



Reform of Emergency communications in France

Presented by :

Michel Monneret - *Head of the Digital Agency for Civil Protection (ANSC)*

Romain Moutard - *Programme Director at the Ministry of the Interior*

Guillaume Lambert - *Head of the programme Réseau Radio du Futur (RRF)*

4 May 2021

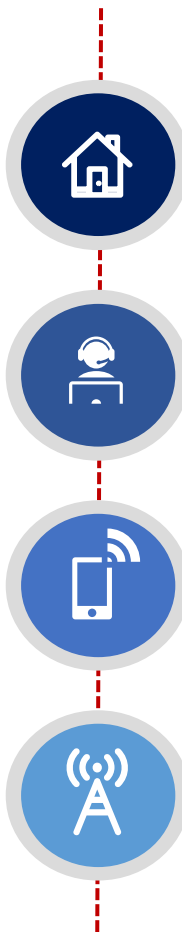
Agenda

1 - CURRENT SITUATION: FRANCE'S EMERGENCY CALLS HANDLING SYSTEM

- **Current emergency calls handling system in France** - Romain Moutard

3 - REFORM OF EMERGENCY COMMUNICATIONS IN FRANCE IN THE CONTEXT OF THE EUROPEAN LEGISLATION

- **Advanced Mobile Location** – Michel Monneret
- **ESInet / SECOURIR** – Michel Monneret
- **FR –ALERT** - Romain Moutard
- **E-call** – Guillaume Lambert



2 – REFORMS AND PROJECTS RELATED TO FRANCE'S EMERGENCY CALLS HANDLING SYSTEM

NexSIS 18-112 – Michel Monneret
Projected emergency calls handling system – Romain Moutard

4 - OTHER PLANNED PROJECTS

Réseau Radio du Futur (RRF) – Guillaume Lambert



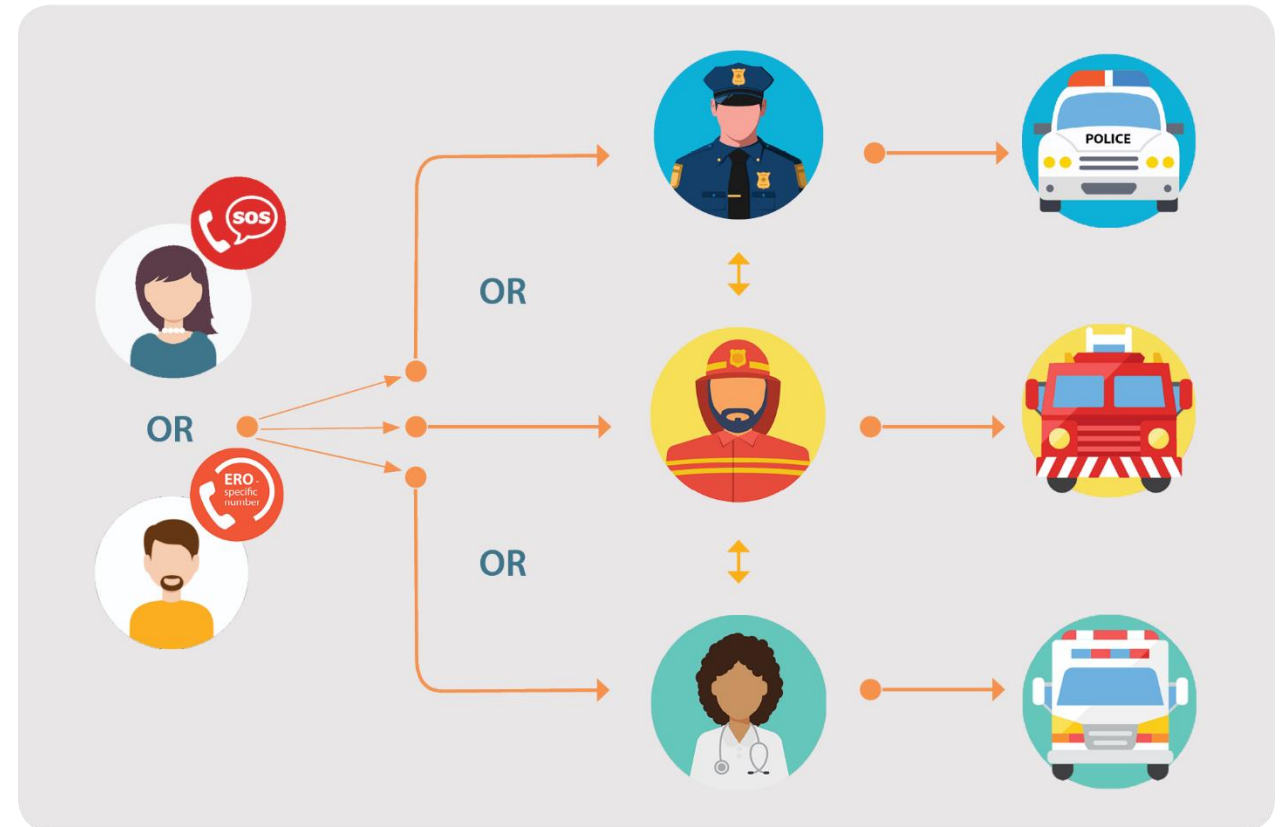
Current situation: France's emergency calls handling system

Emergency calls handling system in France



Current situation

- There are **13 emergency numbers** in France, which co-exist with the European emergency number 112.
- There are over **450 Public Safety Answering Point (PSAPs)** for the **4 main emergency numbers** (112, 18, 17, 15).
- There is **no dedicated structure** handling **112** calls, which are routed to one of the national emergency services.
- PSAPs can only receive **voice calls**.

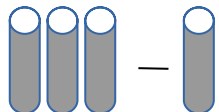




Reforms and projects related to France's emergency calls handling system

Fire and Rescue Services' (FRS) systems

Today



IT systems are **partitioned** and do not take advantage of the power of the **digital revolution**.

→ Phones and radios are the main emergency communication tools, data is not sharable.

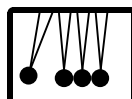


The procurement system has shown its limits in terms of **cost-effectiveness** and **innovation**.



Sometimes, local technical environments are **fragile**.

→ Security levels depend on local capabilities.



FRS' systems are **not interoperable** with other emergency services systems.



Tomorrow:



NexSIS 
SI des Secours de nouvelle génération



NexSIS 18-112 is an **open, user-oriented** and **scalable system**, allowing for a greater **mobility** and a better use of **data**.

→ Communication will be unified and information-sharing mechanisms will be improved.



All the FRS will benefit from the **best technologies** while **decreasing their expenses**.



The national technical environment is **safer**.

→ The digital infrastructure will belong to the Ministry of Interior.

