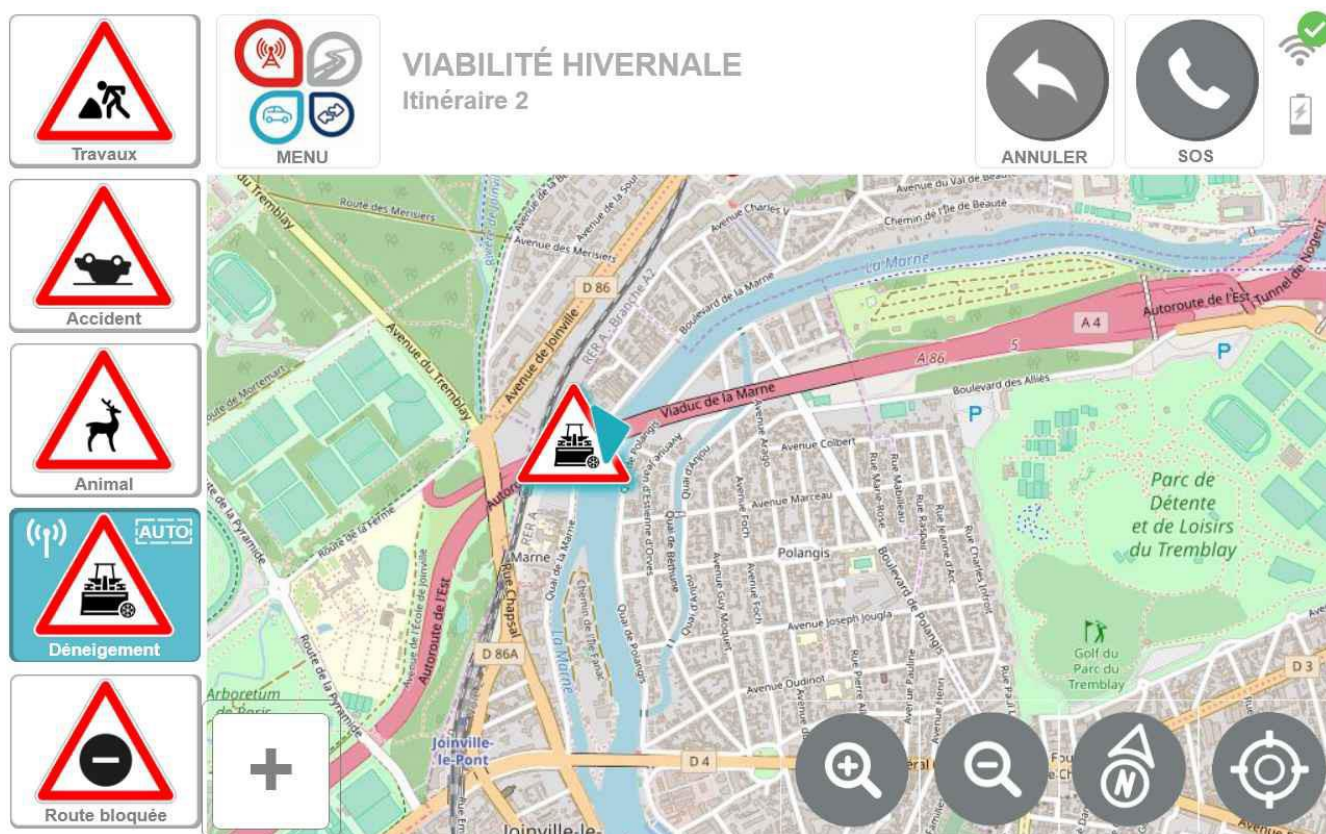


Figure 23 : Automatic centred event



#### 4.4.3.7 Representation of a linear event

ID	2.4.2.2 ter-LIN-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	In this case of linear event, not fixed but spread out (for example: work area), a yellow line over the road shall indicate the extent of this event.
Acceptance	
Additional information	



Figure 24 : Linear event

#### 4.4.3.8 Event cancellation

ID	2.4.2.2 ter-CAN-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The cancellation of an event shall be done through a distinctive button completed with the text: "Annuler" located at the top of the screen.
Acceptance	
Additional information	



ID	2.4.2.2_ter-CAN-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	If there is no user action to cancel, the cancellation button shall be in inactive state (gray button).
Acceptance	
Additional information	

ID	2.4.2.2_ter-CAN-004(2)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of cancellation button will be wide enough to be easily used.
Acceptance	
Additional information	At least 2% of the screen



Figure 25 : Event cancellation

## 4.4.4 Prioritisation of displays

The preceding recommendations concerning displays (display of all items on the map and description of two events in a sidebar) limit potential conflicts of managing events. Nevertheless, there is the possibility that two events (or more) can occur with intercepting areas of influence (e.g., accident on a slippery road).

