

**Global mobile Suppliers Association** 

HSPA Operator Commitments report – October 11, 2015

#### 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 600 operator deployment commitments in 218 countries, of which 588 networks are commercially launched in 218 countries.

Capacity and performance improve with HSPA Evolution (HSPA+). Over 70% of HSPA operators have commercially launched HSPA+. 415 HSPA+ networks (21 Mbps and above) are commercially launched in 173 countries. Deployment of 42 Mbps DC-HSPA+ technology for even better user experience is the main trend. 190 DC-HSPA+ networks (almost one third of HSPA networks) are commercially launched in 95 countries. Two 63 Mbps 3C-HSPA+ networks are commercially launched.

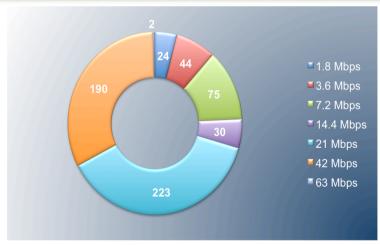
3GPP Release 9 combined multicarrier and MIMO technologies in 10 MHz bandwidth to achieve 84 Mbps peak downlink and 23 Mbps peak uplink. Release 10 supports carrier aggregation of up to 4 (5 MHz) carriers allowing operators to leverage all spectrum assets for increased data rates for all users. Release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

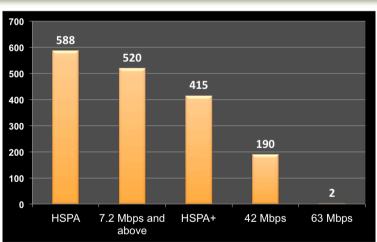
At least 389 operators (two thirds) commercially launched HSUPA. At least 327 operators (84%) of commercial HSUPA systems) support 5.8 Mbps peak data throughput on the uplink. Another 22 networks support 11.5 Mbps. It means around 90% of operators with HSUPA support at least 5.8 Mbps peak data throughput 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 large mature user devices ecosystem. **100 operators in 64 countries** deployed HSPA using 900 MHz (**UMTS900**) in either a single band or within a multiband deployment.

There were over 1.99 billion\* WCMDA-HSPA subscriptions globally by Q2 2015. Total 3G connections globally are expected to exceed LTE up until 2020. Growing voice traffic relies on 3G as VoLTE solutions are still maturing. GSA estimates that more than 80% of operators continue their 3G investments. Top feature upgrades are DC-HSPA+ (downlink and uplink) and smartphone features (CPC & E-FACH). 3C-HSPA+ (63 Mbps) deployments have begun.

\* the referenced subscriptions data is according to Ovum





Charts: Theoretical peak downlink speeds supported by 588 commercial HSPA operators

Visit page <a href="http://www.gsacom.com/news/statistics.php4">http://www.gsacom.com/news/statistics.php4</a> for mobile broadband related charts and maps. Registration page for new site users: <a href="http://www.gsacom.com/php/register\_form.php4">http://www.gsacom.com/php/register\_form.php4</a>

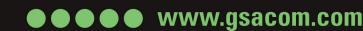
The following pages of this report confirm all worldwide operator commitments to HSPA, network deployments, commercial launches and service opening date, peak downlink and uplink speeds, and network support for GPRS/EDGE, according to research undertaken directly by GSA up to October 11, 2015.



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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 Initially in Kabul only. 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	LIME	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	LIME	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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26	Armenia	Orange Armenia	Launched November 5, 2009	42 Mbps	5.8 Mbps	42 Mbps	Launched
		900/2100	900 MHz and 2100 MHz bands. 14.4 Mbps Aug			launched	
			2010. 42 Mbps DC-HSPA+ launched 24.01.12			24.01.12	
27	Armenia	Vivacell-MTS	21 Mbps on rest of network  Launched April 17, 2009 Initially 3.6 Mbps;	42 Mbna	E O Mbno	42 Mbms	Launched
21	Armema	VIVACEII-IVI I S	upgraded to 7.2 Mbps. 21 Mbps HSPA+	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launcheu
			launched 02.11.10. 42 Mbps DC-HSPA+ in			launched	
			2013. 615 settlements covered by June 2015			2013	
28	Aruba	Setar	Launched December 10, 2007	21 Mbps		21 Mbps	Launched
			7.2 Mbps			launched	
			21 Mbps HSPA+ launched 13.11.11			13.11.11	
29	Aruba	Digicel	Launched June 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
			Upgraded to 21 Mbps HSPA+ 07.09.11			launched	
						07.09.11	
30	Australia	Telstra 850/2100	Launched October 10, 2006; 7.2 Mbps Oct.	42 Mbps	5.8 Mbps	42 Mbps	Launched
			2007; 21 Mbps HSPA+ launched 23.03.09.			upgrade	
			42 Mbps DC-HSPA+ launched June 2010.			launched	
			Evolution to 84 Mbps planned			June 2010	
31	Australia	Vodafone	Launched October 20, 2006 3.6 Mbps; 7.2/14.4	42 Mbps	5.8 Mbps	42 Mbps	Launched
			in 2008. UMTS900 launched 31.08.09. UMTS850 launched 2011. 42 Mbps DC-HSPA+			launched 13.09.12	
			deployed in 850, 900 and 2100 MHz bands			13.09.12	
32	Australia	Optus 900/2100	Launched May 2007 1.8. then 3.6 and 7.2	21 Mbps	2 Mbps	21 Mbps	Launched
32	Australia	Optus 900/2100	Mbps. 21 Mbps HSPA+ launched April 2011 now	21 MDPS	2 Minhs	launched	Launenca
			15% pop covered (Nov 2012)			Apr 2011	
			UMTS900 launched May 2008			Apr 2011	
33	Austria	T-Mobile	Launched March 2006	21 Mbps	Launched	21 Mbps	Launched
	71000110		21 Mbps HSPA+ from January 19, 2011			launched	
			42 Mbps DC-HSPA+ planned			19.01.11	
34	Austria	A1	Launched January 06 HSUPA now on all 3G	42 Mbps	5.8 Mbps	42 Mbps	Launched
			net. 21 Mbps HSPA+ launched March 23, 2009	•	•	upgrade	
			5.8 Mbps HSUPA in some areas			launched	
			42 Mbps DC-HSPA+ launched Dec 15, 2010			15.12.10	
35	Austria	3 Austria	Launched July 24, 2006	42 Mbps	5.8 Mbps	42 Mbps	
			42 Mbps DC-HSPA+ launched March 2010			launched	
						March 2010	
36	Austria	Orange	Launched June 2006. 1.8, 3.6 then 7.2 Mbps.	42 Mbps	5.8 Mbps	42 Mbps	Launched
			42 Mbps HSPA+ launched in Wiener Neustadt,			launched	
27	Amanhallan	Nar Mobile	March 2010	40 Mbma	E O Mhas	March 2010	Launched
37	Azerbaijan	Nar Wobile	Launched December 2009, later 7.2 Mbps, HSUPA introduced	42 Mbps	5.8 Mbps	42 Mbps launched	Launcheu
			42 Mbps DC-HSPA+ launched 18.03.15			18.03.15	
38	Azerbaijan	Azercell	Launched November 18, 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
	Azorbaijan	Azoroon	21 Mbps HSPA+ in Baku. 7.2 Mbps elsewhere	21 mbps	old iii bpo	launched	
			21 Mape 1161 7 (* III Baild. 7 .2 Mape clockinore			18.11.11	
39	Azerbaijan	BakCell	Launched November 23, 2011	21 Mbps		21 Mbps	Launched
	•		21 Mbps HSPA+ in Baku. 14.4 Mbps elsewhere	•		launched	
			Planning to introduce 42 Mbps DC-HSPA+			23.11.11	
40	Bahamas	BTC	Launched December 5, 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+			launched	
						05.12.11	
41	Bahrain	Zain	Launched May 21, 2006	7.2 Mbps		. In	Launched
						deployment	
40	Debre!:	Visco	Laurahad Marah 2, 2042	40 Mb	E 0 181	40 Mb.	Launched
42	Bahrain	Viva	Launched March 3, 2010 21 Mbps HSPA+	42 Mbps	5.8 Mbps	42 Mbps	Launched
			42 Mbps DC-HSPA+ launched May 22, 2011,			upgrade launched	
			nationwide by November 2011			22.05.11	
43	Bahrain	Batelco	Launched December 16, 2007	42 Mbps	5.8 Mbps	42 Mbps	Launched
73	Damain	Dateico	14.4 Mbps from May 2009.	45 minhs	olo muha	upgrade	
			21 Mbps HSPA+ launched April 2010			launched	
			42 Mbps DC-HSPA+ launched June 21, 2012			21.06.12	
44	Bangladesh	Teletalk	Launched October 14, 2012	21 Mbps	5.8 Mbps	21 Mbps	Launched
'			21 Mbps HSPA+	_:		Launched	
			·			14.10.12	
45	Bangladesh	Grameenphone	Launched October 8, 2013	42 Mbps	5.8 Mbps	42 Mbps	Launched
	•		42 Mbps DC-HSPA+	·	-	Launched	
						08.10.13	

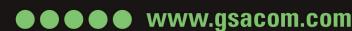




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46	Bangladesh	Robi Axiata	Launched October 31, 2013 21 Mbps HSPA+ Initial coverage in Dhaka, Chittagong and Sylhet	21 Mbps	5.8 Mbps	21 Mbps Launched 31.10.13	Launched
47	Bangladesh	Banglalink	Launched October 9, 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	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	LIME	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	21 Mbps	5.8 Mbps	21 Mbps Launched Feb 2010	Launched
52	Belarus	MTS	Launched May 26, 2010 21 Mbps HSPA+ 42 Mbps DC-HSPA launched in 2012	42 Mbps	11.5 Mbps	42 Mbps upgrade launched 2012	Launched
53	Belarus	Velcom	Launched March 18, 2010 21 Mbps HSPA+ 42 Mbps DC-HSPA+ launched 2011	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
68	Bonaire	UTS	Launched 2010E	7.2 Mbps			Launched

