



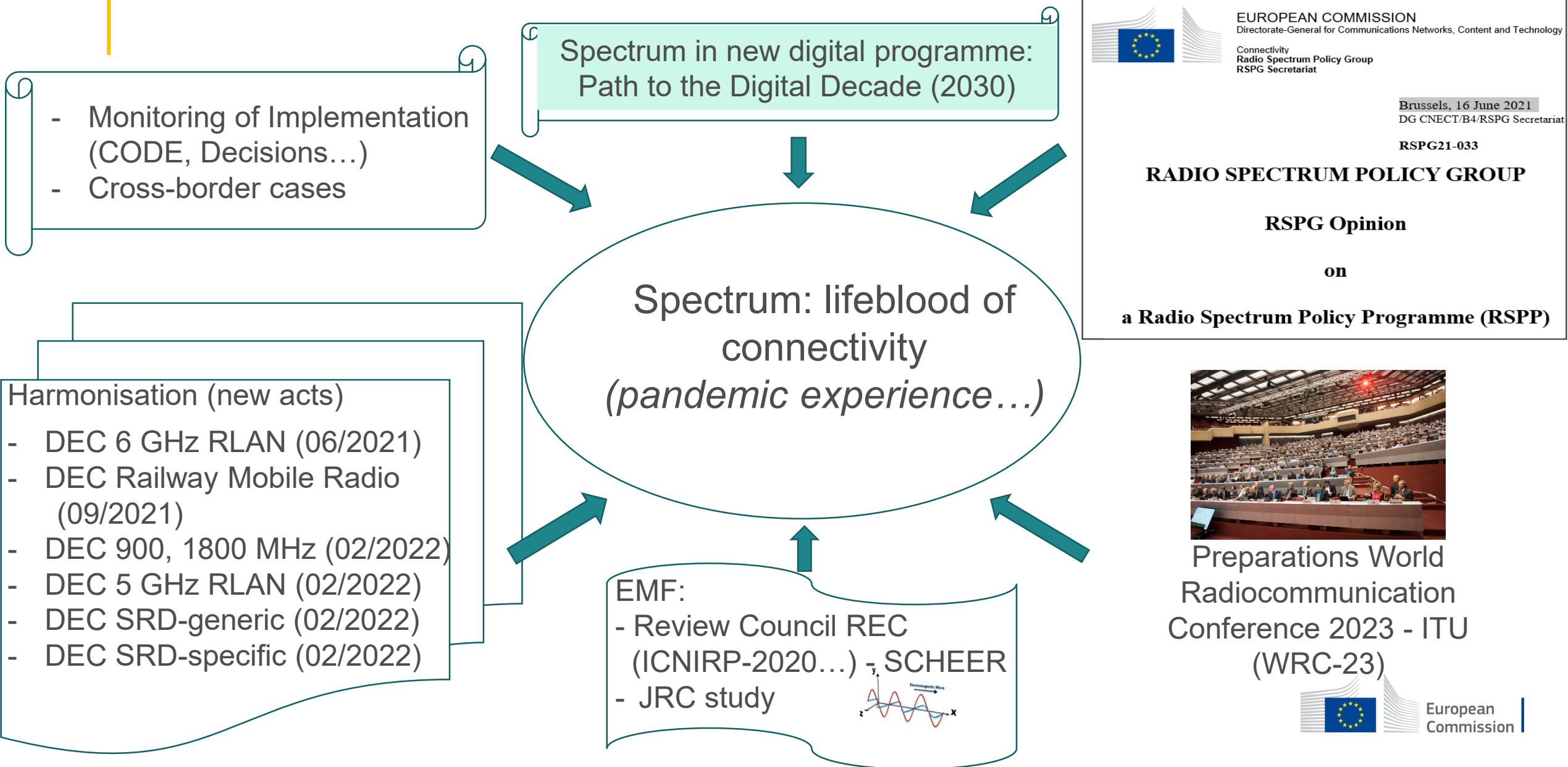
# Updates Radio Spectrum Policy

UK Spectrum Policy Forum  
28 April 2022

**Kyriakos Baxevanidis, AHoU**  
**Radio Spectrum Policy,**  
**DG CONNECT, European Commission**

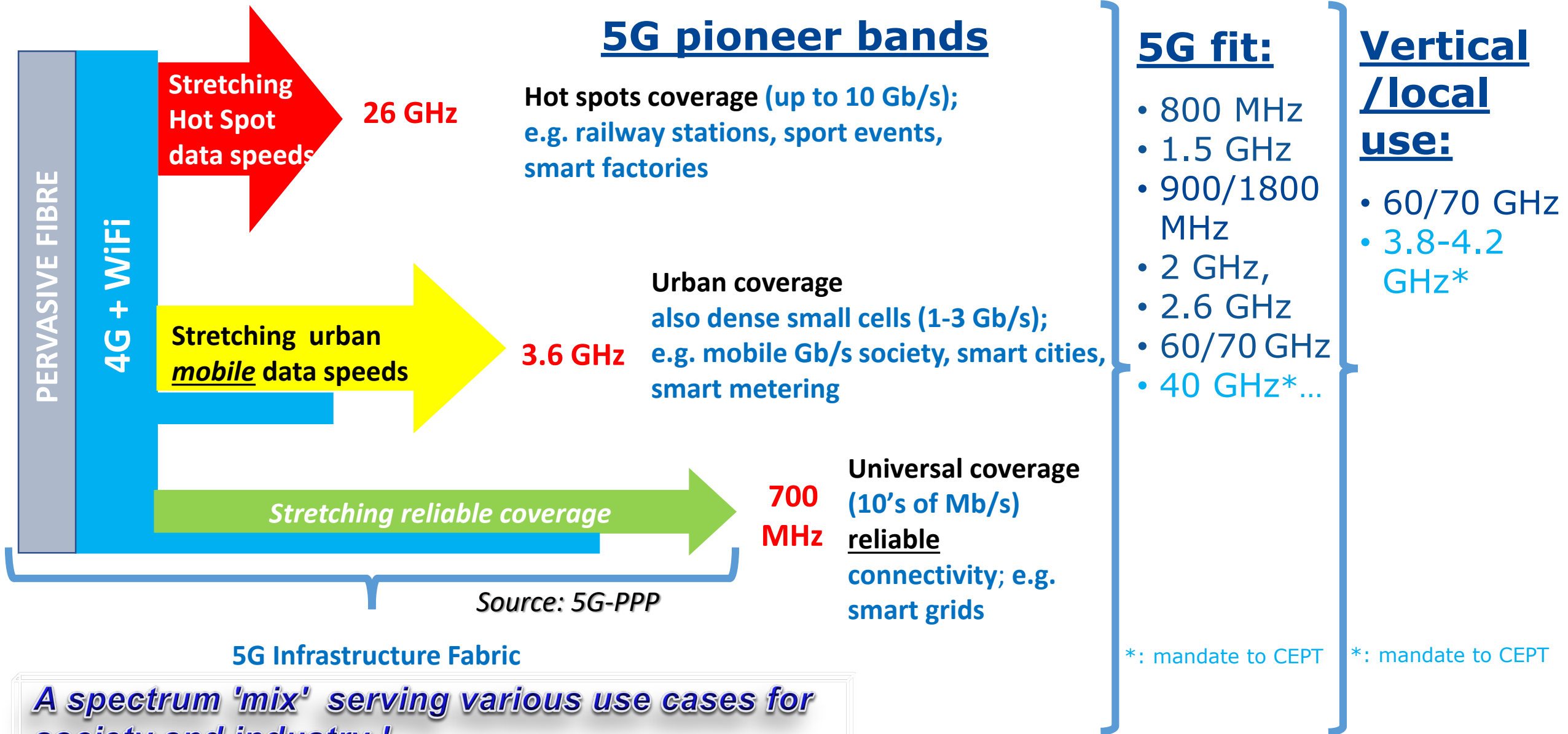
*Disclaimer: The views expressed in this presentation are those of the author and do not necessarily reflect the official position of the European Commission*

# Summary of activities 2021- 2022



# Spectrum harmonisation

# Spectrum for wireless broadband - 5G bands



# Some important policy dilemmas today

## **Competing stakeholder requests in low bands**

- 470-694 MHz band: use of the band beyond 2030 (Broadcasting, PMSE, Mobile, PPDR...) (WRC-23 agenda item)

## **Competing stakeholder requests in mid-bands**

- 6425-7125 MHz band: WAS/RLAN vs Mobile service use (WRC-23 agenda item)
- 3.8-4.2 GHz band: local use & co-existence (studied at CEPT)
- 5.9 GHz band – Intelligent Transport Systems: access to the band by competing and mutually interfering technologies (discussions at ETSI & CEPT)

