

HSPA Operator Commitments report – October 25, 2016

GSM/3G MARKET/TECHNOLOGY UPDATE

The path to mobile broadband began with WCDMA, a 3GPP global standard. The first evolution of WCDMA - High Speed Packet Access (HSPA), reduced latency and boosted capacity and user data speeds. **All WCDMA operators have launched HSPA.** HSPA is the leading mobile broadband technology with 605 operator deployment commitments in 221 countries, of which 601 networks are commercially launched in 221 countries.

Capacity and performance improve with HSPA+. Over 72% of HSPA operators have commercially launched HSPA+. 435 HSPA+ networks (21 Mbps and above downlink speed) are commercially launched. 195 42 Mbps DC-HSPA+ networks (one third of HSPA networks) and two 63 Mbps 3C-HSPA+ networks are commercially launched.

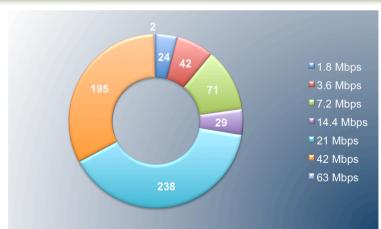
3GPP Release 9 combined multicarrier and MIMO technologies in 10 MHz bandwidth to achieve 84 Mbps peak downlink and 23 Mbps peak uplink. Release 10 supports carrier aggregation of up to 4 (5 MHz) carriers allowing operators to leverage all spectrum assets for increased data rates for all users. Release 11 evolved carrier aggregation to multiflow. Further enhancements are standardized in Releases 12 & 13 and planned for Release 14.

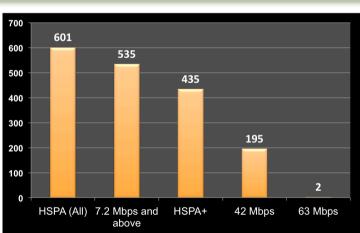
Over 400 operators (two thirds) commercially launched HSUPA. 85% of these support 5.8 Mbps peak data throughput on the uplink. Another 22 networks support 11.5 Mbps. It means over 90% of operators with HSUPA support at least 5.8 Mbps peak data throughput on the uplink.

Most 3G/HSPA systems use 2.1 GHz spectrum (3GPP band 1). HSPA system deployment using refarmed 900 MHz (band 8) is also mainstream, with a well established user devices ecosystem. **111 operators in 72 countries** deployed HSPA using 900 MHz (**UMTS900**) in either a single band or within a multiband deployment.

There were 2.232 billion* 3G WCMDA-HSPA/HSPA+ subscriptions globally at end June 2016, confirming its current position as the world's leading mobile broadband technology, which will continue to be the case until 2019-2020. Increasing numbers of 3G/HSPA operators offer HD voice service. GSA estimates that most operators continue their 3G investments. Top feature upgrades are DC-HSPA+ (downlink and uplink) and smartphone features (CPC & E-FACH). 3C-HSPA+ (63 Mbps) have also been commercialised with the first 2 operator launches.

* the referenced subscriptions data is according to Ovum





Charts: Theoretical peak downlink speeds supported by 601 commercial HSPA operators
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Visit www.gsacom.com for mobile broadband related charts and maps.

This report confirm all worldwide operator commitments to HSPA, network deployments, commercial launches and service opening date, peak downlink and uplink speeds, and network support for GPRS/EDGE, according to research undertaken directly by GSA up to October 25, 2016. This report is updated twice yearly.

Updates welcome – please send to GSA Secretariat by email info@gsacom.com



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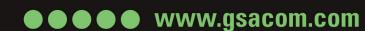
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
1	Abkhaz	Aquafon	Launched November 20, 2008	7.2 Mbps			Launched
2	Afghanistan	Salaam/Aftel	Launched February 2014 * speed subject to confirmation with operator	7.2 Mbps	2 Mbps		
3	Afghanistan	Etisalat	Launched March 19, 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched 19.03.12	Launched
4	Afghanistan	MTN	Launched September 26, 2012 * speed subject to confirmation with operator	1.8 Mbps			Launched
5	Afghanistan	Roshan	HSPA launched April 15, 2013 Initially in in Kabul, Bagram, Kandahar and Heart * speed subject to confirmation with operator	7.2 Mbps	2 Mbps		Launched
6	Afghanistan	AWCC	Launched December 15, 2014 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 15.12.14	Launched
7	Aland	AMT	Launched HSPA July 1, 2010	14.4 Mbps			Launched
8	Albania	AMC	Launched January 13, 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 13.01.12	Launched
9	Albania	Vodafone	Launched January 10, 2011 42 Mbps DC-HSPA+ launched June 20, 2014	42 Mbps	5.8 Mbps	42 Mbps launched 20.06.14	Launched
10	Albania	Eagle	Launched February 28, 2013 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 28.02.13	Launched
11	Algeria	Djezzy	Launched July 5, 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 05.07.14	Launched
12	Algeria	Mobilis	Launched December 14, 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 14.12.13	Launched
13	Algeria	Ooredoo Nedjma	Launched December 14, 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 14.12.13	Launched
14	Andorra	Andorra Telecom	Launched December 20, 2007 Initially 1.8 Mbps, then 7.2 Mbps Launched 21 Mbps HSPA+ on 04.02.14. Covered 70% territory by October 2014	21 Mbps		21 Mbps launched 04.02.14	
15	Angola	Movicel 900 MHz	Launched 2012 UMTS900 * speed subject to confirmation with operator	1.8 Mbps	2 Mbps		Launched
16	Angola	Unitel	Launched July 2007	1.8 Mbps	2 Mbps		Launched
17	Anguilla	Digicel	Launched May 31, 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 31.05.13	
18	Anguilla	FLOW	Launched 2011E	21 Mbps	11.5 Mbps	21 Mbps launched 2011E	Launched
19	Antigua and Barbuda	Digicel	Launched November 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched Nov 2012	Launched
20	Antigua and Barbuda	FLOW	Launched May 15, 2014 21 Mbps HSPA+	21 Mbps	11.5 Mbps	21 Mbps launched 15.05.14	Launched
21	Argentina	Telecom Personal	Launched May 2007	1.8 Mbps			Launched
22	Argentina	Movistar	Launched July 17, 2007	1.8 Mbps			Launched
23	Argentina	Claro	Launched November 13, 2007 21 Mbps HSPA+ launched Nov 2011	21 Mbps		21 Mbps launched Nov 2011	Launched
24	Armenia	Beeline (ArmenTel)	Launched September 26, 2008 later 7.2 Mbps, upgraded to 14.4 Mbps in 2010. 5.8 Mbps HSUPA launched in 2010	14.4 Mbps	5.8 Mbps		Launched
25	Armenia	Karabakh Telecom	Launched in Artsakh June 22, 2013 * speed subject to confirmation with operator	7.2 Mbps			Launched





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
26	Armenia	UCOM (Orange) 900/2100	Launched November 5, 2009 900 MHz and 2100 MHz bands. 14.4 Mbps Aug 2010. 42 Mbps DC-HSPA+ launched 24.01.12 21 Mbps on rest of network	42 Mbps	5.8 Mbps	42 Mbps launched 24.01.12	Launched
27	Armenia	Vivacell-MTS	Launched April 17, 2009 Initially 3.6 Mbps; upgraded to 7.2 Mbps. 21 Mbps HSPA+ launched 02.11.10. 42 Mbps DC-HSPA+ in 2013. 615 settlements covered by June 2015	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2013	Launched
28	Aruba	Setar	Launched December 10, 2007 7.2 Mbps 21 Mbps HSPA+ launched 13.11.11	21 Mbps		21 Mbps launched 13.11.11	Launched
29	Aruba	Digicel	Launched June 2011 Upgraded to 21 Mbps HSPA+ 07.09.11	21 Mbps	5.8 Mbps	21 Mbps launched 07.09.11	Launched
30	Australia	Telstra 850/2100	Launched October 10, 2006; 7.2 Mbps Oct. 2007; 21 Mbps HSPA+ launched 23.03.09. 42 Mbps DC-HSPA+ launched June 2010. Evolution to 84 Mbps planned	42 Mbps	5.8 Mbps	42 Mbps upgrade launched June 2010	Launched
31	Australia	Vodafone	Launched October 20, 2006 3.6 Mbps; 7.2/14.4 in 2008. UMTS900 launched 31.08.09. UMTS850 launched 2011. 42 Mbps DC-HSPA+ deployed in 850, 900 and 2100 MHz bands	42 Mbps	5.8 Mbps	42 Mbps launched 13.09.12	Launched
32	Australia	Optus 900/2100	Launched May 2007 1.8, then 3.6 and 7.2 Mbps. 21 Mbps HSPA+ launched April 2011 now 15% pop covered (Nov 2012) UMTS900 launched May 2008	21 Mbps	2 Mbps	21 Mbps launched Apr 2011	Launched
33	Austria	T-Mobile	Launched March 2006 21 Mbps HSPA+ from January 19, 2011 42 Mbps DC-HSPA+ planned	21 Mbps	Launched	21 Mbps launched 19.01.11	Launched
34	Austria	A1	Launched January 06 HSUPA now on all 3G net. 21 Mbps HSPA+ launched March 23, 2009 5.8 Mbps HSUPA in some areas 42 Mbps DC-HSPA+ launched Dec 15, 2010	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 15.12.10	Launched
35	Austria	3 Austria	Launched July 24, 2006 42 Mbps DC-HSPA+ launched March 2010	42 Mbps	5.8 Mbps	42 Mbps launched March 2010	
36	Austria	Orange	Launched June 2006. 1.8, 3.6 then 7.2 Mbps. 42 Mbps HSPA+ launched in Wiener Neustadt, March 2010	42 Mbps	5.8 Mbps	42 Mbps launched March 2010	Launched
37	Azerbaijan	Nar	Launched December 2009, later 7.2 Mbps, HSUPA introduced 42 Mbps DC-HSPA+ launched 18.03.15	42 Mbps	5.8 Mbps	42 Mbps launched 18.03.15	Launched
38	Azerbaijan	Azercell	Launched November 18, 2011 21 Mbps HSPA+ in Baku. 7.2 Mbps elsewhere	21 Mbps	5.8 Mbps	21 Mbps launched 18.11.11	Launched
39	Azerbaijan	BakCell	Launched November 23, 2011 21 Mbps HSPA+ in Baku. 14.4 Mbps elsewhere 42 Mbps DC-HSPA+ launched 03.11.15	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 03.11.15	Launched
40	Bahamas	ВТС	Launched December 5, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 05.12.11	Launched
41	Bahrain	Zain	Launched May 21, 2006	7.2 Mbps		In deployment	Launched
42	Bahrain	Viva	Launched March 3, 2010 21 Mbps HSPA+ 42 Mbps DC-HSPA+ launched May 22, 2011, nationwide by November 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 22.05.11	Launched
43	Bahrain	Batelco	Launched December 16, 2007 14.4 Mbps from May 2009. 21 Mbps HSPA+ launched April 2010 42 Mbps DC-HSPA+ launched June 21, 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 21.06.12	Launched
44	Bangladesh	Teletalk	Launched October 14, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps Launched 14.10.12	Launched
45	Bangladesh	Grameenphone	Launched October 8, 2013 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps Launched 08.10.13	Launched





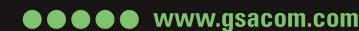
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
46	Bangladesh	Robi Axiata	Launched October 31, 2013 21 Mbps HSPA+ Initial coverage in Dhaka, Chittagong and Sylhet	21 Mbps	5.8 Mbps	21 Mbps Launched 31.10.13	Launched
47	Bangladesh	Banglalink	Launched October 9, 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps Launched 09.10.13	Launched
48	Bangladesh	Airtel	Launched November 7, 2013 21 Mbps HSPA+ initially covered coverage Dhaka and Chittagong	21 Mbps	5.8 Mbps	21 Mbps Launched 07.11.11	Launched
49	Barbados	FLOW	Launched November 16, 2011 21 Mbps HSPA+	21 Mbps	11.5 Mbps	21 Mbps Launched 16.11.11	Launched
50	Barbados	Digicel	Launched December 7, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps Launched 07.12.11	Launched
51	Belarus	Life (BeST)	Launched November 2, 2009 21 Mbps HSPA+ launched February 2010 42 Mbps DC-HSPA+ in deployment	21 Mbps	5.8 Mbps	21 Mbps Launched Feb 2010	Launched
52	Belarus	MTS 2100/900	Launched May 26, 2010 21 Mbps HSPA+ 42 Mbps DC-HSPA launched in 2012 UMTS900 launched	42 Mbps	11.5 Mbps	42 Mbps upgrade launched 2012	Launched
53	Belarus	MDC (Velcom) 2100/900	Launched March 18, 2010 2.1 GHz 21 Mbps HSPA+ 42 Mbps DC-HSPA+ launched 2011 UMTS900 launched February 2016	42 Mbps	5.8 Mbps	42 Mbps launched 2011	Launched
54	Belgium	Proximus 900/2100	Launched June 15, 2006 Later upgraded to 7.2 Mbps, and 21 Mbps from January 2013. 42 Mbps DC-HSPA+ launched 06.06.13. UMTS900 launched July 2008	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 06.06.13	Launched
55	Belgium	Mobistar 900/2100	Launched August 06 7.2 Mbps. HSUPA April 2008. Evolved to 14.4 Mbps then 28 Mbps Dec 2010. 42 Mbps DC-HSPA+ launched 23.03.12 UMTS900 launched May 2008	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 23.03.12	Launched
56	Belgium	BASE	Launched January 14, 2010 21 Mbps HSPA+ launched 2012E 42 Mbps DC-HSPA+ launched 17.04.13	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 17.04.13	Launched
57	Belize	Digicell / BTL	Launched December 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched Dec 2012	Launched
58	Benin	Etisalat Moov	Launched February 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched Feb 2014	Launched
59	Benin	MTN Benin 900/2100	Launched November 29, 2012 900 MHz (UMTS900) and 2100 MHz bands * speed subject to confirmation with operator	3.6 Mbps			Launched
60	Bermuda	Digicel	Launched July 22, 2010 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 22.07.10	Launched
61	Bermuda	M3 Wireless	Launched March 2009	3.6 Mbps			Launched
62	Bermuda	Cellular One	Launched October 2009 21 Mbps HSPA+ launched January 25, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 25.01.11	
63	Bhutan	Bhutan Telecom	Launched May 5, 2008	1.8 Mbps			Launched
64	Bhutan	TashiCell	Launched June 19, 2013 21 Mbps HSPA+ upgrade launched 03.12.13	21 Mbps	5.8 Mbps	21 Mbps launched 03.12.13	Launched
65	Bolivia	Entel	Launched 2010E 21 Mbps HSPA+ launched April 2011	21 Mbps		21 Mbps launched Apr 2011	Launched
66	Bolivia	Tigo	Launched August 2008	3.6 Mbps			Launched
67	Bolivia	Viva	Launched 2010 * speed subject to confirmation with operator	3.6 Mbps			Launched