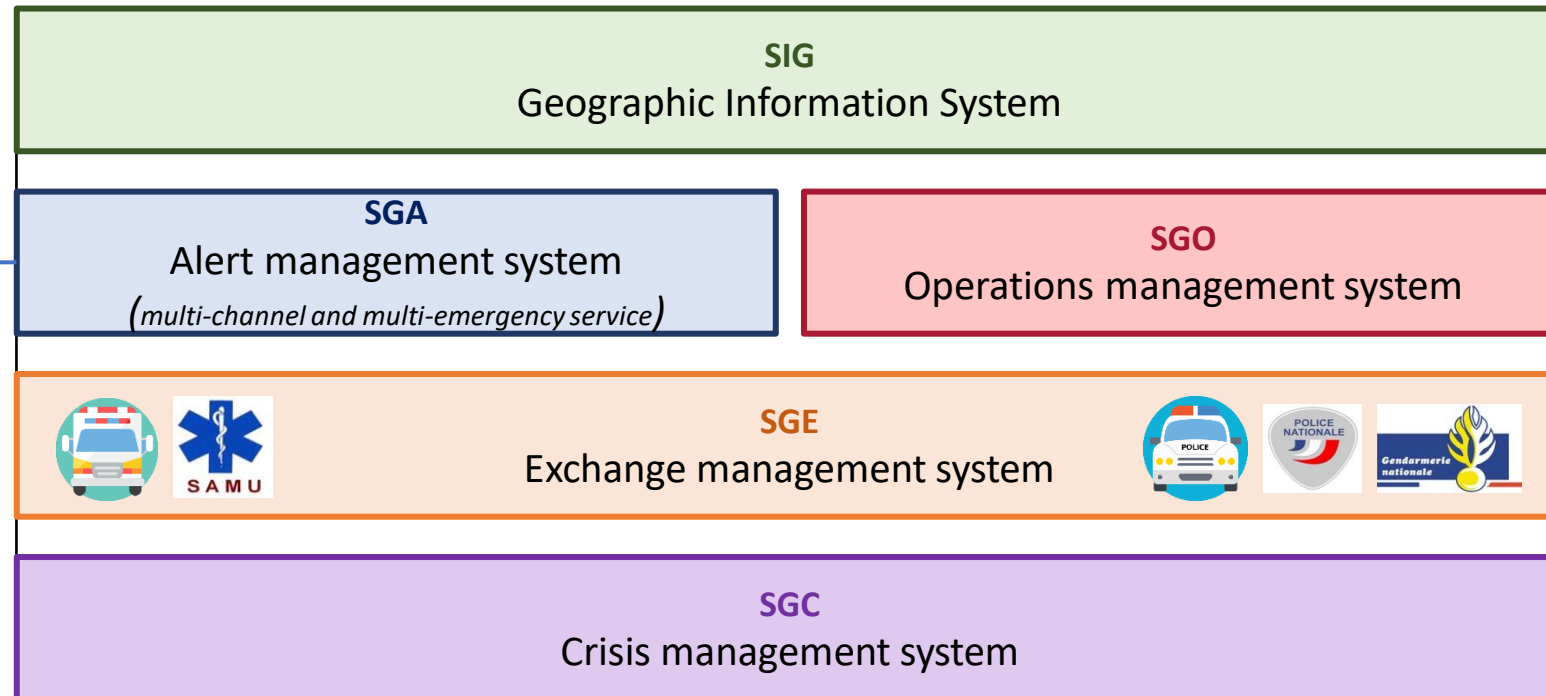


NexSIS will **enable interoperability** between emergency services.

NexSIS 18-112's main components



**Emergency
Services IP
Network
Baptised
SECOURIR**





The Emergency Services Interoperability Framework has been developed to meet all Emergency Response Organisation needs

NEXSIS - SYSTÈME DE GESTION DES ALERTES (TRAITEMENT)

Prénom Et Nom de Famille Choix entité Déconnexion

02'11"

Salon : 25 alertes (attente max 01'52")
Alerte 16178a38-5090-4e6f-8ef3-05dd8146323a

Priorisation : Atteinte aux personnes – Tentative de suicide avec risque imminent – Arme à feu
☐ Signaler l'alerte / Vigilance

Requérant
+31 6 76 54 34 78 [modifier](#)
[Conseils au requérant](#)

Intervenants

▲ Engie
Non prévenu, contactez cet intervenant
[Valider la transmission](#)

▲ Mairie 288
Non prévenu, contactez cet intervenant
[Valider la transmission](#)

✓ SAMU 77
Transfert requérant obligatoire
Commentaire libre avec des infos supplémentaires, pas besoin que ce soit trop long, 2-3 lignes max c'est bien.

✓ Pompiers 77

✓ Gendarmerie 77

○ Société d'autoroute

RETOUR SALON

RACCROCHER ET RETOUR SALON

Localisation ✓

LOCALISANT SÉLECTIONNÉ

Rue de Beaumont
91405 Milly-la-Forêt [BAN](#)

NUMÉRO DE VOIE
8

COMMENTAIRE LOCALISATION
Interphone Agathe Silva // Code 1418 [MODIFIER](#)

Nature de faits ✓

IC ATTEINTE AUX PERSONNES x

Enlèvement / séquestration x
Alerte enlèvement x

Type de lieu ✓

CIRCULATION/TRANSPORT x

À bord d'un moyen de transport x
Métro x

Risques et menaces (facultatif)

☐ Auteur(s) en fuite
☒ Présence d'individu(s) ou public menaçant
☐ Présence d'individu(s) muni(s) d'une arme blanche
☒ Présence d'individu(s) muni(s) d'une arme à feu
☐ Implication d'une autorité
☐ Implication d'un agent public
☐ Implication d'une personnalité
[Voir plus](#)

COMMENTAIRE CIRCONSTANCE
Ex : précisions, circonstances ayant mené à la situation...

Victimes ✓

NOMBRE DE VICTIMES
INDETERMINÉ 0 1 PLUSIEURS NOMBREUSES

TYPE DE VICTIME
ADULTE FEMME ENCEINTE ENFANT

LA VICTIME PARLE ? LA VICTIME RESPIRE ?
OUI NON OUI NON

Pathologie

PROBLÈME MÉDICAL x
Douleur thoracique x

PARTICULARITÉ VICTIME
Ex : âge, remarques...

Emergency Services Interoperability Framework's principles have been integrated into NexSIS' qualification assistance tool.



NexSIS' alert management system is eligible as a national 112 reception tool.

Improving the handling of
emergency
communications



Transition from phone calls to the “data era” : NexSIS 18-112 can collect, process and use data before the call is even answered (precise location of the caller, basic information...), and can manage multi-media flows.

Creating a tool that is fully
adaptable to organisations



NexSIS 18-112 can adapt to different alert management organisations.

Ensuring the resilience of
the alert management
system



NexSIS 18-112 ensures the resilience of the alert management system by enabling assistance between different PSAPs.

Proposing an objective
qualification system



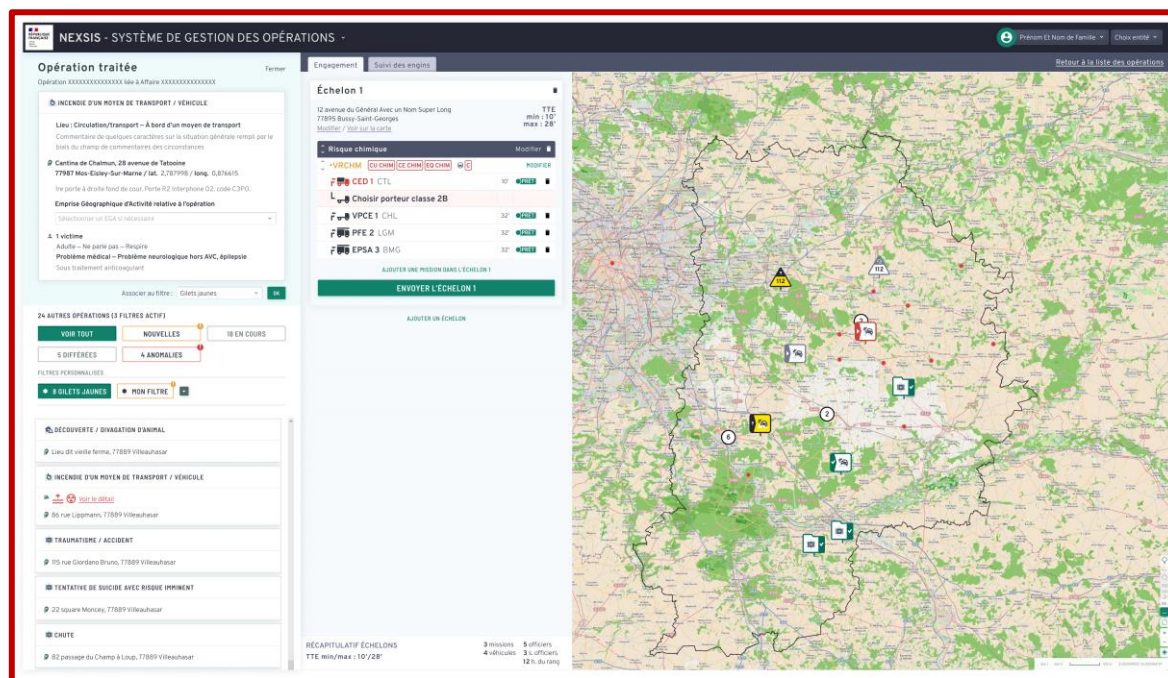
NexSIS 18-112 enables to **factual emergency situation qualification** through to the implementation of a common language called “CISU” (Emergency Services Interoperability Framework).



