

UHF BAND IN SPAIN

INTENSIVE USE FOR DTTB: PRESENT AND FUTURE

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SPAIN - GENERAL OVERVIEW

505.000 km²

48 M inhabitants

96 inhabitants/km²

18,6 M households

65% multi-dwelling



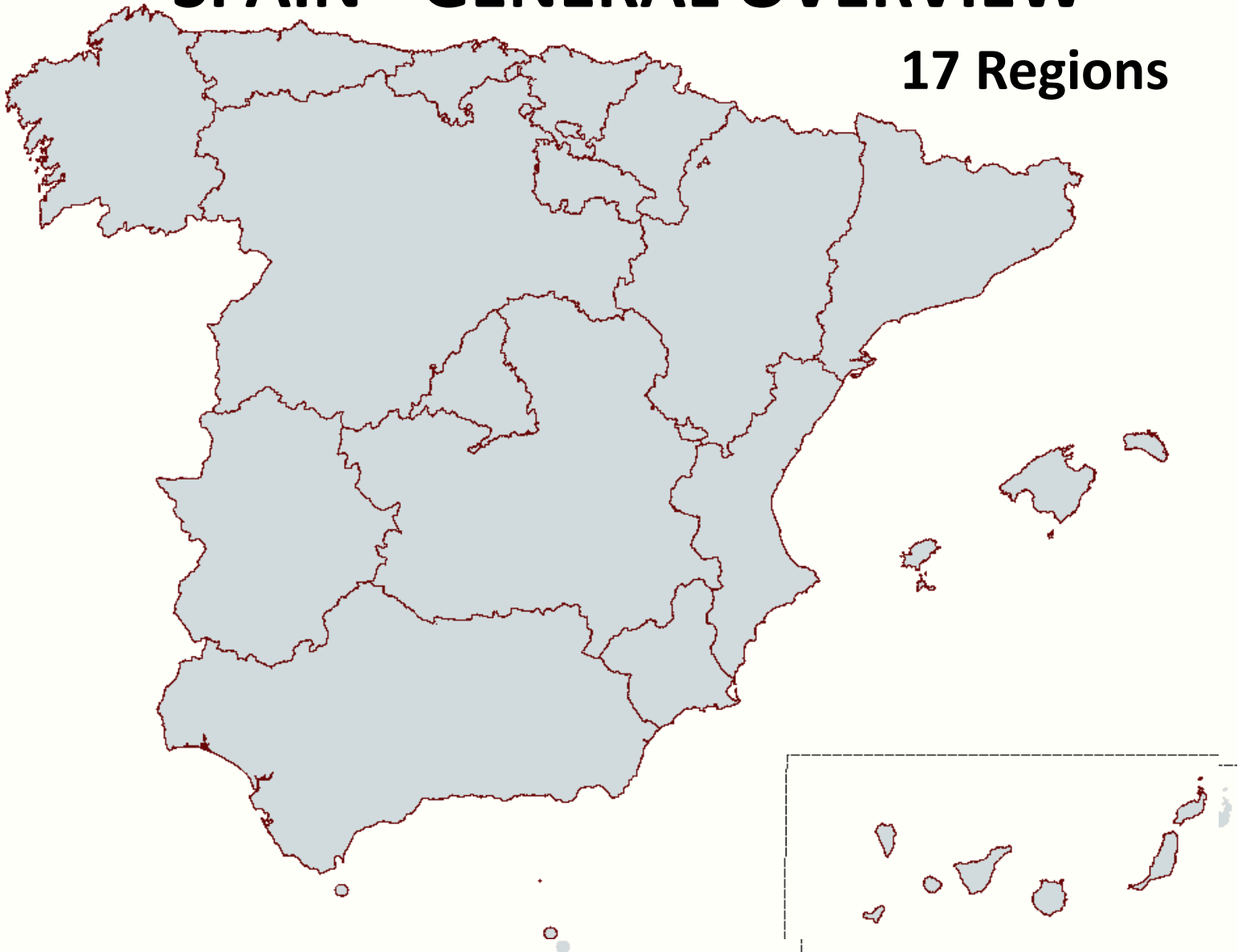
SPAIN - GENERAL OVERVIEW

50 Provinces



SPAIN - GENERAL OVERVIEW

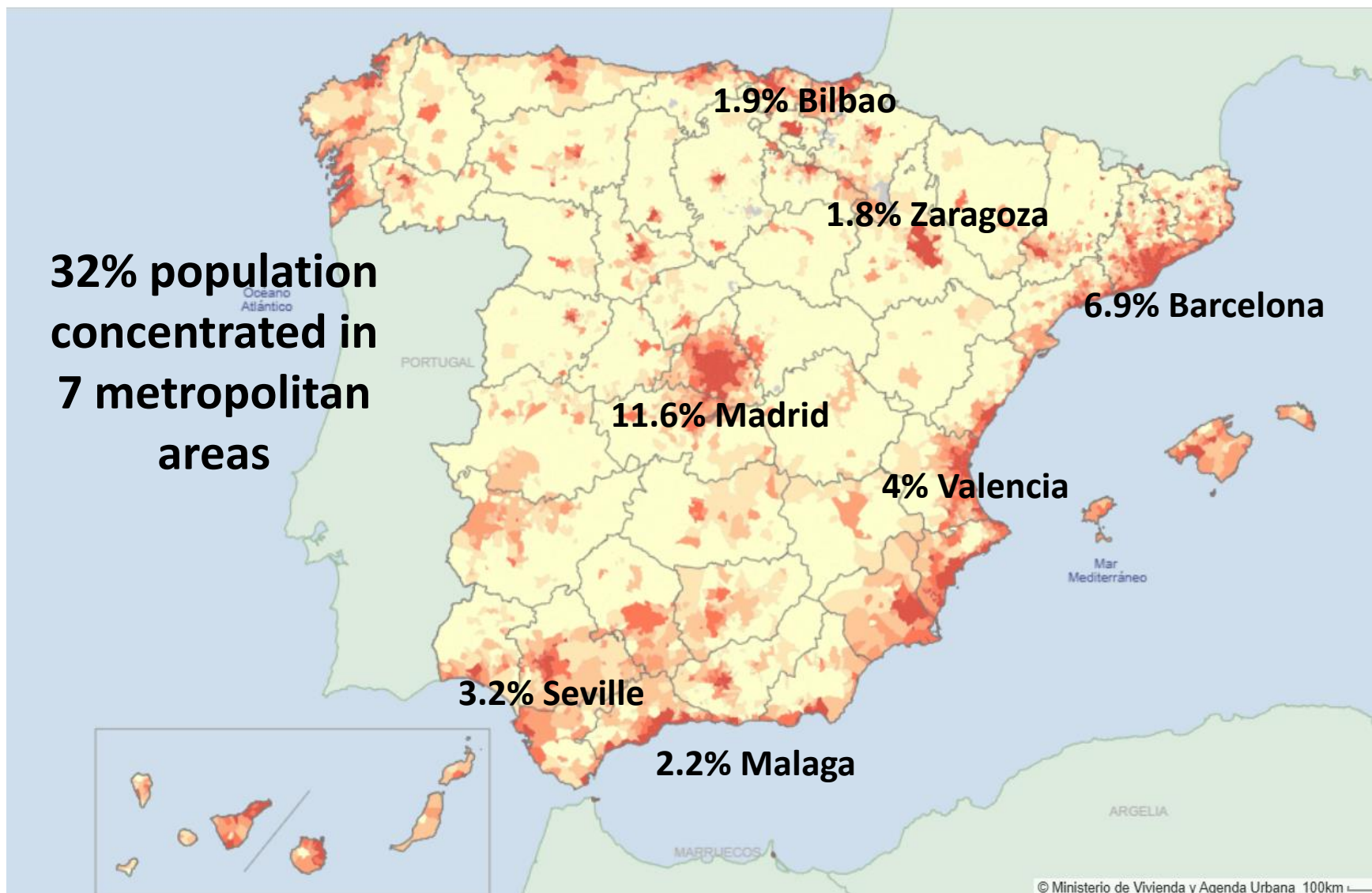
17 Regions



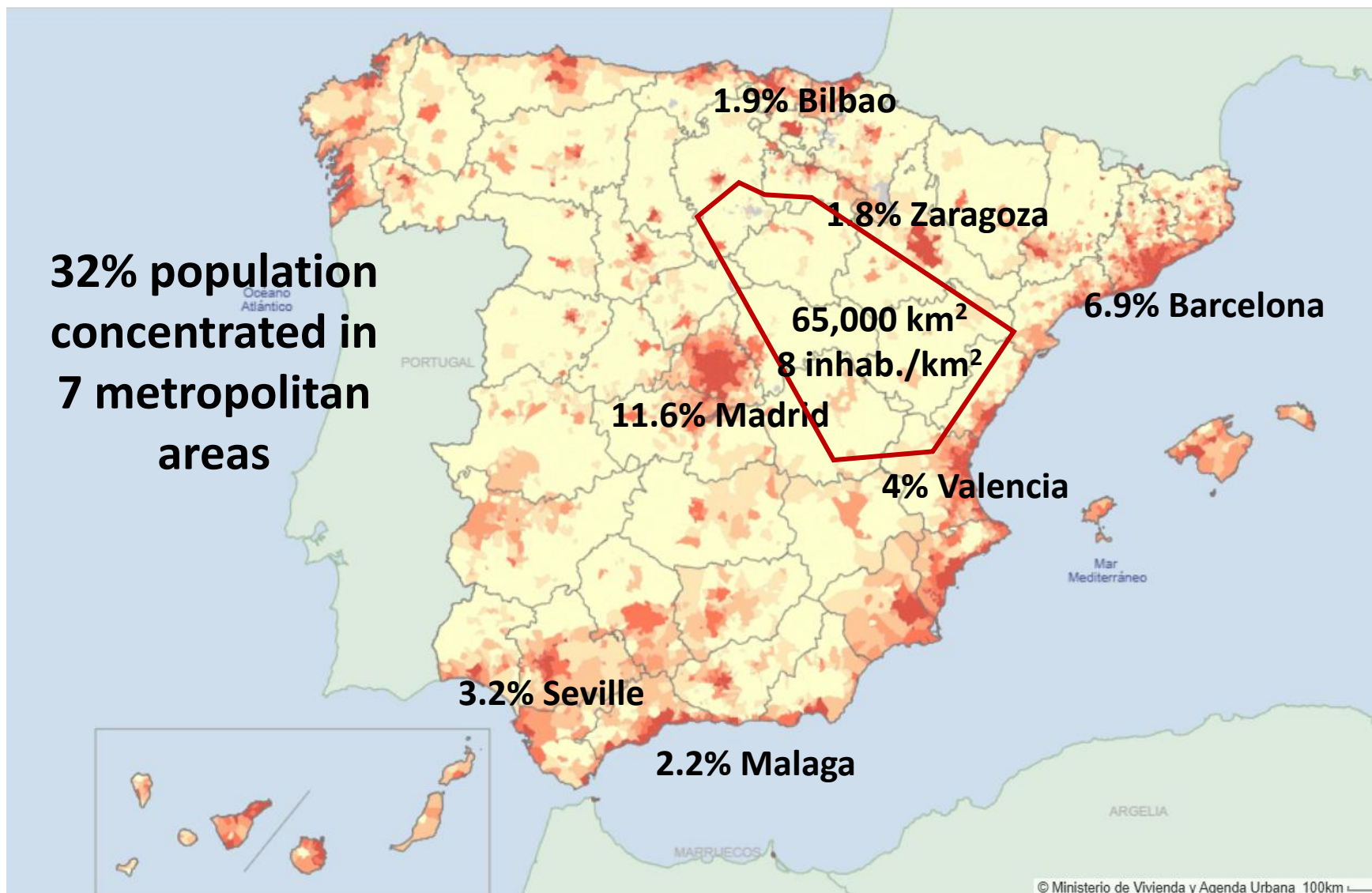
SPAIN - GENERAL OVERVIEW



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DTTB SPECTRUM PLANNING

DVB-T / AVC; fixed reception

4 TV channels per multiplex

- **6 national multiplexes (each implemented with multiple SFNs)**
- **1 regional multiplex**
- **1 provincial multiplex**
- **1 local multiplex (partial coverage)**

9 layers - typical availability -> 32-36 TV channels (HD)

Evolution towards DVB-T2 / HEVC

- **Experimental emissions since 2019 (coverage 70% population)**
- **Decree 250/2025 - adopted in March 2025**
 - **Full transition to DVB-T2 / HEVC**
 - **4 UHD channels / multiplex**

CONFIGURATION OF A NATIONAL MULTIPLEX (28 SFNs)

INTERNATIONAL COORDINATION



INTERNATIONAL COORDINATION



DTTB SPECTRUM COVERAGE

REGULATORY OBLIGATION

National layers

- 98 % Population coverage for public providers (2 mux.)
- 96 % Population coverage for private providers (6 mux.)