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
68	Bonaire	UTS	Launched 2010E	7.2 Mbps			Launched
69	Bonaire	Digicel	Launched June 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched 15.07.11		•	launched	
70				40.141		15.07.11	Lavarabad
70	Bosnia and Herzegovina	BH Telecom	Launched July 15, 2009 42 Mbps DC-HSPA+ introduced in 2.1 GHz &	42 Mbps	5.8 Mbps	42 Mbps launched	Launched
	Herzegovilla		900 MHz (UMTS900) in 2013			2013	
71	Bosnia and	Eronet	Launched 2009	7.2 Mbps	1.5 Mbps		Launched
	Herzegovina	(HT Mostar)					
72	Bosnia and Herzegovina	Telekom Srpske	Launched 2009	7.2 Mbps	2 Mbps		Launched
73	Botswana	m:tel Mascom	Launched August 2008 later 7.2 Mbps	21 Mbps		21 Mbps	Launched
,,,	Dotowana	Mascom	Upgraded to 21 Mbps HSPA+ in June 2012	21 mopo		launched	
			,			June 2012	
74	Botswana	Orange	Launched 2009E	3.6 Mbps			Launched
75	Botswana	beMobile	Launched 2014E	3.6 Mbps			Launched
75	Doiswana	DeMODITE	* speed subject to confirmation with operator	3.6 Mups			Launcheu
76	Brazil	Claro	Launched November 2007	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched December 2011			launched	
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	04.11		Dec 2011	
77	Brazil	TIM	Launched April 16, 2008 21 Mbps HSPA+ launched end 2010	21 Mbps	5.8 Mbps	21 Mbps launched	Launched
			UMTS900 in service from Q3 2014			12.2010	
78	Brazil	Algar Telecom	Launched April 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched 28.11.11		•	launched	
70		N	Minas Gerais State	04.11		28.11.11	
79	Brazil	Nextel	Launched December 2012	21 Mbps	5.8 Mbps	21 Mbps launched	
						Dec 2012	
80	Brazil	Oi	Launched April 2008	21 Mbps		21 Mbps	Launched
		(includes BrT)				launched	
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81	Brazil	Vivo	Launched September 2008 21 Mbps HSPA+ launched 22.11.11 Sao Paulo	21 Mbps	Launched	21 Mbps launched	Launched
			21 Mbps 1101 A1 launched 22.11.11 Odo 1 dulo			22.11.11	
82	Brazil	Sercomtel	Launched December 14, 2008	14.4 Mbps	5.8 Mbps		
83	British Virgin	FLOW	Launched July 2, 2012	21 Mbps	11.5 Mbps	21 Mbps	Launched
	Islands		21 Mbps HSPA+			launched 02.07.12	
84	British Virgin	Digicel	Launched November 13, 2012	21 Mbps	5.8 Mbps	21 Mbps	Launched
	Islands		21 Mbps HSPA+		•	launched	
0.5						13.11.12	
85	Brunei	DST com Go!broadband	Launched May 2008 7.2 Mbps	7.2 Mbps			Launched
86	Brunei	B-mobile	Launched March 2008 3.6 Mbps later 7.2	7.2 Mbps			Launched
				2000			
87	Bulgaria	Mobiltel (M-TEL)	Launched March 6, 2006 3.6 Mbps evolving to	42 Mbps	5.8 Mbps	42 Mbps	Launched
			7.2 Mbps & HSUPA.			upgrade	
			21 Mbps HSPA+ launched 17.09.09. 42 Mbps DC-HSPA+ launched 22.03.11			launched 22.03.11	
88	Bulgaria	Telenor	Launched September 25, 2006 14.4 Mbps from	42 Mbps	5.8 Mbps	42 Mbps	Launched
			15.07.09. December 2013: 21 Mbps HSPA+	12 3.1.2		launched	
			96% geographical coverage, 42 Mbps has 89%			2013E	
00	Dulmania	Vivenom	pop. coverage, 47% of territory (June 30 2015)	40 Mbms	E O Mbas	42 Mbm	Launched
89	Bulgaria	Vivacom 2100/900	Launched April 17, 2007. Initially 3.6 Mbps then 7.2 Mbps, 14.4 Mbps. HSUPA from June 2010.	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launthed
		2100/300	21 Mbps launched 02.10.12			launched	
			UMTS900 launched June 2010			01.02.13	
			42 Mbps DC-HSPA+ launched 01.02.13				
90	Burkina Faso	Telmob Onatel SA	Launched May 17, 2013	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Initially 14.4 Mbps 42 Mbps DC-HSPA+ 10 days later			launched 27.05.13	
91	Burkina Faso	Airtel	Launched May 27, 2013	21 Mbps		21 Mbps	Launched
			21 Mbps HSPA+			launched	
						27.05.13	





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
92	Burundi	Smart Telecom	Launched September 5, 2014 * speed subject to confirmation with operator	7.2 Mbps			
93	Burundi	Lumitel	Launched 2014E * speed subject to confirmation with operator	7.2 Mbps			
94	Cambodia	CamGSM/Mobitel/ Cellcard	Launched October 3, 2006 later upgraded to 3.6 Mbps peak	3.6 Mbps			Launched
95	Cambodia	QB (Cadcomm)	Launched March 15, 2008 14.4 Mbps from January 2011	14.4 Mbps			
96	Cambodia	Mfone 3G	Launched August 2007	1.8 Mbps			Launched
97	Cambodia	Smart Axiata	Launched May 2009 Initially 1.8 Mbps (Hello Axiata brand) 21 Mbps HSPA+ from April 1, 2012	21 Mbps	5.8 Mbps	21 Mbps launched 01.08.11	Launched
98	Cambodia	Viettel Metfone	Launched September 2010E * speed subject to confirmation with operator	7.2 Mbps			
99	Cameroon	Nexxtel	Launched September 12, 2014 * speed subject to confirmation with operator	7.2 Mbps			
100	Canada	Rogers Wireless	Launched November 2, 2006 later 7.2 Mbps nationwide 21 Mbps HSPA+ launched 14.09.09	21 Mbps		21 Mbps launched 14.09.09	Launched
101	Canada	Bell Canada	Launched November 5, 2009 21 Mbps HSPA+ joint network with Telus. 42 Mbps DC-HSPA+ service launched 23.11.10	42 Mbps	11.5 Mbps	42 Mbps upgrade launched 23.11.10	
102	Canada	ICE Wireless	Launched November 8, 2013 21 Mbps HSPA+ Launched in Inuvik, Northwest Territories	21 Mbps		21 Mbps launched 08.11.13	
103	Canada	Telus	Launched November 5, 2009 HSPA+ 21 Mbps Joint network with Bell Canada 42 Mbps DC-HSPA+ from March 2011	42 Mbps	11.5 Mbps	42 Mbps upgrade launched March 2011	
104	Canada	Eastlink	Launched February 15, 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched 15.02.13	
105	Canada	Mobilicity	Launched May 15, 2010 AWS band. 21 Mbps HSPA+ launched October 30, 2012	21 Mbps	5.8 Mbps	21 Mbps launched 30.10.12	
106	Canada	Wind (Globalive)	Launched December 16, 2009 Launched 42 Mbps DC-HSPA+ on 21.08.14	42 Mbps	5.8 Mbps	42 Mbps launched 21.08.14	
107	Canada	MTS Allstream	Launched March 31, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 31.03.11	
108	Canada	Sasktel	Launched August 16, 2010 21 Mbps HSPA+ Upgraded to 42 Mbps DC-HSPA+ mid 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched mid 2011	
109	Canada	Videotron	Launched September 9, 2010 21 Mbps HSPA+ in AWS spectrum 42 Mbps DC-HSPA+ launched 25.08.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 25.08.11	Launched
110	Canada	TBayTel	Launched November 17, 2010 21 Mbps HSPA+ Thunder Bay 42 Mbps DC-HSPA+ end 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	
111	Cape Verde	CVMóvel	Launched December 2011	14.4 Mbps	5.8 Mbps		Launched
112	Cape Verde	T+	Launched December 2011	14.4 Mbps	5.8 Mbps		
113	Cayman Islands	Digicel	Launched October 13, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 13.10.11	Launched
114	Cayman Islands	FLOW	Launched August 17, 2011 21 Mbps DL and 11.5 Mbps UL	21 Mbps	11.5 Mbps	21 Mbps launched 17.08.11	Launched
115	Central Africa Republic	Orange Centrafrique	Launched February 28, 2013 21 Mbps HSPA+ Initially in Bangui	21 Mbps		21 Mbps launched 28.02.13	
116	Chad	Airtel	Launched September 12, 2014 * speed subject to confirmation with operator	7.2 Mbps			Launched

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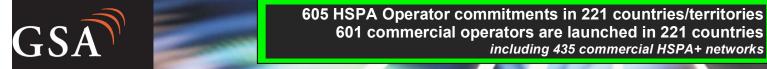


605 HSPA Operator commitments in 221 countries/territories 601 commercial operators are launched in 221 countries including 435 commercial HSPA+ networks

Global mobile Suppliers Association

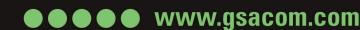
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117	Chad	Tigo	Launched September 8, 2014 * speed subject to confirmation with operator	7.2 Mbps			Launched
118	Chile	Entel PCS	Launched December 13, 2006 21 Mbps HSPA+ launched December 4, 2009 42 Mbps HSPA+ launched April 18, 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 18.04.11	Launched
119	Chile	Claro	Launched November 30, 2007 21 Mbps HSPA launched 2011	21 Mbps		21 Mbps launched 2011E	Launched
120	Chile	Movistar	Launched December 2007 14.4 Mbps later. 21 Mbps HSPA+ launched 2010 42 Mbps DC-HSPA+ launched Q4 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Q4 2011	Launched
121 122	Chile China	WOM China Unicom	Launched May 9, 2012 Launched September 2009 21 Mbps HSPA+ launched May 17, 2011 42 Mbps DC-HSPA+ launched 1H 2013 in selected areas. UMTS900 in rural areas 2013E	1.8 Mbps 42 Mbps	5.8 Mbps	42 Mbps upgrade launched 1H 2013	Launched
123	Colombia	Comcel	Launched January 2008 21 Mbps HSPA+ launched 23.11.11	21 Mbps	5.8 Mbps	21 Mbps launched 23.11.11	Launched
124	Colombia	Movistar	Launched December 1 2008 21 Mbps HSPA+ launched 18.10.12	21 Mbps		21 Mbps launched 18.10.12	Launched
125	Colombia	Tigo	Launched October 28, 2008 7.2 Mbps 21 Mbps HSPA+ launched 13.10.11	21 Mbps	5.8 Mbps	21 Mbps launched 13.10.11	Launched
126	Congo DRC	Airtel DRC	Launched May 3, 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched 03.05.13	Launched
127	Congo DRC	Orange	Launched December 5, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 05.12.12	Launched
128	Congo DRC	Tigo/Oasis	Launched May 16, 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched 16.05.13	Launched
129	Congo DRC	Vodacom Congo	Launched October 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched Oct 2012	Launched
130	Congo (Republic of)	Bharti Airtel	Launched October 27. 2011 21 Mbps HSPA+	21 Mbps		21 Mbps launched 27.10.11	Launched
131	Costa Rica	ICE/Kolbi	Launched 2009 * speed subject to confirmation with operator	3.6 Mbps			Launched
132	Costa Rica	Telefonica	Launched November 8, 2011 * speed subject to confirmation with operator	7.2 Mbps			Launched
133	Costa Rica	Claro	Launched November 5, 2011 21 Mbps HSPA+	21 Mbps		21 Mbps launched 05.11.11	Launched
134	Côte d'Ivoire	Moov	Launched December 19, 2012 21 Mbps HSPA+ 42 Mbps DC-HSPA+ in deployment	21 Mbps	5.8 Mbps	21 Mbps launched 19.12.12	Launched
135	Côte d'Ivoire	MTN	Launched December 14, 2012	3.6 Mbps			Launched
136	Côte d'Ivoire	Orange	Launched April 12, 2012 42 Mbps DC-HSPA+ in 2012	42 Mbps	5.8 Mbps	42 Mbps launched 2012	Launched
137	Croatia	VIPNet	Launched April 26, 2006: 3.6 Mbps evolved to 7.2 Mbps. 42 Mbps DC-HSPA+ launched December 2010	42 Mbps	5.8 Mbps	42 Mbps launched Dec 2010	Launched
138	Croatia	Croatian Telecom	Launched November 2006 21 Mbps HSPA+ launched 2012, covers 85% population (Feb 2013)	21 Mbps	5.8 Mbps	21 Mbps launched 2012	Launched
139	Croatia	Tele2	Launched 2008 UMTS900 launched 2009 21 Mbps HSPA+ launched December 4, 2010 42 Mbps DC-HSPA+ in Istria on 30.06.15	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 30.06.15	Launched
140	Curação	UTS	Launched June 2008 7.2 Mbps from Aug 08	7.2 Mbps			Launched



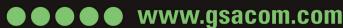
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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
141	Curaçao	Digicel	Launched June 2011 21 Mbps HSPA+ launched 29.07.11	21 Mbps	5.8 Mbps	21 Mbps launched 29.07.11	Launched
142	Cyprus	MTN	Launched March 12, 2008 21 Mbps HSPA+ launched 15.03.12 to 40% of the population	21 Mbps		21 Mbps launched 15.03.12	Launched
143	Cyprus	СҮТА	Launched July 11, 2008 Deploying 21 Mbps HSPA+	1.8 Mbps		In deployment	Launched
144	Cyprus (North)	KKTCell	Launched July 14, 2008 42 Mbps DC-HSPA launched 22.01.13	42 Mbps	5.8 Mbps	42 Mbps launched 22.01.13	Launched
145	Cyprus (North)	North Cyprus Telsim	Launched October 2008	7.2 Mbps			Launched
146	Czech Rep	Telefonica O2	Launched April 10, 2006; 3.6 Mbps rollout from early 2009, then 7.2 Mbps. 14.4 Mbps nationwide from 15.05.13. 42 Mbps DC-HSPA+ some areas April 2013	42 Mbps	5.8 Mbps	42 Mbps launched April 2013	Launched
147	Czech Rep	Vodafone	Launched March 2009 3.6 Mbps then 7.2 Mbps. 21 Mbps HSPA+ launched 05.10.11. 42 Mbps DC-HSPA+ launched 05.10.12	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 05.10.12	Launched
148	Czech Rep	T Mobile	Launched January 28, 2010 21 Mbps HSPA+ launched 09.11.10. 42 Mbps DC-HSPA+ launched in selected areas on 16.04.12	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 16.04.12	Launched
149	Denmark	3 Denmark	Launched November 21, 2006 later upgraded to 7.2 Mbps then 21 Mbps HSPA+. 42 Mbps DC-HSPA+ launched in 2012 UMTS900 introduced in 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	
150	Denmark	Telenor	Launched September 27, 2006 Upgraded to 7.2 Mbps in 2008. 21 Mbps HSPA+ launched October 11, 2010 UMTS900 introduced in 2012. 42 Mbps DC-HSPA introduced in 2014	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2014	Launched
151	Denmark	TDC Mobil	Launched May 7, 2007 1.8 Mbps 7.2 Mbps from 1.12.08. 21 Mbps HSPA+ launched 25.05.10. 42 Mbps DC-HSPA+ launched 23.03.11 UMTS900 introduced in 2014	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 23.03.11	Launched
152	Denmark	Telia	Launched December 1, 2007 UMTS900 introduced in 2012 42 Mbps DC-HSPA introduced in 2014	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2014	Launched
153	Djibouti	Evatis / Djibouti Telecom	Launched 2011 21 Mbps HSPA+ operational from 15.01.13	21 Mbps	5.8 Mbps	21 Mbps launched 15.01.13	Launched
154	Dominica	Digicel	Launched February 11, 2015 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 11.02.15	Launched
155	Dominica	FLOW	Launched 2012E 21 Mbps HSPA+	21 Mbps	11.5 Mbps	21 Mbps launched 2012E	Launched
156	Dominican Republic	Claro Dominicana	Launched September 2008 3.6 Mbps now 14.4 Mbps	14.4 Mbps			Launched
157	Dominican Republic	Orange Dominicana	Launched Feb 2010 using UMTS900 21 Mbps nationwide; 42 Mbps DC-HSPA+ launched 2011, covered 70% pop by end 2011 Bands include 900 MHz (UMTS900)	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2011	Launched
158	East Timor	Telkomcel	Launched January 2013 in 850 MHz spectrum	14.4 Mbps			Launched
159	East Timor	Telemor (Viettel)	Launched 2013(E) * speed subject to confirmation with operator * launch date to be confirmed with operator	14.4 Mbps			
160	East Timor	Timor Telecom	Launched 2009	1.8 Mbps			
161	Ecuador	Claro (ex-Porta)	Launched August 2008 21 Mbps HSPA+ launched April 2011	21 Mbps	2 Mbps	21 Mbps launched Apr 2011	Launched