## **Spectrum sharing becoming the norm?**

# ITU World Radiocommunication Conferences (next: WRC-23 in year 2023)

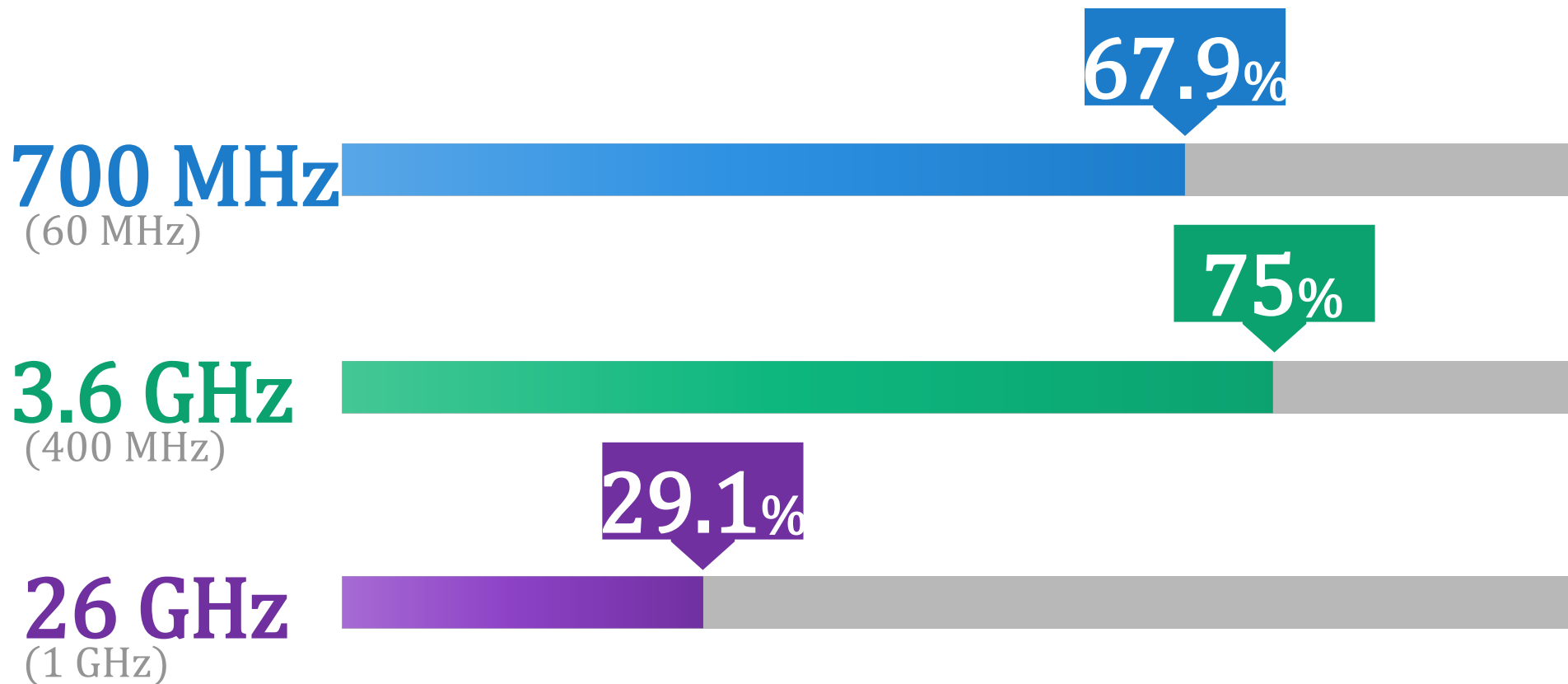


Gathering of 3000+ delegates from 193  
UN Members

- EU not full member of ITU
- EU position established through a **Council Decision**; MS negotiate together as a Union on basis of this binding Decision
- Only a subset of the WRC-23 agenda is subject to EU positions
- RSPG Opinion under preparation
  - Interim Opinion (June 2021)
- Workshop EC – CEPT-CPG (Conference Preparatory Group) in Nov 2021

# Implementation of spectrum legislation

# Authorisations State of Play (1/3)



Deadlines UHF Decision ( (EU) 2017/899) and Code (Directive (EU) 2018/1972):