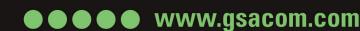




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70 Bosn Herze 71 Bosn Herze 72 Bosn Herze 73 Bots 74 Bots 75 Bots 76 Brazi 78 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Islan 84 Britis Islan 85 Brun 86 Brun 87 Bulgi 88 Bulgi	snia and rzegovina snia and rzegovina snia and rzegovina snia and rzegovina tswana tswana tswana tswana	Digicel  BH Telecom  Eronet (HT Mostar) Telekom Srpske m:tel Mascom  Orange beMobile  Claro  TIM  Algar Telecom	Launched July 15, 2009  42 Mbps DC-HSPA+ introduced in 2.1 GHz & 900 MHz (UMTS900) in 2013  Launched 2009  Launched 2009  Launched 2014E * speed subject to confirmation with operator  Launched November 2007  21 Mbps HSPA+ in deployment  UMTS900 in service from Q3 2014  Launched April 2008  Launched 2014E Launched 2014E	21 Mbps 42 Mbps 7.2 Mbps 7.2 Mbps 21 Mbps 3.6 Mbps 3.6 Mbps 7.2 Mbps	5.8 Mbps 5.8 Mbps 1.5 Mbps 2 Mbps 5.8 Mbps	21 Mbps launched 15.07.11 42 Mbps launched 2013 21 Mbps launched June 2012	Launched  Launched  Launched  Launched  Launched  Launched  Launched
71 Bosn Herze 72 Bosn Herze 73 Bots 74 Bots 75 Bots 76 Brazi 78 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Islan 84 Britis Islan 85 Brun 86 Brun 87 Bulgs 88 Bulgs	rzegovina snia and rzegovina snia and rzegovina tswana tswana tswana azil	Eronet (HT Mostar) Telekom Srpske m:tel Mascom  Orange beMobile  Claro	42 Mbps DC-HSPA+ introduced in 2.1 GHz & 900 MHz (UMTS900) in 2013  Launched 2009  Launched 2009  Launched August 2008 later 7.2 Mbps Upgraded to 21 Mbps HSPA+ in June 2012  Launched 2009E  Launched 2014E * speed subject to confirmation with operator  Launched November 2007 21 Mbps HSPA+ launched December 2011  Launched April 16, 2008 21 Mbps HSPA+ in deployment  UMTS900 in service from Q3 2014  Launched April 2008	7.2 Mbps 7.2 Mbps 21 Mbps 3.6 Mbps 3.6 Mbps 21 Mbps	1.5 Mbps 2 Mbps	21 Mbps launched June 2012	Launched Launched Launched Launched
72 Bosn Herze 73 Bots 74 Bots 75 Bots 76 Brazi 77 Brazi 78 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Islan 84 Britis Islan 85 Brun 86 Brun 87 Bulgi 88 Bulgi	rzegovina snia and rzegovina tswana tswana azil	(HT Mostar) Telekom Srpske m:tel Mascom  Orange beMobile  Claro	Launched 2009  Launched August 2008 later 7.2 Mbps Upgraded to 21 Mbps HSPA+ in June 2012  Launched 2009E  Launched 2014E * speed subject to confirmation with operator  Launched November 2007 21 Mbps HSPA+ launched December 2011  Launched April 16, 2008 21 Mbps HSPA+ in deployment UMTS900 in service from Q3 2014  Launched April 2008	7.2 Mbps 21 Mbps 3.6 Mbps 3.6 Mbps 21 Mbps	2 Mbps	launched June 2012 21 Mbps	Launched  Launched
74 Bots 75 Bots 76 Brazi 77 Brazi 78 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Islan 84 Britis Islan 85 Brun 86 Brun 87 Bulgi	rzegovina tswana tswana tswana nzil	m:tel Mascom  Orange beMobile  Claro	Launched August 2008 later 7.2 Mbps Upgraded to 21 Mbps HSPA+ in June 2012  Launched 2009E Launched 2014E * speed subject to confirmation with operator Launched November 2007 21 Mbps HSPA+ launched December 2011  Launched April 16, 2008 21 Mbps HSPA+ in deployment UMTS900 in service from Q3 2014  Launched April 2008	21 Mbps  3.6 Mbps  3.6 Mbps  21 Mbps	·	launched June 2012 21 Mbps	Launched  Launched
73 Bots 74 Bots 75 Bots 76 Brazi 77 Brazi 78 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Islan 84 Britis Islan 85 Brun 86 Brun 87 Bulgi 88 Bulgi	tswana tswana tswana nzil	Orange beMobile Claro	Upgraded to 21 Mbps HSPA+ in June 2012  Launched 2009E  Launched 2014E * speed subject to confirmation with operator  Launched November 2007 21 Mbps HSPA+ launched December 2011  Launched April 16, 2008 21 Mbps HSPA+ in deployment UMTS900 in service from Q3 2014  Launched April 2008	3.6 Mbps 3.6 Mbps 21 Mbps	5.8 Mbps	launched June 2012 21 Mbps	Launched
75 Bots 76 Brazi 77 Brazi 78 Brazi 79 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Islan 84 Britis Islan 85 Brun 86 Brun 87 Bulg 88 Bulg 89 Bulg	tswana nzil nzil	beMobile Claro TIM	Launched 2014E * speed subject to confirmation with operator  Launched November 2007 21 Mbps HSPA+ launched December 2011  Launched April 16, 2008 21 Mbps HSPA+ in deployment UMTS900 in service from Q3 2014  Launched April 2008	3.6 Mbps 21 Mbps	5.8 Mbps		
76 Brazi 77 Brazi 78 Brazi 79 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Islan 84 Britis Islan 85 Brun 86 Brun 87 Bulgi 88 Bulgi	nzil nzil	Claro	* speed subject to confirmation with operator  Launched November 2007 21 Mbps HSPA+ launched December 2011  Launched April 16, 2008 21 Mbps HSPA+ in deployment UMTS900 in service from Q3 2014  Launched April 2008	21 Mbps	5.8 Mbps		Launched
77 Brazi 78 Brazi 79 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Island 84 Britis Island 85 Brun 86 Brun 87 Bulgi 88 Bulgi	azil azil	TIM	21 Mbps HSPA+ launched December 2011  Launched April 16, 2008 21 Mbps HSPA+ in deployment UMTS900 in service from Q3 2014  Launched April 2008	•	5.8 Mbps		
78 Brazi 79 Brazi 80 Brazi 81 Brazi 82 Brazi 83 Britis Island 84 Britis Island 85 Brun 86 Brun 87 Bulgi 88 Bulgi	azil		21 Mbps HSPA+ in deployment UMTS900 in service from Q3 2014 Launched April 2008	7.2 Mbps	l	launched Dec 2011	Launched
79 Brazil 80 Brazil 81 Brazil 82 Brazil 83 Britis Island 84 Britis Island 85 Brun 86 Brun 87 Bulgi		Algar Telecom				In deployment	Launched
80 Brazi 81 Brazi 82 Brazi 83 Britis Island 84 Britis Island 85 Brun 86 Brun 87 Bulga 88 Bulga	ızil		21 Mbps HSPA+ launched 28.11.11 Minas Gerais State	21 Mbps	5.8 Mbps	21 Mbps launched 28.11.11	Launched
81 Brazi 82 Brazi 83 Britis Island 84 Britis Island 85 Brun 86 Brun 87 Bulga 88 Bulga		Nextel	In deployment	0.6			Tax out of
82 Brazi 83 Britis Island 84 Britis Island 85 Brun 86 Brun 87 Bulga 88 Bulga		Oi (includes BrT)	Launched April 2008	3.6 Mbps			Launched
83 Britis Islam  84 Britis Islam  85 Brun  86 Brun  87 Bulgs  88 Bulgs		Vivo	Launched September 2008 21 Mbps HSPA+ launched 22.11.11 Sao Paulo	21 Mbps	Launched	21 Mbps launched 22.11.11	Launched
84 Britis Island 85 Brun 86 Brun 87 Bulga 88 Bulga		Sercomtel	Launched December 14, 2008	14.4 Mbps	5.8 Mbps		
85 Brun 86 Brun 87 Bulga 88 Bulga 89 Bulga	tish Virgin ands	LIME	Launched July 2, 2012 21 Mbps HSPA+	21 Mbps	11.5 Mbps	21 Mbps launched 02.07.12	Launched
86 Brun 87 Bulga 88 Bulga 89 Bulga	tish Virgin ands	Digicel	Launched November 13, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 13.11.12	Launched
87 Bulga 88 Bulga 89 Bulga	ınei	DST com Go!broadband	Launched May 2008 7.2 Mbps	7.2 Mbps			Launched
88 Bulga	ınei	B-mobile	Launched March 2008 3.6 Mbps later 7.2	7.2 Mbps			Launched
89 Bulga	lgaria	Mobiltel (M-TEL)	Launched March 6, 2006 3.6 Mbps evolving to 7.2 Mbps & HSUPA. 21 Mbps HSPA+ launched 17.09.09. 42 Mbps DC-HSPA+ launched 22.03.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 22.03.11	Launched
	lgaria	Telenor	Launched September 25, 2006 14.4 Mbps from 15.07.09. December 2013: 21 Mbps HSPA+ 96% geographical coverage, 42 Mbps has 89% pop. coverage, 47% of territory (June 30 2015)	42 Mbps	5.8 Mbps	42 Mbps launched 2013E	Launched
90 Burk	lgaria	Vivacom 2100/900	Launched April 17, 2007. Initially 3.6 Mbps then 7.2 Mbps, 14.4 Mbps. HSUPA from June 2010. 21 Mbps launched 02.10.12 UMTS900 launched June 2010 42 Mbps DC-HSPA+ launched 01.02.13	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 01.02.13	Launched
	rkina Faso	Telmob Onatel SA	Launched May 17, 2013 Initially 14.4 Mbps 42 Mbps DC-HSPA+ 10 days later	42 Mbps	5.8 Mbps	42 Mbps launched 27.05.13	Launched
		Airtel	Launched May 27, 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched 27.05.13	Launched
92 Buru	rkina Faso	Smart Telecom	Launched September 5, 2014 * speed subject to confirmation with operator	7.2 Mbps			
93 Cami		CamGSM/Mobitel/ Cellcard	Launched October 3, 2006 later upgraded to 3.6 Mbps peak	3.6 Mbps			Launched
94 Caml		QB (Cadcomm)	Launched March 15, 2008 14.4 Mbps from January 2011	14.4 Mbps			
95 Caml	rundi	QB (Cauconini)	Launched August 2007	1.8 Mbps			Launched

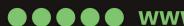




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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
96	Cambodia	Smart Axiata	Launched May 2009 Initially 1.8 Mbps (Hello Axiata brand) 21 Mbps HSPA+ from April 1, 2012	21 Mbps	5.8 Mbps	21 Mbps launched 01.08.11	Launched
97	Cambodia	Viettel Metfone	Launched September 2010E  * speed subject to confirmation with operator	7.2 Mbps			
98	Cameroon	Nexxtel	Launched September 12, 2014 * speed subject to confirmation with operator	7.2 Mbps			
99	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
100	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	
101	Canada	ICE Wireless	Launched November 8, 2013 21 Mbps HSPA+ Launched in Inuvik, Northwest Territories	21 Mbps		21 Mbps launched 08.11.13	
102	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	
103	Canada	Eastlink	Launched February 15, 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched 15.02.13	
104	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	
105	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	
106	Canada	MTS Allstream	Launched March 31, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 31.03.11	
107	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	
108	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
109	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	
110	Cape Verde	CVMóvel	Launched December 2011	14.4 Mbps	5.8 Mbps		Launched
111	Cape Verde	T+	Launched December 2011	14.4 Mbps	5.8 Mbps		
112	Cayman Islands	Digicel	Launched October 13, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 13.10.11	Launched
113	Cayman Islands	LIME	Launched August 17, 2011 21 Mbps DL and 11.5 Mbps UL	21 Mbps	11.5 Mbps	21 Mbps launched 17.08.11	Launched
114	Central Africa Republic	Orange Centrafrique	Launched February 28, 2013 21 Mbps HSPA+ Initially in Bangui	21 Mbps		21 Mbps launched 28.02.13	
115	Chad	Airtel	Launched September 12, 2014  * speed subject to confirmation with operator	7.2 Mbps			Launched
116	Chad	Tigo	Launched September 8, 2014 * speed subject to confirmation with operator	7.2 Mbps			Launched
117	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
118	Chile	Claro	Launched November 30, 2007 21 Mbps HSPA launched 2011	21 Mbps		21 Mbps launched 2011E	Launched