#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
162	Ecuador	Movistar	Launched July 2009 21 Mbps HSPA+ launched July 14, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 14.07.11	Launched
163	Ecuador	CNT Mobile	Launched 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 2013	
164	Egypt	Etisalat Misr	Launched May 1, 2007 3.6 Mbps; then 7.2 Mbps. 21 Mbps HSPA+ launched June 2009. 42 Mbps DC-HSPA+ launched May 2010.	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2010	Launched
165	Egypt	Vodafone	Launched May 11, 2007 later 7.2 Mbps. UMTS900 in deployment 42 Mbps DC-HSPA+ launched 2012E	42 Mbps	5.8 Mbps	42 Mbps launched 2012E	Launched
166	Egypt	Mobinil	Launched September 1, 2008 and HSUPA 42 Mbps DC-HSPA+ launched April 2013	42 Mbps	5.8 Mbps	42 Mbps launched April 2013	Launched
167	El Salvador	Claro	Launched January 2008 21 Mbps HSPA+ launched February 2012	21 Mbps	Launched	21 Mbps launched Feb 2012	Launched
168	El Salvador	Digicel	Launched 21 Mbps HSPA+ launched 03.01.14	21 Mbps		21 Mbps launched 03.01.14	Launched
169	El Salvador	Movistar	Launched 2010 Upgraded to UMTS900 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched	Launched
170	El Salvador	Tigo	Launched September 3, 2008 21 Mbps HSPA+ launched January 2012 UMTS900	21 Mbps	Launched	21 Mbps launched Jan 2012	Launched
171	Estonia	Elisa 900/2100	2100 Launched June 14, 2006 3.6 Mbps; upgraded to 14.4 Mbps then 21 Mbps HSPA+ UMTS900 launched January 28, 2008	21 Mbps	5.8 Mbps	21 Mbps launched 9.04.10	Launched
172	Estonia	EMT	Launched April 26, 2006 7.2 Mbps Dec 2007; 21 Mbps HSPA+ from Nov 2009 UMTS900 launched June 2010	21 Mbps	5.8 Mbps	21 Mbps Launched Nov 2009	Launched
173	Estonia	Tele2 Eesti	Launched November 2006 later 7.2 Mbps UMTS900 launched March 2011	7.2 Mbps			Launched
174	Estonia	Tallinn 3G Mobile	Launched 2009	1.8 Mbps			Launched
175	Ethiopia	ETC	Launched January 2009 HSPA+ in deployment in 2013	3.6 Mbps		In deployment	Launched
176	Faroe Islands	Faroese Telecom 900/2100	Launched November 3, 2009 21 Mbps HSPA+ launched in 2100 MHz and 900 MHz (UMTS900)	21 Mbps	5.8 Mbps	21 Mbps launched 03.11.09	Launched
177	Fiji	Vodafone	Launched November 18, 2008 21 Mbps HSPA+ launched	21 Mbps	5.8 Mbps	21 Mbps launched 18.11.08	Launched
178	Fiji	Digicel	Launched September 2014	7.2 Mbps			Launched
179	Finland	Elisa 900/2100	Launched 2100 MHz network 6 April 2006 7.2 Mbps from 25 April 08. HSPA+ launched. 42 Mbps DC-HSPA+ launched 18.08.11 UMTS900 launched 8 November 2007	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 18.08.11	Launched
180	Finland	DNA Finnet 900/2100	2100 Launched February 1, 2007 3.6 Mbps; HSUPA 16.6.08. 21 Mbps HSPA+ 5.8 Mbps Oct 09. UMTS900 launched 1.10.08 42 Mbps DC-HSPA+ launched May 24, 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 24.05.11	Launched
181	Finland	TeliaSonera	Launched May 30, 2007 3.6 Mbps then 14.4. UMTS900 launched June 2009 42 Mbps DC-HSPA+ launched in 2012(E)	42 Mbps	5.8 Mbps	42 Mbps launched 2012	Launched
182	France	Bouygues Telecom	Launched November 19, 2007 3.6 Mbps; 7.2 Mbps from March 08 42 Mbps DC-HSPA+ launched 05.04.12 UMTS900 launched in 2013	42 Mbps	5.8 Mbps	42 Mbps launched 05.04.12	Launched
183	France	Orange	Launched Sept 14, 2006 upgraded to 3.6 then 7.2 Mbps. Launched 14.4 Mbps in 2010. HSUPA January 2008. UMTS900 launched Q2 2009 42 Mbps DC-HSPA+ launched Nov 24, 2011	42 Mbps	5.8 Mbps	42 Mbps launched 24.11.11	Launched



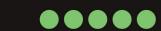


605 HSPA Operator commitments in 221 countries/territories 601 commercial operators are launched in 221 countries including 435 commercial HSPA+ networks

Global mobile Suppliers Association

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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
184	France	SFR	Launched May 11, 2006 UMTS900 launched September 2009	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launched
			21Mbps HSPA+ Sept 2010. 42 Mbps DC-			launched	
			HSPA+ in 50 cities/urban areas by 29.03.12			29.03.12	
405	-	For a	UMTS900 900 MHz shared network & 2100 MHz	40 141	5 0 Mb	40 Mb	
185	France	Free	Launched January 10, 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched	
			UMTS900 launched in 2013			10.01.12	
186	French Guiana	Outremer Telecom	Launched in 2009(E)	14.4 Mbps			
187	French Guiana	Orange Caraibe	Launched 2009E	21 Mbps		21 Mbps	Launched
		orange carane	21 Mbps HSPA+ launched 20.12.13 in Cayenne	21		launched	
400	Francis Outron	Blatad	Launched November 2010	04 141		20.12.13	Lavashad
188	French Guiana	Digicel	21 Mbps HSPA+	21 Mbps		21 Mbps launched	Launched
			21 maps rior / C			Nov 2010	
189	French	Vini	Launched December 15, 2009	1.8 Mbps			Launched
190	Polynesia Gabon	Gabon Telecom	Launched October 20, 2014	21 Mbps		21 Mbps	
			* date subject to confirmation with operator	21		launched	
101						20.10.14	Lavashad
191	Gabon	Airtel	Launched April 16, 2014 21 Mbps HSPA+ launched in Libreville	21 Mbps	5.8 Mbps	21 Mbps launched	Launched
			21 Maps Flor At Idditioned in Elerevine			16.04.14	
192	Gambia	Qcell	Launched July 2009	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Upgraded to 42 Mbps DC-HSPA+ 2014 (E) * date subject to confirmation with operator			launched 2014(E)	
193	Georgia	MagtiCom	Launched January 28, 2009	42 Mbps	5.8 Mbps	42 Mbps	Launched
			21 Mbps HSPA+ launched February 2012		·	upgrade	
			UMTS900 in deployment. 42 Mbps introduced in 2013			launched 2013	
194	Georgia	Geocell	Launched June 20, 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
	3		21 Mbps HSPA+ introduced July 2, 2012			launched	
405	0	Talaham	Lourshad March 2000 leton 7.0 Mbra all 20 not	40 Mb = 5	E O Mbass	02.07.12	Launched
195	Germany	Telekom	Launched March 2006 later 7.2 Mbps all 3G net then 21 Mbps HSPA+ launched 21.04.10.	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launcheu
			42 Mbps DC-HSPA+ launched 2011, available to			launched	
400	0	On the south to a describe	over 85% of population by April 3, 2012	40 141	5 0 Mb	2011	Lavaabaal
196	Germany	O2 (combined with E Plus)	Launched December 1, 2006 enhanced later to 7.2 Mbps	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launched
		,	42 Mbps DC-HSPA+ launched 19.08.13 in			launched	
			selected areas, 21 Mbps elsewhere.			19.08.13	
197	Germany	Vodafone	UMTS900 launched December 2011 Launched March 2006	42 Mbps	5.8 Mbps	42 Mbps	Launched
		1000.000	7.2 Mbps July 9 2007, later upgraded to HSPA+			launched	
400			then DC-HSPA+ from mid-2014			2014	
198	Ghana	Airtel	Launched December 15, 2008 21 Mbps HSPA+ launched Jan 2012.	42 Mbps	5.8 Mbps	42 Mbps upgraded	Launched
			Upgraded to 42 Mbps DC-HSPA+ Dec. 2014			launched	
400	0.	0				Dec 2014	Lavaabaal
199	Ghana	Glo Mobile	Launched April 29, 2012	21 Mbps	Launched	21 Mbps launched	Launched
						29.04.12	
200	Ghana	MTN	Launched January 28, 2009 3.6 Mbps, later	42 Mbps	5.8 Mbps	42 Mbps	Launched
		2100/900	upgrade to 7.2 Mbps. 21 Mbps and 42 Mbps DC- HSPA+ launched in 2014(E)			launched 2014(E)	
			* date subject to confirmation with operator			2014(L)	
			UMTS900 launched December 2009				
201	Ghana	Tigo	Launched July 2011 42 Mbps DC-HSPA+ upgrade 2013(E)	42 Mbps	5.8 Mbps	42 Mbps launched	Launched
			* date subject to confirmation with operator			2013(E)	
202	Ghana	Vodafone Ghana	Launched 2010	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ upgrade 2013(E) * date subject to confirmation with operator			launched 2013(E)	
203	Gibraltar	Gibtelecom	Launched 2008	1.8 Mbps			Launched
204	Greece	Cosmote	Launched June 2006 3.6 Mbps then 7.2 Mbps.	42 Mbps	5.8 Mbps	42 Mbps	Launched
			21 Mbps HSPA+ launched May 20, 2009, then			upgrade	
			28 Mbps in March 2010. 42 Mbps DC-HSPA+ launched 14.02.11			launched 14.02.11	
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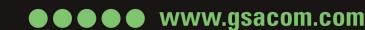
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
205	Greece	WIND Hellas	Launched November 21, 2006 21 Mbps HSPA+ introduced in mid-2012 42 Mbps DC-HSPA+ announced 30.06.12	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 30.06.12	Launched
206	Greece	Vodafone	Launched November 1, 2006 later 3.6 Mbps, 14.4 Mbps. 21 Mbps HSPA+ launched July 13, 2009. 28 Mbps launched March 3, 2010. 42 Mbps DC-HSPA+ launched January 2011 UMTS900 launch announced October 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Jan 2011	Launched
207	Greenland	TELE Greenland	Launched August 2, 2010 UMTS900 system	14.4 Mbps	2 Mbps		
208	Guadeloupe	Outremer Telecom	Launched 2010	7.2 Mbps			
209	Guadeloupe	Orange Caraibe	Launched 2008 21 Mbps HSPA+ launched 22.08.13	21 Mbps		21 Mbps launched 22.08.13	Launched
210	Guadeloupe	Digicel	Launched November 2010	7.2 Mbps	1.4 Mbps		Launched
211	Guam	Docomo Pacific	Launched October 9, 2008 21 Mbps HSPA+ launched November 10, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 10.11.11	Launched
212	Guam	GTA Teleguam	Launched August 16, 2009 21 Mbps HSPA+ launched July 21, 2011	21 Mbps		21 Mbps launched 21.07.11	
213	Guam	IT&E	Launched July 14, 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 14.07.14	
214	Guam	iConnect	Launched September 3, 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 03.09.14	
215	Guatemala	Tigo	Launched August 29, 2008 3.6 Mbps; later increased to 7.2 Mbps 21 Mbps HSPA+ launched 05.01.12	21 Mbps	5.8 Mbps	21 Mbps launched 05.01.12	Launched
216	Guatemala	Claro	Launched April 16, 2008 21 Mbps HSPA+ launched November 23, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 23.11.11	Launched
217	Guatemala	Movistar	Launched August 11, 2009 21 Mbps HSPA+ launched December 2011	21 Mbps	5.8 Mbps	21 Mbps launched Dec 2011	Launched
218	Guernsey	JT (Guernsey Limited)	Launched September 2008E 1.8 Mbps, 3.6 Mbps in Nov 2009, 14.4 Mbps from Feb 2011 42 Mbps DC-HSPA+ launched May 10, 2012 including 5.8 Mbps HSUPA	42 Mbps	5.8 Mbps	42 Mbps launched 10.05.12	Launched
219	Guernsey	Airtel-Vodafone	Launched March 2008	1.8 Mbps			Launched
220	Guernsey	Sure Mobile	Launched November 16, 2009 Later upgraded to 7.2 Mbps	7.2 Mbps			Launched
221	Guinea	Cellcom Guinée	Launched January 20, 2012 42 Mbps DC-HSPA+ 10.12.13	42 Mbps	5.8 Mbps	42 Mbps launched 10.12.13	Launched
222	Guinea	Orange Guinea	Launched December 2011 * speed subject to confirmation with operator	3.6 Mbps			Launched
223	Guinea	MTN (Areeba)	Launched March 2014 21 Mbps HSPA+ Launch date subject to confirmation	21 Mbps	5.8 Mbps	21 Mbps launched 03.2014	Launched
224	Guinea- Bisseau	Orange	Launched May 12, 2015 21 Mbps HSPA+ * speed subject to confirmation with operator	21 Mbps	5.8 Mbps	21 Mbps launched 12.05.15	Launched
225	Guyana	Digicel	Launched May 7, 2016 21 Mbps HSPA+	21 Mbps		21 Mbps launched 07.05.16	Launched
226	Guyana	GT&T	Launched May 9, 2016 21 Mbps HSPA+	21 Mbps		21 Mbps launched 09.05.16	Launched
227	Haiti	Digicel	Launched May 17, 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 17.05.13	Launched
228	Haiti	Natcom	Launched September 7, 2011 Nationwide coverage achieved after one year	7.2 Mbps	5.8 Mbps		
229	Honduras	Claro	Launched February 20, 2008	3.6 Mbps			Launched