- 700 MHz: **30 June 2020**
- 3.6 GHz & 26 GHz: **31 December 2020**



# Authorisations State of Play (2/3)

**19 MS**

Expected in 2022:  
BE, EE, IE, LT, PL, RO  
No clear indication: 2 MS

**700 MHz**

**3.6 GHz**

**26 GHz**

**24 MS\***

Expected in 2022: BE, EE, LT, NL, PL, RO  
No clear indication: -

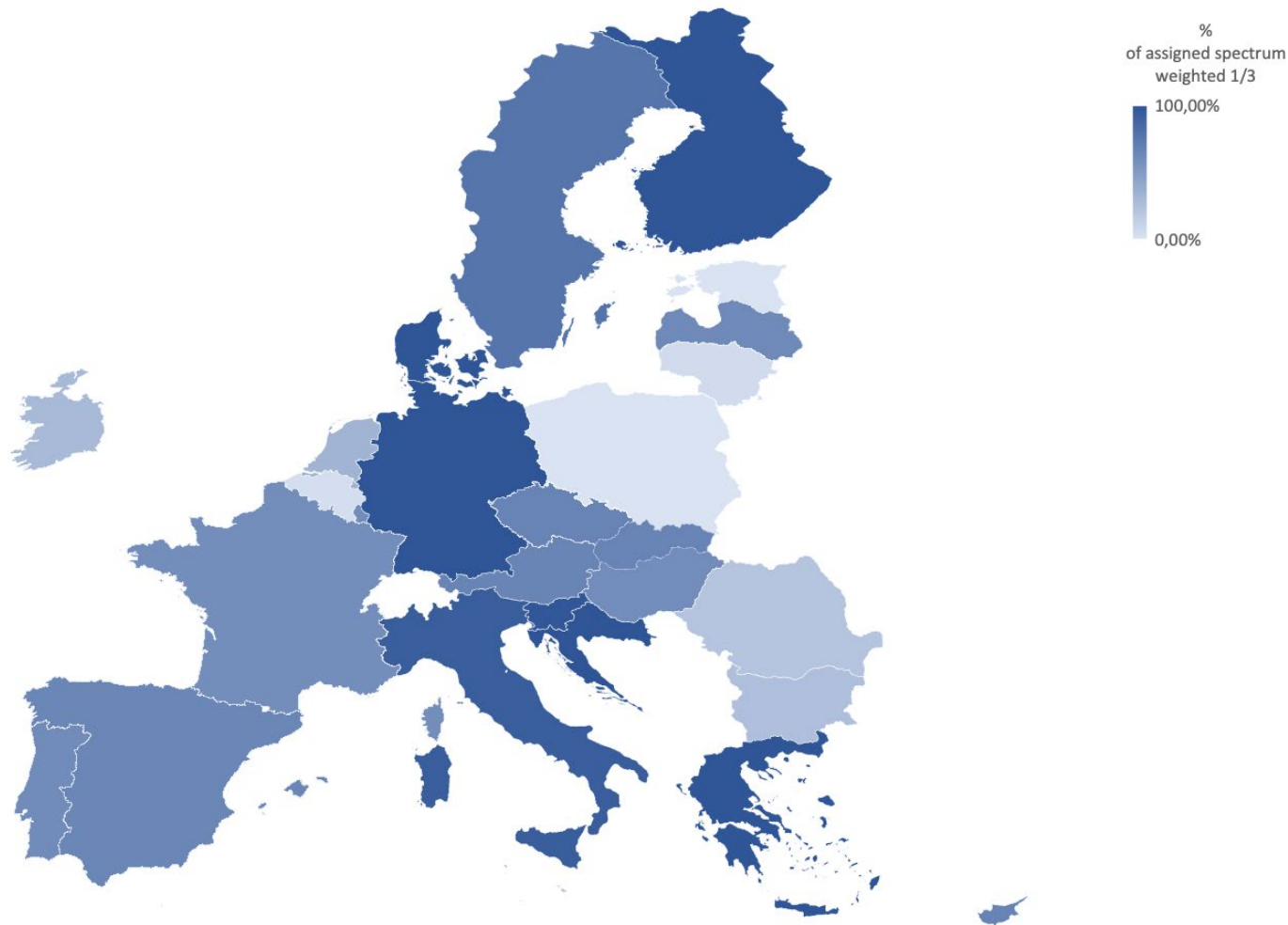
\* Band partially or totally assigned

**8 MS**

Expected in 2022: AT, EE, ES  
No clear indication: 16

## Authorisations State of Play (3/3)

**57.3%**  
of 5G pioneer  
spectrum has  
been assigned



# Main Code provisions on spectrum

- **Harmonised principles and criteria** for authorisation regimes and sharing conditions (Articles 45 and 46);
- A **reference framework** on:
  - Conditions & fees for rights of use (Articles 47 and 42)
  - Choice / design of assignment procedure (Article 55)