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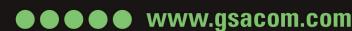
#_	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
119	Chile	Movistar	Launched December 2007 14.4 Mbps later. 21 Mbps HSPA+ launched 2010 42 Mbps DC-HSPA+ launched Q4 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched Q4 2011	Launched
120	Chile China	WOM China Unicom	Launched May 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
122	Colombia	Comcel	Launched January 2008 21 Mbps HSPA+ launched 23.11.11	21 Mbps	5.8 Mbps	21 Mbps launched 23.11.11	Launched
123	Colombia	Movistar	Launched December 1 2008 21 Mbps HSPA+ launched 18.10.12	21 Mbps		21 Mbps launched 18.10.12	Launched
124	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
125	Congo DRC	Airtel DRC	Launched May 3, 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched 03.05.13	Launched
126	Congo DRC	Orange	Launched December 5, 2012	21 Mbps	5.8 Mbps	21 Mbps launched 05.12.12	Launched
127	Congo DRC	Tigo/Oasis	Launched May 16, 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched 16.05.13	Launched
128	Congo DRC	Vodacom Congo	Launched October 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched Oct 2012	Launched
129	Congo (Republic of)	Bharti Airtel	Launched October 27. 2011 21 Mbps HSPA+	21 Mbps		21 Mbps launched 27.10.11	Launched
130	Costa Rica	ICE/Kolbi	Launched 2009 * speed subject to confirmation with operator	3.6 Mbps			Launched
131	Costa Rica	Telefonica	* speed subject to confirmation with operator	7.2 Mbps			Launched
132	Costa Rica	Claro	Launched November 5, 2011 21 Mbps HSPA+	21 Mbps		21 Mbps launched 05.11.11	Launched
133	Côte d'Ivoire	Moov / Atlantique Telecom	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
134	Côte d'Ivoire	MTN	Launched December 14, 2012	3.6 Mbps			Launched
135	Côte d'Ivoire	Orange	Launched April 12, 2012 42 Mbps DC-HSPA+ in 2012	42 Mbps	5.8 Mbps	42 Mbps launched 2012	Launched
136	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
137	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
138	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
139	Curação	UTS	Launched June 2008 7.2 Mbps from Aug 08	7.2 Mbps			Launched
140	Curaçao	Digicel	Launched June 2011 21 Mbps HSPA+ launched 29.07.11	21 Mbps	5.8 Mbps	21 Mbps launched 29.07.11	Launched
141	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
142	Cyprus	СҮТА	Launched July 11, 2008 Deploying 21 Mbps HSPA+	1.8 Mbps		In deployment	Launched



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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
143	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
144	Cyprus (North)	North Cyprus Telsim	Launched October 2008	7.2 Mbps			Launched
145	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
146	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 (44 cities) 05.10.12	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 05.10.12	Launched
147	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
148	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	
149	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
150	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
151	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
152	Djibouti	Evatis / Djibouti Telecom	Launched 2011E 21 Mbps HSPA+ operational from 15.01.13	21 Mbps	5.8 Mbps	21 Mbps launched 15.01.13	Launched
153	Dominica	Digicel	Launched February 11, 2015 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 11.02.15	Launched
154	Dominica	LIME	Launched 2012E 21 Mbps HSPA+	21 Mbps	11.5 Mbps	21 Mbps launched 2012E	Launched
155	Dominican Republic	Claro Dominicana	Launched September 2008 3.6 Mbps now 14.4 Mbps	14.4 Mbps			Launched
156	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
157	East Timor	Telkomcel	Launched January 2013 in 850 MHz spectrum	14.4 Mbps			Launched
158	East Timor	Telemor (Viettel)	Launched 2013(E)  * speed subject to confirmation with operator  * launch date to be confirmed with operator	14.4 Mbps			
159	East Timor	Timor Telecom	Launched 2009	1.8 Mbps			
160	Ecuador	Claro (ex-Porta)	Launched August 2008 21 Mbps HSPA+ launched April 2011	21 Mbps	2 Mbps	21 Mbps launched Apr 2011	Launched
161	Ecuador	Movistar	Launched July 2009 21 Mbps HSPA+ launched July 14, 2011	21 Mbps	5.8 Mbps	21 Mbps launched 14.07.11	Launched
162	Ecuador	CNT Mobile	Launched 2013 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 2013	





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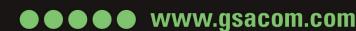
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
163	Egypt	Etisalat Misr	Launched May 1, 2007 3.6 Mbps; then 7.2 Mbps. 21 Mbps HSPA+ launched June 2009. 42 Mbps DC-HSPA+ launched May 2010.	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2010	Launched
164	Egypt	Vodafone	Launched 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
165	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
166	El Salvador	Claro	Launched January 2008 21 Mbps HSPA+ launched February 2012	21 Mbps	Launched	21 Mbps launched Feb 2012	Launched
167	El Salvador	Digicel	Launched 21 Mbps HSPA+ launched 03.01.14	21 Mbps		21 Mbps launched 03.01.14	Launched
168	El Salvador	Movistar	Launched 2010 * speed subject to confirmation with operator	3.6 Mbps			Launched
169	El Salvador	Tigo	Launched September 3, 2008 21 Mbps HSPA+ launched January 2012	21 Mbps	Launched	21 Mbps launched Jan 2012	Launched
170	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
171	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
172	Estonia	Tele2 Eesti	Launched November 2006 later 7.2 Mbps UMTS900 launched March 2011	7.2 Mbps			Launched
173	Estonia	Tallinn 3G Mobile	Launched 2009	1.8 Mbps			Launched
174	Ethiopia	ETC	Launched January 2009 HSPA+ in deployment in 2013	3.6 Mbps		In deployment	Launched
175	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
176	Fiji	Vodafone	Launched November 18, 2008  * speed subject to confirmation with operator	7.2 Mbps	5.8 Mbps		Launched
177	Fiji	Digicel	Launched September 2014	7.2 Mbps			Launched
178	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
179	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
180	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
181	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
182	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
183	France	SFR	Launched May 11, 2006 UMTS900 launched September 2009 21Mbps HSPA+ Sept 2010. 42 Mbps DC- HSPA+ in 50 cities/urban areas by 29.03.12 UMTS900 900 MHz shared network & 2100 MHz	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 29.03.12	Launched
184	France	Free	Launched January 10, 2012 42 Mbps DC-HSPA+ UMTS900 launched in 2013	42 Mbps	5.8 Mbps	42 Mbps launched 10.01.12	
185	French Guiana	Outremer Telecom	Launched in 2009(E)	14.4 Mbps			



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186	French Guiana	Orange Caraibe	Launched 2009E 21 Mbps HSPA+ launched 20.12.13 in Cayenne	21 Mbps		21 Mbps launched 20.12.13	Launched
187	French Guiana	Digicel	Launched November 2010 21 Mbps HSPA+	21 Mbps		21 Mbps launched Nov 2010	Launched
188	French Polynesia	Vini	Launched December 15, 2009	1.8 Mbps			Launched
189	Gabon	Gabon Telecom	In deployment				
190	Gabon	Airtel	Launched April 16, 2014 21 Mbps HSPA+ launched in Libreville	21 Mbps	5.8 Mbps	21 Mbps launched 16.04.14	Launched
191	Gambia	Qcell	Launched July 2009 Upgraded to 42 Mbps DC-HSPA+ 2014 (E) * date subject to confirmation with operator	42 Mbps	5.8 Mbps	42 Mbps launched 2014(E)	Launched
192	Georgia	MagtiCom	Launched January 28, 2009 21 Mbps HSPA+ launched February 2012 UMTS900 in deployment. 42 Mbps introduced in 2013	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2013	Launched
193	Georgia	Geocell	Launched June 20, 2008 21 Mbps HSPA+ introduced July 2, 2012	21 Mbps	5.8 Mbps	21 Mbps launched 02.07.12	Launched
194	Germany	Telekom	Launched March 2006 later 7.2 Mbps all 3G net then 21 Mbps HSPA+ launched 21.04.10. 42 Mbps DC-HSPA+ launched 2011, available to over 85% of population by April 3, 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2011	Launched
195	Germany	O2 (combined with E Plus)	Launched December 1, 2006 enhanced later to 7.2 Mbps 42 Mbps DC-HSPA+ launched 19.08.13 in selected areas, 21 Mbps elsewhere. UMTS900 launched December 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 19.08.13	Launched
196	Germany	Vodafone	Launched March 2006 7.2 Mbps July 9 2007, later upgraded to HSPA+ then DC-HSPA+ from mid-2014	42 Mbps	5.8 Mbps	42 Mbps launched 2014	Launched
197	Ghana	Airtel	Launched December 15, 2008 21 Mbps HSPA+ launched Jan 2012. Upgraded to 42 Mbps DC-HSPA+ Dec. 2014	42 Mbps	5.8 Mbps	42 Mbps upgraded launched Dec 2014	Launched
198	Ghana	Glo Mobile	Launched April 29, 2012	21 Mbps	Launched	21 Mbps launched 29.04.12	Launched
199	Ghana	MTN	Launched January 28, 2009 3.6 Mbps, later upgrade to 7.2 Mbps. 21 Mbps and 42 Mbps DC-HSPA+ launched in 2014(E)  * date subject to confirmation with operator UMTS900 launched December 2009	42 Mbps	5.8 Mbps	42 Mbps launched 2014(E)	Launched
200	Ghana	Tigo	Launched July 2011 42 Mbps DC-HSPA+ upgrade 2013(E) * date subject to confirmation with operator	42 Mbps	5.8 Mbps	42 Mbps launched 2013(E)	Launched
201	Ghana	Vodafone Ghana	Launched 2010 21 Mbps HSPA+ upgrade 2013(E) * date subject to confirmation with operator	21 Mbps	5.8 Mbps	21 Mbps launched 2013(E)	Launched
202	Gibraltar	Gibtelecom	Launched 2008	1.8 Mbps			Launched
203	Greece	Cosmote	Launched June 2006 3.6 Mbps then 7.2 Mbps. 21 Mbps HSPA+ launched May 20, 2009, then 28 Mbps in March 2010. 42 Mbps DC-HSPA+ launched 14.02.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 14.02.11	Launched
204	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
205	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
206	Greenland	TELE Greenland	Launched August 2, 2010 UMTS900 system	14.4 Mbps	2 Mbps		
207	Guadeloupe	Outremer Telecom	Launched 2010	7.2 Mbps			