Local layer

- No coverage obligations

ACTUAL COVERAGE

National layers > 99% population

- ≈ 2,000 main sites (coverage obligations)
- ≈ 1,700 re-emissors / gapfillers

Local layer

- ≈ 250 sites; > 80% population

BROADBAND AVAILABILITY & ADOPTION

COVERAGE

95.7 % households > 100 Mbps (vs. 89.0 % EU27)

92.6 % households > 1 Gbps (vs. 75.6 % EU27)

87.9 % rural households NGA coverage (vs. 78.7 % EU27)

85.9 % rural households FTTH coverage (vs. 52.8 % EU27)

TAKE-UP

87.0 % households \geq 100 Mbps

23.8 % households \geq 1Gbps

Subscription to BB-based Audiovisual Services

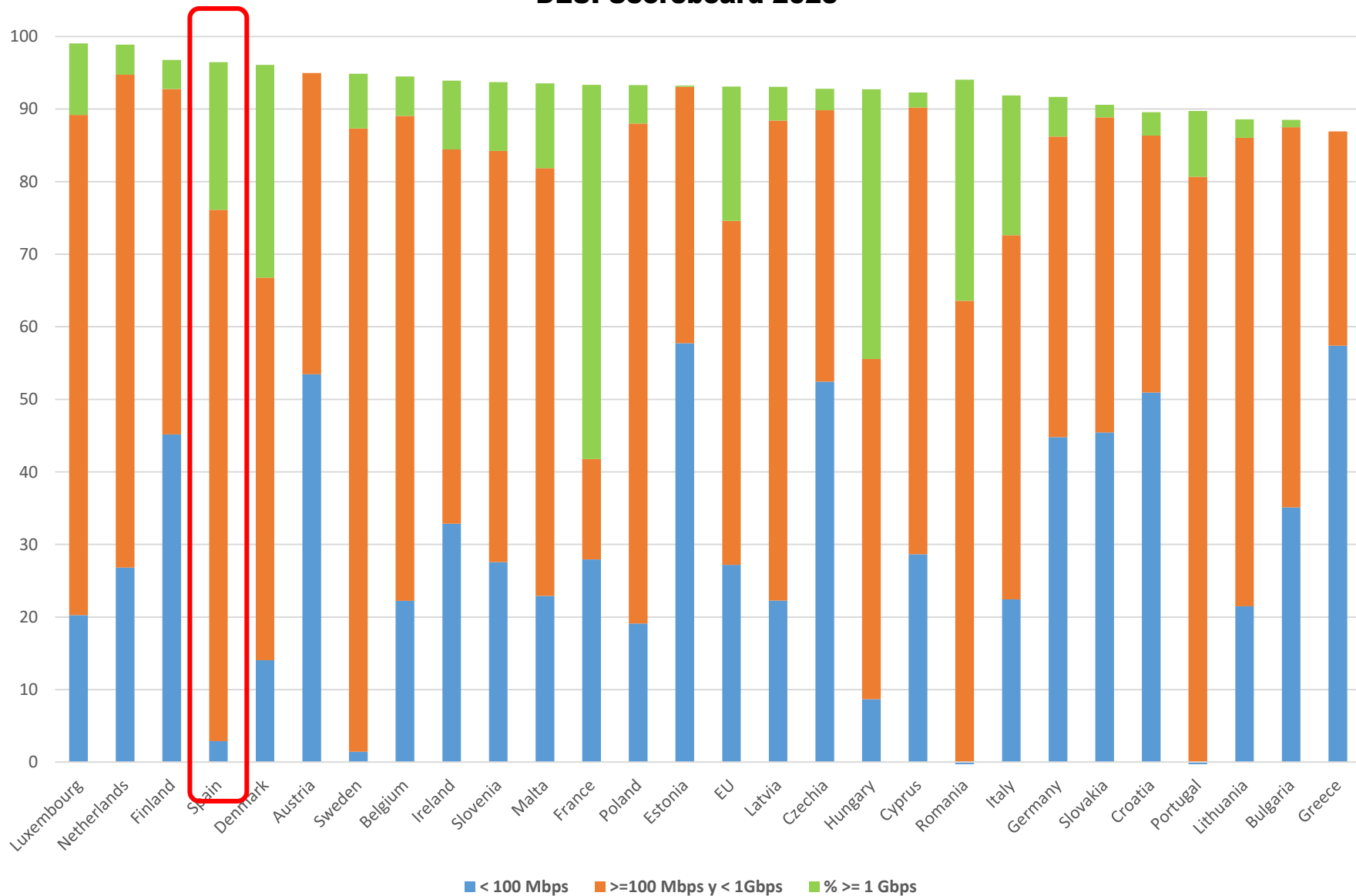
68 % households subscribed to BB Audiovisual platforms