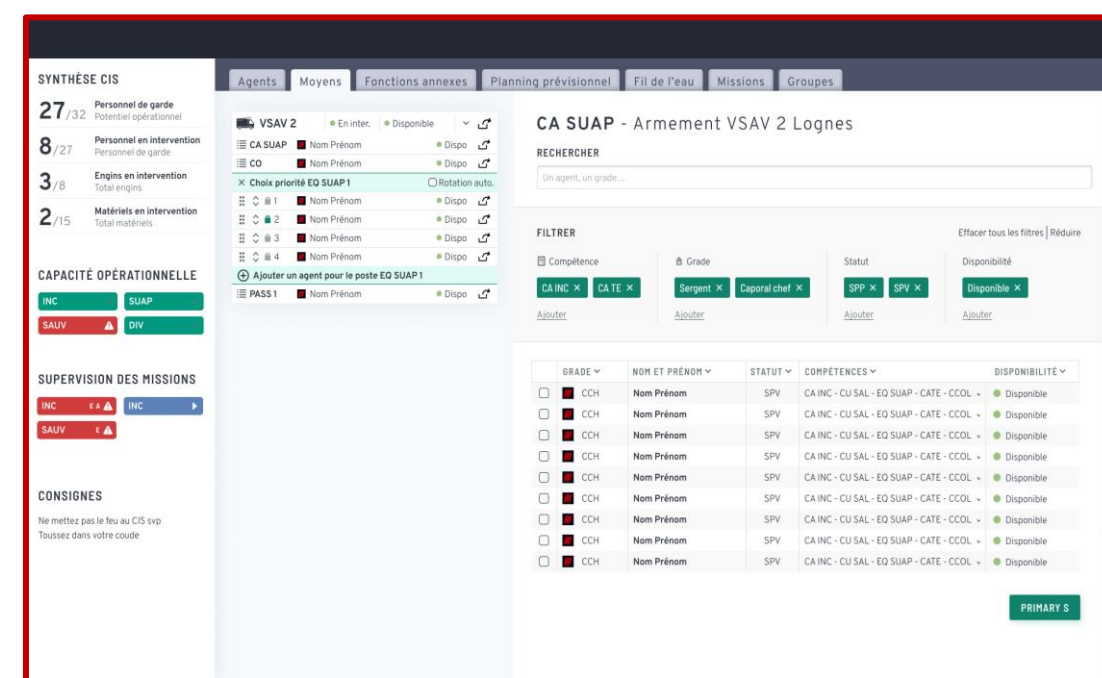
NexSIS' alert management system is eligible as a national 112 reception tool.

NexSIS' operations management system targets optimised ressources management

- ▶ The operations management system includes **tools in PSAPs and fire stations**, as well as **mobile devices**.
- ▶ A **mobilisation system** is being developed to optimise the choice of resources for each intervention.



Screen displayed in PSAPs to dispatch resources



Screen displayed in fire stations to manage resources



NexSIS' exchange management system ensure full interoperability

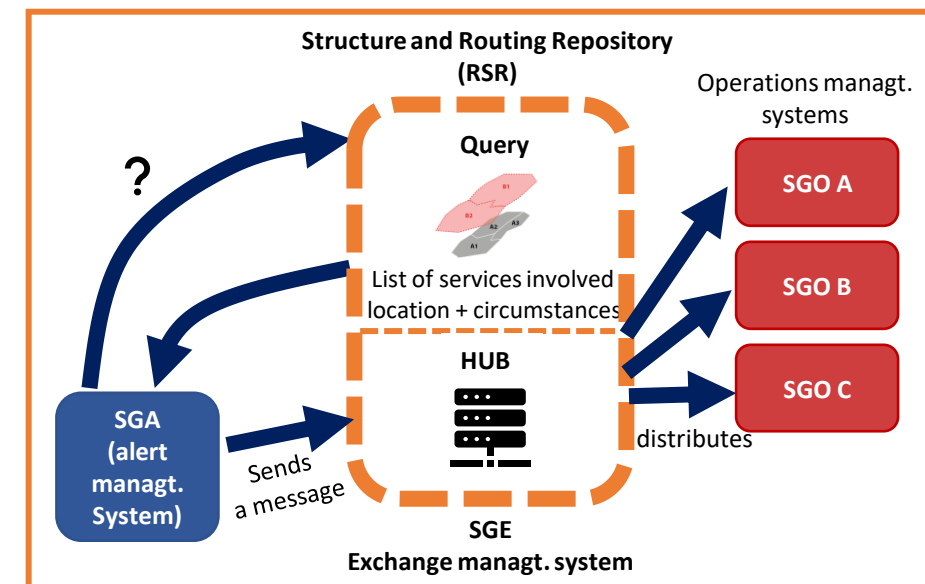


NexSIS' architecture includes an exchange management system that ensures full interoperability with other emergency services systems.

- Today, connexions are being implemented with :
 - “Bon Samaritan” (citizen application);
 - Scriptal, a company that equips medical emergency services (SAMU).
- Other software publishers such as EXOS, APPLIGOS, RRAMU-HN, and INETUM are favourable to the inter-connexion of their systems with NexSIS 18-112.
- There are ongoing discussions with the police prefecture.

The exchange management system includes a Structure and Routing Repository (RSR), which :

- Improved the method for contacting partners;
- Implements a shared directory;
- Selects partners according to the location and circumstances of the emergency situation.



The first deployment of NexSIS is aimed at the end of 2021



Creation of
ANSC



Development
of NexSIS'
first version



Industrial
deployment
and
continuous
improvement

2017

2018

2019

2020

2021

202 /2-3-4-5

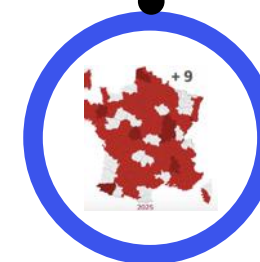
Prefiguration
mission



Proofs of
concept (POC)
for NexSIS' alert
and operations
management
system



NexSIS' first
deployments



NexSIS can be seen as a platform that can integrate digital services for civil security