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
230	Honduras	Tigo	Launched September 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched 24.01.12 initially in			launched	
004	Hann Kann	C	Tegucigalpa, San Pedro Sula and La Ceiba	40 Mb.c.s	E O Misso	24.01.12	
231	Hong Kong	SmarTone	Launched June 6, 2006; 3.6 Mbps, then 14.4 Mbps HSDPA, 5.8 Mbps HSUPA. 21 Mbps	42 Mbps	5.8 Mbps	42 Mbps upgrade	
			HSPA+ 5.11.09, 28 Mbps from April 19, 2010			launched	
			42 Mbps DC-HSPA+ launched Oct 2011			Oct 2011	
232	Hong Kong	CSL Limited	Launched Sept. 19, 2006	42 Mbps	5.8 Mbps	42 Mbps	Launched
		900/2100	21 Mbps HSPA+ launched 30.03.09.		-	upgrade	
		(includes PCCW)	HSUPA launched end 2009.			launched	
			UMTS900 launched January 2010.			11.08.10	
233	Hong Kong	3 HK	42 Mbps DC-HSPA+ network launched 11.08.10 Launched December 4, 2006	42 Mbps	5.8 Mbps	42 Mbps	
255	riong Rong	Jilk	Later 7.2 Mbps, then 21 Mbps HSPA+ launch	42 Mbps	о.о мора	upgrade	
			July 2009. HSUPA launched.			launched	
			42 Mbps DC-HSPA+ launched 02.05.12			02.05.12	
			UMTS900 brought into service June 2011				
234	Hungary	Telenor	Launched April 2007 7.2 Mbps then 14.4 Mbps	42 Mbps	5.8 Mbps	42 Mbps	Launched
			42 Mbps DC-HSPA+ launched 16.08.11			launched	
235	Hungary	T-Mobile/Magyar	Launched May 17, 2006 3.6 Mbps	42 Mbps	5.8 Mbps	16.08.11 42 Mbps	Launched
255	Tiuligary	Telekom	7.2 Mbps from 17 Sep 07. 21 Mbps HSPA+	42 Mbps	о.о мора	upgrade	Ladifolica
		Tolokom	launched 31.05.11.			launched	
			42 Mbps DC-HSPA+ launch 01.09.11			01.09.11	
236	Hungary	Vodafone	Launched June 2007 upgraded to 7.2 Mbps	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Dec 2007. 21 Mbps HSPA+ launched Feb 4,			upgrade	
			2010. 42 Mbps DC-HSPA+ launched 05.04.12			launched	
237	Iceland	Siminn	UMTS900 commercially launched March 2012 2100 MHz Launched September 2007	42 Mbps	5.8 Mbps	05.04.12 42 Mbps	Launched
237	iceianu	900/2100	Initially 7.2 Mbps. UMTS 900 launched Oct 2,	42 Mibbs	adam o.c	launched	Launcheu
		000/2100	2008. 42 Mbps DC-HSPA+ launched 05.08.13			05.08.13	
238	Iceland	Nova	Launched December 1, 2007	21 Mbps		21 Mbps	
			21 Mbps HSPA+ launched August 2013			launched	
						Aug 2013	
239	Iceland	Vodafone	Launched December 2007	7.2 Mbps			Launched
240	India	MTNL	Launched December 11, 2008	14.4 Mbps			Launched
			1.8 Mbps later upgraded to 14.4 Mbps * speed/				
0.14		B0111	date subject to confirmation with operator	44 4 8 8 1			Lavorabad
241	India	BSNL	Launched February 27, 2009 3.6 Mbps later upgraded to 14.4 Mbps	14.4 Mbps			Launched
			3.0 Mbps later upgraded to 14.4 Mbps				
242	India	Vodafone	Launched March 1, 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+			launched	
			·			01.03.11	
243	India	Airtel	Launched January 24, 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
		900/2100	21 Mbps HSPA+			launched	
244	India	Idoa	UMTS900 launched in Mumbai and Kolkata Launched March 28, 2011	24 Mbss	E O Mbss	24.01.11	Launched
244	iiiuia	Idea 900/2100	21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched	Launthed
		550/2100	UMTS900 launched in Delhi 2015			28.03.11	
245	India	Aircel	Launched February 22, 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+	'	• •	launched	
						22.02.11	
246	India	Tata DoCoMo	Launched November 5, 2010	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ at launch in 20 cities	[launched 05.11.10	
247	India	Reliance	Launched December 13, 2010	21 Mbps		21 Mbps	Launched
241	iiiuia	Renance	21 Mbps HSPA+ service from launch	Z i wibps		launched	Laanonca
						13.12.10	
248	Indonesia	PT Telkomsel	Launched April 2007 3.6 Mbps	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Speed evolved in phases		·	upgrade	
			42 Mbps DC-HSPA+ launched – date TBC (to			launched	
040	Indo	VI AI-4- /	be confirmed)	40.10	E 0.141	date TBC	Laurahad
249	Indonesia	XL Axiata (ex	Launched September 21, 2006	42 Mbps	5.8 Mbps	42 Mbps	Launched
		Excelomindo)	42 Mbps DC-HSPA+ launched in selected areas in 2013			upgrade launched	
			21 Mbps UMTS900 in deployment			2013	
		1	1 by a serie selection	ı			



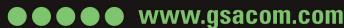


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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
250	Indonesia	Indosat-Satelindo 900/2100	Launched November 27, 2006 21 Mbps / 5.8 Mbps HSPA+ 2009 42 Mbps / 11.5 Mbps DC-HSPA+ from 26.04.10 UMTS900 launched October 6, 2012	42 Mbps	11.5 Mbps	42 Mbps upgrade launched 26.04.10	Launched
251	Indonesia	Hutchison 3	Launched February 2010	1.8 Mbps		26.04.10	Launched
252	Indonesia	Axis	Launched June 10, 2011 * speed subject to confirmation with operator 42 Mbps DC-HSPA+ in deployment	14.4 Mbps	1.4 Mbps	In deployment	Launched
253	Iran	Tamin Telecom RighTel	Launched February 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched Feb 2012	Launched
254	Iran	MTN Irancell	Launched August 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched August 2014	Launched
255	Iran	Hamrah-e-Aval (MCI)	Launched September 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched Sept 2014	Launched
256	Iraq	AsiaCell	Launched January 1, 2015 21 Mbps HSPA+	21 Mbps		21 Mbps launched 01.01.15	Launched
257	Iraq	Korek	Launched December 29, 2014 * speed subject to confirmation with operator	14.4 Mbps			Launched
258	Iraq	Zain	Launched January 1, 2015	42 Mbps	5.8 Mbps	42 Mbps launched 01.01.15	Launched
259	Ireland	3 Ireland	Launched December 18, 2006 7.2 Mbps July 7, 2008, 14.4 Mbps launched 2010. 21 Mbps HSPA+ launched 2010	21 Mbps	5.8 Mbps	21 Mbps launched Q1 2011	Launched
260	Ireland	Vodafone	Launched November 15, 2006 3.6 Mbps August 07; upgraded to 7.2 Mbps then 21 Mbps. 42 Mbps DC-HSPA+ launched 20.09.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 20.09.11	Launched
261	Ireland	Meteor	Launched March 4, 2009 14.4 Mbps 21 Mbps HSPA+ trial from end 2010	14.4 Mbps		Trial phase	Launched
262	Isle of Man	Manx Telecom	Launched November 1, 2005 upgraded to 3.6 Mbps, then 7.2 Mbps (April 2010). Trialled 14.4 Mbps May-June 2010	7.2 Mbps	1.4 Mbps		
263	Isle of Man	Sure	Launched 2010	7.2 Mbps			Launched
264	Israel	Cellcom	Launched WCDMA-HSDPA June 2006 Deploying 42 Mbps DC-HSPA+ 3G network uses 2.1 GHz and 850 MHz bands	3.6 Mbps	Launched	In deployment	Launched
265	Israel	Partner/Orange	Launched March 2006 1.8 Mbps later 3.6 then 14.4 Mbps. UMTS900 launched. 42 Mbps HSPA+ launched Q3 2012	42 Mbps	5.8 Mbps	42 Mbps launched Q3 2012	
266	Israel	Pelephone 850/2100	Launched February 2009 21 Mbps HSPA+ Launched May 25, 2010 42 Mbps DC-HSPA+ launched Dec 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Dec 2011	
267	Israel	Golan Telecom	Launched May 14, 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 14.05.12	
268	Israel	Hot Mobile	Launched May 14, 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 14.05.12	
269	Italy	Vodafone	Launched June 12, 2006 14.4 Mbps. 21 Mbps HSPA+ launched 2010. 42 Mbps DC-HSPA+ launched March 2011. UMTS900 testing begun in Cremona (July 2012)	42 Mbps	5.8 Mbps	42 Mbps upgrade launched March 2011	Launched
270	Italy	3 Italia	Launched February 2006 3.6 Mbps then 7.2 Mbps from 2007, later 14.4 Mbps. 42 Mbps HSPA+ launched 31.03.12. Deploying UMTS900	42 Mbps	5.8 Mbps	42 Mbps launched 31.03.12	
271	Italy	ТІМ	Launched May 2006: 28 Mbps HSPA+ launched July 17, 2009; deploying UMTS900 42 Mbps DC-HSPA launched Dec 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Dec 2011	Launched
272	Italy	Wind	Launched October 2007 3.6 Mbps, later 14.4 Mbps. 42 Mbps DC-HSPA+ launched December 2012	42 Mbps	5.8 Mbps	42 Mbps launched Dec 2012	Launched



#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
273	Jamaica	Digicel	Launched December 2008 21 Mbps HSPA+ launched June 27, 2012	21 Mbps	5.8 Mbps	21 Mbps launched 27.06.12	Launched
274	Jamaica	FLOW	Launched June 24, 2009 3.6 Mbps 21 Mbps HSPA launched 2012E	21 Mbps	11.5 Mbps	21 Mbps launched 2012E	Launched
275	Japan	eAccess	Launched 31 March 2007 initially 3.6 Mbps. 21 Mbps HSPA+ launched 24.07.09 42 Mbps DC-HSPA+ launched in 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2011	
276	Japan	NTT DoCoMo	Launched August 31, 2006 3.6 Mbps; 7.2 Mbps from April 08. Later 14.4 Mbps launched. 5.8 Mbps HSUPA launched June 2009	14.4 Mbps	5.8 Mbps		
277	Japan	Softbank Mobile	Launched October 1, 2006 42 Mbps DC-HSPA+ from February 2011 900MHz HSPA+ (UMTS900) launched July 2012	42 Mbps	5.8 Mbps	42 Mbps launched Feb 2011	
278	Jersey	Sure Mobile (C&W)	Launched December 2007: 3.6 Mbps peak initially, later 7.2 Mbps launched	7.2 Mbps			Launched
279	Jersey	JT Global	Launched September 2007 14.4 Mbps from January 14, 2011 42 Mbps DC-HSPA+ launched May 10, 2012 UMTS900 launched 13.02.15	42 Mbps	5.8 Mbps	42 Mbps launched 10.05.12	Launched
280	Jersey	Airtel-Vodafone	Launched June 28, 2007 Later upgraded to 14.4 Mbps	14.4 Mbps			Launched
281	Jordan	Orange	Launched March 2010 21 Mbps HSPA+ launched Q1 2011	21 Mbps		21 Mbps launched Q1 2011	Launched
282	Jordan	Zain	Launched March 5, 2011 21 Mbps HSPA+ launched March 5, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 05.03.11	Launched
283	Jordan	Umniah	Launched June 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched June 2012	Launched
284	Kazakhstan	Kcell	Launched December 1, 2010 21 Mbps HSPA+ 42 Mbps DC-HSPA+ launched January 2013	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Jan 2013	Launched
285	Kazakhstan	Beeline (Kar-Tel)	Launched December 2010	14.4 Mbps			Launched
286	Kazakhstan	Tele2	Launched April 24, 2011 UMTS900. 21 Mbps HSPA+ or 14.4 Mbps depending on sites. 11.5 Mbps or 5.8 Mbps HSUPA (depending on sites) launched at same time	21 Mbps	11.5 Mbps	21 Mbps launched 24.04.11	Launched
287	Kenya	Safaricom	Launched May 27, 2008 Upgraded to 21 Mbps HSPA+ August 2011 42 Mbps DC-HSPA+ launched April 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Apr 2012	Launched
288	Kenya	Airtel	Launched February 24, 2012 21 Mbps HSPA+ UMTS900 deployed beginning 2015	21 Mbps	5.8 Mbps	21 Mbps launched 24.02.12	Launched
289	Kenya	Orange (Telekom Kenya)	Launched September 7, 2011 21 Mbps HSPA+ 42 Mbps launched in Nairobi on August 1, 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 01.08.12	Launched
290	Kiribati	ATH (takeover of TSKL)	Launched October 29, 2013 7.2 Mbps * speed subject to confirmation by operator	7.2 Mbps			Launched
291	Kosovo	IPKO	Launched December 1, 2013 21 Mbps HSPA+ in 900 MHz (UMTS900)	21 Mbps	5.8 Mbps	21 Mbps launched 01.12.13	
292	Kuwait	Ooredoo	Launched February 2006 3.6 then 7.2 Mbps Upgrade to HSPA+ incl. UMTS900 in 2013	7.2 Mbps		In deployment	Launched
293	Kuwait	Zain	Launched January 9, 2007 7.2 Mbps from November 12, 2007. Zain e-GO 21 Mbps HSPA+ launched 19.08.09	21 Mbps	Launched	21 Mbps launched 19.08.09	Launched
294	Kuwait	Viva	Launched January 14, 2009 14.4 Mbps. 21 Mbps HSPA+ launched Feb 2010 42 Mbps DC-HSPA+ launched July 3, 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 03.07.11	Launched