Note: The requirement 2.4.2.2\_ter-PRI-001 has been deleted.

ID	2.4.2.2_ter-PRI-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	When the density of events or their proximity makes it impossible to distinguish them on the screen, these events should be aggregated into a stack with a bubble indicates the number of events thus aggregated.
Acceptance	
Additional information	

ID	2.4.2.2_ter-PRI-003(2)
Component(s)	SCOOP Tablet HMI
Requirement	In a stack of events, the first event should remain displayed in full. It shall be prioritized by severity.
Acceptance	
Additional information	See severity in 2.4.2.2_ter-PRI-004



Figure 26 : Stack of events

ID	2.4.2.2_ter-PRI-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	The priorities between the different use cases should be managed according to the following hierarchy, independently of the quality of the event.
Acceptance	
Additional information	

1.A2-D10 ;	2.A3-D11 ;	3.A2-D11 ;
4.D7	5.D5 ;	6.A2-D5 ;
7.A3-D5 ;	8.B2b ;	9.D3 ;
10.D2b ;	11.A3-D3 ;	12.A3-D2b ;
13.B3b	14.B3c ;	15.D4b ;
16.A2-D4b ;	17.A2-D4a ;	18.D4a ;
19.D1 ;	20.A2-D1 ;	21.D2a ;
22.A3-D2a ;	23.B1b (yc enhanced RWW) ;	24.B1a (yc enhanced RWW) ;
25.B3a ;	26.B2a ;	27.B2c ;
28.D8 ;	29.A3-D8 ;	30.D6 ;
31.A2-D6 ;	32.E6 ;	33.A2-E6

ID	2.4.2.2_ter-PRI-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	The prioritisations shall be valid irrespective of the in-process activity (operator or user).
Acceptance	
Additional information	

ID	2.4.2.2_ter-PRI-006(1)
Component(s)	SCOOP Tablet HMI
Requirement	The quality of an event shall be the last prioritisation criterion: for two identical use cases at an equivalent display distance, the quality index is then used to define the prioritisation.
Acceptance	
Additional information	



## 4.5 VMS management

This chapter describes how VMS should be displayed. As a reminder, variable message signs (Panneaux à Messages Variables: PMV, in French) are road signs designed to alert or inform the road user. A VMS can display a pictogram or written messages, which can be displayed alternately, or on, or off, or flashing as needed.

VMS are installed on gantries overlooking roadways, particularly motorways, on gallows or side posts.



Figure 27 : Example of VMS

ID	2.4.2.2_ter-VMS-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	VMS shall be provided in the same dedicated area on the right of the screen as information about the next event and navigation information.
Acceptance	
Additional information	See chapter 4.3.2

ID	2.4.2.2_ter-VMS-008(1)
Component(s)	SCOOP Tablet HMI
Requirement	If the VMS include two pages, the Vro-ITS-S shall display the pages through a switching routine.
Acceptance	
Additional information	N/A

ID	2.4.2.2_ter-VMS-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	An alert shall have priority over the VMS display.
Acceptance	
Additional information	Priority is given to the event, being a road safety alert unavailable by other means while the VMS duplicates information visible in the real world.

ID	2.4.2.2_ter-VMS-003(1)
Component(s)	SCOOP Tablet HMI

Requirement	When a VMS is displayed, it shall meet the following criteria: <ul style="list-style-type: none"> <li>not hide any controls or event reports (including CCH buttons when displayed)</li> <li>not obscure the display of the position of the vehicle and its immediate surroundings on the map</li> <li>not hide the 'Zones d'ombre' indicator</li> </ul>
Acceptance	
Additional information	