1

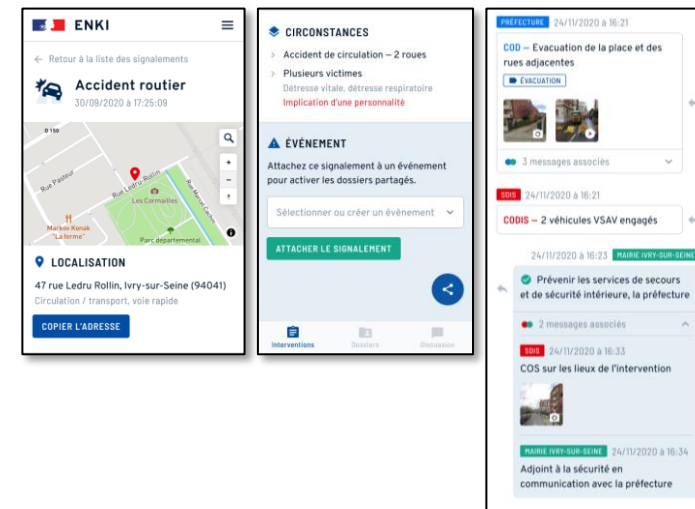
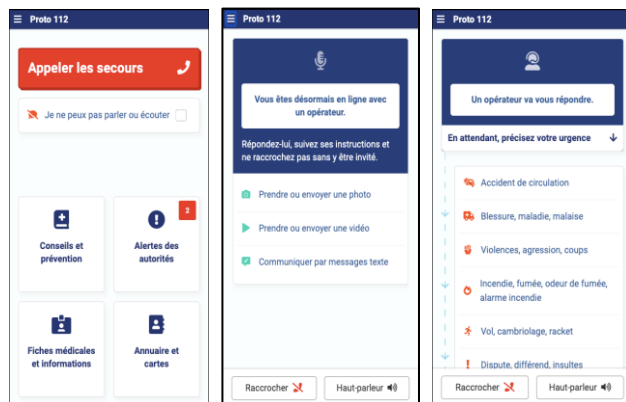
App 112 : Alerting emergency services

2

Medical guidance application regarding Covid-19 symptoms on the government's website.

3

ENKI: an operational information platform for mayors and prefects

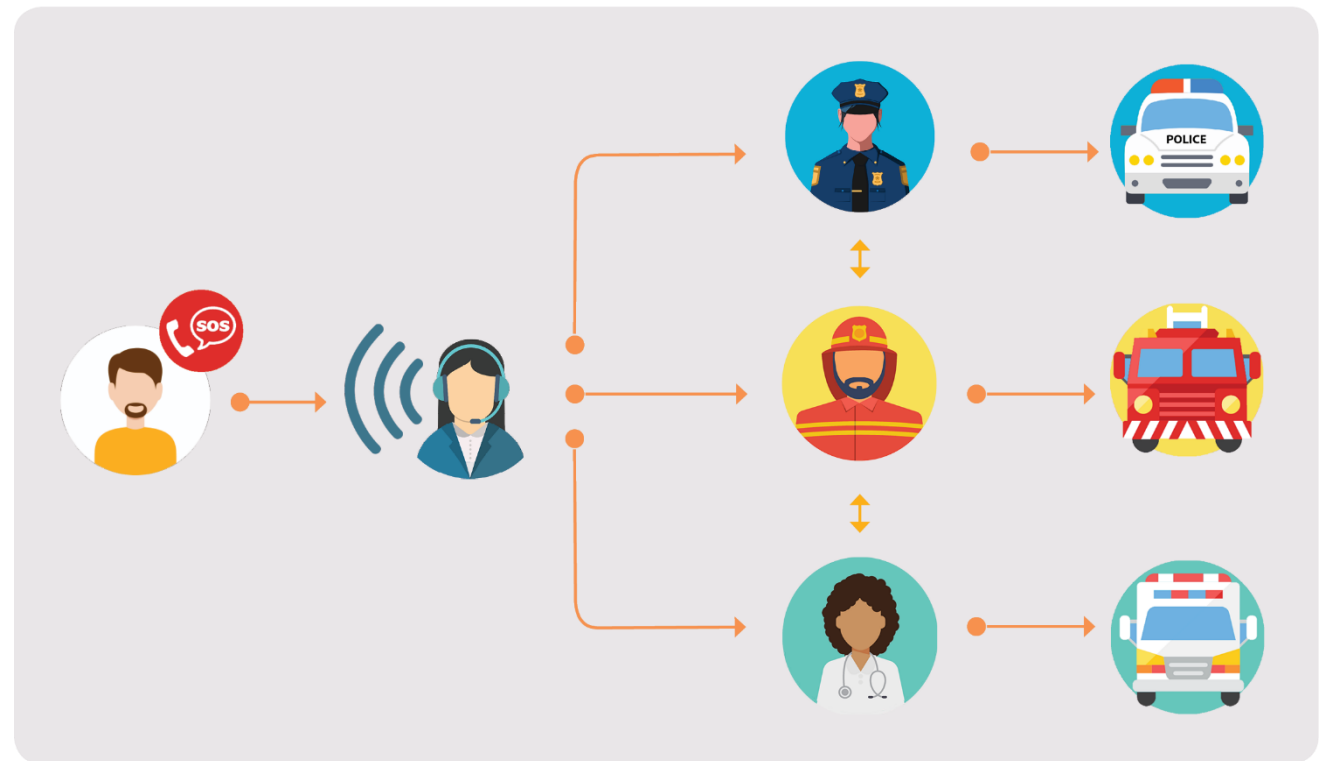


Target Emergency calls handling system in France



Our Target Model

- Modular system adaptable to any alert management organisations.
- PSAPs can receive **all type of emergency communications (video, photos, data, ...)**.
- The system can be linked to **citizen applications**, a **national 112 App** and to **CNR 114** (accessibility).
- France is planning to experiment the implementation of a **single emergency number** (*law proposal entitled "Consolidating the French civil security model and enhancing the value of volunteer firefighters"*)

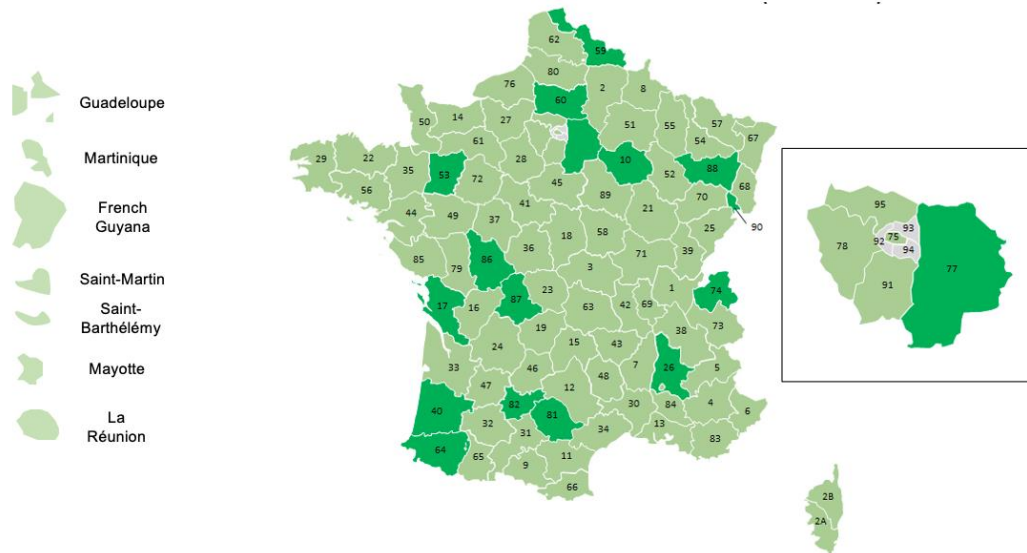




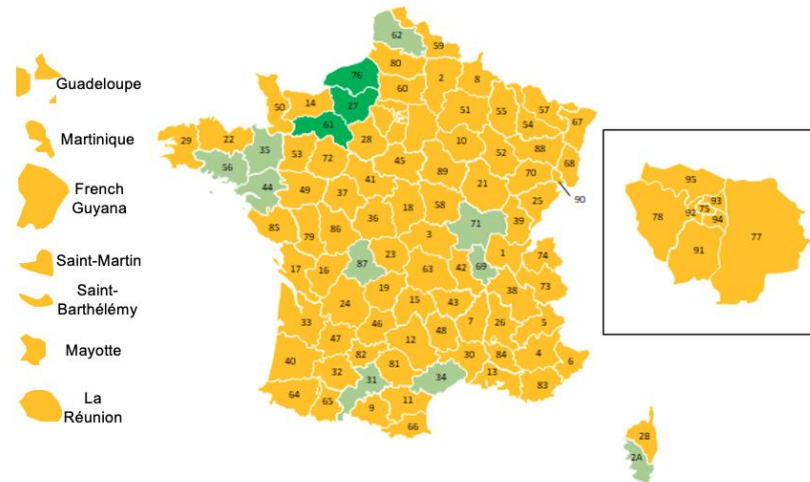
Reform of Emergency Communications in France in the context of the European legislation