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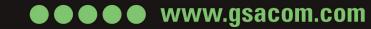
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
295	Kyrgyz Republic	Beeline	Launched December 1, 2010 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 01.12.10	Launched
296	Kyrgyz Republic	Megacom	Launched January 16, 2012 42 Mbps DC-HSPA launched November 2013 60% coverage (March 2016)	42 Mbps	5.8 Mbps	42 Mbps launched Nov 2013	Launched
297	Kyrgyz Republic	Kyrgyz Mobile Company	In June 2015 Megacom purchased 75% of the shares. The balance of shares is held by the government				
298	Laos	LaoTel	Launched October 16, 2009 3.6, then 7.2 then 14.4 Mbps	14.4 Mbps			Launched
299	Laos	Beeline Laos	Launched January 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched Jan 2012	Launched
300	Laos	ETL	Launched August 31, 2011	3.6 Mbps			
301	Laos	Unitel	Launched October 15, 2010	7.2 Mbps	2 Mbps		Launched
302	Latvia	Bite	Launched July 19, 2006 21 Mbps HSPA+ launched September 2010	21 Mbps	5.8 Mbps	21 Mbps launched Sep 2010	Launched
303	Latvia	LMT	Launched August 30, 2006 3.6 Mbps. 7.2 Mbps some areas. UMTS900 launched Nov 09 Upgraded to 21 Mbps 42 Mbps DC-HSPA launched 08.04.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 08.04.11	Launched
304	Latvia	Tele2	Launched Q4 2006E Evolved to 21 Mbps in 2011 then 42 Mbps DC-HSPA+ in 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	Launched
305	Lebanon	Alfa	Launched October 25, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 25.10.11	Launched
306	Lebanon	MTC Touch	Launched November 1, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 01.11.11	
307	Lesotho	Vodacom	Launched May 2008	3.6 Mbps			Launched
308	Lesotho Liberia	Econet Telecom	Launched February 2011 Launched June 21, 2012	7.2 Mbps	E O Mboo	40 Mbms	Launched Launched
309	Liberia	Cellcom	Launched 21 Mbps 42 Mbps DC-HSPA+ upgrade in May 2013	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2013	Launcheu
310	Liberia	Novafone	Launched September 16, 2013 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 16.09.13	
311	Libya	Libyana Mobile	Launched September 2009E Deploying 42 Mbps DC-HSPA+	3.6 Mbps			Launched
312	Libya	Al Madar	Deploying 42 Mbps DC-HSPA+		Deploying	In deployment	Launched
313	Liechtenstein	Mobilkom FL1	Launched June 2007	1.8 Mbps	Deploying		Launched
314	Liechtenstein	Orange FL	Launched June 2007	3.6 Mbps			Laure de la
315	Liechtenstein	Swisscom FL	Launched * speed subject to confirmation by operator	3.6 Mbps			Launched
316	Lithuania	Bite	Launched June 7, 2006 21 Mbps HSPA+ launched September 2010 42 Mbps DC-HSPA+ in testing phase	21 Mbps	5.8 Mbps	21 Mbps launched Sep 2010	Launched
317	Lithuania	Omnitel	Launched June 9, 2006 Upgraded to 21 Mbps HSPA+ 19.07.12 Upgraded to 42 Mbps DC-HSPA+ March 2014	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Mar 2014	Launched
318	Lithuania	Tele2 900/2100	Launched 2010 7.2 Mbps now nationwide UMTS900 launched 2011E 21 Mbps HSPA+ launched Q1 2013	21 Mbps	5.8 Mbps	21 Mbps launched Q1 2013	Launched
319	Luxembourg	POST	Launched May 5, 2007 later 7.2 Mbps 21 Mbps HSPA launched Q1 2010 42 Mbps DC-HSPA launched - date TBC	42 Mbps	5.8 Mbps	42 Mbps upgrade launched date TBC	Launched





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
320	Luxembourg	Orange	Launched June 1, 2007: 3.6 then 7.2 Mbps. 14.4 Mbps 6 Sept 2010. 42 Mbps DC-HSPA+ (marketed as H+) launched in 2012; 70% of population covered by 31.12.12	42 Mbps	5.8 Mbps	42 Mbps launched 2012	Launched
321	Luxembourg	Tango	Launched December 13, 2007	7.2 Mbps	5.8 Mbps		
322	Macau	СТМ	Launched June 2007 3.6 Mbps later 7.2 Mbps 21 Mbps HSPA+ in deployment	7.2 Mbps		In deployment	
323	Macau	3 Macau	Launched October 16 2007 21 Mbps HSPA+ launched mid-2011 42 Mbps DC-HSPA+ planned	21 Mbps		21 Mbps launched mid-2011	
324	Macau	Smartone Macau	Launched July 2010 21 Mbps HSPA+ and 5.8 Mbps HSUPA	21 Mbps	5.8 Mbps	21 Mbps launched July 2010	
325	Macedonia	One.VIP	Launched August 2008 21 Mbps HSPA+ launched 30.08.12 UMTS900	21 Mbps		21 Mbps launched 30.08.12	Launched
326	Macedonia	T-Mobile	Launched June 11, 2009	7.2 Mbps			Launched
327	Madagascar	Airtel	Launched July 19, 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched 19.07.12	Launched
328	Madagascar	Orange	Launched Launch speed and date to be confirmed 42 Mbps DC-HSPA+ launched May 2014	42 Mbps	5.8 Mbps	42 Mbps launched May 2012	
329	Madagascar	Telma Mobile	Launched November 16, 2009 Initially 3.6 Mbps, later 7.2 Mbps	7.2 Mbps			Launched
330	Madeira	Optimus	Launched February 2006 1.8 Mbps Later upgraded to 14.4 Mbps & 2 Mbps HSUPA	14.4 Mbps	2 Mbps		Launched
331	Malawi	TNM	Launched December 2009	3.6 Mbps			Launched
332	Malawi	Airtel (ex-Zain)	Launched September 23, 2010 21 Mbps HSPA+ launched 20.07.12	21 Mbps		21 Mbps launched 20.07.12	Launched
333	Malaysia	Celcom	Launched June 15, 2006 All sites upgraded to 14.4 Mbps. 21 Mbps HSPA+ launched August 8, 2012. Deploying UMTS900. Deploying 42 Mbps DC-HSPA+	21 Mbps		21 Mbps launched 08.08.12	Launched
334	Malaysia	Maxis	Launched September 26, 2006 21 Mbps HSPA+ launched July 2010 UMTS900 launched 25.06.10 My mid-2012 Maxis had 3,400 of its 5,200 3G sites enabled with 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	Launched
335	Malaysia	DiGi 850 MHz	Launched March 19, 2009 21 Mbps HSPA+ deployed 2013	21 Mbps	5.8 Mbps	21 Mbps launched 2013	Launched
336	Malaysia	U Mobile	Launched March 11, 2008 in Klang Valley 42 Mbps DC-HSPA+ and 5.8 Mbps HSUPA launched December 2010	42 Mbps	5.8 Mbps	42 Mbps launched Dec 10	
337	Maldives	Ooredoo (formerly Wataniya)	Launched April 17, 2008 21 Mbps HSPA+ launched in 2013, achieving 95% population coverage by 15.10.14	21 Mbps	5.8 Mbps	21 Mbps launched 2013	Launched
338	Maldives	Dhiraagu	Launched May 17, 2010 HSPA+ launched 23.04.13	21 Mbps	5.8 Mbps	21 Mbps launched 23.04.13	Launched
339	Mali	Orange	Launched May 26, 2010	3.6 Mbps			Launched
340	Mali	MaliTel	Launched HSPA in 2012(E) * speed subject to confirmation by operator	7.2 Mbps			Launched
341	Mali	Alpha Telecom	HSPA in deployment				
342	Malta	Vodafone	Launched December 6, 2006: 3.6 then 7.2, 14.4 Mbps from June 2010. 2 Mbps HSUPA from June 2010 42 Mbps DC-HSPA+ launched April 11, 2012	42 Mbps	5.8 Mbps	42 Mbps launched 11.04.12	Launched
343	Malta	Go Mobile	Launched April 2007 upgraded Oct 2007 to 3.6 Mbps, then 7.2 Mbps in 2009 21 Mbps HSPA+ launched March 2012. 42 Mbps DC-HSPA+ upgraded May 24, 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 24.05.12	Launched
344	Malta	Melita Mobile	Launched February 1, 2009 Initially 3.6 Mbps Launched 42 Mbps DC-HSPA+ in June 2015	42 Mbps	5.8 Mbps	42 Mbps launched June 2015	





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
345	Martinique	Outremer Telecom	Launched December 16, 2008	7.2 Mbps			
346	Martinique	Digicel	Launched November 2010	7.2 Mbps			Launched
347	Mauritania	Orange	Launched 2009 21 Mbps HSPA+ launched 22.08.13	21 Mbps		21 Mbps launched 22.08.13	
348	Mauritania	Mattel	Launched 2011E * speed subject to confirmation by operator	3.6 Mbps			
349	Mauritius	Emtel	Launched 2007	3.6 Mbps			
350	Mauritius	Orange	Launched August 12, 2009	7.2 Mbps	1.8 Mbps		Launched
351	Mauritius	MTML	Launched 2013E * speed subject to confirmation by operator upgrading to 21 Mbps HSPA+	3.6 Mbps		In deployment	Launched
352	Mayotte	SFR Mayotte	Launched June 27, 2011 * speed subject to confirmation by operator	3.6 Mbps			Launched
353	Mayotte	Only (Outremer Telecom)	Launched 2012 * speed/date subject to confirmation by operator	3.6 Mbps			
354	Mexico	Telcel	Launched February 7, 2008 Later evolved to 7.2 Mbps. 21 Mbps HSPA+ launched Q4 2011	21 Mbps	5.8 Mbps	21 Mbps launched Q4 2011	Launched
355	Mexico	Movistar	Launched Q2 2007 21 Mbps HSPA+ launched 2011E	21 Mbps	5.8 Mbps	21 Mbps launched 2011E	Launched
356	Mexico	Nextel	Launched September 25, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 25.09.12	
357	Mexico	lusacell	Launched November 15, 2010 21 Mbps HSPA+	21 Mbps		21 Mbps launched 15.11.10	
358	Moldova	Moldcell	Launched October 1, 2008 (Chişinău)	7.2 Mbps			Launched
359	Moldova	Orange	Launched November 1, 2008 7.2 Mbps, then 14.4 Mbps. 21 Mbps HSPA+ launched 21.12.09 42 Mbps launched May 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2011	Launched
360	Moldova	Moldtelecom (Unite)	Launched May 21, 2010 Initially 14.4 Mbps. 42 Mbps DC-HSPA+ launched 08.04.13	42 Mbps	5.8 Mbps	42 Mbps launched 08.04.13	
361	Monaco	Monaco Telecom	Launched March 2009	7.2 Mbps			
362	Mongolia	G-Mobile	Launched 2012 42 Mbps DC-HSPA+ * launch date subject to confirmation by operator	42 Mbps	5.8 Mbps	42 Mbps launched 2012	
363	Mongolia	MobiCom	Launched April 2009	14.4 Mbps	5.8 Mbps		Launched
	Mongolia	Skytel	Launched January 2010 21 Mbps HSPA+	21 Mbps		21 Mbps launched Jan 2010	
365	Mongolia	Unitel	Launched 2009 * speed subject to confirmation by operator	7.2 Mbps			Launched
366	Montenegro	Telenor/Promonte	Launched June 22, 2007 Evolved to 3.6 then 7.2 Mbps. 21 Mbps HSPA+ launched September 8, 2010 with 5.8 Mbps UL	21 Mbps	5.8 Mbps	21 Mbps launched 08.09.10	Launched
367	Montenegro	T-Mobile	Launched June 21, 2007 42 Mbps DC-HSPA+ launched Nov 2011	42 Mbps	5.8 Mbps	42 Mbps launched Nov 2011	Launched
368	Montenegro	m:tel	Launched July 9, 2007 21 Mbps HSPA+ launched 2011	21 Mbps	5.8 Mbps	21 Mbps launched 2011	Launched
369	Montserrat	FLOW	Launched December 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 12.2014	
370	Montserrat	Digicel	Launched January 2015 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 01.2015	
371	Morocco	Inwi	Launched March 2014 21 Mbps HSPA+ in some cities	21 Mbps	2 Mbps	21 Mbps launched Mar 2014	





#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
372	Morocco	Méditel	Launched April 18, 2007	14.4 Mbps			Launched
			Upgraded to 7.2 Mbps 21.11.08				
272	Managan	Mana Talasan	14.4 Mbps launched in 2012	44.4 Mbna			Launahad
373	Morocco	Maroc Telecom (IAM)	Launched January 16, 2008 Later upgraded to 7.2 Mbps & 14.4 Mbps (2013)	14.4 Mbps			Launched
374	Mozambique	Mcel	Launched December 2008	14.4 Mbps			Launched
07.	mozamorquo	900/2100	Upgraded to 14.4 Mbps. UMTS900 & 2100 MHz	· · · · · · · · · · · · · · · ·			
375	Mozambique	Vodacom	Launched February 26, 2010	7.2 Mbps			Launched
	·			, i			
376	Myanmar	MPT	Launched in 2014(E)	42 Mbps	5.8 Mbps	42 Mbps	Launched
			21 Mbps HSPA+ 900 MHz UMTS900 & 2.1 GHz			launched	
377	Myanmar	Ooredoo	42 Mbps DC-HSPA+ launched 12.01.15 Launched on August 15, 2014	21 Mbps	5.8 Mbps	12.01.15 21 Mbps	
311	wyannar	Coredoo	900 MHz (UMTS900)	21 Mibbs	Squivi o.c	launched	
			* speed subject to confirmation by operator			15.08.14	
378	Myanmar	Telenor	Launched September 27, 2014	42 Mbps	5.8 Mbps	42 Mbps	Launched
			42 Mbps DC-HSPA+ launched Initially in			launched	
			Mandalay			27.09.14	
						24.55	
379	Namibia	MTC	Launched Dec 13, 2006 upgraded to 7.2 Mbps	21 Mbps	1.4 Mbps	21 Mbps	Launched
			HSUPA launched in December 2009. 21 Mbps HSPA+ launched 06.12.13 for postpaid			launched 06.12.13	
380	Namibia	TN Mobile	Launched April 9, 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
300	Namibia	TH MODILE	21 Mbps HSPA+ launched in 2013	21 Mbps	equiti 0.0	launched	Ladiioiioa
			2po			2013	
381	Nepal	Ncell	Launched September 15, 2010	3.6 Mbps	2 Mbps		Launched
382	Nepal	Nepal Telecom	Launched May 17, 2007	7.2 Mbps	2 Mbps		
202	Netherlands	T-Mobile	Lourshad April 40, 2006 7 2 Mbps HCDDA/2	Od Mhas	5 0 Mbms	Od Mbno	Launahad
383	Netherlands	I -IVIODIIE	Launched April 18, 2006 7.2 Mbps HSDPA/2 Mbps HSUPA from Feb 16, 2009, then 14.4	21 Mbps	5.8 Mbps	21 Mbps launched	Launched
			Mbps. 21 Mbps HSPA+ launched in 2014E			2014E	
			Deploying UMTS900 in 2013 and DC-HSPA+				
384	Netherlands	KPN Mobile	Launched October 9, 2006 1.8 Mbps; upgraded	42 Mbps	5.8 Mbps	42 Mbps	Launched
			to 7.2 Mbps nationwide.			upgrade	
			21 Mbps HSPA+ introduced			launched	
			42 Mbps introduced mid-February 2013			Feb 2013	
385	Netherlands	Vodafone	UMTS900 in service from Q3 2013. Launched July 2006 7.2 Mbps HSDPA and 1.4	42 Mbps	5.8 Mbps	42 Mbps	Launched
300	Netherlands	Vouaione	Mbps HSUPA from January 25, 2009.	42 Mibbs	adam o.c	upgrade	Lauricheu
			28 Mbps HSPA+ launched July 10, 2010			launched	
			42 Mbps DC-HSPA+ launched 07.02.13			07.02.13	
386	New Caledonia	OPT-NC	Launched August 16, 2011	14.4 Mbps	1.4 Mbps		Launched
		900/2100	900 MHz (UMTS900) & 2100 MHz spectrum				
387	New Zealand	2degrees	Launched August 3, 2010 Evolving to 14.4	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Mbps. UMTS900 launched September 2011			launched	
			42 Mbps DC-HSPA+ from Sept 2012 including UMTS900			Sept 2012	
388	New Zealand	Vodafone	2100 MHz launched Oct 1, 2006	42 Mbps	5.8 Mbps	42 Mbps	
200		900/2100	UMTS900 also launched July 2008.		2.2 	upgrade	
			21 Mbps HSPA+ launched July 2010.			launched	
			42 Mbps DC-HSPA+ launched 2011, targeting			2011	
000	N 7	Tale 200 NT	70% pop coverage by April 2013	40.55		40.14	
389	New Zealand	Telecom NZ	Launched May 29, 2009 UMTS850 "XT" 14.4	42 Mbps	5.8 Mbps	42 Mbps	
			Mbps. 21 Mbps HSPA+ launched August 2010 42 Mbps DC-HSPA+ launched 2012, in 50% of]		upgrade launched	
			network by early 2013.]		2012	
390	Nicaragua	Claro	Launched April 18, 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
-			21 Mbps HSPA+ launched May 4, 2012			launched	
						04.05.12	
391	Nicaragua	Movistar	Launched 2009E	7.2 Mbps		04-111	Launched
392	Niger	Airtel	Launched February 18, 2015	21 Mbps	5.8 Mbps	21 Mbps	Launched
			* speed subject to confirmation with operator			launched	
393	Niger	Orange	Launched 2011	3.6 Mbps		18.02.15	Launched
	Hige	Crange	* speed subject to confirmation with operator	5.0 Minhs			Launtineu
393							
394	Nigeria	Airtel (ex-Zain)	Launched February 2009	42 Mbps	5.8 Mbps	42 Mbps	Launched
	Nigeria	Airtel (ex-Zain)		42 Mbps	5.8 Mbps	42 Mbps launched 29.02.12	Launched