  - Licence renewal (Article 50)
- A **peer review** to achieve internal market **consistency** on spectrum authorisation by building best practices (Art. 35)
- Promotion of spectrum **trading and leasing** (Article 51)
- **Coordinated timing** of 5G spectrum assignments (Art. 53)
- **Sufficiently long duration of rights** for harmonised spectrum for wireless broadband: **20 years** of regulatory predictability (Article 49)
- **Cross-border coordination** (Article 28)
- Facilitation of **small cells deployment** and **access to RLAN**: removal of administrative obstacles and undue restrictions (Article 56 and 57)

## Peer Review Forum

(Malta, The Netherlands, Croatia, Lithuania, Estonia...)



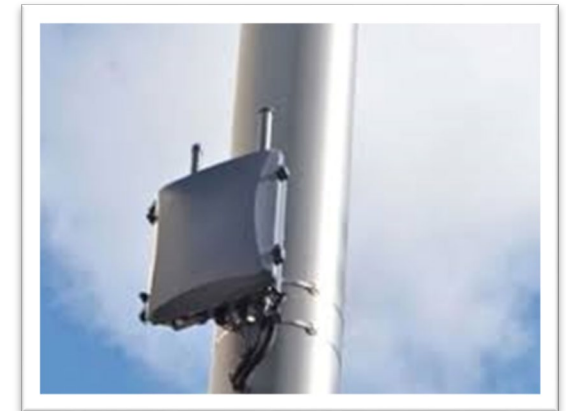
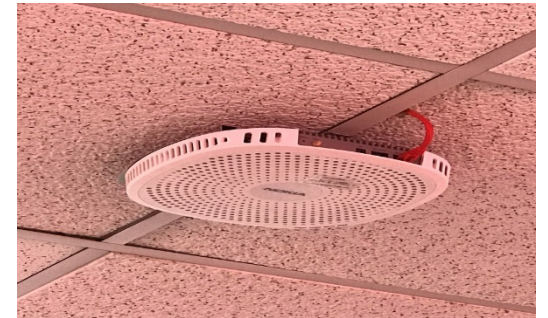
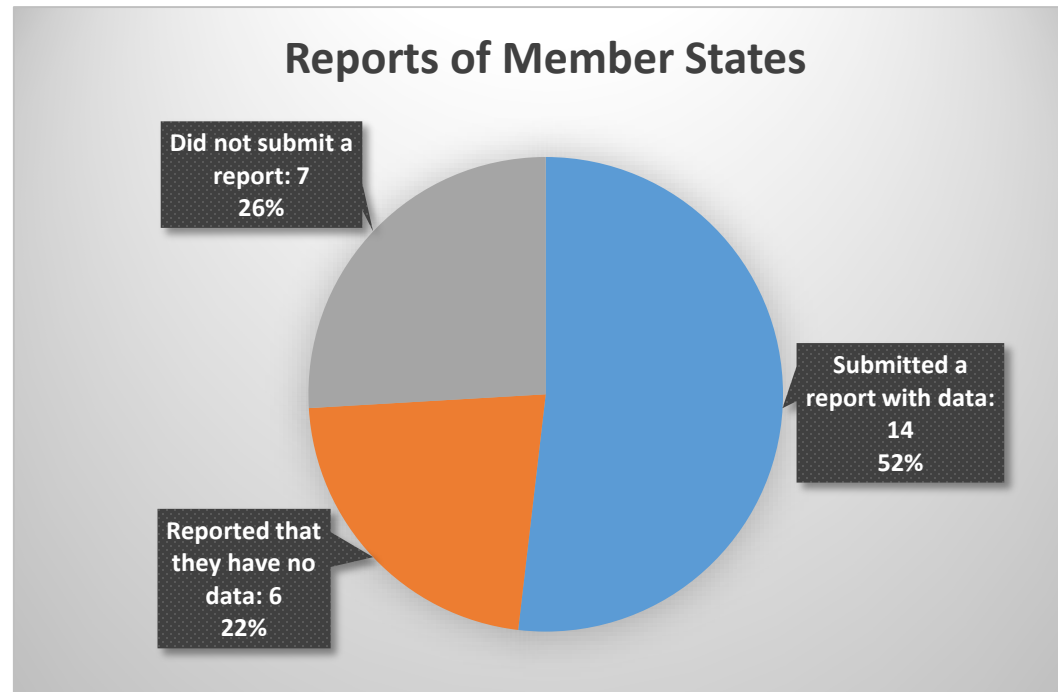
# Removing barriers in infrastructure installations:

Light Deployment Regime for Small-Area Wireless Access Points

(**SAWAPs / Small Cells**)

Commission Implementing Regulation (EU) 2020/1070 (Art. 57 of Code)

Annual reporting obligation of Member States on implementation of Regulation, starting end-2021



# Cross-border coordination matters

**IT interference to HR, SI**  
(RSPG opinion IT-HR,  
June 2021)



**RU, BY, UA interference to  
PL, LT, LV, EE**  
(coordination meetings EC  
with 4 MS,  
EU-RU dialogue (Dec 2021),  
Dialogues with Eastern  
Partnership Countries)

**TR-CY interference to CY**  
(coordination with DG  
REFORM and in RSPG)

**Practical solution found  
in 2021**

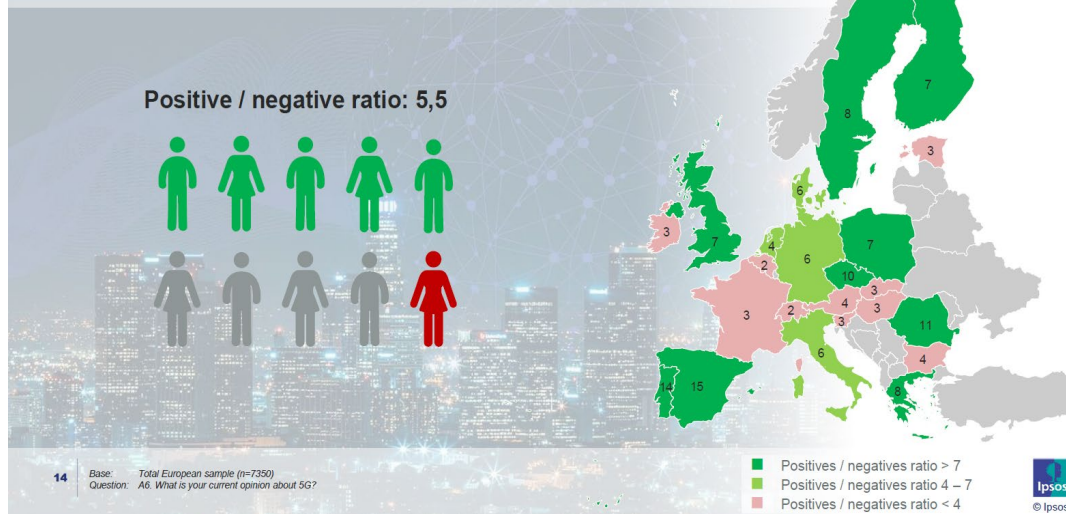


# Removing health-environmental obstacles on 5G uptake

- **Review of 1999 Council REC** (ICNIRP-2020) via SCHEER plus **longer term research** (via SAM?)
- **Solid scientific basis** (e.g. recent **JRC** study confirms no link of EMF with cancer cases)
- **Best practices** from MS on EMF in context of **Connectivity Toolbox**
- Involvement **RSPG and BEREC** (statement on EMF in Sep 2020) – e.g. engagement of MS and operators with field measurements for transparent information on real EMF exposure levels
- **Communication campaign** MS with help of Commission Reps & Europe Direct Information Centres, on benefits of 5G and combat disinformation at local level
- (Guidance on) **Code of Practice on Disinformation**
- Decision 06 Oct 2021 **FR Conseil d'Etat** dismissed annulment action against 5G (similar case in **NL**)