The deployment of the Advanced Mobile Location (AML) in France

Fire and rescue services having
access to AML



Medical emergency services (SAMU)
having access to AML



The service has access to AML through its
own system

The service has access to AML only through
the software Geoloc 18-112

The service does not have access to AML



- AML is now operational for **18 and 112** and has already saved lives;
- AML ensures that France is in compliance with the first obligations of **the European Electronic Communications Code**;
- The AML service is currently extended to **other forces**

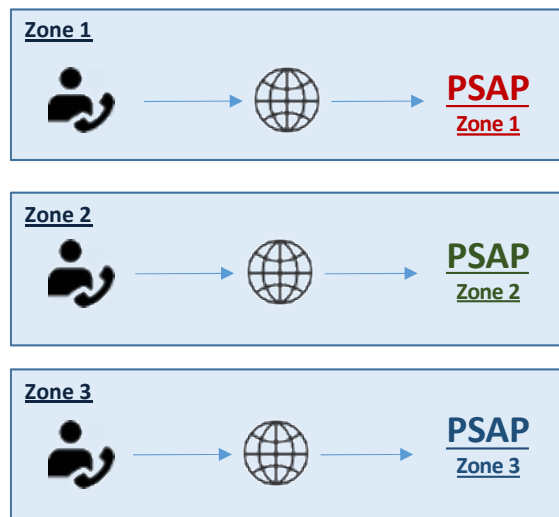
An Intelligent and Resilient Emergency Communications Service

SECOURIR is the Intelligent and Resilient Emergency Communications Service which will be implemented in NexSIS 18-112.

► It enables:

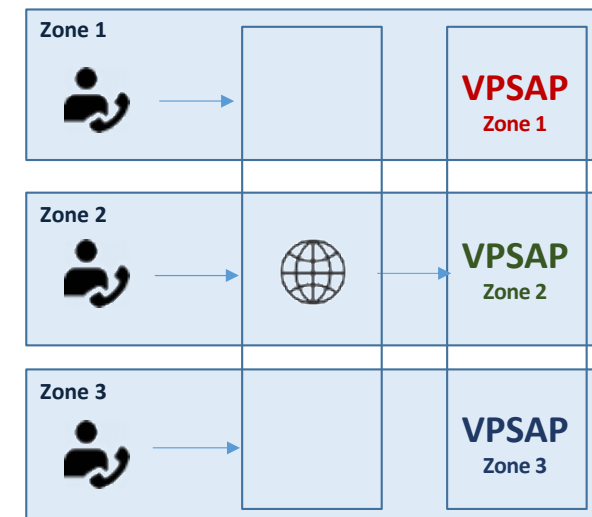
- Fire and rescue services' **incoming and outgoing communications** through:
 - The **processing of non-multimedia flows** (voice);
 - The **processing of communications using mobile data** (video conferences, images, videos, etc.);
 - The possibility of **transferring communications or opening a conference with several persons** (for example, the victim, several FRS or PSAPs...).
- The **intelligent routing of emergency communications** according to the **information about the caller and its environment**, and the **configuration of the PSAP and the operators** on the moment.
- The implementation of **virtual fire and rescue services** served by several FRS or PSAPs at the same time.

France current operating mode



Classic telephony (voice call)

France target operating mode



Virtual PSAP (VPSAP) create logical entity gathering responders that can be anywhere
VPSAP and PSAP can be mapped or dissociated