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
395	Nigeria	MTN Nigeria	Launched December 2007	3.6 Mbps			Launched
396	Nigeria	Globacom	Launched December 2007 Upgraded to 7.2 Mbps 23.11.12	7.2 Mbps			Launched
397	Nigeria	Etisalat (EMTS)	Launched September 26, 2011 42 Mbps DC-HSPA+	42 Mbps	11.5 Mbps	42 Mbps launched 26.09.11	Launched
398	North Korea	Koryolink	Launched December 15, 2008 * speed subject to confirmation with operator	3.6 Mbps			Launched
399	Northern Mariana Islands (CNMI)	DoCoMo Pacific	Launched July 10, 2014 10 sites in Saipan * speed subject to confirmation with operator	7.2 Mbps			
400	Northern Mariana Islands (CNMI)	IT&E	Launched July 14, 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 14.07.14	
401	Northern Mariana Islands (CNMI)	iConnect	Launched September 3, 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 03.09.14	
402	Norway	TeleNor	Launched November 2007 Upgraded to 14.4 Mbps. 21 Mbps HSPA+ in 2011. Deploying UMTS900 from Q2 2011	21 Mbps	5.8 Mbps	21 Mbps launched 2011	Launched
403	Norway	Netcom AS	Launched April 18, 2007 21 Mbps DC-HSPA+ / 5.8 Mbps HSUPA launched December 16, 2010. UMTS900 launched August 2011. 42 Mbps in Spring 2013	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2013	Launched
404	Norway	Tele2	Launched date September 2008 3.6 Mbps Evolved to 7.2 Mbps. 21 Mbps/5.8 Mbps HSPA+ launched in some areas 19.02.11	21 Mbps	5.8 Mbps	21 Mbps launched 2011	Launched
405	Oman	Ooredoo 900/2100	Launched December 9, 2007 7.2 Mbps from July 2008. 42 Mbps DC-HSPA+ launched March 2013 UMTS900 launched May 2013	42 Mbps	5.8 Mbps	42 Mbps launched March 2013	Launched
406	Oman	Omantel	Launched March 1, 2009 14.4 Mbps from June 2009. 21 Mbps HSPA launched 2011E. UMTS900 from 31.12.13 in part of network	21 Mbps	5.8 Mbps	21 Mbps launched 2011E	Launched
407	Palau	PNCC / PalauCel	Launched February 2015 * speed subject to confirmation with operator UMTS900	7.2 Mbps			Launched
408	Pakistan	Mobilink	Launched on July 18, 2014 11 cities at launch * speed subject to confirmation with operator	42 Mbps	5.8 Mbps	42 Mbps launched 18.07.14	Launched
409	Pakistan	Ufone	Launched May 24, 2014 * speed subject to confirmation with operator	21 Mbps	5.8 Mbps	21 Mbps launched 24.05.14	Launched
410	Pakistan	Telenor	Launched June 1, 2014 21 Mbps HSPA+ Initially Karachi, Lahore, Rawalpindi, Islamabad	21 Mbps	5.8 Mbps	21 Mbps launched 01.06.14	Launched
411	Pakistan	Zong	Launched June 13, 2014 42 Mbps DC-HSPA+ Initially Karachi and Lahore	42 Mbps	5.8 Mbps	42 Mbps launched 13.06.14	
412	Panama	+Móvil (C and W)	Launched September 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched Sept 11	Launched
413	Panama	Claro	Launched March 13, 2009 21 Mbps HSPA+ launched July 2011	21 Mbps	5.8 Mbps	21 Mbps launched July 11	Launched
414	Panama	Digicel	Launched November 22, 2011 850 MHz 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 22.11.11	Launched
415	Panama	Movistar	Launched December 3, 2008	1.8 Mbps			Launched
416	Papua New Guinea	Digicel	Launched May 6, 2011 UMTS900	7.2 Mbps			Launched
417	Paraguay	Claro	Launched November 13, 2007 21 Mbps HSPA+ launched Nov 2011	21 Mbps		21 Mbps launched Nov 11	Launched





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
418	Paraguay	Personal	Launched 2008 3.6 Mbps 42 Mbps DC-HSPA+ launched February 2012	42 Mbps		42 Mbps launched Feb 2012	Launched
419	Paraguay	Tigo	Launched September 2008	3.6 Mbps			Launched
420	Paraguay	Vox/Copaco	Launched May 2012 21 Mbps HSPA+ launched (UMTS900)	21 Mbps		21 Mbps launched May 2012	Launched
421	Peru	Claro	Launched July 2007 21 Mbps HSPA+ launched 15.11.11	21 Mbps		21 Mbps launched 15.11.11	Launched
422	Peru	Movistar	Launched May 22, 2009 21 Mbps HSPA+ launched 18.11.11	21 Mbps		21 Mbps launched 18.11.11	Launched
423	Peru	Entel (ex Nextel)	Launched December 2009	1.8 Mbps			
424	Philippines	Globe Telecom	Launched April 2006 21 Mbps HSPA+ launched April 16, 2011 UMTS900 introduced in 2012	21 Mbps	5.8 Mbps	21 Mbps launched 16.04.11	Launched
425	Philippines	Smart Comms	Launched April 2006 1.8 Mbps, later 7.2 Mbps. 21 Mbps HSPA+ in 2100 MHz and 850 MHz bands, launched August 2011 Deploying 42 Mbps DC-HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched Aug 2011	Launched
426	Philippines	Sun Cellular	Launched September 2008 3.6 Mbps later 7.2 Mbps	7.2 Mbps			Launched
427	Philippines	U Mobile (CURE)	Launched May 19, 2008 3.6 Mbps 42 Mbps DC-HSPA+ launched Q1 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Q1 2011	
428	Poland	Aero2 (900 MHz)	Launched November 16, 2009 UMTS900 21 Mbps HSPA+ upgrade launched 22.10.10 76% population covered by 22.12.11	21 Mbps	5.8 Mbps	28 Mbps launched 22.10.10	
429	Poland	Polkomtel Plus 900/2100	Launched October 2006 3.6 Mbps from June 07; then 7.2 Mbps (60% territory covered). 21 Mbps HSPA+ launched June 2009 42 Mbps DC-HSPA+ launched 2010 UMTS900 launched December 2011 HSPA+	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2010	Launched
430	Poland	T Mobile (PTC)	Launched October 2006 21 Mbps HSPA+ and 5.8 HSUPA launched in high demand areas 15.09.09. Consolidating into network JV called NetWorkS! sharing 900, 2100 MHz spectrum. UMTS900 in large cities from 2013E 42 Mbps DC-HSPA+ launched 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2011	Launched
431	Poland	Orange (PTK Centertel)	Launched December 4, 2006 3.6 Mbps 7.2 Mbps from Oct 07 in major cities. HSUPA launched Dec 07. 42 Mbps DC-HSPA+ launched 10.10.10. Consolidating into network JV called NetWorkS! sharing 900, 2100 MHz spectrum	42 Mbps	5.8 Mbps	42 Mbps launched 10.10.10	Launched
432	Poland	P4 (Play Mobile)	Launched March 16, 2007 later 7.2 Mbps 21 Mbps+ UMTS900 launched January 24, 2011 (82% pop covered by Q1 2013)	21 Mbps	5.8 Mbps	21 Mbps launched 24.01.11	
433	Portugal	Nos	Launched April 5, 2006. 3.6 Mbps Oct 06 HSPA+ 64QAM launched in Lisbon and Porto on August 3, 2009. 42 Mbps DC-HSPA+ trial completed March 2010	21 Mbps	5.8 Mbps	21 Mbps launched 03.08.09	Launched
434	Portugal	Meo	Launched April 2006 3.6 Mbps Oct 06 HSPA+ 64QAM launched on June 29, 2009 42 Mbps DC-HSPA+ deployed (not launched)	21 Mbps	5.8 Mbps	21 Mbps launched 29.06.09	Launched
435	Portugal	Vodafone	Launched March 2006 3.6 Mbps initially; HSPA+ launched in Lisbon on June 26, 2009. 42 Mbps HSPA+ launched October 11, 2010	42 Mbps	5.8 Mbps	42 Mbps launched 11.10.10	Launched
436	Puerto Rico	AT&T	Launched November 2006 21 Mbps HSPA+ launched February 15, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 15.02.11	Launched
437	Puerto Rico	Claro	Launched April 2008 21 Mbps HSPA+ launched February 16, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 16.02.11	Launched





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
438	Puerto Rico	T Mobile	Launched 2009 21 Mbps HSPA+ launched October 2010 Upgraded to 42 Mbps DC-HSPA+ in some areas	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2011	Launched
439	Qatar	Ooredoo	Launched July 2007 7.2 Mbps Nov 08, 14.4 Mbps Feb 2010. 21 Mbps HSPA+ 5.8 Mbps UL launched 08.08.10. 42 Mbps DC-HSPA+ in deployment	21 Mbps	5.8 Mbps	21 Mbps launched 08.08.10	Launched
440	Qatar	Vodafone	Launched August 31, 2009 7.2 Mbps then 21 Mbps HSPA+ in 2011 (E) * date subject to confirmation with operator UMTS900 introduced March 2011.	21 Mbps	5.8 Mbps	21 Mbps launched in 2011	Launched
441	Réunion	Outremer Telecom	Launched December 16, 2008	7.2 Mbps			Launched
442	Réunion	SRR	Launched August 2008 42 Mbps DC-HSPA+ launched August 2013	42 Mbps	5.8 Mbps	42 Mbps launched 08.08.13	Launched
443	Réunion	Orange	Launched June 18, 2008 42 Mbps DC-HSPA+ launched covering 75% of population on 05.12.13	42 Mbps	5.8 Mbps	42 Mbps launched 05.12.13	Launched
444	Romania	Vodafone 2100/900	Launched May 2006 7.2 Mbps. 21 Mbps HSPA+ from September 3, 2009 42 Mbps DC-HSPA+ in Bucharest July 9, 2012 UMTS900 launched nationwide April 2010	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 09.07.12	
445	Romania	Orange Romania	Launched June 25, 2007 3.6 Mbps; 7.2 Mbps launched 01.10.07. 14.4 Mbps from 03.05.10. 21 Mbps from 28.02.11. 42 Mbps DC-HSPA+ launched 6.10.11 UMTS900 from 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 06.10.11	Launched
446	Romania	Cosmote	Launched May 19, 2008 7.2 Mbps. 21 Mbps HSPA+ and 5.8 Mbps HSUPA launched 2.09.09. Limited UMTS900 deployment planned in 2014 for roads coverage. 42 Mbps DC-HSPA+ launched 08.10.12	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 08.10.12	Launched
447	Romania	RCS & RDS Digi	Launched September 2009 7.2 Mbps later 14.4 Mbps 21 Mbps HSPA+ launched 09.03.15 UMTS900 launched 2014	21 Mbps	5.8 Mbps	21 Mbps launched 09.03.15	
448	Russia	Vimpelcom	Launched September 3, 2008 Up to 14.4 Mbps. 21 Mbps HSPA+ launched January 2012 42 Mbps introduced from 2013 UMTS900 introduced January 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2013	Launched
449	Russia	MTS	Launched 28 May 2008; initially 3.6 Mbps. 21 Mbps HSPA+ launched Dec 2010 UMTS900 commercially launched 17.01.12 42 Mbps DC-HSPA+ launched in 2014	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2014	Launched
450	Russia	MegaFon	Launched October 2, 2007 3.6.Mbps evolved later to 7.2 Mbps peak. 21 Mbps HSPA+ launched in Tatarstan and Siberia regions, later Belgorod. 42 Mbps introduced in some areas in 2013. UMTS900 introduced January 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2013	Launched
451	Russia	Rostelecom	Launched November 22, 2012 via Baikalwestcom CJS (BWC) subsidiary 21 Mbps HSPA+	21 Mbps		21 Mbps launched 22.11.12	Launched
452	Russia	Tele2	Launched November 14, 2014 Initially St Petersburg, then launched in Novosibirsk (Nov 20) and Chelyabinsk (Nov 27) 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 14.10.14	Launched
453	Rwanda	Airtel	Launched July 4, 2012 21 Mbps HSPA+ initially in Kigali	21 Mbps		21 Mbps launched 09.07.12	Launched
454	Rwanda	MTN	Launched 2008 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 2008	Launched
455	Rwanda	Tigo	Launched November 20, 2009	3.6 Mbps			Launched
456 457	Saba Samoa	UTS BlueSky	Launched 2010E Launched December 15, 2011 21 Mbps HSPA+	3.6 Mbps 21 Mbps	5.8 Mbps	21 Mbps launched 15.12.11	Launched