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208	Guadeloupe	Orange Caraibe	Launched 2008	21 Mbps	HOUFA	21 Mbps	Launched
200	Guadeloupe	Grange caraise	21 Mbps HSPA+ launched 22.08.13	21 mopo		launched 22.08.13	
209	Guadeloupe	Digicel	Launched November 2010	7.2 Mbps	1.4 Mbps		Launched
210	Guam	Docomo Pacific	Launched October 9, 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched November 10, 2011		·	launched	
						10.11.11	
211	Guam	GTA Teleguam	Launched August 16, 2009	21 Mbps		21 Mbps	
			21 Mbps HSPA+ launched July 21, 2011			launched	
		<u> </u>				21.07.11	
212	Guam	IT&E	Launched July 14, 2014	21 Mbps	5.8 Mbps	21 Mbps	
			21 Mbps HSPA+			launched 14.07.14	
212	Guam	:Compost	Launched September 3, 2014	24 Mbna	E O Mbno	21 Mbps	
213	Guain	iConnect	21 Mbps HSPA+	21 Mbps	5.8 Mbps	launched	
			21 Midps HSPAT			03.09.14	
214	Guatemala	Tigo	Launched August 29, 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
217	Guatemala	rigo	3.6 Mbps; later increased to 7.2 Mbps	21 Mbps	o.o mbps	launched	Ladiiolioa
			21 Mbps HSPA+ launched 05.01.12			05.01.12	
215	Guatemala	Claro	Launched April 16, 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
2.0	Guatomala	- Ciai C	21 Mbps HSPA+ launched November 23, 2011	21 11150	olo iliapo	launched	
						23.11.11	
216	Guatemala	Movistar	Launched August 11, 2009	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched December 2011		0.0	launched	
			_ :pe : .e. / :			Dec 2011	
217	Guernsey	JT (Guernsey	Launched September 2008E 1.8 Mbps, 3.6	42 Mbps	5.8 Mbps	42 Mbps	Launched
		Limited)	Mbps in Nov 2009, 14.4 Mbps from Feb 2011			launched	
		<i>'</i>	42 Mbps DC-HSPA+ launched May 10, 2012			10.05.12	
			including 5.8 Mbps HSUPA				
218	Guernsey	Airtel-Vodafone	Launched March 2008	1.8 Mbps			Launched
219	Guernsey	Sure Mobile	Launched November 16, 2009	7.2 Mbps			Launched
	•		Later upgraded to 7.2 Mbps				
220	Guinea	Cellcom Guinée	Launched January 20, 2012	42 Mbps	5.8 Mbps	42 Mbps	Launched
			42 Mbps DC-HSPA+ 10.12.13			launched	
						10.12.13	
221	Guinea	Orange Guinea	Launched December 2011	3.6 Mbps			Launched
			* speed subject to confirmation with operator				
222	Guinea	MTN (Areeba)	Launched March 2014	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+			launched	
			Launch date subject to confirmation			03.2014	
223	Guinea-	Orange	Launched May 12, 2015	21 Mbps	5.8 Mbps	21 Mbps	Launched
	Bisseau		21 Mbps HSPA+			launched	
		<del></del>	* speed subject to confirmation with operator			12.05.15	
224	Haiti	Digicel	Launched May 17, 2013	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+			launched	
005	11-10	Neterin	Lawrence Contember 7 0044	7.0.14	5 0 Min	17.05.13	
225	Haiti	Natcom	Launched September 7, 2011	7.2 Mbps	5.8 Mbps		
000	Handana.	Olama	Nationwide coverage achieved after one year	0.0.141			Laurahad
226	Honduras	Claro	Launched February 20, 2008	3.6 Mbps	5 0 Min	Od Mlessa	Launched
227	Honduras	Tigo	Launched September 2008	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched 24.01.12 initially in			launched	
220	Hana Kana	CmarTana	Tegucigalpa, San Pedro Sula and La Ceiba	42 Mbna	E O Mbno	24.01.12	
228	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 42 Mbps DC-HSPA+ launched Oct 2011			launched Oct 2011	
229	Hong Kong	CSL Limited	Launched Sept. 19, 2006	42 Mbps	5.8 Mbps	42 Mbps	Launched
223	Trong Rong	900/2100	21 Mbps HSPA+ launched 30.03.09.	42 Minha	o.o mbps	upgrade	
		(includes PCCW)	HSUPA launched end 2009.			launched	
		()	UMTS900 launched January 2010.			11.08.10	
			42 Mbps DC-HSPA+ network launched 11.08.10				
230	Hong Kong	3 HK	Launched December 4, 2006	42 Mbps	5.8 Mbps	42 Mbps	
	. 3		Later 7.2 Mbps, then 21 Mbps HSPA+ launch			upgrade	
			July 2009. HSUPA launched.			launched	
			42 Mbps DC-HSPA+ launched 02.05.12			02.05.12	
1			UMTS900 brought into service June 2011				
							_
231	Hungary	Telenor	Launched April 2007 7.2 Mbps then 14.4 Mbps	42 Mbps	5.8 Mbps	42 Mbps	Launched
231	Hungary	Telenor	Launched April 2007 7.2 Mbps then 14.4 Mbps 42 Mbps DC-HSPA+ launched 16.08.11	42 Mbps	5.8 Mbps	42 Mbps launched 16.08.11	Launched



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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
232	Hungary	T-Mobile/Magyar Telekom	Launched May 17, 2006 3.6 Mbps 7.2 Mbps from 17 Sep 07. 21 Mbps HSPA+ launched 31.05.11. 42 Mbps DC-HSPA+ launch 01.09.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 01.09.11	Launched
233	Hungary	Vodafone	Launched June 2007 upgraded to 7.2 Mbps Dec 2007. 21 Mbps HSPA+ launched Feb 4, 2010. 42 Mbps DC-HSPA+ launched 05.04.12 UMTS900 commercially launched March 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 05.04.12	Launched
234	Iceland	Siminn 900/2100	2100 MHz Launched September 2007 Initially 7.2 Mbps. UMTS 900 launched Oct 2, 2008. 42 Mbps DC-HSPA+ launched 05.08.13	42 Mbps	5.8 Mbps	42 Mbps launched 05.08.13	Launched
235	Iceland	Nova	Launched December 1, 2007 21 Mbps HSPA+ launched August 2013	21 Mbps		21 Mbps launched Aug 2013	
236	Iceland	Vodafone	Launched December 2007	7.2 Mbps			Launched
237	India	MTNL	Launched December 11, 2008  1.8 Mbps later upgraded to 14.4 Mbps * speed/ date subject to confirmation with operator	14.4 Mbps			Launched
238	India	BSNL	Launched February 27, 2009 3.6 Mbps later upgraded to 14.4 Mbps	14.4 Mbps			Launched
239	India	Vodafone	Launched March 1, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 01.03.11	Launched
240	India	Airtel	Launched January 24, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 24.01.11	Launched
241	India	Idea	Launched March 28, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 28.03.11	Launched
242	India	Aircel	Launched February 22, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 22.02.11	Launched
243	India	Tata DoCoMo	Launched November 5, 2010 21 Mbps HSPA+ at launch in 20 cities	21 Mbps	5.8 Mbps	21 Mbps launched 05.11.10	Launched
244	India	Reliance	Launched December 13, 2010 21 Mbps HSPA+ service from launch	21 Mbps		21 Mbps launched 13.12.10	Launched
245	Indonesia	PT Telkomsel	Launched April 2007 3.6 Mbps Speed evolved in phases 42 Mbps DC-HSPA+ launched – date TBC (to be confirmed)	42 Mbps	5.8 Mbps	42 Mbps upgrade launched date TBC	Launched
246	Indonesia	XL Axiata (ex Excelomindo)	Launched September 21, 2006 42 Mbps DC-HSPA+ launched in selected areas in 2013	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2013	Launched
247	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
248	Indonesia	Hutchison 3	Launched February 2010	1.8 Mbps			Launched
249	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
250	Iran	Tamin Telecom RighTel	Launched February 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched Feb 2012	
251	Iran	MTN Irancell	HSPA network in deployment				
252	Iraq	AsiaCell	Launched January 1, 2015 21 Mbps HSPA+	21 Mbps		21 Mbps launched 01.01.15	Launched
253	Iraq	Korek	Launched December 29, 2014  * speed subject to confirmation with operator	14.4 Mbps			Launched
254	Iraq	Zain	HSPA network in deployment				Launched
255	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



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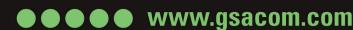
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
256	Ireland	Vodafone	Launched November 15, 2006 3.6 Mbps August 07; upgraded to 7.2 Mbps then 21 Mbps. 42 Mbps DC-HSPA+ launched 20.09.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 20.09.11	Launched
257	Ireland	Meteor	Launched March 4, 2009 14.4 Mbps 21 Mbps HSPA+ trial from end 2010	14.4 Mbps		Trial phase	Launched
258	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		
259	Isle of Man	Sure	Launched 2010	7.2 Mbps			Launched
260	Israel	Cellcom	Launched WCDMA-HSDPA June 2006 Deploying 42 Mbps DC-HSPA+ 3G network uses 2.1 GHz and 850 MHz bands Planning network evolution to support 84 Mbps	3.6 Mbps	Launched	In deployment	Launched
261	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	
262	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	
263	Israel	Golan Telecom	Launched May 14, 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 14.05.12	
264	Israel	Hot Mobile	Launched May 14, 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 14.05.12	
265	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
266	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	
267	Italy	TIM	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
268	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
269	Jamaica	Digicel (now owns Claro)	Launched December 2008 21 Mbps HSPA+ launched June 27, 2012	21 Mbps	5.8 Mbps	21 Mbps launched 27.06.12	Launched
270	Jamaica	LIME	Launched June 24, 2009 3.6 Mbps 21 Mbps HSPA launched 2012E	21 Mbps	11.5 Mbps	21 Mbps launched 2012E	Launched
271	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	
272	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		
273	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	
274	Jersey	Sure Mobile (C&W)	Launched December 2007: 3.6 Mbps peak initially, later 7.2 Mbps launched	7.2 Mbps			Launched
275	Jersey	JT Global	Launched September 2007 14.4 Mbps from January 14, 2011 42 Mbps DC-HSPA+ launched May 10, 2012 UMTS900 launched13.02.15	42 Mbps	5.8 Mbps	42 Mbps launched 10.05.12	Launched
276	Jersey	Airtel-Vodafone	Launched June 28, 2007 Later upgraded to 14.4 Mbps	14.4 Mbps			Launched
277	Jordan	Orange Jordan	Launched March 2010	21 Mbps		21 Mbps	Launched
			21 Mbps HSPA+ launched Q1 2011			launched Q1 2011	
						Q1 2011	



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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
278	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
279	Jordan	Umniah	Launched June 2012 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched June 2012	Launched
280	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
281	Kazakhstan	Beeline (Kar-Tel)	Launched December 2010	14.4 Mbps			Launched
282	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
283	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
284	Kenya	Airtel (ex Zain)	Launched February 24, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 24.02.12	Launched
285	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
286	Kiribati	TSKL	Launched October 29, 2013 7.2 Mbps * speed subject to confirmation by operator	7.2 Mbps			Launched
287	Kosovo	IPKO	Launched December 1, 2013 21 Mbps HSPA+ in 900 MHz (UMTS900)	21 Mbps	5.8 Mbps	21 Mbps launched 01.12.13	
288	Kuwait	Ooredoo	Launched February 2006 3.6 then 7.2 Mbps Upgrade to HSPA+ incl. UMTS900 in 2013	7.2 Mbps		In deployment	Launched
289	Kuwait	Zain (ex MTC Kuwait)	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
290	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
291	Kyrgyz Republic	Beeline	Launched December 1, 2010 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 01.12.10	Launched
292	Kyrgyz Republic	Megacom	Launched January 16, 2012 42 Mbps DC-HSPA launched November 2013	42 Mbps	5.8 Mbps	42 Mbps launched Nov 2013	Launched
293	Kyrgyz Republic	Kyrgyz Mobile Company	In June 2015 Megacom purchased 75% of the shares. The balance of shares is held by the government				
294	Laos	LaoTel	<b>Launched October 16, 2009</b> 3.6, then 7.2 then 14.4 Mbps	14.4 Mbps			Launched
295	Laos	Beeline Laos	Launched January 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched Jan 2012	Launched
296	Laos	ETL	Launched August 31, 2011	3.6 Mbps			
297	Laos	Unitel	Launched October 15, 2010	7.2 Mbps	2 Mbps		Launched
298	Latvia	Bite	Launched July 19, 2006 21 Mbps HSPA+ launched September 2010	21 Mbps	5.8 Mbps	21 Mbps launched Sep 2010	Launched
299	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

