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Research Dossier: Vodafone UK



Country

United Kingdom

Company Name

Vodafone Ltd

Ownership Type

Subsidiary

Ownership/Controlling Entity

Vodafone Group

Website

<https://vodafone.co.uk>

MNC

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Company Overview

Vodafone UK is a national mobile network operator providing telecommunications services throughout the United Kingdom. The company was founded in 1982 after Racal Electronics Group secured a licence to operate a UK cellular network. That same year Racal formed a JV with international telecoms giant Millicom, forming Racal Vodafone and becoming the first cellular network provider in the UK. In 1991 the company was split from Racal to become Vodafone Group.

Today Vodafone UK is part of Vodafone Group, one of the world's largest telecommunications companies, and provides a range of services including voice, messaging, data and fixed communications. Vodafone Group has mobile operations in 25 countries, partners with mobile networks in 46 more, and has fixed broadband operations in 18 markets.

Vodafone UK launched its first 2G GSM services in 1991 operating a standard 900 and 1800 MHz band

network. The first 3G service was launched in 2001, but took until June 2006 to become a true 3G UMTS data network. In 2012 the company added HSPA+ and shortly after DC-HSPA+ high speed packet data services. The company's 3G services were provided over B1 (2100 MHz) and from 2012 B8 (900 MHz).

4G LTE Services

Vodafone secured spectrum in the 800 and 2600 MHz bands in February 2013 following an Ofcom auction. First 4G LTE services were available on the 29th of August that same year, operating over the B20 (800 MHz) carrier. In October 2014 the company announced it had begun deploying 225 Mbps LTE-A with 2C carrier aggregation, combining 20 MHz of B7 (2600 MHz) and 10 MHz of B20 (800 MHz). A spectrum trade deal conducted in September 2015 saw Vodafone UK secure 1400 MHz (L-band) spectrum for SDL deployment.

In July 2016 Vodafone and technology partner Huawei, announced trials of its B38 (2600 MHz) TDD network with 4X4 MIMO technology in combination with 8T8R on its network in Manchester. By June the company had announced deployment of 4X4 MIMO, 3C aggregation with newly activated B1 (2100 MHz) LTE, and 256QAM, making it one of the regions first LTE-A Pro networks.

Spectrum Refarming

Holding 14.8 MHz of paired spectrum, Vodafone UK commenced refarming of its B1 (2100 MHz) 3G UMTS network in early 2017. Initially refarming a single 5 MHz carrier, the company has since refarmed the entire allocation to produce a 15 MHz B1 (2100 MHz) 4G LTE carrier. Similarly, the company's 5.8 MHz of 1800 MHz 2G GSM spectrum has been refarmed to produce a 5 MHz B3 (1800 MHz) LTE carrier. 900 MHz refarming has also been conducted, producing a 5 MHz B8 (900 MHz) carrier from spectrum previously used for GSM services.

Vodafone UK 5G

The company secured 50 MHz of 3.5 GHz spectrum in the April 2018 Ofcom auction, acquiring frequencies 3410 to 3460 MHz. Shortly after, Vodafone announced 5G trials in seven cities across the UK beginning in June 2018. Vodafone achieved the UK's first holographic call over 5G in September 2018. In March 2019 Vodafone announced it would launch 5G in 19 cities during 2019 - with the date of 3rd July announced in a May press release.

Right on schedule Vodafone became the second UK mobile operator to turn on its 5G network only days after EE's 5G launch. The service went live in seven UK cities: Bristol, Birmingham, Cardiff, London, Liverpool, Manchester and Glasgow, with a further twelve cities following later in 2019.

Vodafone UK IoT

Despite being a leading proponent of NB-IoT and having an extensive international NB-IoT network, Vodafone's domestic NB-IoT deployment took significant time to come to fruition. Vodafone advised that it had achieved national coverage across the United Kingdom in September 2018. The narrowband network uses B8 (900 MHz) and B20 (800 MHz) carriers.

▼ 3G UMTS Network Information

Details on UMTS network deployments are shown below. Data are often incomplete due to commercial nature. Consult dossier text for further details.

UMTS Band	Packet Data	Status
B1 (2100 MHz)	DC-HSPA+	Shut Down Announced
B8 (900 MHz)	HSPA+	Active

▼ 4G LTE Network Information

Details on LTE network deployments are shown below. Data are often incomplete due to commercial nature. Consult dossier text for further details.

Evolution	LTE Advanced Pro (LTE-A Pro)	Status	Active [Launched 2013-08]
Max. MIMO	Massive MIMO	Max. Modulation	256QAM
	CA_1A-20A (B1+B20)		
	CA_1A-7A (B1+B7)		
	CA_1A-20A (B1+B20)		
	CA_1A-7A-20A		

Carrier Aggregation	(B1+B7+B20) CA_3A-20A (B3+B20) CA_7A-20A (B7+B20) CA_7A-32A (B7+B32) CA_20A-32A (B20+B32)	Features	VoLTE
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LTE Band	Channel Width	Status
B1 (2100 MHz)	15 MHz	Active
B7 (2600 MHz)	20 MHz	Active
B20 (800 MHz)	10 MHz	Active
B38 (2600 MHz)	20 MHz	Active
B8 (900 MHz)	5 MHz	Active
B32 (1500 MHz Suppl. DL)	20 MHz	Active
B3 (1800 MHz)	5 MHz	Active

▼ 5G NR Network Information

Details on 5G NR network deployments are shown below. Data are often incomplete due to commercial nature. Consult dossier text for further details.

Type	NR (Standard)	Status	Active [Launched 2019-07-03]
Max. MIMO	64T64R	Max. Modulation	256QAM
Carrier Aggregation	-	Features	-

NR Band	Channel Width	Status
n78 (3500 MHz)	50 MHz	Active

▼ IoT Network - NB-IoT (LTE Cat-NB1)

Technology	NB-IoT (LTE Cat-NB1)	Status	Active
Band	B8 (900 MHz) B20 (800 MHz)	Launch Date	-

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