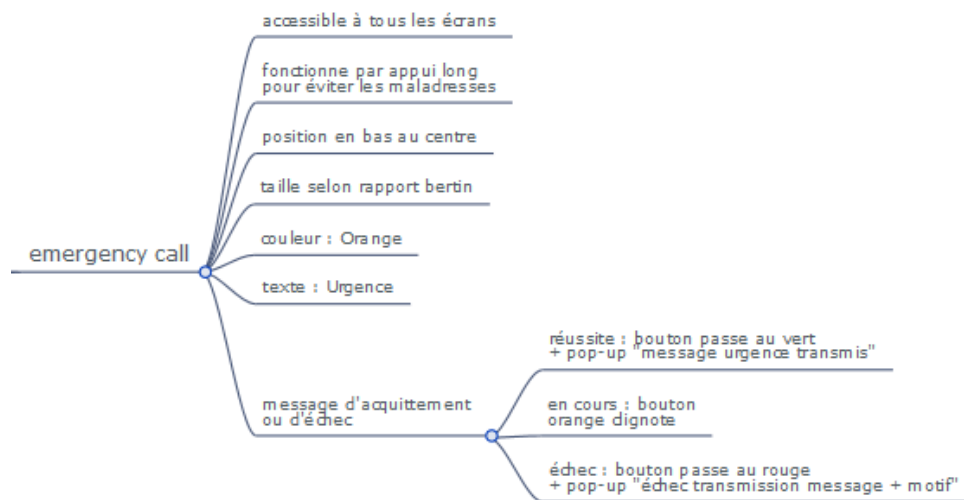
ID	2.4.2.2_ter-VMS-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	The size of the displayed VMS shall be adapted to the content of the message so as to take up as little space as possible on the screen and not to obstruct visibility to the rest.
Acceptance	
Additional information	The black area is reduced as much as possible (no need to present a banner resembling the physical panel in every way). See on the two models below. For equivalent font size and readability, the right-hand PMV is less of a hindrance to the readability of the rest of the application. If nothing is written in a line, this line shall not be displayed.



Figure 28 : Adapted VME size

ID	2.4.2.2_ter-VMS-007(1)
Component(s)	SCOOP Tablet HMI
Requirement	A dynamic speed limit shall be <ul style="list-style-type: none"> <li>at the bottom left</li> <li>without VMS outline (road sign only)</li> <li>with yellow shading.</li> </ul>
Acceptance	
Additional information	

## 4.6 Emergency call



ID	2.4.2.2_ter-SOS-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The SOS button shall be accessible from the home page and the map interface, therefore accessible in the vast majority of use cases and accessible in at most one click.
Acceptance	
Additional information	

ID	2.4.2.2_ter-SOS-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The SOS button shall always be positioned in the same place.
Acceptance	
Additional information	

ID	2.4.2.2_ter-SOS-003(1)
Component(s)	SCOOP Tablet HMI
Requirement	The SOS button shall be distinctive and completed with captioned text.
Acceptance	
Additional information	

ID	2.4.2.2_ter-SOS-004(2)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of the SOS button will be wide enough to be easily used.
Acceptance	
Additional information	At least 2% of the screen

ID	2.4.2.2_ter-SOS-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	The SOS action button shall work on long press (2 seconds).
Acceptance	
Additional information	

ID	2.4.2.2_ter-SOS-006(1)
Component(s)	SCOOP Tablet HMI
Requirement	After a long press on SOS button (2 second), a feedback screen shall be immediately displayed.
Acceptance	
Additional information	



Figure 29 : SOS feedback screen

ID	2.4.2.2_ter-SOS-007(1)
Component(s)	SCOOP Tablet HMI
Requirement	When the SOS button has been activated, the user shall have 5 seconds to cancel it.
Acceptance	
Additional information	

ID	2.4.2.2 ter-SOS-008(1)
Component(s)	SCOOP Tablet HMI
Requirement	If the SOS message has been transmitted, the system shall display it clearly.
Acceptance	
Additional information	



Figure 30 : Successful SOS message

ID	2.4.2.2 ter-SOS-009(1)
Component(s)	SCOOP Tablet HMI
Requirement	In case of failure, the SCOOP Tablet HMI shall display the failure status and the number to call.
Acceptance	
Additional information	