34 % bundled with telecom services (usually including DTTB offer)

Gap for subscription to BB-based Audiovisual Services

4.3 % technological; 9 % adoption; 22 % voluntary

Fixed BB Take-up DESI Scoreboard 2023

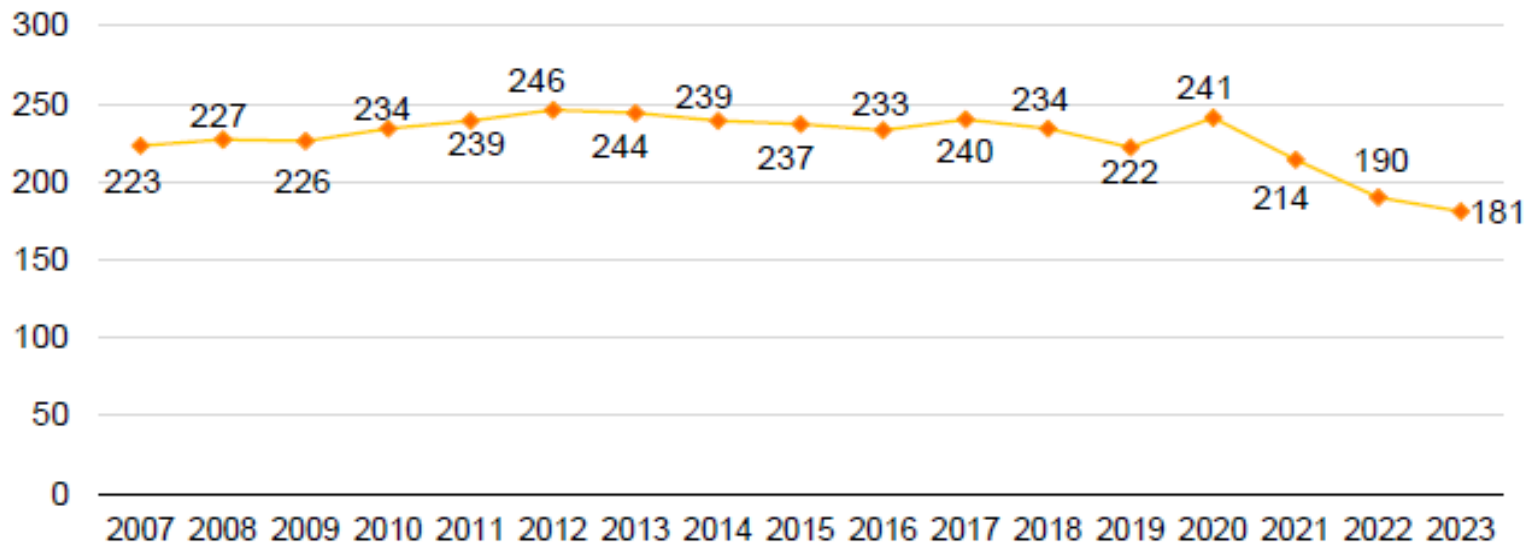


AUDIOVISUAL COMSUMPTION

AVERAGE (people over 18)

287 min/day, of which

- **188 min/day - Linear TV (65.6%)**
 - 169 min/day -> Free-to-air (i.e. available on TDT)
 - 19 min/day -> Pay-TV
- **51 min/day -> other uses of TV set (17.8%)**
- **48 min/day -> Internet: PCs/Tablet/mobile (16.7%)**



