France

POP: 67m

Density: 120/km2

Licenses Attributed

800 Mhz: Orange, SFR, Bouygues Telecom
2,6Ghz: Orange, SFR, Bouygues Telecom, Free

Initial Coverage Obligations (% pop)

At National Level
25% by Y3 (2,6Ghz)
60% by Y7 (2,6Ghz)
75% by Y11 (2,6Ghz)
98% by Y12 (800Mhz)
99,6% by Y15 (800Mhz)

At Département* Level
90% by Y12 (800Mhz)
95% by Y15 (800Mhz)
Note: Obligations at département level include 800Mhz coverage of main roads and circulation routes.

In the Priority Zone**
40% by Y5 (800Mhz)
90% by Y10 (800Mhz)

Terminology

Département: administrative division of French territory. Average Pop: 650k, Average Size: 8k sqm
Priority Zone: low density area defined by the regulator, represents 18% pop. and 63% territory.
Y1 is 2012

4G Coverage Achieved

Orange: 92% of pop. / 65% of territory
Bouygues Telecom: 90% of pop. 61% of territory
SFR: 91% of pop. / 65% of territory
Free: 82% of pop. / 48% of territory

Revised Targets

In early 2018, the French government and regulator ARCEP announced an agreement with mobile operators to accelerate 4G deployment.

The new plan is articulated around the deployment of 4G in 5000 specific locations identified as lacking 4G coverage. Once a location is attributed by the government for deployment, said operator has 12 months to provide coverage if the local government helps with site acquisition and energy or 24 months otherwise.

In addition, operators will have to densify coverage alongside roads and railways. Furthermore, all of their existing 2G/3G sites will have to be migrated to 4G by the end of 2020 (Y7)

In exchange for this increased commitment, licence renewal fees due 10 years after attribution will be waived.

UK

POP: 66m

Density: 267/km2

Licenses Attributed

800 Mhz: EE, Three, Vodafone, O2
2,6Ghz: EE, BT, Vodafone

Initial Coverage Obligations (% pop)

Only one licensed carried coverage obligations. It was won by O2.

This operator is obliged to provide a mobile broadband service for indoor reception to at least 98% of the UK population (expected to cover at least 99% when outdoors) and at least 95% of the population of each of the UK nations – England, Northern Ireland, Scotland and Wales – by the end of 2017 at the latest.

In addition to 02's obligation, all mobile carriers in the UK signed an agreement with Ofcom to provide 90% voice coverage nationally by the end of 2017.

4G Coverage Achieved

O2: 97% of population
EE: 99% of population / 86% of territory
Three: 91% of population
Vodafone: 97% of population

In 2018, Ofcom announced that 02 had met it's 4G obligation and that other operators had met their voice coverage obligations.

DIFFRACTION analysis

Sweden

POP: 10m

Density: 22/km2

Licenses Attributed

450Mhz: Net1
800 Mhz: TeliaSonera, Hi3G, Net4Mobility
2,6Ghz: TeliaSonera, Tele2, Telenor, Hi3G

Initial Coverage Obligations (% pop)

450Mhz: 80% of area in each region (county)
800Mhz: 100% coverage of households and businesses with at least 1 Mb/s throughput for FWA.
2.6Ghz band: no obligations

4G Coverage Achieved

Telia 99,9% of pop
Net4Mobility 99,5% of pop / 90% of territory
Hi3G (Tre) 80% of pop
Net1: 96% of territory

Note that there is a fair amount of network sharing going on in Sweden. Net4Mobility is a JV between Tele2 and Telenor to share infrastructure assets and spectrum in the 800Mhz band. While both companies operate separately from a commercial standpoint, their coverage performance is identical in this band (other bands may complement that differently).

Note also that Net1 is a B2B operator offering technical solutions. It does not operate in the retail market. It therefore does not publish population coverage numbers.

Finland

POP: 5.5m

Density: 17/km2

Licenses Attributed

700 Mhz: TeliaSonera, DNA, Elisa (2017)
800 Mhz: TeliaSonera, DNA, Elisa (2013)

Initial Coverage Obligations (% pop)

700Mhz:
99% pop by Y3

800Mhz:
95% pop by Y3
TeliaSonera: 99% pop by Y5
Elisa and DNA: 97% by Y5

4G Coverage Achieved

DNA 99% of pop
TeliaSonera 97% of pop
Elisa 99% of pop

Note that TeliaSonera and DNA share network assets in LTE in order to maximise rural coverage.