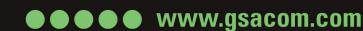




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300	Latvia	Tele2	Launched Q4 2006E	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Evolved to 21 Mbps in 2011 then 42 Mbps DC-		·	upgrade	
			HSPA+ in 2012			launched	
						2012	
301	Lebanon	Alfa	Launched October 25, 2011	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+			launched 25.10.11	
302	Lebanon	MTC Touch	Launched November 1, 2011	21 Mbps	5.8 Mbps	21 Mbps	
302	Lebanon	WITC TOUCH	21 Mbps HSPA+	21 Wibps	adam o.c	launched	
			21 Mbps 1101 A			01.11.11	
303	Lesotho	Vodacom	Launched May 2008	3.6 Mbps		•	Launched
304	Lesotho	Econet Telecom	Launched February 2011	7.2 Mbps			Launched
305	Liberia	Cellcom	Launched June 21, 2012	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Launched 21 Mbps		·	upgrade	
			42 Mbps DC-HSPA+ upgrade in May 2013			launched	
						May 2013	
306	Liberia	Novafone	Launched September 16, 2013	42 Mbps	5.8 Mbps	42 Mbps	
			42 Mbps DC-HSPA+			launched	
207	Lileren	Librara Mabile	Laurahad Cantamban 2000F	2 C Mbros		16.09.13	Launched
307	Libya	Libyana Mobile	Launched September 2009E Deploying 42 Mbps DC-HSPA+	3.6 Mbps			Launched
308	Libya	Al Madar	Deploying 42 Mbps DC-HSPA+		Deploying	In	Launched
300	Libya	Ai iviauai	Deploying 42 Mbps DC-113FA+		Deploying	deployment	Laurienca
309	Liechtenstein	Mobilkom FL1	Launched June 2007	1.8 Mbps	Deploying	acployment	Launched
303	Licontenstem	WODIKOIII I E1	Launched Julie 2007	1.0 mbps	Deploying		
310	Liechtenstein	Orange FL	Launched June 2007	3.6 Mbps			
311	Liechtenstein	Swisscom FL	In deployment	0.0			Launched
312	Lithuania	Bite	Launched June 7, 2006	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched September 2010			launched	
			42 Mbps DC-HSPA+ in testing phase			Sep 2010	
313	Lithuania	Omnitel	Launched June 9, 2006	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Upgraded to 21 Mbps HSPA+ 19.07.12			upgrade	
			Upgraded to 42 Mbps DC-HSPA+ March 2014			launched	
						Mar 2014	
314	Lithuania	Tele2	Launched 2010 7.2 Mbps now nationwide	21 Mbps	5.8 Mbps	21 Mbps	Launched
		900/2100	UMTS900 launched 2011E 21 Mbps HSPA+ launched Q1 2013			launched Q1 2013	
315	Luxembourg	POST	Launched May 5, 2007 later 7.2 Mbps	42 Mbps	5.8 Mbps	42 Mbps	Launched
313	Luxenibourg	F031	21 Mbps HSPA launched Q1 2010	42 MDp3	J.U MIDPS	upgrade	Ludiioilod
			42 Mbps DC-HSPA launched - date TBC			launched	
						date TBC	
316	Luxembourg	Orange	Launched June 1, 2007: 3.6 then 7.2 Mbps.	42 Mbps	5.8 Mbps	42 Mbps	Launched
			14.4 Mbps 6 Sept 2010.	•	•	launched	
			42 Mbps DC-HSPA+ (marketed as H+) launched			2012	
			in 2012; 70% of population covered by 31.12.12				
317	Luxembourg	Tango	Launched December 13, 2007	7.2 Mbps	5.8 Mbps		
0.10	••	0711					
318	Macau	СТМ	Launched June 2007 3.6 Mbps later 7.2 Mbps	7.2 Mbps		In	
240	Magari	2 Magazi	21 Mbps HSPA+ in deployment	21 Mbps		deployment	
319	Macau	3 Macau	Launched October 16 2007 21 Mbps HSPA+ launched mid-2011	ZT WIDDS		21 Mbps launched	
			42 Mbps DC-HSPA+ planned			mid-2011	
320	Macau	Smartone Macau	Launched July 2010	21 Mbps	5.8 Mbps	21 Mbps	
320		J JOHO Madaa	21 Mbps HSPA+ and 5.8 Mbps HSUPA	_ :550	0.0000	launched	
			,			July 2010	
321	Macedonia	One (ex Cosmofon)	Launched August 2008	3.6 Mbps			Launched
322	Macedonia	T-Mobile	Launched June 11, 2009	7.2 Mbps			Launched
323	Macedonia	VIP	Launched August 30, 2012	21 Mbps		21 Mbps	Launched
			21 Mbps HSPA+			launched	
			UMTS900			30.08.12	
324	Madagascar	Airtel	Launched July 19, 2012	21 Mbps		21 Mbps	Launched
			21 Mbps HSPA+			launched	
225	Madagagaga	Orango	Launched	42 Mbps	E O Mbss	19.07.12	
325	Madagascar	Orange	Launched Launch speed and date to be confirmed	42 Mbps	5.8 Mbps	42 Mbps launched	
			42 Mbps DC-HSPA+ launched May 2014			May 2012	
1		+		7.0.145		- May 2012	Launched
326	Madagascar	Telma Mohile	I alinched November 16 2009	/ 7 Winne			Launtinen
326	Madagascar	Telma Mobile	Launched November 16, 2009 Initially 3.6 Mbps, later 7.2 Mbps	7.2 Mbps			Lauricheu

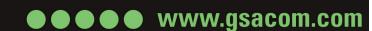




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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
327	Madeira	Optimus	Launched February 2006 1.8 Mbps Later upgraded to 14.4 Mbps & 2 Mbps HSUPA	14.4 Mbps	2 Mbps		Launched
328	Malawi	TNM	Launched December 2009	3.6 Mbps			Launched
329	Malawi	Airtel (ex-Zain)	Launched September 23, 2010 21 Mbps HSPA+ launched 20.07.12	21 Mbps		21 Mbps launched 20.07.12	Launched
330	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
331	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
332	Malaysia	DiGi 850 MHz	Launched March 19, 2009 21 Mbps HSPA+ deployed 2013	21 Mbps	5.8 Mbps	21 Mbps launched 2013	Launched
333	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	
334	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
335	Maldives	Dhiraagu	Launched May 17, 2010 HSPA+ launched 23.04.13	21 Mbps	5.8 Mbps	21 Mbps launched 23.04.13	Launched
336	Mali	Orange	Launched May 26, 2010	3.6 Mbps			Launched
337	Mali	MaliTel	Launched HSPA in 2012(E)  * speed subject to confirmation by operator	7.2 Mbps			Launched
338	Mali	Alpha Telecom	HSPA in deployment targeting service launch by end 2014				
339	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
340	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
341	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	
342	Martinique	Outremer Telecom	Launched December 16, 2008	7.2 Mbps			
343	Martinique	Digicel	Launched November 2010	7.2 Mbps			Launched
344	Mauritania	Orange	Launched 2009 21 Mbps HSPA+ launched 22.08.13	21 Mbps		21 Mbps launched 22.08.13	
345	Mauritania	Mattel	Launched 2011E * speed subject to confirmation by operator	3.6 Mbps			
346	Mauritius	Emtel	Launched 2007	3.6 Mbps			
347	Mauritius	Orange	Launched August 12, 2009	7.2 Mbps	1.8 Mbps		Launched
348	Mauritius	MTML	Launched 2013E * speed subject to confirmation by operator upgrading to 21 Mbps HSPA+	3.6 Mbps		In deployment	Launched
349	Mayotte	SFR Mayotte	Launched June 27, 2011 * speed subject to confirmation by operator	3.6 Mbps			Launched
350	Mayotte	Only (Outremer Telecom)	Launched 2012 * speed/date subject to confirmation by operator	3.6 Mbps			
351	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
352	Mexico	Movistar	Launched Q2 2007 21 Mbps HSPA+ launched 2011E	21 Mbps	5.8 Mbps	21 Mbps launched 2011E	Launched

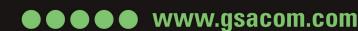




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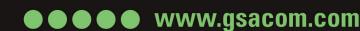
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
353	Mexico	Nextel	Launched September 25, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 25.09.12	
354	Mexico	lusacell	Launched November 15, 2010 21 Mbps HSPA+	21 Mbps		21 Mbps launched 15.11.10	
355	Moldova	Moldcell	Launched October 1, 2008 (Chişinău)	7.2 Mbps			Launched
356	Moldova	Orange	Launched November 1, 2008 7.2 Mbps, then 14.4 Mbps. 21 Mbps HSPA+ launched 21.12.09	21 Mbps	5.8 Mbps	21 Mbps launched 21.12.09	Launched
357	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	
358	Monaco	Monaco Telecom	Launched March 2009	7.2 Mbps			
359	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	
360	Mongolia	MobiCom	Launched April 2009	14.4 Mbps	5.8 Mbps		Launched
361	Mongolia	Skytel	Launched January 2010 21 Mbps HSPA+	21 Mbps		21 Mbps launched Jan 2010	
362	Mongolia	Unitel	Launched 2009 * speed subject to confirmation by operator	7.2 Mbps			Launched
363	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
364	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
365	Montenegro	m:tel	Launched July 9, 2007 21 Mbps HSPA+ launched 2011	21 Mbps	5.8 Mbps	21 Mbps launched 2011	Launched
366	Morocco	Inwi	Launched March 2014 21 Mbps HSPA+ in some cities	21 Mbps	2 Mbps	21 Mbps launched Mar 2014	
367	Morocco	Méditel	Launched April 18, 2007 Upgraded to 7.2 Mbps 21.11.08 14.4 Mbps launched in 2012	14.4 Mbps			Launched
368	Morocco	Maroc Telecom (IAM)	Launched January 16, 2008 Later upgraded to 7.2 Mbps & 14.4 Mbps (2013)	14.4 Mbps			Launched
369	Mozambique	Mcel 900/2100	Launched December 2008 Upgraded to 14.4 Mbps. UMTS900 & 2100 MHz	14.4 Mbps			Launched
370	Mozambique	Vodacom	Launched February 26, 2010	7.2 Mbps			Launched
371	Myanmar	MPT	Launched in 2014(E) 21 Mbps HSPA+ 900 MHz UMTS900 & 2.1 GHz 42 Mbps DC-HSPA+ launched 12.01.15	42 Mbps	5.8 Mbps	42 Mbps launched 12.01.15	Launched
372	Myanmar	Ooredoo	Launched on August 15, 2014 900 MHz (UMTS900) * speed subject to confirmation by operator	21 Mbps	5.8 Mbps	21 Mbps launched 15.08.14	
373	Myanmar	Telenor	Launched September 27, 2014 42 Mbps DC-HSPA+ launched Initially in Mandalay	42 Mbps	5.8 Mbps	42 Mbps launched 27.09.14	Launched
374	Namibia	MTC	Launched Dec 13, 2006 upgraded to 7.2 Mbps HSUPA launched in December 2009. 21 Mbps HSPA+ launched 06.12.13 for postpaid	21 Mbps	1.4 Mbps	21 Mbps launched 06.12.13	Launched
375	Namibia	TN Mobile	Launched April 9, 2008 21 Mbps HSPA+ launched in 2013	21 Mbps	5.8 Mbps	21 Mbps launched 2013	Launched
376	Nepal	Ncell	Launched September 15, 2010	3.6 Mbps	2 Mbps		Launched
377	Nepal	Nepal Telecom	Launched May 17, 2007	7.2 Mbps	2 Mbps		