PUBLICITY MARKET

Audiovisual (2023) 1.95 B€

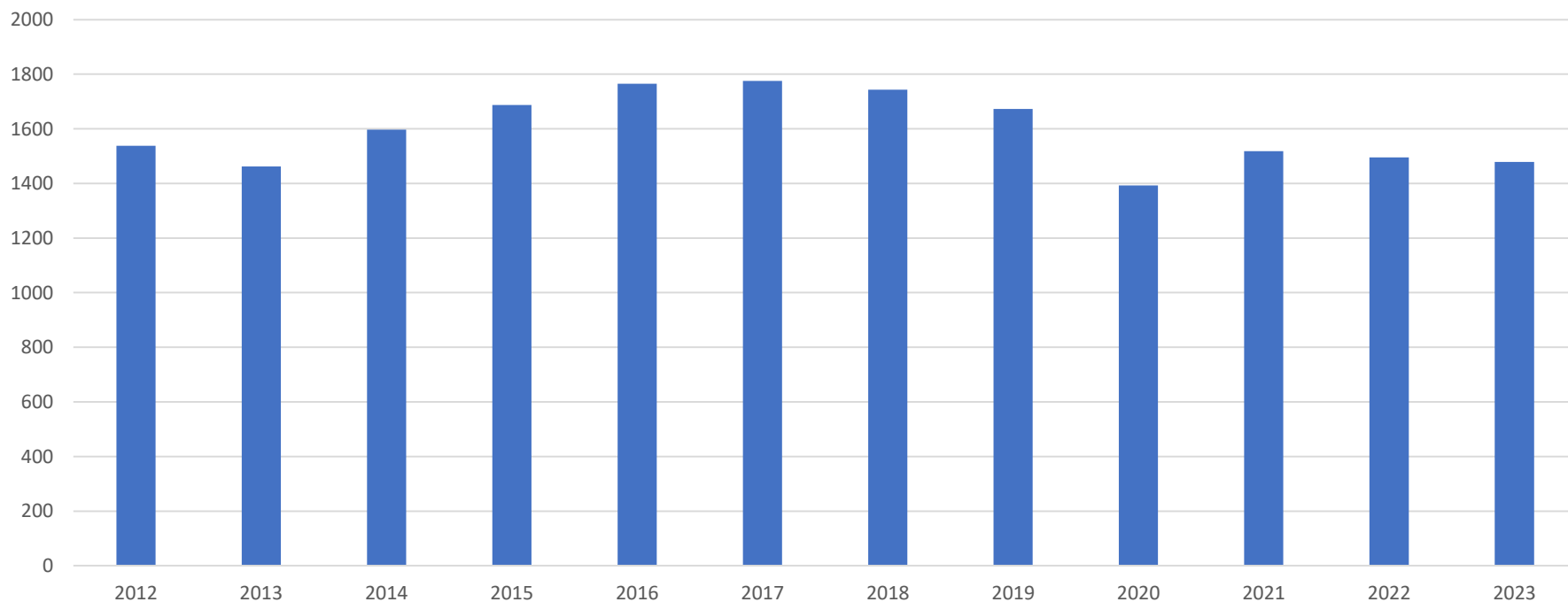
Digital media(2023) ≈ 2,3 B€

DTTB 75.8 %

Pay-TV 8.0 %

Radio 2.9 %

DTTB publicity market



SOCIAL DIMENSION

Public Media Service

- **15% Market share – National public broadcaster**
- **10% Market share – Regional public broadcasters**

Strongest usage of DTTB by specific sectors of the population

- **Digital divide (rural, senior people...)**
- **Economic divide**

Regional / local interests

- **Contents (news, cultural, adds...) related with local communities**
- **Especially relevant in Regions with 2nd official language**
- **Integrated local media companies (TV/Radio/Press)**

KEY ASPECTS

Technological innovations shape the picture ... but the situation is path-dependent:

- **Country size + demography adequate for UHF Broadcast**
- **Wide availability of DTTB (coverage + contents) has created a strong ecosystem (audience, media providers, publicity market).**
- **Fixed BB connectivity offers new possibilities:**
 - **Convenient access to DTTB contents (e.g. time shift)**
 - **Access to additional contents**
 - **Targeted advertisements**

... whose main beneficiaries have been the DTTB incumbents

SUMMARY

SPECTRUM PLANNING & USAGE

Intensive & efficient use of spectrum

Difficult to modify (international coordination)

TECHNOLOGICAL OPTIONS

DTTB provides quasi universal coverage

Broadband availability & take-up among the best in EU

AUDIOVISUAL CONSUMPTION PATTERNS

TV-set is “the king” device (in most cases Smart TV)

Contents produced for DTTB broadcast remain (by large) the main preference of consumers

BB connectivity enhances / complements DTTB

SOCIAL DIMENSION

Goals best achieved with DTTB technology