Italy

POP: 61m

Density: 201/km2

Licenses Attributed

800 Mhz: TIM, Vodafone, WIND (2011)
1800 Mhz: TIM, Vodafone, WIND (2011)
2600 Mhz: 3 Italia, TIM, Vodafone (2011)

Initial Coverage Obligations (% pop)

800Mhz
Each spectrum lot comes with a specific list of municipalities that must be covered over time:

- at least 30% of the aforementioned municipalities must be fully covered by Y3
- at least 75% must be fully covered by Y5

Other Frequencies
National coverage of 20% pop by Y2 and 40% by Y4. In addition, population in each announced coverage area during the tender process must be covered at least in half with 2600 MHz, the remainder may be covered using the other frequencies for broadband use at 900, 1800 and 2100 MHz. All geographical areas covered by tender application must be fully covered using the 2.6 GHz band by Y11.

4G Coverage Achieved

Vodafone Italy 97,3% of pop
TIM 98% of pop
Wind Tre 95,3% of pop

Note that Wind Tre is the product of the merger between the two smallest market players. As part of the merger deal they have had to sell some assets and spectrum to Iliad who is anticipated to enter the market in 2018.

DIFFRACTION analysis

Spain

POP: 46m

Density: 91/km2

Licenses Attributed

800 Mhz: Movistar, Vodafone, Orange (2011)
900 Mhz: Movistar, Orange (2011)
1800Mhz: Yoigo (2011)
2600 Mhz: Movistar, Vodafone, Orange (2011)

Initial Coverage Obligations (% pop)

Irrespective of spectrum usage, the coverage obligations of the 2011 spectrum auctions impose for each operator a performance of 30 Mbps to 90% of the population in villages of less than 5000 inhabitants.

This is only now being measured, so there is no feedback on how the different operators have (or haven't) achieved this yet.

4G Coverage Achieved

Movistar 95% of pop
Vodafone 95% of pop
Orange 95% of pop
Yoigo/Masmovil 85% pop

Note Yoigo/Masmovil has a roaming agreement (previously with Telefonica, now with Orange) to complement its coverage.

Germany

POP: 83m

Density: 236/km2

Licenses Attributed

800 Mhz: Deutsche Telekom, Vodafone, Eplus, Telefonica/O2 (2010)
1800Mhz: Deutsche Telekom, Vodafone, Telefonica/O2 (2010)

Initial Coverage Obligations (% pop)

The 800MHz frequencies included a phased rollout obligation to cover areas underserved with broadband services, also known as 'white spots', with operators required to cover 90% of these areas before they could roll out mobile broadband in other areas using 800MHz spectrum. Rollout is to be carried out in stages based on the number of inhabitants, beginning with municipalities with 5,000 people or less, and followed by larger towns in the subsequent stages. When the coverage obligation has been fulfilled in a federal state, assignment holders can make unrestricted use of the 800MHz spectrum there.

4G Coverage Achieved

Deutsche Telekom 94% of pop
Vodafone 90% of pop
Telefonica 90% of pop

Note Telefonica/O2 purchased Eplus, so only three market players remaining.

DIFFRACTION analysis

Greece

POP: 11m

Density: 84/km2

Licenses Attributed

800 Mhz: Cosmote, Vodafone (2014)
2600Mhz: Cosmote, Vodafone (2014)

Initial Coverage Obligations (% pop)

While the Greek regulator imposed coverage obligations for 2G and 3G licenses, it did not impose coverage obligations for 4G/LTE.

4G Coverage Achieved

Cosmote 65% of pop
Vodafone 45% of pop
Wind 0% of pop

Ireland

POP: 5m

Density: 67/km2

Licenses Attributed

800 Mhz: Meteor, Telefónica and Vodafone (2012)
900 Mhz: H3G, Meteor, Telefónica and Vodafone (2012)
1800Mhz: H3G, Meteor, Telefónica and Vodafone (2012)

Initial Coverage Obligations (% pop)

All operators must maintain a minimum coverage of 70% of the population and meet this target within three years of receiving the licence.

4G Coverage Achieved

Meteor/Eir 96% of pop
H3G 95% of pop
Vodafone 90% of pop

Note Telefónica/O2 was merged with H3G in 2015.

Switzerland

POP: 8m

Density: 212/km2

Licenses Attributed

800 Mhz: Swisscom, Orange, Sunrise (2012)
900 Mhz: Swisscom, Orange, Sunrise (2012)
1800Mhz: Swisscom, Orange, Sunrise (2012)

Initial Coverage Obligations (% pop)

While the Swiss regulator ComCom imposed coverage obligations for 2G and 3G licenses, it did not impose coverage obligations for 4G/LTE.

4G Coverage Achieved

Swisscom 94% of pop
Sunrise 90% of pop
Salt 90% of pop

Note Orange was sold on to a new owner and rebranded as Salt.