MINISTÈRE
DE L'INTÉRIEUR

Liberté
Égalité
Fraternité

FR-Alert

FR-Alert project's stakeholders

Ministry of the Interior

POLICE NATIONALE

Gendarmerie
nationale

PP
PREFECTURE DE POLICE

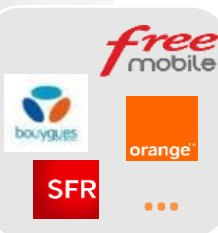
DNUM

TELECOMS

CCED

CIVIL PROTECTION

MNOs



MINISTÈRE
DE
L'INTÉRIEUR

General Secretariat
As the Sponsor



Digital Direction (DNUM)
As the Coordinator

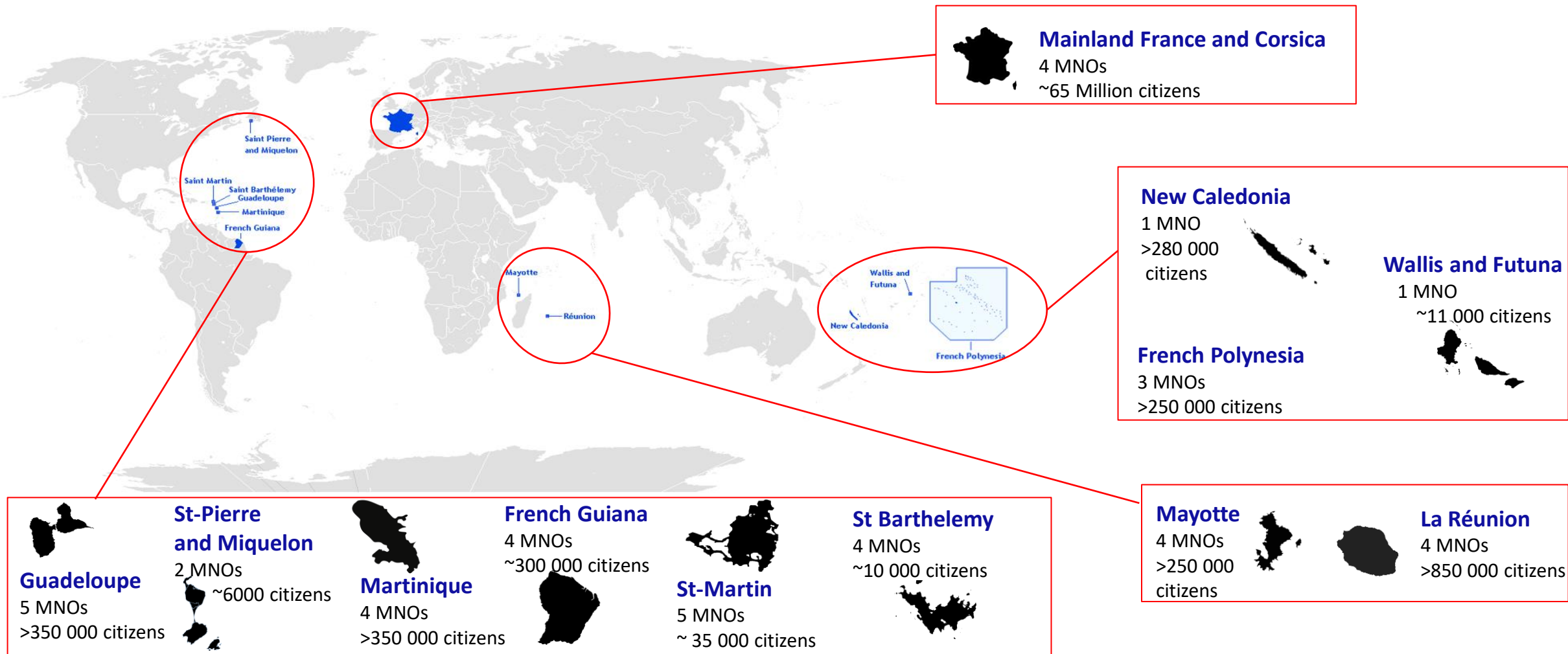
A single transversal
project team

A single entry point
with MNOs





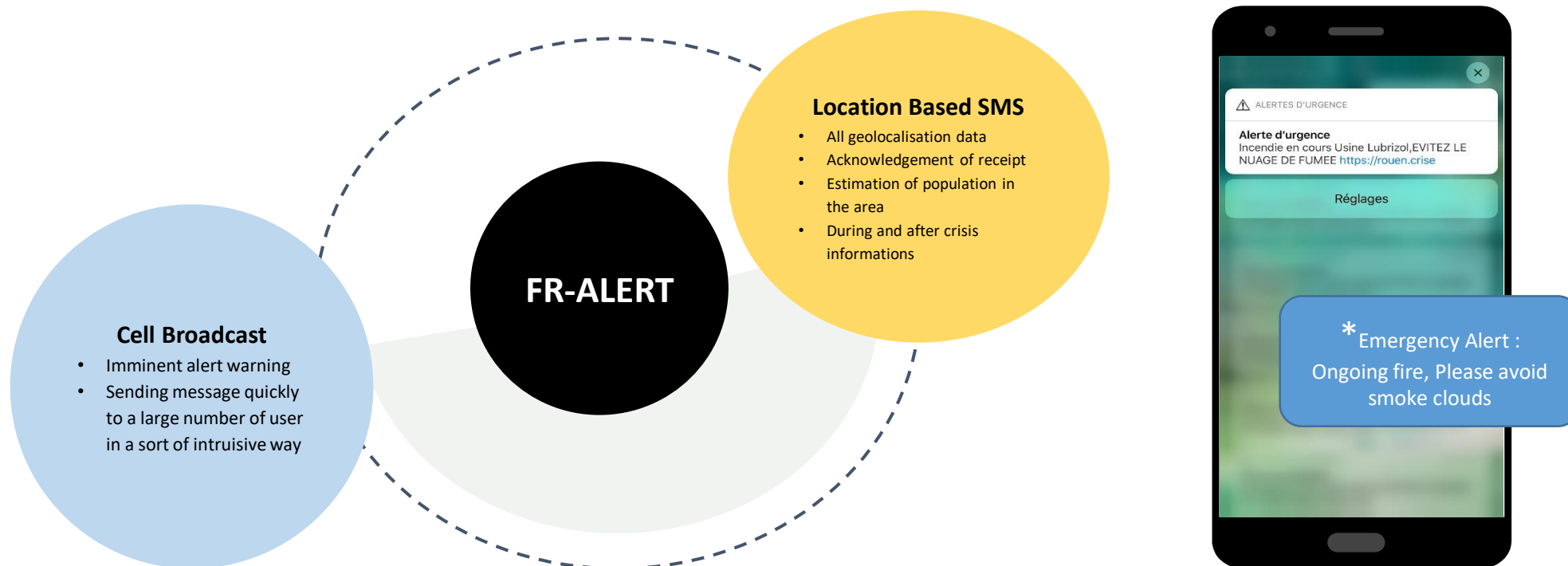
FR-Alert: French Territories Distribution



Cell Broadcast and LB-SMS: hybrid solutions

FR –ALERT will use 2 technicals solutions :

- **Cell Broadcast** which is a method of sending messages to multiple mobile telephone users in a defined area at the same time. It is defined by ETSI's GSM committee, 3GPP and is a part of 2G, 3G, 4G and 5G standard.
- **Location Based SMS:** method of sending messages to multiple mobile telephone users in a defined area at the same time. It is defined by ETSI's GSM committee, 3GPP and is a part of 2G, 3G, 4G and 5G standard.



FR-ALERT after 2022

- The project started in 2019, and 2022 will be the year of end-to-end testing and national implementation.

FR-ALERT will be processed after 2022, in order to pay attention to 3 aspects: consolidation, resistance of the system, channel diversification.



GALILEO

Galileo is a global navigation satellite system developed by the EU.

Galileo signals are available at any location on earth and new generations of mobile phones are systematically Galileo compatible.

This technology enables to reinforce redundancy of an alert system.



Olympic Games

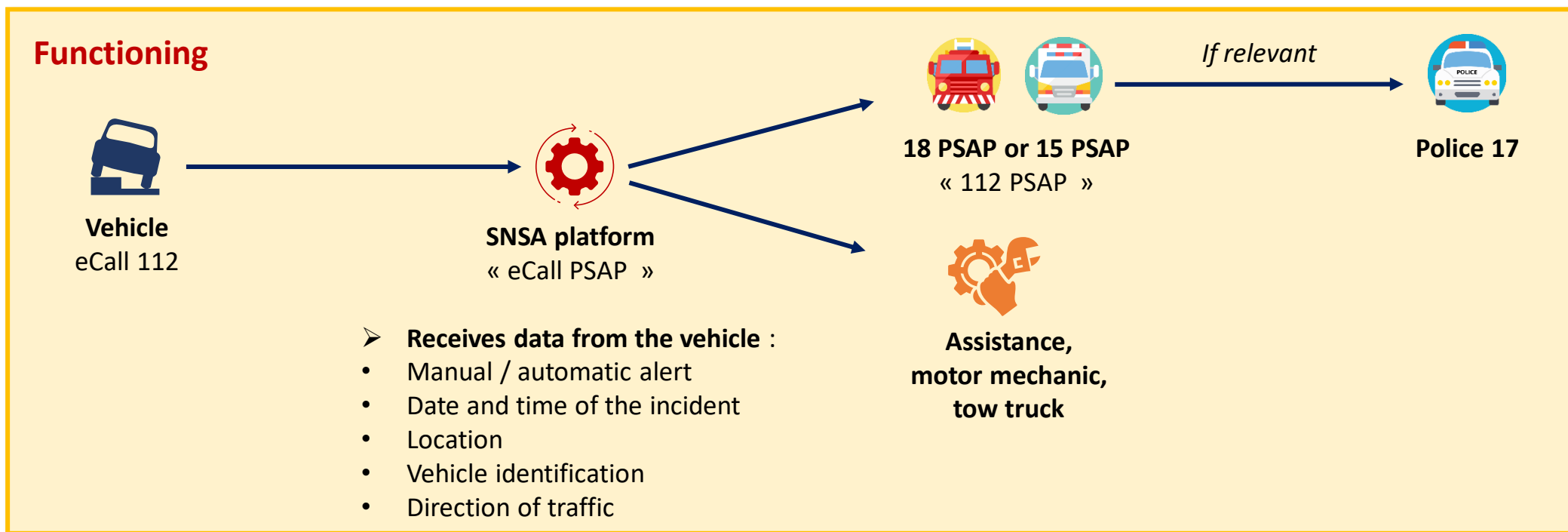
France usually hosts large events. Our system needs to be ready to warn a larger number of users.

2024 Summer Olympics and Paralympics is a specific event that is a perfect use case to experiment higher capacity of our system.

As an example, multilingual messages will be numerous. Before this event, FR-ALERT will be experienced in 2023 Rugby World Cup.

eCall 112

- ▶ In France since 2018, calls from eCall systems are handled by a private organization recognised by French State and called “**Syndicat National des Sociétés d'Assistance**” (SNSA). Thus SNSA is in charge of operating the nationwide eCall PSAP.
- ▶ An agreement has been signed between the **Ministry of the Interior** and the **Ministry of Health**.





eCall 112

39 348 calls

→ Total of alerts received over a period of 10 months.

34 382 calls

→ **Total of alerts received excluding blacklisted numbers: these are the alerts processed by the assistance platforms. It is the official number.** There is a **97,6%** filtering rate (only 930 calls were transferred to PSAPs).

33 983 calls

→ Total of alerts handled by the assistance platforms for which information on the type of call (terminated without follow-up, transferred to PSAP, in need of assistance) is available.