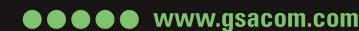


605 HSPA Operator commitments in 221 countries/territories 601 commercial operators are launched in 221 countries including 435 commercial HSPA+ networks

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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
458	Samoa	Digicel	Launched March 16, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 16.03.12	Launched
459	Sao Tome and Principe	CST	Launched March 14, 2012	14.4 Mbps			Launched
460	Saudi Arabia	STC/Al Jawal	Launched June 26, 2006 evolved to 7.2 Mbps. 21 Mbps HSPA+ launched 14 September, 2009. 42 Mbps DC-HSPA+ from December 2010 UMTS900 commercially launched in 2011.	42 Mbps	11.5 Mbps	42 Mbps upgrade launched Dec 2010	Launched
461	Saudi Arabia	Mobily	Launched June 27, 2006 3.6 Mbps; 7.2 Mbps from Sept 22, 2007. HSUPA March 2009. 21 Mbps HSPA+ launched January 10, 2010. 42 Mbps DC-HSPA+ trials complete; rollout planned. UMTS900 commercially launched 2010	21 Mbps	Launched	21 Mbps launched 10.01.10	Launched
462	Saudi Arabia	Zain	Launched August 26, 2008 UMTS900 commercially launched in 2010. 21 Mbps HSPA launched 2010E	21 Mbps	5.8 Mbps	21 Mbps launched 2010E	Launched
463	Senegal	Orange Senegal	Launched February 2011	7.2 Mbps	Testing		Launched
464	Senegal	Tigo	Launched September 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched Sept 2013	Launched
465	Serbia	Telenor	Launched March 1, 2007 1.8 Mbps then 3.6 Mbps. 21 Mbps HSPA+ launched 29.07.11 42 Mbps DC-HSPA+ launched June 19, 2012 over whole 3G footprint	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 19.06.12	Launched
466	Serbia	Telekom Srbija (mt:s)	Launched December 21, 2006 42 Mbps DC-HSPA+ launched 17.10.12	42 Mbps	5.8 Mbps	42 Mbps launched 17.10.12	Launched
467	Serbia	VIP Mobile	HSPA launched February 16, 2011 42 Mbps DC-HSPA+ launched in 6 cities	42 Mbps	5.8 Mbps	42 Mbps launched 16.02.11	Launched
468	Seychelles	Airtel	Launched March 2009 3.6 Mbps. Later 7.2 Mbps and HSUPA	7.2 Mbps	2 Mbps		Launched
469	Sierra Leone	Airtel	Launched February 2012 UMTS900	14.4 Mbps	5.8 Mbps		Launched
470	Singapore	M1 900/2100	Launched December 6, 2006 10.8 Mbps peak June 2007, later evolved to 21 Mbps HSPA+ UMTS900 commercially launched 30.09.13, nationwide target 01.11.13	21 Mbps	5.8 Mbps	21 Mbps launched 3.10.09	
471	Singapore	SingTel	Launched May 24, 2007 42 Mbps DC-HSPA+ launched 23.04.13 UMTS900 introduced in July 2013, rollout continuing in 2014	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 23.04.13	
472	Singapore	StarHub	Launched August 4, 2007 21 Mbps HSPA+ launched 27.03.09 UMTS900 launched Nov 2012 42 Mbps DC-HSPA+ launched September 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Sept 2012	Launched
473	Slovak Rep	Orange Slovensko	Launched August 23, 2006 42 Mbps DC-HSPA+ launched October 2011 UMTS900 used in 221 towns by end 2013	42 Mbps	5.8 Mbps	42 Mbps launched Oct 2011	Launched
474	Slovak Rep	Slovak Telecom	Launched August 22, 2006 21 Mbps HSPA+ launched March 23, 2011 HSUPA 5.8 Mbps and 42 Mbps DC-HSPA+ launched 19.10.11. Planning 84 Mbps trials	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 19.10.11	Launched
475	Slovak Rep	02	Launched July 18, 2011 21 Mbps HSPA+ launched May 2016	21 Mbps	5.8 Mbps	21 Mbps launched May 2016	Launched
476	Slovenia	Mobitel	Launched December 14, 2006 3.6 Mbps, then 7.2 Mbps. 21 Mbps HSPA+ from April 2010 42 Mbps DC-HSPA+ launched May 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2011	Launched
477	Slovenia	Si.mobil-Vodafone	Launched September 2007 3.6 Mbps 21 Mbps HSPA+ launched Dec 2, 2010 42 Mbps DC-HSPA+ launched 2H 2011 21 Mbps UMTS900 launched Oct 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2H 2011	Launched
478	Slovenia	T-2	Launched June 1, 2008 42 Mbps/11 Mbps DC-HSPA+ in deployment Reported to be in bankruptcy	7.2 Mbps	2 Mbps	In deployment	





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
479	Slovenia	Tušmobil 2100/900	Launched June 2008 later upgraded to 7. 2 Mbps. UMTS900 launched July 2010. HSPA+ 21/5.8 in 900 MHz launched November 2010	21 Mbps	5.8 Mbps	21 Mbps launched Nov 2010	Launched
480	Solomon Islands	Our Telekom (Breeze GSM)	Launched 2010 in Honiara & Auki	3.6 Mbps			
481	Somalia	Somtel	Launched July 2011 * speed subject to confirmation with operator	1.8 Mbps			Launched
482	Somalia	Telesom	Launched July 2011 * speed subject to confirmation with operator	1.8 Mbps			
483	Somalia	Hormuud (Hortel)	Launched HSPA+ December 29, 2012 Initially in Mogadishu * speed subject to confirmation with operator	21 Mbps		21 Mbps launched 29.12.12	Launched
484	South Africa	MTN	Launched March 23, 2006 14.4 Mbps from Q2 2009. 21 Mbps HSPA+ launched early May 2010. UMTS900 launched March 2010. 42 Mbps DC-HSPA+ launched January 10, 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 10.01.11	Launched
485	South Africa	Vodacom	Launched March 2006 14.4 Mbps from April 2010, then 21 Mbps HSPA+. 42 Mbps DC-HSPA+ (1000 sites) launched April 16, 2011 900 MHz currently being trialled.	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 16.04.11	Launched
486	South Africa	8ta/Telkom Mobile	Launched October 18, 2010 7.2 Mbps HSDPA 2 Mbps HSUPA 21/5.8 Mbps HSPA+ launched June 26, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 26.06.11	
487	South Africa	Cell C	Launched September 5, 2010 21 Mbps HSPA+ UMTS900. 42 Mbps DC- HSPA+ launched in Port Elisabeth April 19, 2011 80% of sites to support 42 Mbps by Nov 2015	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 19.04.11	Launched
488	South Korea	SK Telecom	Launched May 16, 2006 HSUPA evolved to 5.8 Mbps. Then 14.4 Mbps HSDPA. 21 Mbps HSPA+ launched in Seoul, July 2010	21 Mbps	5.8 Mbps	21 Mbps launched July 2010	
489	South Korea	KT	Launched June 30, 2006 later 7.2 Mbps, HSUPA. 14.4 Mbps. HSPA+ launched Jan 2012	21 Mbps	5.8 Mbps	21 Mbps launched Jan 2012	
490	Spain	Movistar	Launched July 26, 2006 speeds evolved. 21 Mbps HSPA+ launched with EDGE 10.11.09. 42 Mbps DC-HSPA+ launched October 2010 Uplink evolved to 11.5 Mbps in 2011 UMTS900 introduced 2H 2011	42 Mbps	11.5 Mbps	42 Mbps upgrade launched Oct 2010	Launched
491	Spain	Orange	Launched June 19, 2006 HSUPA March 08. 7.2 Mbps HSDPA later. Deploying 42 Mbps DC-HSPA+ UMTS900 introduced 1H 2012	7.2 Mbps	Launched	In deployment	Launched
492	Spain	Vodafone	Launched June 21, 2006 21 Mbps HSPA+ and 5.8 Mbps HSUPA launched Nov 2009. 42 Mbps DC-HSPA+ launched February 2011 UMTS900 introduced 2H 2011 DB-HSDPA UMTS900 launched October 2016	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Feb 2011	Launched
493	Spain	Yoigo	Launched October 1, 2008 initially 3.6 Mbps 21 Mbps HSPA+ introduced in Feb 2012	21 Mbps		21 Mbps launched Feb 2012	
494	Sri Lanka	Dialog Axiata	Launched August 15, 2006 42 Mbps DC-HSPA commercial launch Apr 2011	42 Mbps	5.8 Mbps	42 Mbps launched Apr 2011	Launched
495	Sri Lanka	Mobitel M3	Launched December 2007 7.2 Mbps then 14.4 Mbps. 42 DC-HSPA+ upgrade launched Dec 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Dec 2012	Launched
496	Sri Lanka	Etisalat	Launched January 21, 2011 28 Mbps HSPA+ 42 Mbps DC-HSPA+ launched May 2011, coverage now extended to whole 3G footprint	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2011	Launched
497	Sri Lanka	Airtel Lanka	Launched January 12, 2009 21 Mbps HSPA+ launch confirmed 01.03.12	21 Mbps	2 Mbps	21 Mbps launched 01.03.12	
498	Sri Lanka	Hutch Lanka	Launched April 20, 2012 21 Mbps HSPA+ network	21 Mbps	5.8 Mbps	21 Mbps launched 20.04.12	
499	St. Eustatius	UTS	Launched 2010E	3.6 Mbps			



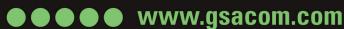
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GSM/3G MARKET/TECHNOLOGY UPDATE

#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
500	St-Barthelemy	Orange Caraibe	Launched 2009E	3.6 Mbps			Launched
501	St-Martin	Orange Caraibe	Launched 2009E	3.6 Mbps			Launched
502	St-Martin	UTS	Launched 2010E	7.2 Mbps			
503	St. Kitts and Nevis	Digicel	Launched April 29, 2013 21 Mbps HSPA+ Island-wide coverage at launch	21 Mbps	5.8 Mbps	21 Mbps launched 29.04.13	Launched
504	St. Kitts and Nevis	FLOW	Launched October 26, 2012 21 Mbps HSPA+	21 Mbps	11.5 Mbps	21 Mbps launched 26.10.12	Launched
505	St. Lucia	Digicel	Launched May 16, 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 16.05.14	Launched
506	St. Lucia	FLOW	Launched July 11, 2013 21 Mbps HSPA+ in 850 MHz band.	21 Mbps	11.5 Mbps	21 Mbps launched 11.07.13	Launched
507	Sudan (North)	MTN	Launched 2010E	7.2 Mbps			Launched
508	Sudan (North)	Sudatel	Launched November 10, 2009	7.2 Mbps			
509	Sudan (North)	Zain	Launched 2008 21 Mbps HSPA+ launched 2013E Deploying 42 Mbps DC-HSPA+	21 Mbps		21 Mbps launched 2013E	Launched
510	Sudan (South)	MTN	Launched 2010E	7.2 Mbps			Launched
511	Sudan (South)	Sudatel	Launched November 10, 2009	7.2 Mbps			
512	Sudan (South)	Zain	Launched 2008 21 Mbps HSPA+ launched 2013E Deploying 42 Mbps DC-HSPA+	21 Mbps		21 Mbps launched 2013E	Launched
513	Suriname	Digicel	Launched April 7 th , 2014 21 Mbps HSPA+ 850 MHz branded as 4G	21 Mbps	5.8 Mbps	21 Mbps launched 07.04.14	Launched
514	Suriname	UNIQA	Launched June 2011 UMTS900	3.6 Mbps			Launched
515	Swaziland	MTN	Launched October 2011 * speed subject to confirmation with operator	3.6 Mbps			Launched
516	Sweden	3 Sweden	Launched November 7, 2006 3.6 Mbps 21 Mbps HSPA+ some areas. 42 Mbps DC-HSPA+ launched May 2011 UMTS900-HSPA launched 25.05.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2011	
517	Sweden	TeliaSonera	Launched June 2007 on Svenska UMTS Nät AB network 3.6 Mbps. 7.2 Mbps then 14.4 Mbps. 21 Mbps HSPA+ with 5.8 Mbps uplink launched UMTS900 launched Nov 1, 2014	21 Mbps	5.8 Mbps	21 Mbps launched 2010	Launched
518	Sweden	Tele2	Launched April 2007 on Svenska UMTS Nät AB network 3.6 Mbps. 7.2 Mbps in major cities. 21 Mbps HSPA+ with 5.8 Mbps uplink launched	21 Mbps	5.8 Mbps	21 Mbps launched 2010	Launched
519	Sweden	Telenor Sverige	Launched June 1, 2007 3.6 Mbps then 7.2 Mbps. 21 Mbps HSPA+ launched May 2010 42 Mbps DC-HSPA+ launched May 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2011	
520	Switzerland	Salt (formerly Orange)	Launched April 1, 2007 Later 7.2, 14.4 Mbps. 42 Mbps HSPA+. launched in November 2011 UMTS900 in rural areas from early 2011	42 Mbps	5.8 Mbps	42 Mbps launched Nov 2011	Launched
521	Switzerland	Sunrise 900/2100	Launched December 2006: 3.6 Mbps then 7.2 Mbps. 21 Mbps launched 2011. Upgraded to 42 Mbps nationwide by end 2012, 84 Mbps HSPA+ planned later. UMTS900 service from May 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched end 2012	Launched
522	Switzerland	Swisscom	Launched March 6, 2006 7.2 Mbps, then 14.4 Mbps. 28 Mbps HSPA+ October 5, 2009. 42 Mbps DC-HSPA+ and 5.8 Mbps HSUPA launched June 21, 2011 in Berne and Zurich.	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 21.06.11	Launched
523	Syria	Syriatel	Launched August 2008 Later upgraded to 14.4 Mbps 21 Mbps HSPA launched 2013E	21 Mbps		21 Mbps launched 2013E	Launched