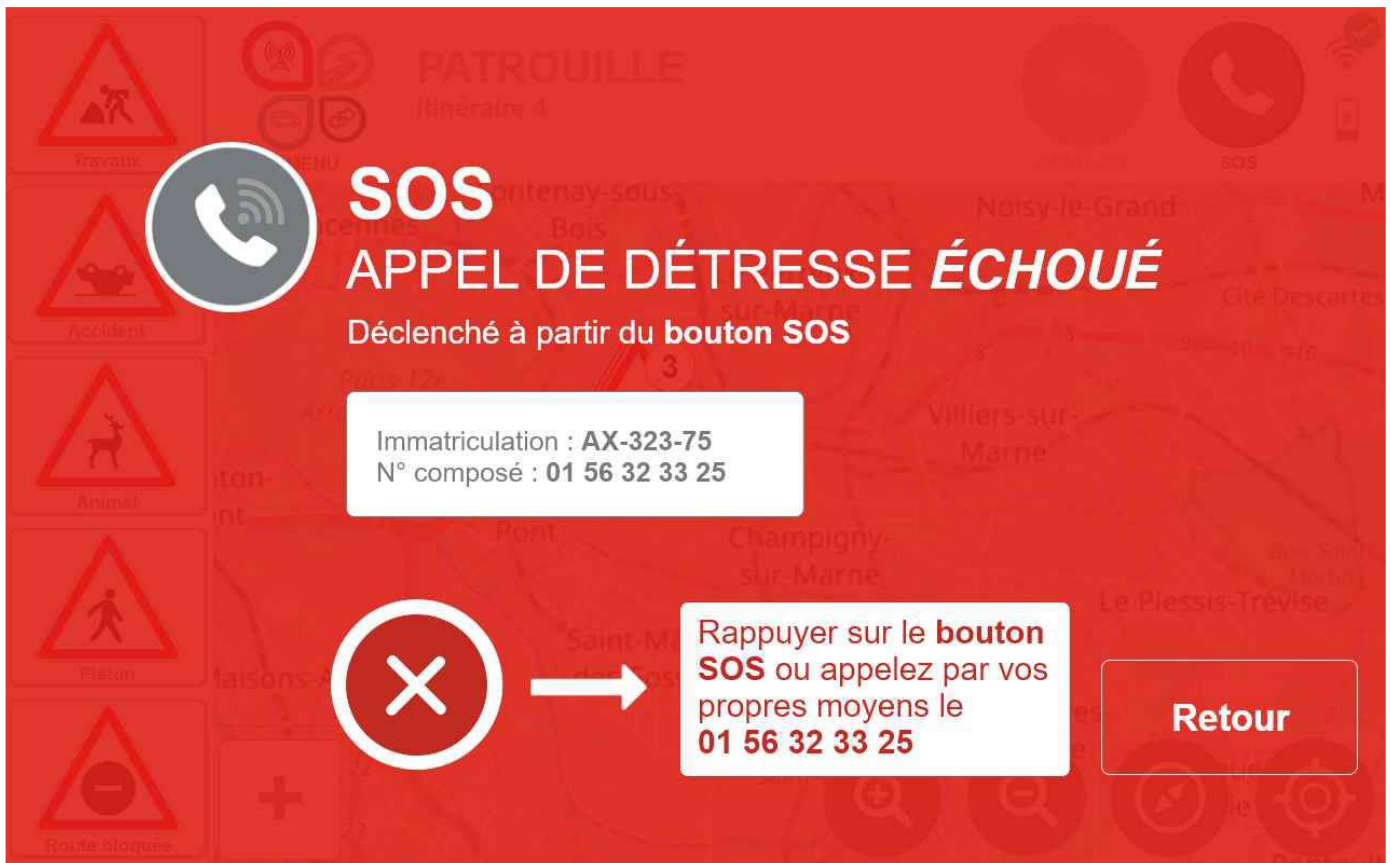
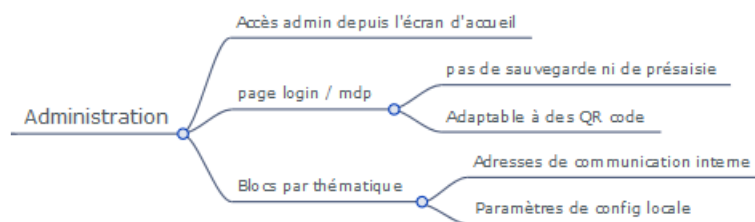