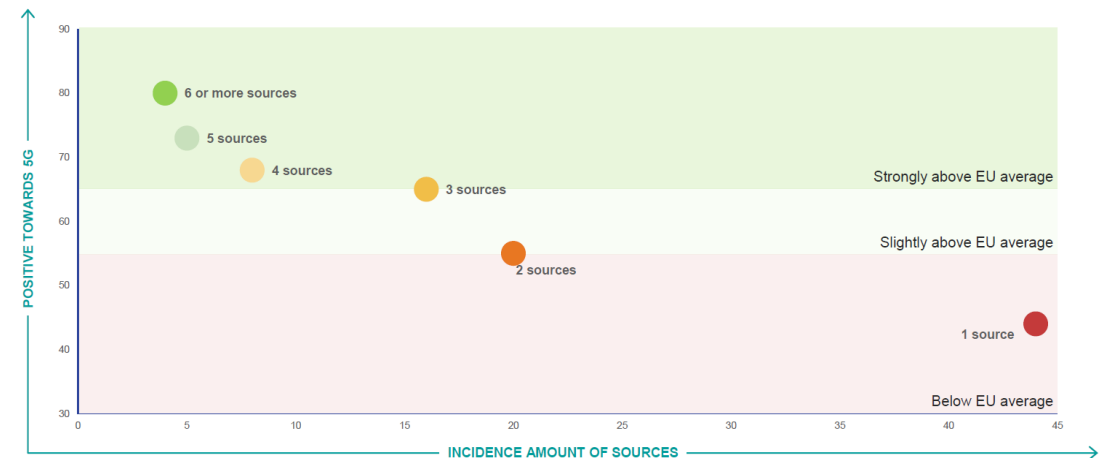
## POSITIVES / NEGATIVES RATIO 5G

The positives / negatives ratio varies a lot between countries in Europe.



## IMPACT OF NUMBER OF SOURCES ON ATTITUDE TOWARDS 5G

The more you educate people, the more they hear (positive) information about 5G, the better the attitude towards 5G.



Base: Total European sample (n=7350)  
Question: A4. Where have you heard or learned about 5G? / A5. To what extent do you trust the information about 5G from this source? / A6. What is your current opinion about 5G?

# Spectrum cost vs spectrum ROI (EU and the world)

**FIG 1-10 : Average spend per gigabyte of mobile data used and average mobile data usage per capita, Europe, South Korea, Japan and the USA, 2020**

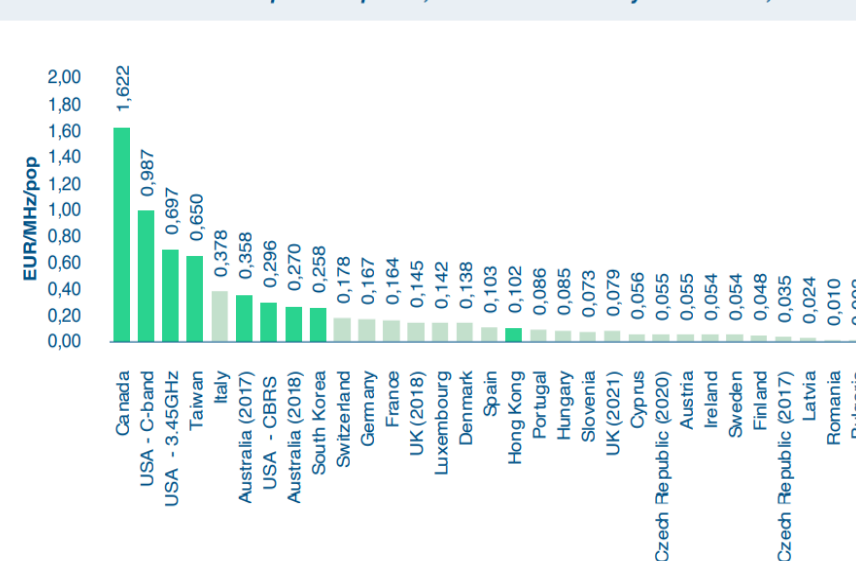


Source: Analysys Mason, 2021

**FIG 2-9 : Capex per capita, Europe, USA, Japan and South Korea, 2020**



**FIG 6-5 : 3.4GHz - 3.8GHz spectrum prices, normalised to a 20-year duration, worldwide**



Source: ETNO

## Example spectrum cost EU vs US:

- Spectrum in C-band (US: 3.45-3.55 GHz & 3.7-3.98 GHz, EU: 3.4-3.8 GHz) sold at:
  - US: 87 \$cents per MHz/pop
  - EU: Italy 36 €cents, Germany 17 €cents, France 13 €cents per MHz/pop

# Room for improvement?

- Delays in 5G spectrum awards (part of the overall delays in the transposition of Code)
- EMF & administrative barriers in infrastructure deployment: actions on the way but more can be done
- Cross-border issues: important to continue effort
- Spectrum license costs vs ROI:
  - lower cost (in general) in the EU compared to competing world-regions but so is also the ROI from spectrum (*less incentive in EU to build cross-border cases?*)
  - cost still too high, in this context, in some MS