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
378	Netherlands	T-Mobile	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 Deploying UMTS900 in 2013 and DC-HSPA+			2014E	
379	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 42 Mbps introduced mid-February 2013			launched Feb 2013	
			UMTS900 in service from Q3 2013.				
380	Netherlands	Vodafone	Launched July 2006 7.2 Mbps HSDPA and 1.4	42 Mbps	5.8 Mbps	42 Mbps	Launched
			Mbps HSUPA from January 25, 2009. 28 Mbps HSPA+ launched July 10, 2010			upgrade launched	
			42 Mbps DC-HSPA+ launched 07.02.13			07.02.13	
381	New Caledonia	OPT-NC	Launched August 16, 2011	14.4 Mbps	1.4 Mbps		Launched
382	New Zealand	900/2100 2degrees	900 MHz (UMTS900) & 2100 MHz spectrum  Launched August 3, 2010 Evolving to 14.4	42 Mbps	5.8 Mbps	42 Mbps	Launched
302	New Zealand	Zuegrees	Mbps. UMTS900 launched September 2011	42 Mbps	o.o wibps	launched	Launchea
			42 Mbps DC-HSPA+ from Sept 2012 including			Sept 2012	
202	New Zeeland	Vodafone	UMTS900 2100 MHz launched Oct 1, 2006	42 Mbms	E O Mbas	42 Mbms	
383	New Zealand	900/2100	UMTS900 also launched July 2008.	42 Mbps	5.8 Mbps	42 Mbps upgrade	
			21 Mbps HSPA+ launched July 2010.			launched	
			42 Mbps DC-HSPA+ launched 2011, targeting			2011	
384	New Zealand	Telecom NZ	70% pop coverage by April 2013  Launched May 29, 2009 UMTS850 "XT" 14.4	42 Mbps	5.8 Mbps	42 Mbps	
304	New Zealand	Telecolli 142	Mbps. 21 Mbps HSPA+ launched August 2010	42 Mbp3	equin o.o	upgrade	
			42 Mbps DC-HSPA+ launched 2012, in 50% of			launched	
385	Nicaragua	Claro	network by early 2013.  Launched April 18, 2008	21 Mbps	5.8 Mbps	2012 21 Mbps	Launched
303	Micaragua	Claro	21 Mbps HSPA+ launched May 4, 2012	21 Mbps	o.o wibps	launched	Launchea
						04.05.12	
386	Nicaragua	Movistar	Launched 2009E	7.2 Mbps			Launched
387	Niger	Airtel	Deploying HSPA				Launched
388	Niger	Orange	Launched 2011 * speed subject to confirmation with operator	3.6 Mbps			Launched
389	Nigeria	Airtel (ex-Zain)	Launched February 2009	42 Mbps	5.8 Mbps	42 Mbps	Launched
	· ·	,	42 Mbps DC-HSPA+ launched 29.02.12		·	launched	
390	Nigeria	MTN Nigeria	Launched December 2007	3.6 Mbps		29.02.12	Launched
390	Nigeria	WITH NIGETIA	Lauriched December 2007	3.0 Mbps			Launcheu
391	Nigeria	Globacom	Launched December 2007	7.2 Mbps			Launched
392	Nigeria	Etisalat (EMTS)	Upgraded to 7.2 Mbps 23.11.12  Launched September 26, 2011	42 Mbps	11.5 Mbps	42 Mbps	Launched
392	Nigeria	Elisaiat (EW13)	42 Mbps DC-HSPA+	42 Mbps	11.5 Mups	launched	Launcheu
			·			26.09.11	
393	North Korea	Koryolink	Launched December 15, 2008 * speed subject to confirmation with operator	3.6 Mbps			Launched
			speed subject to communation with operator				
394	Northern	DoCoMo Pacific	Launched July 10, 2014	7.2 Mbps			
	Mariana		10 sites in Saipan				
395	Islands (CNMI) Northern	IT&E	* speed subject to confirmation with operator  Launched July 14, 2014	21 Mbps	5.8 Mbps	21 Mbps	
555	Mariana	ITAL	21 Mbps HSPA+	21 mbps	o.o mbps	launched	
	Islands (CNMI)					14.07.14	
396	Northern Mariana	iConnect	Launched September 3, 2014 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched	
	Islands (CNMI)		Z1 Midpo FIOI A			03.09.14	
397	Norway	TeleNor	Launched November 2007	21 Mbps	5.8 Mbps	21 Mbps	Launched
			Upgraded to 14.4 Mbps. 21 Mbps HSPA+ in 2011. Deploying UMTS900 from Q2 2011			launched 2011	
398	Norway	Netcom AS	Launched April 18, 2007	42 Mbps	5.8 Mbps	42 Mbps	Launched
•			21 Mbps DC-HSPA+ / 5.8 Mbps HSUPA			upgrade	
			launched December 16, 2010. UMTS900			launched	
399	Norway	Tele2	launched August 2011. 42 Mbps in Spring 2013  Launched date September 2008 3.6 Mbps	21 Mbps	5.8 Mbps	2013 21 Mbps	Launched
555			Evolved to 7.2 Mbps. 21 Mbps/5.8 Mbps HSPA+	_ : mbps	C.O IIIDPO	launched	
			launched in some areas 19.02.11	1		2011	





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
400	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
401	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
402	Palau	PNCC / PalauCel	Launched February 2015  * speed subject to confirmation with operator UMTS900	7.2 Mbps			Launched
403	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
404	Pakistan	Ufone	Launched May 24, 2014 * speed subject to confirmation with operator	21 Mbps	5.8 Mbps	21 Mbps launched 24.05.14	Launched
405	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
406	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	
407	Panama	+Móvil (C and W)	Launched September 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched Sept 11	Launched
408	Panama	Claro	Launched March 13, 2009 21 Mbps HSPA+ launched July 2011	21 Mbps	5.8 Mbps	21 Mbps launched July 11	Launched
409	Panama	Digicel	Launched November 22, 2011 850 MHz 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 22.11.11	Launched
410	Panama	Movistar	Launched December 3, 2008	1.8 Mbps			Launched
411	Papua New Guinea	Digicel	Launched May 6, 2011 UMTS900	7.2 Mbps			Launched
412	Paraguay	Claro	Launched November 13, 2007 21 Mbps HSPA+ launched Nov 2011	21 Mbps		21 Mbps launched Nov 11	Launched
413	Paraguay	Personal	Launched 2008 3.6 Mbps 42 Mbps DC-HSPA+ launched February 2012	42 Mbps		42 Mbps launched Feb 2012	Launched
414	Paraguay	Tigo	Launched September 2008	3.6 Mbps			Launched
415	Paraguay	Vox/Copaco	Launched May 2012 21 Mbps HSPA+ launched (UMTS900)	21 Mbps		21 Mbps launched May 2012	Launched
416	Peru	Claro	Launched July 2007 21 Mbps HSPA+ launched 15.11.11	21 Mbps		21 Mbps launched 15.11.11	Launched
417	Peru	Movistar	Launched May 22, 2009 21 Mbps HSPA+ launched 18.11.11	21 Mbps		21 Mbps launched 18.11.11	Launched
418	Peru	Entel (ex Nextel)	Launched December 2009	1.8 Mbps			
419	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
420	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
421	Philippines	Sun Cellular	Launched September 2008 3.6 Mbps later 7.2 Mbps	7.2 Mbps			Launched
422	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	





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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
423	Poland	Aero2 (900 MHz)	Launched November 16, 2009 UMTS900	21 Mbps	5.8 Mbps	28 Mbps	
			21 Mbps HSPA+ upgrade launched 22.10.10			launched	
424	Poland	Polkomtel Plus	76% population covered by 22.12.11  Launched October 2006 3.6 Mbps from June	42 Mbps	5.8 Mbps	22.10.10 42 Mbps	Launched
424	Polatiu	900/2100	07; then 7.2 Mbps (60% territory covered).	42 Mbps	addin o.c	upgrade	Launcheu
			21 Mbps HSPA+ launched June 2009			launched	
			42 Mbps DC-HSPA+ launched 2010			2010	
425	Poland	T Mobile	UMTS900 launched December 2011 HSPA+  Launched October 2006 21 Mbps HSPA+ and	42 Mbps	5.8 Mbps	42 Mbps	Launched
723	1 Glaria	(PTC)	5.8 HSUPA launched in high demand areas	42 Mbp3	o.o iiibps	upgrade	
			15.09.09. Consolidating into network JV called			launched	
			NetWorkS! sharing 900, 2100 MHz spectrum. UMTS900 in large cities from 2013E			2011	
			42 Mbps DC-HSPA+ launched 2011				
426	Poland	Orange	Launched December 4, 2006 3.6 Mbps	42 Mbps	5.8 Mbps	42 Mbps	Launched
		(PTK Centertel)	7.2 Mbps from Oct 07 in major cities. HSUPA			launched	
			launched Dec 07. 42 Mbps DC-HSPA+ launched 10.10.10. Consolidating into network JV called			10.10.10	
			NetWorkS! sharing 900, 2100 MHz spectrum				
427	Poland	P4 (Play Mobile)	Launched March 16, 2007 later 7.2 Mbps	21 Mbps	5.8 Mbps	21 Mbps	
			21 Mbps+ UMTS900 launched January 24, 2011			launched	
428	Portugal	Nos	(82% pop covered by Q1 2013)  Launched April 5, 2006. 3.6 Mbps Oct 06	21 Mbps	5.8 Mbps	24.01.11 21 Mbps	Launched
720	Tortugal	1103	HSPA+ 64QAM launched in Lisbon and Porto on	21 mbps	o.o iiibps	launched	
			August 3, 2009. 42 Mbps DC-HSPA+ trial			03.08.09	
429	Portugal	Meo	completed March 2010  Launched April 2006 3.6 Mbps Oct 06 HSPA+	21 Mbps	5.8 Mbps	21 Mbps	Launched
429	Fortugal	Meo	64QAM launched on June 29, 2009	21 Mbps	5.0 Mups	launched	Launchea
			42 Mbps DC-HSPA+ deployed (not launched)			29.06.09	
430	Portugal	Vodafone	Launched March 2006 3.6 Mbps initially;	42 Mbps	5.8 Mbps	42 Mbps	Launched
			HSPA+ launched in Lisbon on June 26, 2009. 42 Mbps HSPA+ launched October 11, 2010			launched 11.10.10	
431	Puerto Rico	AT&T	Launched November 2006	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ launched February 15, 2011			launched	
432	Puerto Rico	Claro	Launched April 2008	21 Mbps	5.8 Mbps	15.02.11 21 Mbps	Launched
102	T derie Rice	Oldio	21 Mbps HSPA+ launched February 16, 2011	21 mbps	o.o mopo	launched	
						16.02.11	
433	Puerto Rico	T Mobile	Launched 2009 21 Mbps HSPA+ launched October 2010	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launched
			Upgraded to 42 Mbps DC-HSPA+ in some areas			launched	
						May 2011	
434	Qatar	Ooredoo	Launched July 2007 7.2 Mbps Nov 08, 14.4	21 Mbps	5.8 Mbps	21 Mbps	Launched
			Mbps Feb 2010. 21 Mbps HSPA+ 5.8 Mbps UL launched 08.08.10.			launched 08.08.10	
			42 Mbps DC-HSPA+ in deployment			00.00.10	
435	Qatar	Vodafone	Launched August 31, 2009	21 Mbps	5.8 Mbps	21 Mbps	Launched
			7.2 Mbps then 21 Mbps HSPA+ in 2011 (E)  * date subject to confirmation with operator			launched in 2011	
			UMTS900 introduced March 2011.			2011	
436	Réunion	Outremer Telecom	Launched December 16, 2008	7.2 Mbps			Launched
437	Réunion	SRR	Launched August 2008	7.2 Mbps			Launched
438	Réunion	Orange	Launched June 18, 2008	42 Mbps	5.8 Mbps	42 Mbps	Launched
			42 Mbps DC-HSPA+ launched covering 75% of	•		launched	
400	Domenia	Vadefana	population on 05.12.13	40 Mbma	E O Mboo	05.12.13	
439	Romania	Vodafone 2100/900	Launched May 2006 7.2 Mbps. 21 Mbps HSPA+ from September 3, 2009	42 Mbps	5.8 Mbps	42 Mbps upgrade	
		=	42 Mbps DC-HSPA+ in Bucharest July 9, 2012			launched	
4:0		<del>  </del>	UMTS900 launched nationwide April 2010	40.15		09.07.12	1
440	Romania	Orange Romania	Launched June 25, 2007 3.6 Mbps; 7.2 Mbps launched 01.10.07. 14.4 Mbps from 03.05.10.	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launched
			21 Mbps from 28.02.11. 42 Mbps DC-HSPA+			launched	
			launched 6.10.11 UMTS900 from 2011			06.10.11	
441	Romania	Cosmote	Launched May 19, 2008 7.2 Mbps. 21 Mbps	42 Mbps	5.8 Mbps	42 Mbps	Launched
			HSPA+ and 5.8 Mbps HSUPA launched 2.09.09. Limited UMTS900 deployment planned in 2014			upgrade launched	
			for roads coverage.			08.10.12	
			42 Mbps DC-HSPA+ launched 08.10.12				