Figure 31 : Failure SOS message

## 4.7 Administration



ID	2.4.2.2_ter-ADM-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	Access to the administration menu shall be from the home page via a dedicated button.
Acceptance	
Additional information	see chapter 4.2.2

<b>ID</b>	<b>2.4.2.2_ter-ADM-002(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The administration button shall be distinctive and completed with captioned text.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-ADM-003(2)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The dimension of the administration button will be wide enough to be easily used.
<b>Acceptance</b>	
<b>Additional information</b>	At least 3% of the screen

<b>ID</b>	<b>2.4.2.2_ter-ADM-004(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The chosen authentication process shall be a login / password process.
<b>Acceptance</b>	
<b>Additional information</b>	

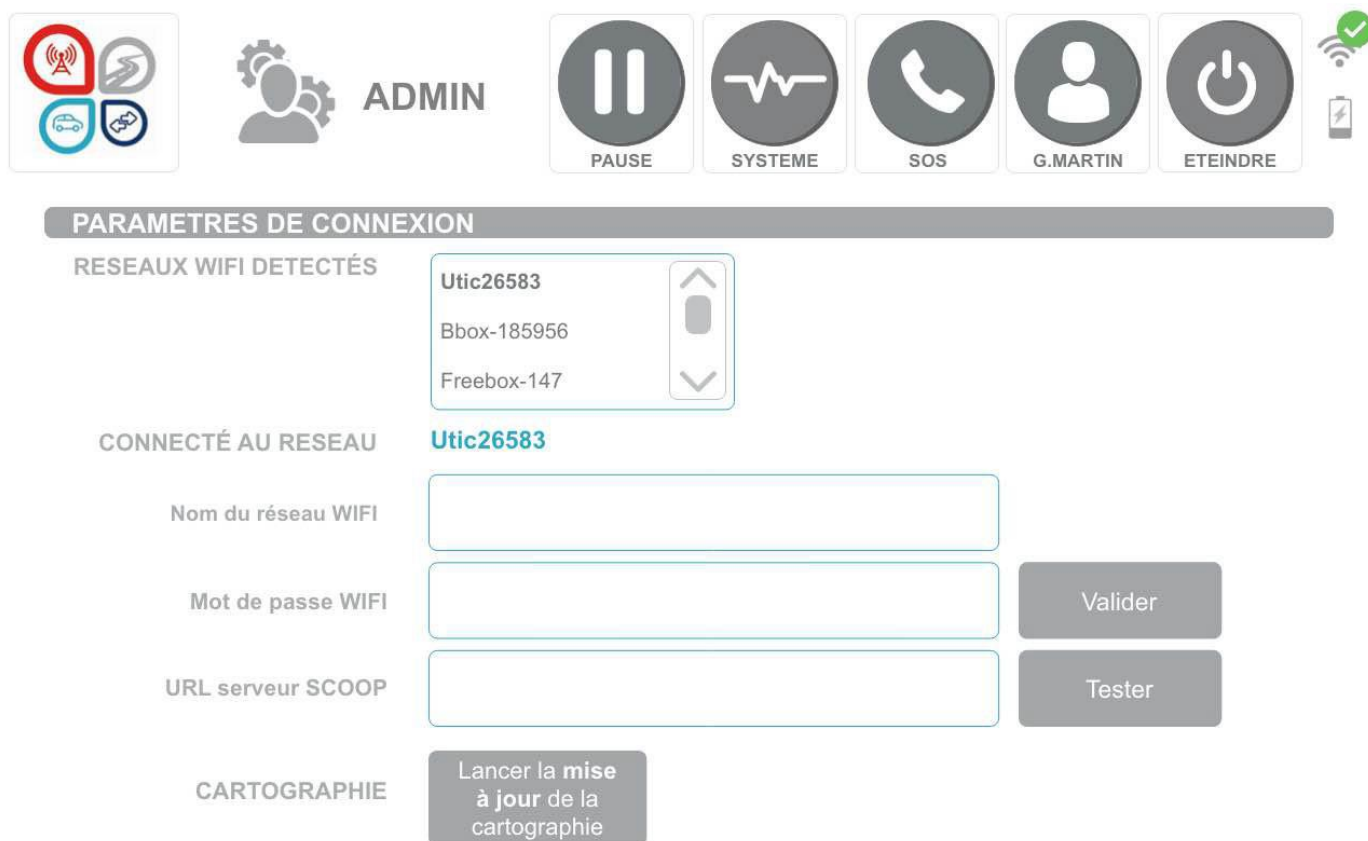
<b>ID</b>	<b>2.4.2.2_ter-ADM-005(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	Entering an administration identification field shall trigger the appearance of a numeric keypad.
<b>Acceptance</b>	
<b>Additional information</b>	The same usage conventions as for the keyboard on the authentication screen are required and are not repeated here (see 2.4.2.2_ter-SEL-013(1)).