*Increasing the ROI from spectrum can be win-win for all!*



# Path to the Digital Decade

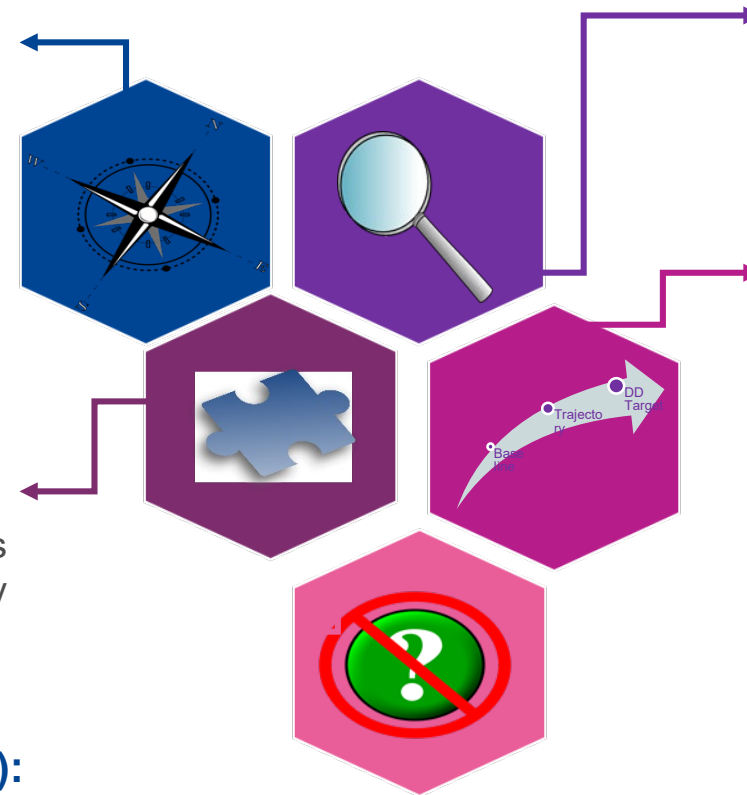
# Spectrum proposals

## Key enabler to achieve digital decade targets

- Timely availability and access
- Need of predictability but also flexibility for planning of spectrum milestones

## National digital decade strategic roadmaps

- May include radio spectrum resources allocated or committed to be allocated by national authorities



## Monitoring of progress

- Member States have to include information on availability and accessibility of spectrum

## Guidance

Commission could provide guidance on spectrum policies and measures to meet Digital Decade targets. Examples:

- **practical spectrum roadmap** elements for priority actions;
- **practical mechanisms (e.g. database)** to assist cooperation between national authorities, inform users, and monitor availability and accessibility of spectrum

## Public Consultation (summer 2021):

- 51.9%: focus coordinated EU-action on harmonising spectrum management & availability (second after 53,2% prioritising fostering connectivity infrastructures)
- 78.6%: an evolving spectrum roadmap would increase efficiency & effectiveness of spectrum management
- 82.4%: EU-level voluntary mechanism to assist national authorities in spectrum authorisation process beneficial for timely spectrum availability & usage

# Considerations towards a new Radio Spectrum Policy Programme (RSPP)

# Initial considerations: RSPG opinion

## Strategic issues:

- **Spectrum sharing** (“use-it-or-share-it”, pooling & multi-tiered access, geolocation databases, dynamic sharing, practical implementations to develop trust)
- **Licencing and spectrum awards** (nationwide vs local licenses, unlicensed spectrum, automation of authorisation processes, light licensing regime)

## Spectrum needs:

- **Innovative services** (6G, other technologies beyond 5G, Fixed wireless access, vertical needs in mm-wave bands, WAS/RLANs, High Altitude Spectrum Stations - HAPS)
- **Space** (innovative systems for gov services, protection of public mission satellite systems)
- **Transport** (cross-border coordination & use of innovative 5G services, connectivity on-board, autonomous vehicles); **Unmanned aerial vehicles / drones**
- **Combat climate change** (ITU vs ETSI-CEPT process; Galileo, GMES, EESS..)

**Other policies:** ((Cyber-)Security, EMF, Pandemic response, Audio-visual/Broadcasting)



# Thank you