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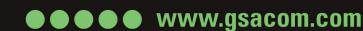
#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
442	Romania	RCS & RDS Digi	Launched September 2009	21 Mbps	5.8 Mbps	21 Mbps	
			7.2 Mbps later 14.4 Mbps 21 Mbps HSPA+ launched 09.03.15 UMTS900 launched 2014			launched 09.03.15	
443	Russia	Vimpelcom	Launched September 3, 2008 Up to 14.4 Mbps. 21 Mbps HSPA+ launched January 2012 42 Mbps introduced is selected cities from 2013 UMTS900 introduced January 2012	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 2013	Launched
444	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
445	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
446	Russia	Rostelecom	Launched November 22, 2012 via Baikalwestcom CJS (BWC) subsidiary 21 Mbps HSPA+	21 Mbps		21 Mbps launched 22.11.12	Launched
447	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
448	Rwanda	Airtel	Launched July 4, 2012 21 Mbps HSPA+ initially in Kigali	21 Mbps		21 Mbps launched 09.07.12	Launched
449	Rwanda	MTN	Launched 2008 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 2008	Launched
450	Rwanda	Tigo	Launched November 20, 2009	3.6 Mbps			Launched
451	Saba	UTS	Launched 2010E	3.6 Mbps			
452	Samoa	BlueSky	Launched December 15, 2011 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 15.12.11	Launched
453	Samoa	Digicel	Launched March 16, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 16.03.12	Launched
454	Sao Tome and Principe	CST	Launched March 14, 2012	14.4 Mbps			Launched
455	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
456	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
457	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
458	Senegal	Orange Senegal	Launched February 2011	7.2 Mbps	Testing		Launched
459	Senegal	Tigo	Launched September 2013 21 Mbps HSPA+	21 Mbps		21 Mbps launched Sept 2013	Launched
460	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
461	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
462	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



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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
463	Seychelles	Airtel	Launched March 2009	7.2 Mbps	2 Mbps		Launched
40.4	0'	Atatal	3.6 Mbps. Later 7.2 Mbps and HSUPA	44488555	5 0 Min -		Laurahad
464	Sierra Leone	Airtel	Launched February 2012 UMTS900	14.4 Mbps	5.8 Mbps		Launched
465	Singapore	M1	Launched December 6, 2006 10.8 Mbps peak	21 Mbps	5.8 Mbps	21 Mbps	
		900/2100	June 2007, later evolved to 21 Mbps HSPA+			launched	
			UMTS900 commercially launched 30.09.13,			3.10.09	
466	Singapore	SingTel	nationwide target 01.11.13  Launched May 24, 2007	42 Mbps	5.8 Mbps	42 Mbps	
	3.1.		42 Mbps DC-HSPA+ launched 23.04.13			upgrade	
			UMTS900 introduced in July 2013, rollout			launched	
467	Singapore	StarHub	continuing in 2014  Launched August 4, 2007	42 Mbps	5.8 Mbps	23.04.13 42 Mbps	Launched
407	Olligapore	Otarrido	21 Mbps HSPA+ launched 27.03.09	42 Mbp3	о.о нарз	upgrade	Ladiiolioa
			UMTS900 launched Nov 2012			launched	
400	0		42 Mbps DC-HSPA+ launched September 2012			Sept 2012	
468	Slovak Rep	Orange Slovensko	Launched August 23, 2006 42 Mbps DC-HSPA+ launched October 2011	42 Mbps	5.8 Mbps	42 Mbps launched	Launched
			UMTS900 used in 221 towns by end 2013			Oct 2011	
469	Slovak Rep	Slovak Telecom	Launched August 22, 2006	42 Mbps	5.8 Mbps	42 Mbps	Launched
			21 Mbps HSPA+ launched March 23, 2011			upgrade	
			HSUPA 5.8 Mbps and 42 Mbps DC-HSPA+ launched 19.10.11. Planning 84 Mbps trials			launched 19.10.11	
470	Slovak Rep	Telefonica o2	Launched July 18, 2011	14.4 Mbps	2 Mbps	13.10.11	Launched
	·		•	•	·		
471	Slovenia	Mobitel	Launched December 14, 2006 3.6 Mbps, then	42 Mbps	5.8 Mbps	42 Mbps	Launched
			7.2 Mbps. 21 Mbps HSPA+ from April 2010		-	upgrade	
			42 Mbps DC-HSPA+ launched May 2011			launched	
472	Slovenia	Si.mobil-Vodafone	Launched September 2007 3.6 Mbps	42 Mbps	5.8 Mbps	May 2011 42 Mbps	Launched
7,2	Giovenia	Oi.mobii Voudione	21 Mbps HSPA+ launched Dec 2, 2010	42 Mbp5	o.o mapo	upgrade	
			42 Mbps DC-HSPA+ launched 2H 2011			launched	
473	Slovenia	T-2	21 Mbps UMTS900 launched Oct 2011	7.2 Mbps	2 Mbno	2H 2011 In	
4/3	Siovenia	1-2	Launched June 1, 2008 42 Mbps/11 Mbps DC-HSPA+ in deployment	7.2 Wibps	2 Mbps	deployment	
474	Slovenia	Tušmobil	Launched June 2008 later upgraded to 7. 2	21 Mbps	5.8 Mbps	21 Mbps	Launched
		2100/900	Mbps. UMTS900 launched July 2010. HSPA+			launched	
475	Solomon	Our Telekom	21/5.8 in 900 MHz launched November 2010  Launched 2010 in Honiara & Auki	3.6 Mbps		Nov 2010	
4/3	Islands	(Breeze GSM)	Lauriched 2010 in Floridata & Auki	3.0 MDPS			
476	Somalia	Somtel	Launched July 2011	1.8 Mbps			Launched
477	0	T.1	* speed subject to confirmation with operator  Launched July 2011	4.0.885			
477	Somalia	Telesom	* speed subject to confirmation with operator	1.8 Mbps			
478	Somalia	Hormuud (Hortel)	Launched HSPA+ December 29, 2012	21 Mbps		21 Mbps	Launched
		, ,	Initially in Mogadishu			launched	
470	Cavella Africa	MINI	* speed subject to confirmation with operator	40 Mb = 5	E O Mhas	29.12.12	Launched
479	South Africa	MTN	Launched March 23, 2006 14.4 Mbps from Q2 2009. 21 Mbps HSPA+ launched early May	42 Mbps	5.8 Mbps	42 Mbps upgrade	Lauricheu
			2010. UMTS900 launched March 2010.			launched	
			42 Mbps DC-HSPA+ launched January 10, 2011			10.01.11	
480	South Africa	Vodacom	Launched March 2006 14.4 Mbps from April 2010, then 21 Mbps HSPA+. 42 Mbps DC-	42 Mbps	5.8 Mbps	42 Mbps upgrade	Launched
			HSPA+ (1000 sites) launched April 16, 2011			launched	
			900 MHz currently being trialled.			16.04.11	
481	South Africa	8ta/Telkom Mobile	Launched October 18, 2010	21 Mbps	5.8 Mbps	21 Mbps	
			7.2 Mbps HSDPA 2 Mbps HSUPA 21/5.8 Mbps HSPA+ launched June 26, 2011			launched 26.06.11	
482	South Africa	Cell C	Launched September 5, 2010	42 Mbps	5.8 Mbps	42 Mbps	Launched
			21 Mbps HSPA+ UMTS900. 42 Mbps DC-			upgrade	
			HSPA+ launched in Port Elisabeth April 19, 2011			launched	
483	South Korea	SK Telecom	80% of sites to support 42 Mbps by Nov 2015  Launched May 16, 2006 HSUPA evolved to 5.8	21 Mbps	5.8 Mbps	19.04.11 21 Mbps	
+03	Journ Roles	OK TeleCOM	Mbps. Then 14.4 Mbps HSDPA. 21 Mbps	Z I MINh2	o.o muha	launched	
			HSPA+ launched in Seoul, July 2010			July 2010	
484	South Korea	KT	Launched June 30, 2006 later 7.2 Mbps,	21 Mbps	5.8 Mbps	21 Mbps	
			HSUPA. 14.4 Mbps. HSPA+ launched Jan 2012			launched Jan 2012	
<u> </u>	<u> </u>	1	l	1		- Juli 2012	