<b>ID</b>	<b>2.4.2.2_ter-ADM-006(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	If the user is already logged (through operator activity for example) and has sufficient rights to access it, no additional authentication shall be required.
<b>Acceptance</b>	
<b>Additional information</b>	

<b>ID</b>	<b>2.4.2.2_ter-ADM-007(1)</b>
<b>Component(s)</b>	SCOOP Tablet HMI
<b>Requirement</b>	The SCOOP tablet shall not save cached credentials.
<b>Acceptance</b>	
<b>Additional information</b>	

ID	2.4.2.2_ter-ADM-008(1)
Component(s)	SCOOP Tablet HMI
Requirement	After successful authentication, the SCOOP Tablet shall display the administrator screen with configuration fields of the Scoop application with a breakdown of thematic blocks.
Acceptance	
Additional information	See deliverable 2.4.2.2bis

ID	2.4.2.2_ter-ADM-009(1)
Component(s)	SCOOP Tablet HMI
Requirement	Entering a configuration field shall trigger the appearance of a numeric keypad.
Acceptance	
Additional information	The same usage conventions as for the keyboard on the authentication screen are required and are not repeated here (see 2.4.2.2_ter-SEL-013(1)).



**ADMIN**

**PARAMETRES DE CONNEXION**

**RESEAUX WIFI DETECTÉS**

- Utic26583
- Bbox-185956
- Freebox-147

**CONNECTÉ AU RESEAU** **Utic26583**

Nom du réseau WIFI

Mot de passe WIFI

URL serveur SCOOP

**CARTOGRAPHIE**

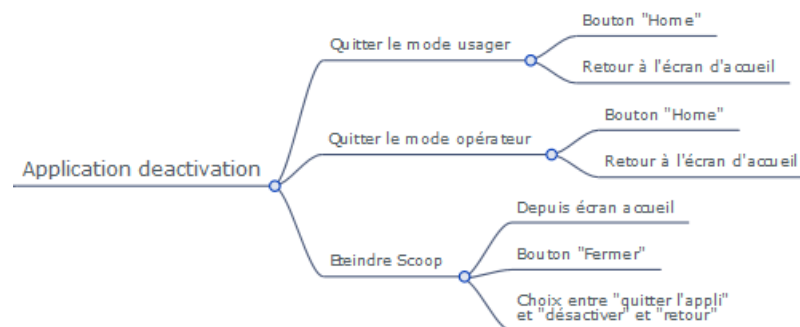
Lancer la mise à jour de la cartographie

Valider

Tester

Figure 32 : Administration screen

## 4.8 Application deactivation



ID	2.4.2.2_ter-DEA-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	To exit user, operator or administrator screen, the user shall be able to press a "Home" button which must bring him to the home screen.
Acceptance	
Additional information	See Chapter 4.2.2

ID	2.4.2.2_ter-DEA-002(1)
Component(s)	SCOOP Tablet HMI
Requirement	The home button shall be distinctive and located in the top of the screen.
Acceptance	
Additional information	

ID	2.4.2.2_ter-DEA-003(2)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of the home button will be wide enough to be easily used.
Acceptance	
Additional information	At least 2% of the screen

ID	2.4.2.2_ter-DEA-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	A press on home button shall not deactivated user's rights.
Acceptance	
Additional information	

ID	2.4.2.2_ter-DEA-005(1)
Component(s)	SCOOP Tablet HMI
Requirement	A user shall be able to disconnect himself by pressing on the user authentication button.
Acceptance	
Additional information	see chapter 4.2.3