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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
524	Syria	MTN	Launched 2008	3.6 Mbps			Launched
525	Taiwan	Taiwan Star / VIBO	Launched December 2006 up to 7.2 Mbps. 21 Mbps HSPA+ launched in 2012E	21 Mbps		21 Mbps launched 2012E	
526	Taiwan	Chunghwa Telecom	Launched September 11, 2006 3.6 Mbps then 21 Mbps HSPA+ Q4 2011E Deploying 42 Mbps DC-HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched Q4 2011	
527	Taiwan	FarEasTone	Launched September 30, 2006 21 Mbps HSPA+ launched Nov 8, 2010 42 Mbps DC-HSPA launched 2012E	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012E	
528	Taiwan	Taiwan Mobile	Launched January 2007 3.6 Mbps service; now 7.2 Mbps in selected areas 21 Mbps HSPA+ launched 1H 2011 42 Mbps DC-HSPA+ launched Nov 16, 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 16.11.11	
529	Tajikistan	Tacom Beeline	Launched March 30, 2007 Launched March 2010	3.6 Mbps			Launched
530 531	Tajikistan Tajikistan	Indigo Megafon	Launched 2009 14.4 Mbps 42 Mbps DC-HSPA launched in 2014E	14.4 Mbps 42 Mbps	5.8 Mbps	42 Mbps launched 2014E	Launcheu
532	Tajikistan	Babilon-Mobile	Launched 2008	7.2 Mbps			
533	Tanzania	Tigo	Launched January 2011 42 Mbps DC-HSPA+ launched May 10, 2013 in high density areas, 21 Mbps elsewhere	42 Mbps	5.8 Mbps	42 Mbps launched 10.05.13	Launched
534	Tanzania	Halotel	Launched October 15, 2015 * speed subject to confirmation with operator	21 Mbps	5.8 Mbps	21 Mbps launched 15.10.15	
535	Tanzania	Vodacom	Launched February 23, 2007 21 Mbps HSPA+ upgrade launched date 2012E	21 Mbps	5.8 Mbps	21 Mbps launched 2012	Launched
536	Tanzaniia	Zantel	Launched June 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched June 2012	
537	Tanzania	Airtel	Launched December 23, 2008 21 Mbps HSPA+ launched 13.03.12	21 Mbps	5.8 Mbps	21 Mbps launched 13.03.12	Launched
538	Tanzania	Rural Telco	Launched March 2010 UMTS900	7.2 Mbps	1.4 Mbps		
539	Thailand	DTAC 850/2100	Launched August 16, 2011 42 Mbps DC-HSPA+ in 850 MHz band 3G launched also using 2.1 GHz in July 2013	42 Mbps	5.8 Mbps	42 Mbps launched 16.08.11	Launched
540	Thailand	AIS 900/2100	UMTS900 launched May 6, 2008 21 Mbps UMTS900 launched July 2011 Preparing for 42 Mbps (on TOT network) 3G launched also using 2.1 GHz in May 2013.	21 Mbps		21 Mbps launched July 2011	Launched
541	Thailand	True Move/Real Future 850/2100	Launched March 2011 Initially 7.2 Mbps, deployed in 850 MHz band 42 Mbps DC-HSPA+ launched 30.08.11 3G launched also using 2.1 GHz in May 2013.	42 Mbps	5.8 Mbps	42 Mbps launched 30.08.11	Launched
542	Thailand	TOT/Thai Mobile	Launched December 3, 2009 (TOT in 2100 MHz) 42 Mbps HSPA+ deployment completed April 2012	42 Mbps	5.8 Mbps	42 Mbps launched April 2012	
543	Thailand	CAT Telecom	Launched 2014 DC-HSPA+ network joint venture with True Corp	42 Mbps	5.8 Mbps	42 Mbps launched 2014	
544	Togo	Togo Cellulaire	Launched December 15, 2011 * speed subject to confirmation with operator	21 Mbps		21 Mbps launched 15.12.11	Launched
545	Togo	Moov Togo	Launched August 10, 2016	21 Mbps	5.8 Mbps	21 Mbps launched 10.08.16	
546	Tonga	Digicel	Launched July 18, 2014 * speed subject to confirmation with operator	7.2 Mbps			
547	Trinidad and Tobago	Digicel	Launched May 16, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 16.05.12	Launched



HSPA Operator Commitments report – October 25. 2016

#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
548	Trinidad and Tobago	Bmobile / TSTT	Launched November 9, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 09.11.12	Launched
549	Tunisia	Orange Tunisie	Launched May 5, 2010 Launched 21 Mbps HSPA+ August 2010. 42 Mbps DC-HSPA+ launched May 5, 2012	42 Mbps	11.5 Mbps	42 Mbps upgrade launched 05.05.12	Launched
550	Tunisia	Tunisie Telecom	Launched August 8, 2011 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 08.08.11	Launched
551	Tunisia	Tunisiana 900/2100	Launched July 23, 2012 21 Mbps HSPA+ in 900 MHz (UMTS900) and 2100 MHz 42 Mbps DC-HSPA+ in some areas	42 Mbps	5.8 Mbps	42 Mbps launched 23.07.12	Launched
552	Turkey	Turk Telecom	Launched July 30, 2009 21 Mbps HSPA+ 42 Mbps DC-HSPA+ upgrade launched 15.12.10 UMTS900 launched in 2015	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 15.12.10	Launched
553	Turkey	Vodafone	Launched July 30, 2009 21 Mbps HSPA+ Trials completed in connection with planned evolution to 42 Mbps DC-HSPA+ Trialling UMTS900	21 Mbps	5.8 Mbps	21 Mbps launched 30.07.09	Launched
554	Turkey	Turkcell	Launched July 29, 2009 21 Mbps HSPA+ with 60% pop coverage on first day. 42 Mbps DC-HSPA+ upgrade launched 1.12.10. 63 Mbps 3C-HSPA+ launched in the network 25.12.14. On 23.02.15 Turkcell introduced own-branded Turbo T50 smartphone with features including LTE Cat 4, HSDPA Cat-29 (63.3Mbps), HSUPA Cat-8 (11,5 Mbps), EDGE, Wifi 802.11 b/g/n, Bluetooth 4.0, DLNA, and HD voice UMTS900 trialled in Istanbul and Trabzon	63 Mbps	11.5 Mbps	63 Mbps upgrade launched 25.12.14	Launched
555	Turkmenistan	MTS	Launched November 2, 2010 Service later suspended then restarted 01.10.14 21 Mbps HSPA+; 11.5 Mbps HSUPA	21 Mbps	11.5 Mbps	21 Mbps launched 2.11.10	Launched
556	Turks and Caicos Islands	FLOW	Launched June 2010 in 850 MHz band Launched 21 Mbps HSPA+ July 2012	21 Mbps		21 Mbps launched July 2012	
557	Turks and Caicos Islands	Digicel	Launched May 2013 21 Mbps HSPA	21 Mbps		21 Mbps launched May 2013	Launched
558	UAE	Etisalat	Launched April 12, 2006 21 Mbps HSPA+ launched January 4, 2010 42 Mbps DC-HSPA+ launched 21.09.11 84 Mbps tests completed – March 2012	42 Mbps	11.5 Mbps	42 Mbps upgrade launched 21.09.11	Launched
559	UAE	Du	Launched February 11, 2007 7.2 Mbps then 21 Mbps HSPA+ 42 Mbps DC-HSPA+ launched 23.09.10	42 Mbps	5.8 Mbps	42 Mbps launched 23.09.10	Launched
560	Uganda	Africell	Launched October 8, 2009 21 Mbps HSPA+ launched April 2012	21 Mbps	5.8 Mbps	21 Mbps launched April 2012	Launched
561	Uganda	UTL	Launched November 2007	1.8 Mbps			Launched
562	Uganda	MTN	Launched August 2010 21 Mbps introduced 2012 42 Mbps DC-HSPA+ service launched 13.03.13	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 13.03.13	Launched
563	Uganda	Airtel 2100/900	Launched October 21, 2011 2.1 GHz 21 Mbps HSPA+ launched 13.08.12 Nationwide coverage claimed with UMTS900	21 Mbps	5.8 Mbps	21 Mbps launched 13.08.12	Launched
564	UK	3	Launched December 1, 2006 3.6 Mbps later 7.2 Mbps, 14.4 Mbps, 5.8 Mbps HSUPA 2010. 21 Mbps HSPA+ launched April 2011 42 Mbps DC-HSPA+ launched in summer 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	
565	UK	O2	Launched Q3 07 3.6 Mbps, then 7.2 Mbps, 14.4 Mbps. UMTS900 launched March 17, 2011. 21 Mbps HSPA+ in major cities from 2012 42 Mbps DC-HSPA+ from 2013E	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	Launched



605 HSPA Operator commitments in 221 countries/territories 601 commercial operators are launched in 221 countries including 435 commercial HSPA+ networks

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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
566	UK	Orange	Launched February 13, 2007 3.6 Mbps Later 7.2 Mbps. Nationwide roll out of 21 Mbps HSPA+ on the EE network completed Q3 2012. DC-HSPA+ on 40% of network by end 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	Launched
567	UK	T-Mobile	Launched August 1, 2006 3.6 Mbps Later 7.2 Mbps. Nationwide roll out of 21 Mbps HSPA+ on the EE network completed Q3 2012. DC-HSPA+ on 40% of network by end 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	Launched
568	UK	Vodafone	Launched June 22, 2006: later 14.4 Mbps 21 Mbps and 42 Mbps from 2012. UMTS900 launched - on Vodafone maps from July 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2012	Launched
569	Ukraine	Kyivstar 2100/900	Launched June 8, 2015 42 Mbps DC-HSPA+ 900 MHz (UMTS900) and 2.1 GHz bands	42 Mbps	5.8 Mbps	42 Mbps launched 08.06.15	Launched
570	Ukraine	3Mob (Ukrtelecom)	Launched November 1, 2007 Speed raised to 7.2 Mbps in April 2013	7.2 Mbps			Launched
571	Ukraine	Vodafone Ukraine (MTS)	Launched April 2015 Launched with national roaming on 3Mob. Upgraded to 42 Mbps DC-HSPA+ in partd of network from 22.09.15. Also planning UMTS900	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 22.09.15	Launched
572	Ukraine	Lifecell	Launched June 26, 2015 63.3 Mbps 3C HSPA+	63 Mbps	11.5 Mbps	63 Mbps upgrade launched 25.12.14	Launched
573	Ukraine (Crimea)	KTK-Telekom/ Volna Mobile	Launched June 2016	21 Mbps		21 Mbps launched 06.2016	
574	Uruguay	Antel	Launched July 27, 2007 Upgraded to 7.2 Mbps Upgrade to 21 Mbps HSPA+ 2011E	21 Mbps	5.8 Mbps	21 Mbps launched 2011	Launched
575	Uruguay	Movistar	Launched July 2007 21 Mbps HSPA+ launched November 2011	21 Mbps	5.8 Mbps	21 Mbps launched Nov 2011	Launched
576	Uruguay	Claro	Launched November 13, 2007 21 Mbps HSPA+ launched November 2011	21 Mbps	5.8 Mbps	21 Mbps launched Nov 2011	Launched
577	USA	Alaska Communications	Launched October 12, 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched 12.10.12	
578	USA	AT&T	Launched December 6, 2005 7.2 Mbps on all 3G sites by end 2009. 21 Mbps HSPA+ launched Nov 2010	21 Mbps	2 Mbps	21 Mbps launched Nov 2010	Launched
579	USA	Cincinnati Bell	Launched July 5, 2011 21 Mbps HSDPA+ 5.8 Mbps HSUPA	21 Mbps	5.8 Mbps	21 Mbps launched 05.07.11	Launched
580	USA	GCI	Launched 2010 (E) Initially 7.2 Mbps HSPA 21 Mbps HSPA+ launched Sept 12, 2011	21 Mbps	2 Mbps	21 Mbps launched 12.09.11	Launched
581	USA	i wireless	Launched October 1, 2010 * speed subject to confirmation with operator	7.2 Mbps			Launched
582	USA	T-Mobile	Launched May 5, 2008 21 Mbps HSPA+ launched Sept 2009. 42 Mbps DC-HSPA+ launched April 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched April 2011	Launched
583	USA	Stelera Wireless	Launched Feb 8, 2008	7.2 Mbps	2 Mbps		
584	USA	BendBroadband	Launched December 15, 2009 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 15.12.09	
585	USA	Mosaic Telecom	Launched 2009 * speed subject to confirmation with operator	7.2 Mbps	2 Mbps		
586	Uzbekistan	Uzmobile	Launched April 15, 2015 21 Mbps HSPA+	21 Mbps		21 Mbps launched 15.04.15	Launched
587	Uzbekistan	Unitel/Beeline	Launched 2009 21 Mbps HSPA+ in deployment	3.6 Mbps		In deployment	Launched
588	Uzbekistan	UMS (ex MTS)	Launched December 4, 2008 Reformed/relaunched as UMS on 01.12.14 * speed subject to confirmation with operator	21 Mbps	2 Mbps	21 Mbps launched 01.12.14	Launched



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GSM/3G MARKET/TECHNOLOGY UPDATE

#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
589	Uzbekistan	Ucell	Launched February 28, 2009 42 Mbps DC-HSPA+ launched Feb 2011	42 Mbps	5.8 Mbps	42 Mbps launched Feb 2011	Launched
590	Vanuatu	Digicel	Launched December 7, 2011	7.2 Mbps	5.8 Mbps		Launched
591	Venezuela	Digitel 900/1800	Launched UMTS900 on March 2, 2009 1800 MHz in use from 2H 2013 21 Mbps HSPA+ launched in 1H 2012	21 Mbps		21 Mbps launched 2012	Launched
592	Venezuela	Movilnet	Launched March 24, 2010	3.6 Mbps			Launched
593	Venezuela	Movistar	Launched December 9 2008 HSUPA launched November 25, 2009	7.2 Mbps	2 Mbps		Launched
594	Vietnam	Vinaphone	Launched October 13, 2009 Initially 7.2 Mbps; 14.4 Mbps in 2010 21 Mbps HSPA+ launched in 2012 42 Mbps DC-HSPA+ launched July 2014 UMTS900 introduced in 2015	42 Mbps	5.8 Mbps	42 Mbps upgrade launched July 2014	Launched
595	Vietnam	MobiFone	Launched December 15, 2009 21 Mbps / 5.8 Mbps HSPA+ launched April 2012 Trialled UMTS900 in 2014	21 Mbps	5.8 Mbps	21 Mbps launched Apr 2012	Launched
596	Vietnam	S-Fone	CDMA operator planning HSPA in 850 MHz				
597	Vietnam	Viettel/Metfone/EV N Telecom	Launched March 25 2010 14.4 Mbps across 3G network, 21 Mbps HSPA+ some areas. Trialling 42 Mbps DC-HSPA+, plans to deploy in 2015	21 Mbps	5.8 Mbps	21 Mbps launched 25.03.10	Launched
598	Vietnam	Vietnamobile	Launched December 1, 2011 21 Mbps HSPA+	21 Mbps		21 Mbps launched 01.12.11	Launched
599	Zambia	Airtel	Launched January 17, 2012 280 sites, 21 Mbps HSPA+ 353 3G sites planned by end 2014	21 Mbps	5.8 Mbps	21 Mbps launched 17.01.12	Launched
600	Zambia	MTN	Launched March 2, 2011 42 Mbps DC-HSPA+ launched 09.10.13	42 Mbps	5.8 Mbps	42 Mbps launched 09.10.13	Launched
601	Zambia	Zamtel/Cell Z	Launched April 26, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 26.04.12	Launched
602	Zanzibar	Zantel	Launched May 5, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 05.05.12	Launched
603	Zimbabwe	Econet Wireless	Launched August 28, 2009	1.8 Mbps			Launched
604	Zimbabwe	Telecel	Launched 2011 * speed subject to confirmation with operator	1.8 Mbps			Launched
605	Zimbabwe	NetOne	Launched 2011 * speed subject to confirmation with operator	1.8 Mbps			Launched

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