27 453

930

6 439



Calls
terminated
without
follow-up:
80.8%



Calls
transferred
to PSAPs:
2.7%



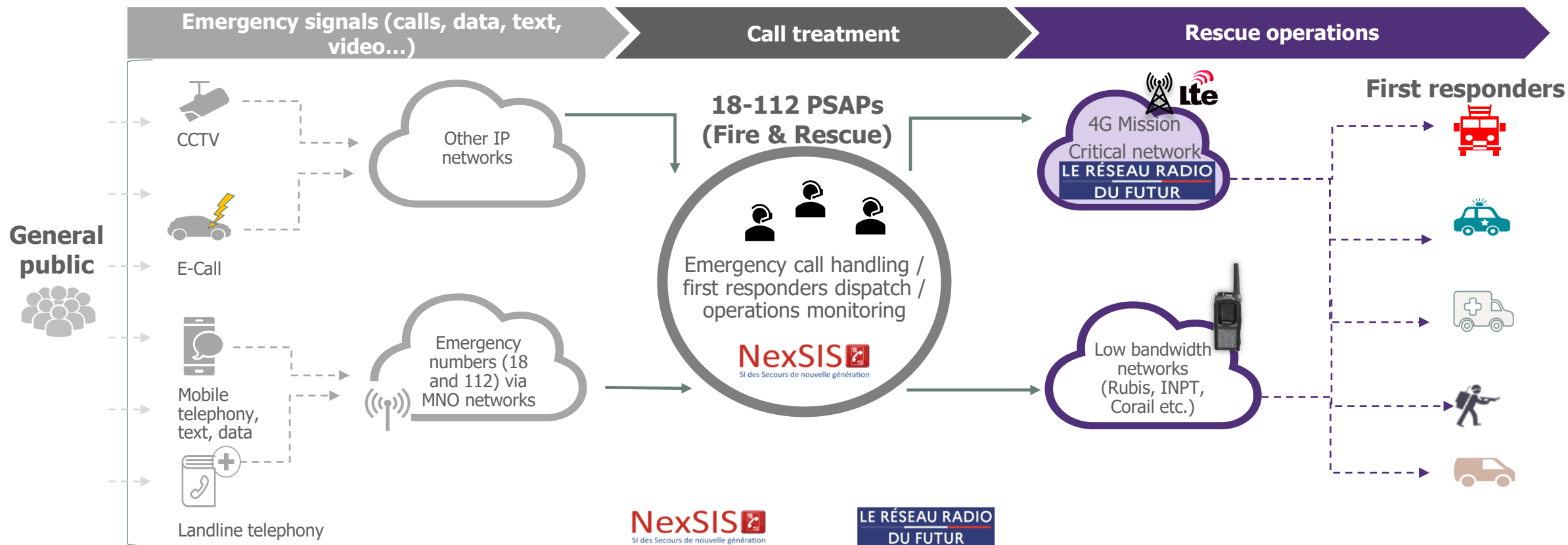
Calls in
need of
assistance:
19,0%

- Despite the COVID-19 lockdown periods, **the numbers are on the rise**. This is due to the increase in vehicles equipped with the eCall112 system.
- Regarding the **data of emergency calls** coming from remote assistance centers or from TPS eCall, we are not able to discriminate this type of indicator at the level of PSAP 112.
- For the reception of the TPS eCall or more generally of the remote assistance centers, **a real work of interoperability is to be carried out** in order to have in particular:
 - a confidential 10-digit number in each PSAP 112 intended to receive calls from remote assistance platforms,
 - define a technical format for data interoperability: EDXL or other emergency data exchange communication standards,
 - define the certification procedures and specifications on the quality of service of the remote assistance centers.



Other planned projects

Enabling secured multimedia end-to-end communications between Fire & Rescue PSAPs and first responders



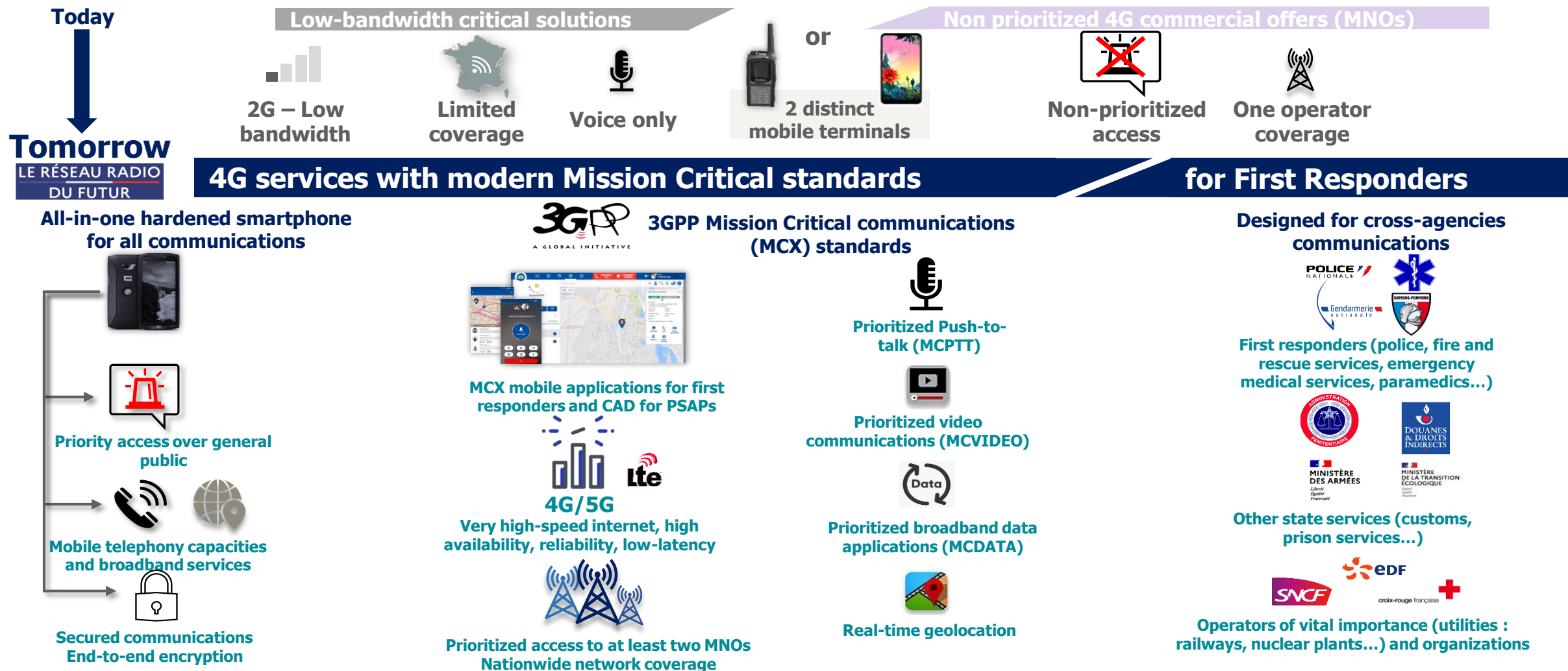
NexSIS enables multimedia emergency communications between the general population and 18-112 PSAPs (Fire & Rescue)



Réseau Radio du Futur (RRF) network enables 4G high-speed, secured and reliable mission critical communications between all PSAPs and first responders

