

## **Spectrum Sharing in Europe/France**

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# Spectrum sharing for ANFR

## A policy objective

- ANFR is publicly supporting spectrum sharing: to improve spectrum efficiency and usage opportunities
- ANFR supports European initiatives for introducing sharing frameworks, e.g. **discussing AFC for standard power WiFi in the lower 6 GHz or local low/medium power verticals in 3.8-4.2 GHz (3.8-4.0 GHz already opened in France, about 100 authorizations)**
- ANFR supports improving **receiver resilience (ECC Recommendation(24)01)**
- **Blockchain used as assignment database during Olympic Game Paris 2024**, but not as automatic assignment tools (difficult to clearly define rules, exceptions, priorities ...)

## European dimension remains key

- Harmonisation is a must in most cases, even if spectrum demand may be different
- Internal market dimension (harmonised standards in ETSI, market surveillance) closely related to spectrum regulation.
- Lessons from 5 GHz RLAN interference to meteo radars: moving some radars in 5.3 GHz
- Dynamic spectrum/AFC to be considered in a European context

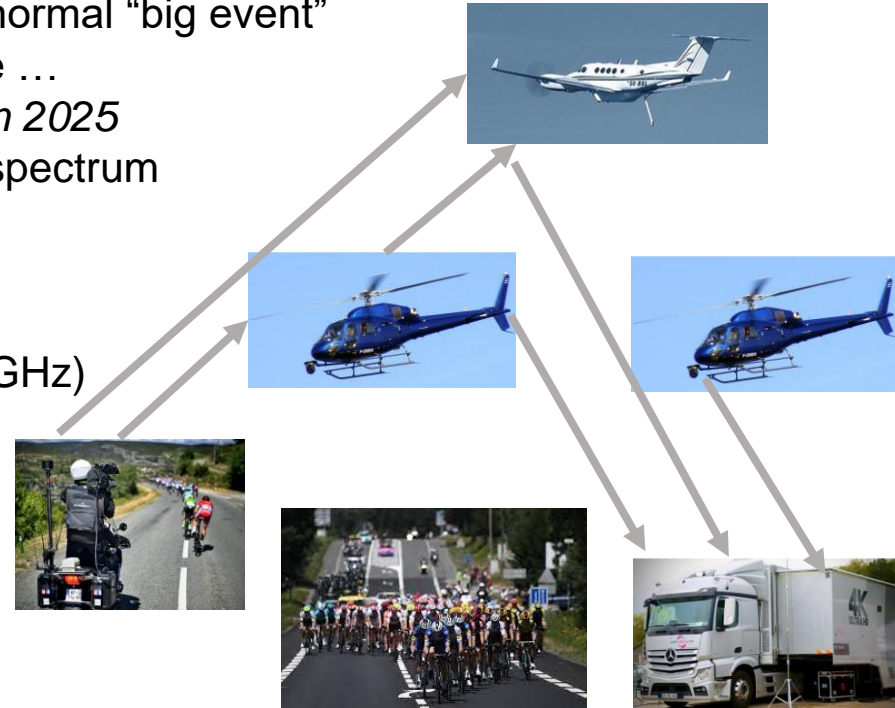
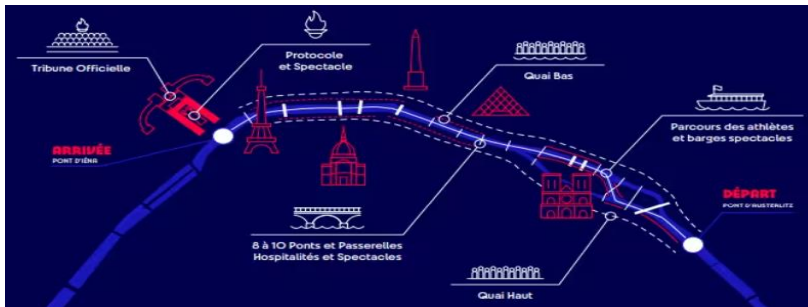
# Olympic game Paris 2024

> 20 000 assignments

- Tremendous spectrum need for wireless camera, radiomicrophones, PMR
- [Publication](#) of the frequency plan in July 2022
- For wireless camera, about 1800 MHz, x10 normal “big event”
- Static sharing with radars, FS, FSS, Defence ...

*ANFR will discuss feedback with stakeholders in 2025*

- One of the most challenging issue is to find spectrum for A2G/G2A : Aircraft reception at 8 km
- Cross-border issues (e.g. L band)
- Adjacent band issues (eg, with IMT BS)
- Increased use of 5G for wireless camera (4 GHz)



# WRC-27 Agenda Item 1.7

*Except 7 125-7 250 MHz, **Europe opposed to study in these bands**, due to no expectation of « nice » sharing solutions,*

## **The international dimension:**

- 4.4-4.8 GHz, 14.8-15.35 GHz and 7.25-7.75 GHz are intensively used by maritime and aeronautical receiving stations
  - *See the result of WRC-23 Agenda item 1.1, with stringent pfd limit at 20 km from the coast*
- 7.45-8.4 GHz with widespread earth stations for downloading EESS/Metsat observations + transmitting transportable earth stations + satellite reception.

## **The protection of satellite in 7.9-8.4 GHz would be distinct from upper 6 GHz**

- Narrow spot beams:
  - Density of BS is an order of magnitude higher – law of large number not applicable (need to account for statistics of all parameters, not average)
- Discussions on AAS antenna pattern and on clutter attenuation for directional antennas

# IMT in 6GHz – European framework

- CEPT is studying the **feasibility of a shared framework between IMT (inc. macro cells) and RLAN**
- Several **sharing options** are under consideration. What is at stake?
  - IMT BS eirp restrictions: need to keep same site reuse as in 3.5 GHz, thus eirp should not be limited.
  - IMT indoor coverage: higher increase of mobile traffic (inc.indoor) than fixed, could technological/regulatory solutions force a more massive indoor offloading?
  - WiFi spectrum need for multigigabit means one AP per room. Is 6 GHz well adapted?
  - How to introduce 6G with “immersive communications” without a new mid-band? in France/Europe, **there is no other mid-bands to launch 6G.**
- **Timeline :**
  - CEPT Technical studies until early 2025
  - EU :RSPG Report on the 6G capacity/coverage need for June 2025
  - EU :RSPG Opinion on the future use of the upper 6 GHz for November 2025
  - EU :RSPG opinion on 6G spectrum roadmap (early 2026 ?)
  - Voluntary (CEPT) and mandatory (EU) harmonization decisions (2027/28 ?)

## Agence nationale des fréquences

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