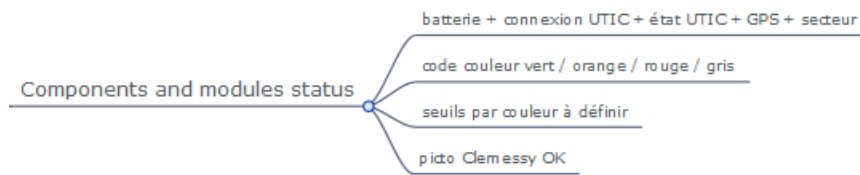
ID	2.4.2.2_ter-DEA-006(1)
Component(s)	SCOOP Tablet HMI
Requirement	To quit the Scoop application and thus deactivate it, the user shall be able to press an "Eteindre" button.
Acceptance	
Additional information	See Chapter 4.2.2

ID	2.4.2.2_ter-DEA-007(1)
Component(s)	SCOOP Tablet HMI
Requirement	The "Eteindre" button shall be distinctive, located in the top of the screen and completed with captioned text.
Acceptance	
Additional information	

ID	2.4.2.2_ter-DEA-008(2)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of the "Eteindre" button will be wide enough to be easily used.
Acceptance	
Additional information	At least 2% of the screen

ID	2.4.2.2_ter-DEA-009(1)
Component(s)	SCOOP Tablet HMI
Requirement	A confirmation pop-up shall be displayed before deactivate and shut down the application.
Acceptance	
Additional information	

## 4.9 Component and module status



ID	2.4.2.2_ter-STA-001(1)
Component(s)	SCOOP Tablet HMI
Requirement	The SCOOP Tablet HMI shall be able to inform the user of temporary SCOOP disruptions (ex: signalling unavailable but possibility of having GPS navigation) on the screen at any time.
Acceptance	
Additional information	

ID	2.4.2.2_ter-STA-002(2)
Component(s)	SCOOP Tablet HMI
Requirement	The ICPU / tablet connection / module status and the battery level shall be displayed on the home screen, in a dedicated insert at the top right of the screen.
Acceptance	
Additional information	

ID	2.4.2.2_ter-STA-003(2)
Component(s)	SCOOP Tablet HMI
Requirement	The ICPU / tablet connection / module status shall be resumed in three modes: <ul style="list-style-type: none"> <li><input type="checkbox"/> Operational</li> <li><input type="checkbox"/> Degraded</li> <li><input type="checkbox"/> Failure mode.</li> </ul>
Acceptance	
Additional information	

ID	2.4.2.2_ter-STA-004(1)
Component(s)	SCOOP Tablet HMI
Requirement	The color of battery icon shall evolve in function of the level of the battery.
Acceptance	
Additional information	



ID	2.4.2.2_ter-STA-005(2)
Component(s)	SCOOP Tablet HMI
Requirement	In operational mode, the SCOOP Tablet HMI shall display a 'green check' near the connection icon.
Acceptance	
Additional information	



ID	2.4.2.2_ter-STA-006(1)
Component(s)	SCOOP Tablet HMI
Requirement	In degraded mode, the SCOOP Tablet HMI shall display a 'orange exclamation point' near the connection icon and on each activity buttons.
Acceptance	
Additional information	



Figure 33 : Degraded mode

ID	2.4.2.2 ter-STA-007(1)
Component(s)	SCOOP Tablet HMI
Requirement	In failure mode, the SCOOP Tablet HMI shall display a 'red cross' near the connection icon and on each activity buttons.
Acceptance	
Additional information	



Figure 34 : Failure mode

ID	2.4.2.2 ter-STA-008(1)
Component(s)	SCOOP Tablet HMI
Requirement	To access to all status, the user shall be able to press a "Système" button.
Acceptance	
Additional information	See Chapter 4.2.2

ID	2.4.2.2 ter-STA-009(1)
Component(s)	SCOOP Tablet HMI
Requirement	The "Système" button shall be distinctive, located in the top of the screen and completed with captioned text.
Acceptance	
Additional information	



ID	2.4.2.2_ter-STA-010(2)
Component(s)	SCOOP Tablet HMI
Requirement	The dimension of the "Système" button will be wide enough to be easily used.
Acceptance	
Additional information	At least 2% of the screen

ID	2.4.2.2_ter-STA-011(1)
Component(s)	SCOOP Tablet HMI
Requirement	All required components shall be displayed distinctively and completed with captioned text.
Acceptance	
Additional information	

Note : the requirement 2.4.2.2\_ter-STA-012 has been deleted.



Figure 35 : Status interface