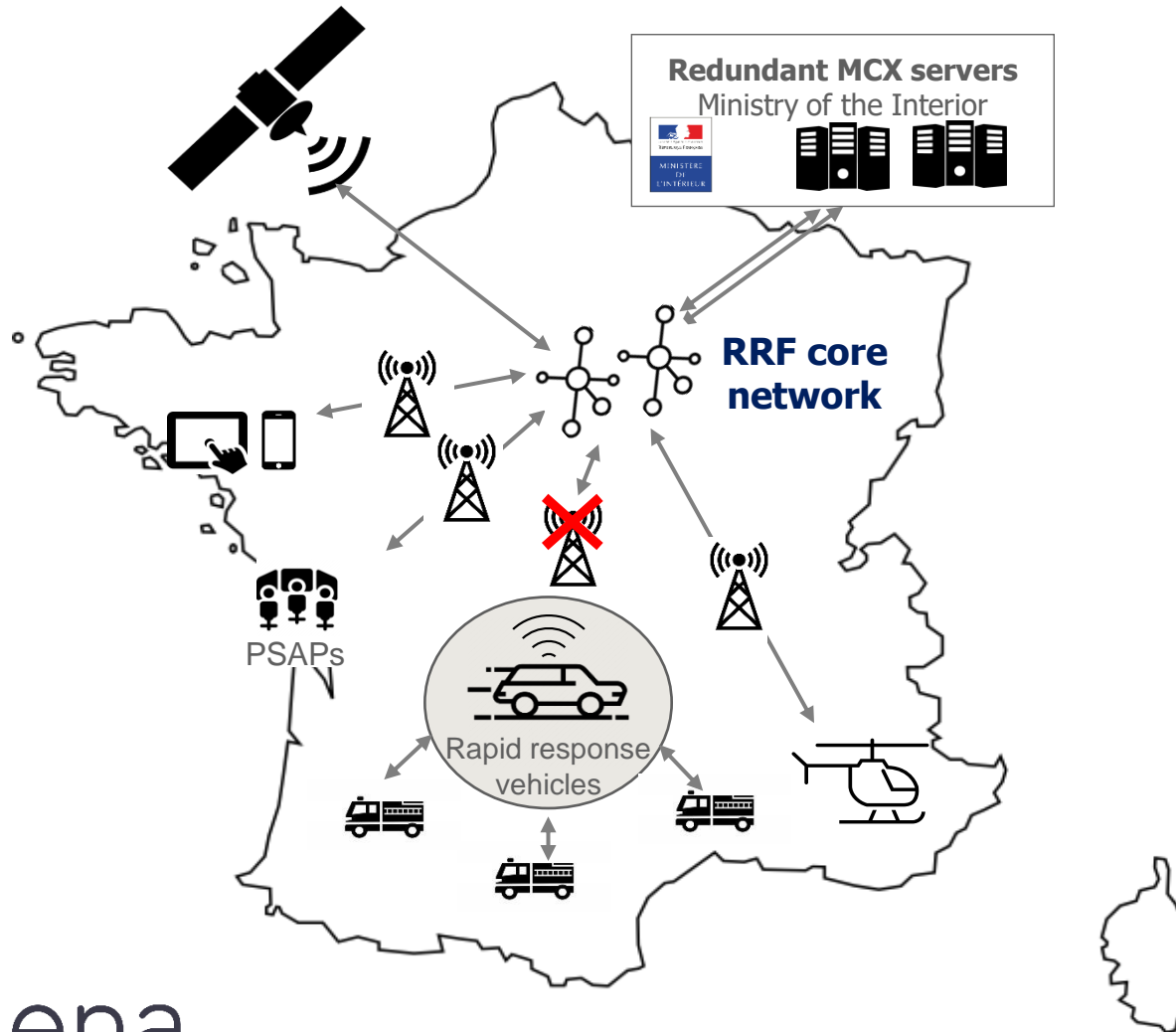


RRF is a comprehensive communication system, up to modern standards, designed for first responders' communications





A service designed for resiliency and security, enabling continuous communications even in usually poorly covered areas



Secured communications

- Secured storage in a state centralized duplicated database
- Highly available redundant IT architecture
- High level of data flow security guaranteed by Mission Critical standards



High availability services

- High network coverage (98% of territory in 4G) with multi-MNO coverage, national roaming and new sites continuously deployed
- International roaming
- Priority over general population in case of network saturation
- Under study (post-2025) : 5G low altitude network satellite



Communicate anywhere, anytime

- First responders' vehicles equipped with relays
- Additional coverage extensions as-a-service :
 - Deployable base stations for foreseeable events
 - Rapid response vehicles for disaster relief

RRF is currently in its bidding process and will open its services in 2023 in time for the World Rugby Cup 2023 and Paris Olympic Games in 2024



January 2021 :
Opening of the bidding process

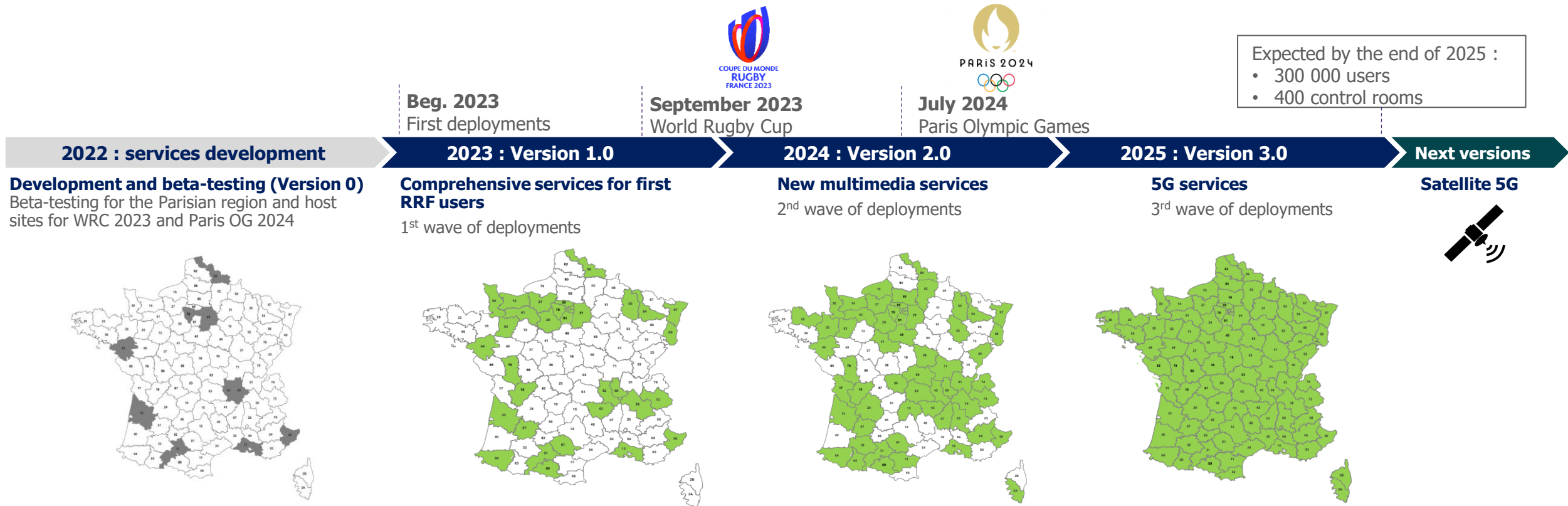


June 2021 :
Review of bidding offers



October 2021 :
Selection of the candidates
Start of the development phase

2021 : bidding process



Deployments maps are for illustration only



Contact details



Michel Monneret - *Head of the Digital Agency for Civil Protection (ANSC)*

michel.monneret@interieur.gouv.fr

nexsis@interieur.gouv.fr



[@ANSC_Fr](https://twitter.com/ANSC_Fr)



ansc.interieur.gouv.fr



Romain Moutard - *Programme Director at the Ministry of the Interior*

romain.moutard@interieur.gouv.fr

FR-ALERT@interieur.gouv.fr



Guillaume Lambert - *Head of the programme Réseau Radio du Futur (RRF)*

guillaume.lambert@interieur.gouv.fr



[@Programme_RRF](https://twitter.com/Programme_RRF)