

BACKGROUND SUPERSITES IN FRANCE, SITUATION IN 2025

AUDE BOURIN¹, MARC DURIF²

¹ IMT Nord Europe

² INERIS

Groupement d'intérêt scientifique

Supersites, directive criteria

Minimum number of sites for France

- Densities required: 1 per 10 Mhab (Urban) - 1 per 100,000 km² (Rural).
- Minimum France required: 6 supersites each (urban and rural).

Urbain	Rural
Population (Mhab.)	Surface (km ²)
67,7	637 700,0
1 / 10 M Hab.	1 / 100 000 m ²
6,8	6,4

Implementation criteria set out in the directive

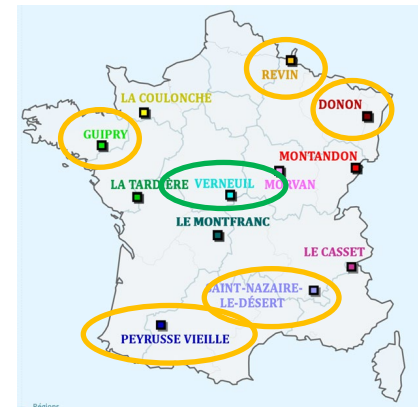
- Co-location of instruments to collect long-term data on several pollutants.
- Set up in locations characteristic of rural/urban background pollution in order to facilitate scientific understanding of their effects on health and the environment
- Representative of several km². (No more precision ??)
- Coordination with EMEP / ACTRIS.

	Urban	Rural
PM10/PM2.5/UFP/BC	O	O
NO ₂ , O ₃	O	O
NH ₃	R	O
SO ₂ , CO	O	O
Granulométrie UFP	O	R
B(a)P, HAP	O	O
Dépôts HAP	O	O
As, Cd, Pb, Ni	O	O
Dépôts As, Cd, Pb, Ni, Hg	O	O
Benzène	O	X
Chimie PM2.5	O	O
Hg gazeux	R	O
Hg divalent	R	R
Nitric acid	R	R
PM PO	R	R
Levoglucosan	R	R

Rural supersites, FR situation in 2024

Deployment of rural supersites

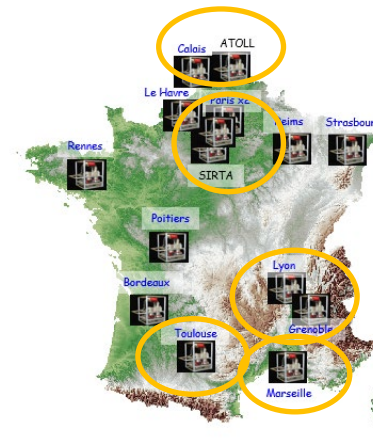
- 5 sites already identified among the 12 EMEP sites
- 1st wave of investments in 2024 at 5 of the 6 sites
 - Priorities on particulate matter, NO₂, Ozone
 - Granulometry UFP: target 50% of rural supersites (Peyrusse, Donon, Kergoff), no more.
- Continuation in 2025 :
 - A 6th site under study for the Centre Val de Loire (Relocation of Verneuil - > 'La Brenne')
 - NH₃ (Real time measurement, CRDS-based analyser)
 - SO₂ trace & CO trace (?)
- Question :
 - No reference method listed in the directive for trace measurements (NO₂, SO₂ & CO) neither for NH₃ ?
 - Will the method listed in EMEP/ACTRIS guidelines will permit to reach the quality objective for indicative or fixed measurements ?



	Rural	Equipement
PM10/PM2.5/UFP/BC	O	2024
NO ₂ , O ₃	O	2024
NH ₃	O	
SO ₂ , CO	O	
Granulométrie UFP	R	2024
B(a)P, HAP	O	Already op.
Dépôts HAP	O	Already op.
As, Cd, Pb, Ni	O	Already op.
Dépôts As, Cd, Pb, Ni, Hg	O	Already op.
Benzène	X	
Chimie PM2.5	O	2024
Hg gazeux	O	
Hg divalent	R	
Nitric acid	R	
PM PO	R	
Levogluconan	R	

Urban supersites, FR situation in 2025

- 5 pre-identified territories including CARA network sites and ACTRIS urban sites
 - Additional French criteria : Territory with a large number of exposed populations and/or LV exceedances: IdF, HdF, Occitanie, AURA, PACA.
- 1st wave of investments in 2024 in these 5 regions:
 - Priorities on particulate matter, NO₂, ozone and UFP granulometry
- Continuation in 2025:
 - 2nd wave of investment for selected sites :
 - SO₂ & CO + Benzene (Active – Sypac)
 - Choice of a 6th site: Atmo NA, PdL, Normandie, Bretagne, Martinique, Guadeloupe ?
- Questions :
 - Is there any point in making SO₂ & CO measurements that will remain very low and steady ? If we want to switch to trace measurements, what reference method should we use according to the directive ?
 - Benzene: in the directive, new uncertainty decreasing from 50 to 35% for indicative measurements, passive tube can no longer be used ?



	Urban	Equipe ment
PM10/PM2.5/UFP/BC	O	2024
NO ₂ , O ₃	O	2024
NH ₃	R	
SO ₂ , CO	O	
Granulométrie UFP	O	2024
B(a)P, HAP	O	2024
Dépôts HAP	O	
As, Cd, Pb, Ni	O	Already op.
Dépôts As, Cd, Pb, Ni, Hg	O	
Benzène	O	
Chimie PM2.5	O	Already op.
Hg gazeux	R	
Hg divalent	R	
Nitric acid	R	
PM PO	R	
Levogluco san	R	

Urban supersites, other questions

Other questions :

- Location of supersite, does it make sense to consider other additional criteria (common strategy between countries ?)
 - **Long term stability of the environment :**
 - Do we avoid the selection of area with expected short-term, mid-term evolution of the concentration ?
Example: Expected concentration decrease due to near future implementation of a low emission zone. Do we avoid the selection of this kind of area ?
 - Or do we promote the location with specific challenges ? Example : zone with exceedance / with the highest population exposure
- Do we promote a **spatial repartition at the national scale** to document different type on urban context or similar ?
- Do we consider **other synergies** ?
 - Health impact/epidemiological studies : Ex : Choose urban supersite in area where it already exists a cohort monitoring for epidemiological studies.
 - Monitoring the effects of air pollution on ecosystems (NECD Article 9) at the supersite

Conclusions

- Ongoing work : selection of supersite and implementation
- Coordination with EMEP / ACTRIS
- Remaining important questions to address :
 - Trace measurements, guidelines to reach data quality objectives
 - For long-term stability, which type of urban environment should we choose first?
 - Do we consider other synergies such as health studies ?

Supersites in France, situation in 2025

THANK YOU

aude.bourin@imt-nord-europe.fr

marc.durif@ineris.fr

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