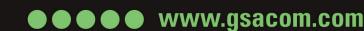




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#_	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
485	Spain	Movistar	Launched July 26, 2006 speeds evolved. 21	42 Mbps	11.5 Mbps	42 Mbps	Launched
			Mbps HSPA+ launched with EDGE 10.11.09.		-	upgrade	
			42 Mbps DC-HSPA+ launched October 2010			launched	
			Uplink evolved to 11.5 Mbps in 2011			Oct 2010	
			UMTS900 introduced 2H 2011				
486	Spain	Orange	Launched June 19, 2006	7.2 Mbps	Launched	. In	Launched
			HSUPA March 08. 7.2 Mbps HSDPA later.			deployment	
			Deploying 42 Mbps DC-HSPA+				
487	Spain	Vodafone	UMTS900 introduced 1H 2012  Launched June 21, 2006 21 Mbps HSPA+ and	42 Mbps	5.8 Mbps	42 Mbps	Launched
407	Spain	Vouaione	5.8 Mbps HSUPA launched Nov 2009.	42 Minhs	addin o.c	upgrade	Lauricheu
			42 Mbps DC-HSPA+ launched February 2011			launched	
			UMTS900 introduced 2H 2011			Feb 2011	
488	Spain	Yoigo	Launched October 1, 2008 initially 3.6 Mbps	21 Mbps		21 Mbps	
	opu		21 Mbps HSPA+ introduced in Feb 2012			launched	
						Feb 2012	
489	Sri Lanka	Dialog Axiata	Launched August 15, 2006	42 Mbps	5.8 Mbps	42 Mbps	Launched
			42 Mbps DC-HSPA commercial launch Apr 2011			launched	
						Apr 2011	
490	Sri Lanka	Mobitel M3	Launched December 2007	42 Mbps	5.8 Mbps	42 Mbps	Launched
			7.2 Mbps then 14.4 Mbps.	·	•	upgrade	
			42 DC-HSPA+ upgrade launched Dec 2012			launched	
						Dec 2012	
491	Sri Lanka	Etisalat	Launched January 21, 2011	42 Mbps	5.8 Mbps	42 Mbps	Launched
			28 Mbps HSPA+			upgrade	
			42 Mbps DC-HSPA+ launched May 2011,			launched	
			coverage now extended to whole 3G footprint			May 2011	
492	Sri Lanka	Airtel Lanka	Launched January 12, 2009	21 Mbps	2 Mbps	21 Mbps	
			21 Mbps HSPA+ launch confirmed 01.03.12			launched	
						01.03.12	
493	Sri Lanka	Hutch Lanka	Launched April 20, 2012	21 Mbps	5.8 Mbps	21 Mbps	
			21 Mbps HSPA+ network			launched	
						20.04.12	
494	St. Eustatius	UTS	Launched 2010E	3.6 Mbps			
495	St-Barthelemy	Orange Caraibe	Launched 2009E	3.6 Mbps			Launched
496	St-Martin	Orange Caraibe	Launched 2009E	3.6 Mbps			Launched
497	St-Martin	UTS	Launched 2010E	7.2 Mbps			
498	St. Kitts and	Digicel	Launched April 29, 2013	21 Mbps	5.8 Mbps	21 Mbps	Launched
	Nevis		21 Mbps HSPA+ Island-wide coverage at launch			launched	
100	0. 10.			04.881	44	29.04.13	Lavarabad
499	St. Kitts and	LIME	Launched October 26, 2012	21 Mbps	11.5 Mbps	21 Mbps	Launched
	Nevis		21 Mbps HSPA+			launched	
500	0.1.	B		04.50		26.10.12	Launched
500	St. Lucia	Digicel	Launched May 16, 2014	21 Mbps	5.8 Mbps	21 Mbps	Launched
			21 Mbps HSPA+			launched	
E04	Ct Luc!-	LIME	Launched July 11, 2013	24 145	44 E 88bms	16.05.14	Lourabed
501	St. Lucia	LIVIE		21 Mbps	11.5 Mbps	21 Mbps	Launched
			21 Mbps HSPA+ in 850 MHz band.			launched	
500	Sudan (North)	MTN	Launched 2010E	7.2 Mbps		11.07.13	Launched
502	Suuan (NORTH)	IVITIN	Launtheu 2010E	1.2 IVIOPS			Launched
502	Cudan (North)	Sudatal	Launched November 40, 2000	7.2 Mb==			+
503	Sudan (North)	Sudatel	Launched November 10, 2009 Launched 2008	7.2 Mbps		24 Mbss	Launched
504	Sudan (North)	Zain		21 Mbps		21 Mbps	Launched
			21 Mbps HSPA+ launched 2013E			launched	
505	Sudan (South)	MTN	Deploying 42 Mbps DC-HSPA+  Launched 2010E	7.2 Mbps		2013E	Launched
							Launthed
506	Sudan (South)	Sudatel	Launched November 10, 2009 Launched 2008	7.2 Mbps		24 Mbss	Launched
507	Sudan (South)	Zain	21 Mbps HSPA+ launched 2013E	21 Mbps		21 Mbps launched	Launthed
			Deploying 42 Mbps DC-HSPA+			2013E	
		1	Launched April 7 <sup>th</sup> , 2014	7.2 Mbps			Launched
500	Surinama	Digical		I I I IVIDUS			Launtheu
508	Suriname	Digicel					
508	Suriname	Digicel	850 MHz. Service branded as 4G				
			850 MHz. Service branded as 4G * speed subject to confirmation with operator	•			Launched
508	Suriname Suriname	Digicel	850 MHz. Service branded as 4G * speed subject to confirmation with operator  Launched June 2011	3.6 Mbps			Launched
509	Suriname	UNIQA	850 MHz. Service branded as 4G * speed subject to confirmation with operator  Launched June 2011  UMTS900	3.6 Mbps			
			850 MHz. Service branded as 4G * speed subject to confirmation with operator  Launched June 2011	•			Launched Launched

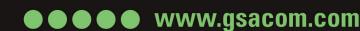




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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
511	Sweden	3 Sweden	Launched November 7, 2006 3.6 Mbps 21 Mbps HSPA+ some areas. 42 Mbps DC-HSPA+ launched May 2011 UMTS900-HSPA launched 25.05.11	42 Mbps	5.8 Mbps	42 Mbps upgrade launched May 2011	
512	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
513	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
514	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	
515	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
516	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
517	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
518	Syria	Syriatel	Launched August 2008 Later upgraded to 14.4 Mbps 21 Mbps HSPA launched 2013E	21 Mbps		21 Mbps launched 2013E	Launched
519	Syria	MTN	Launched 2008	3.6 Mbps			Launched
520	Taiwan	Taiwan Star / VIBO	Launched December 2006 up to 7.2 Mbps. 21 Mbps HSPA+ launched in 2012E	21 Mbps		21 Mbps launched 2012E	
521	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	
522	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	
523	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	
	Tajikistan	Tacom Beeline	Launched March 30, 2007	3.6 Mbps			
	Tajikistan	Indigo	Launched March 2010	14.4 Mbps	5 0 Mb	40 Mb	Launched
526	Tajikistan	Megafon	Launched 2009 14.4 Mbps 42 Mbps DC-HSPA launched in 2014E	42 Mbps	5.8 Mbps	42 Mbps launched 2014E	
527	Tajikistan	Babilon-Mobile	Launched 2008	7.2 Mbps			
528	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
529	Tanzania	Viettel	HSPA in deployment				
530	Tanzania	Vodacom	Launched February 23, 2007 21 Mbps HSPA+ upgrade launched date 2012E	21 Mbps	5.8 Mbps	21 Mbps launched 2012	Launched
531	Tanzaniia	Zantel	Launched June 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched June 2012	
532	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
533	Tanzania	Rural Telco	Launched March 2010 UMTS900	7.2 Mbps	1.4 Mbps		
534	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





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535	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. AlS plans to migrate all 3G users to 2.1 GHz	21 Mbps		21 Mbps launched July 2011 42 Mbps	Launched
536	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	launched 30.08.11	Launched
537	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	
538	Thailand	CAT Telecom	Launched 2014 DC-HSPA+ network joint venture with True Corp	42 Mbps	5.8 Mbps	42 Mbps launched 2014	
539	Togo	Togo Cellulaire	Launched December 15, 2011 * speed subject to confirmation with operator	21 Mbps		21 Mbps launched 15.12.11	Launched
540	Tonga	Digicel	Launched July 18, 2014  * speed subject to confirmation with operator	7.2 Mbps			
541	Trinidad and Tobago	Digicel	Launched May 16, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 16.05.12	Launched
542	Trinidad and Tobago	Bmobile / TSTT	Launched November 9, 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched 09.11.12	Launched
543	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
544	Tunisia	Tunisie Telecom	Launched August 8, 2011 42 Mbps DC-HSPA+	42 Mbps	5.8 Mbps	42 Mbps launched 08.08.11	Launched
545	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
546	Turkey	Avea	Launched July 30, 2009 21 Mbps HSPA+ 42 Mbps DC-HSPA+ upgrade launched 15.12.10	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 15.12.10	Launched
547	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
548	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 İstanbul and Trabzon	63 Mbps	11.5 Mbps	63 Mbps upgrade launched 25.12.14	Launched
549	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
550	Turks and Caicos Islands	LIME (includes Islandcom Wireless)	Launched June 2010 in 850 MHz band Launched 21 Mbps HSPA+ July 2012	21 Mbps		21 Mbps launched July 2012	
551	Turks and Caicos Islands	Digicel	Launched May 2013 21 Mbps HSPA	21 Mbps		21 Mbps launched May 2013	Launched
552	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



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#	Country	Operator	HSDPA network deployment status	HSDPA	HSUPA	HSPA+	EDGE
553	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
554	Uganda	Africell	Launched October 8, 2009 21 Mbps HSPA+ launched April 2012	21 Mbps	5.8 Mbps	21 Mbps launched April 2012	Launched
555	Uganda	UTL	Launched November 2007	1.8 Mbps		·	Launched
556	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
557	Uganda	Airtel (includes Warid)	Launched October 21, 2011 21 Mbps HSPA+ launched 13.08.12	21 Mbps	5.8 Mbps	21 Mbps launched 13.08.12	Launched
558	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	
559	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
560	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
561	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
562	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
563	Ukraine	Kyivstar	Launched June 8, 2015 42 Mbps DC-HSPA+ in Lviv initially 900 MHz (UMTS900) and 2.1 GHz bands	42 Mbps	5.8 Mbps	42 Mbps launched 08.06.15	Launched
564	Ukraine	3Mob (Ukrtelecom)	Launched November 1, 2007 Speed raised to 7.2 Mbps in April 2013	7.2 Mbps			Launched
565	Ukraine	MTS	Launched April 2015 Launched with national roaming on 3Mob. Upgraded to 42 Mbps DC-HSPA+ in Odessa on 22.09.15. Also planning UMTS900	42 Mbps	5.8 Mbps	42 Mbps upgrade launched 22.09.15	Launched
566	Ukraine	Life (Astelit)	Launched June 26, 2015 63.3 Mbps 3C HSPA+	63 Mbps	11.5 Mbps	63 Mbps upgrade launched 25.12.14	Launched
567	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
568	Uruguay	Movistar	Launched July 2007 21 Mbps HSPA+ launched November 2011	21 Mbps	5.8 Mbps	21 Mbps launched Nov 2011	Launched
569	Uruguay	Claro	Launched November 13, 2007 21 Mbps HSPA+ launched November 2011	21 Mbps	5.8 Mbps	21 Mbps launched Nov 2011	Launched
570	USA	Alaska Communications	Launched October 12, 2012 21 Mbps HSPA+	21 Mbps		21 Mbps launched 12.10.12	
571	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
572	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
573	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

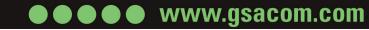




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574	USA	i wireless (T Mobile USA affiliate)	Launched October 1, 2010  * speed subject to confirmation with operator	7.2 Mbps			Launched
575	USA	T-Mobile	Launched May 5, 2008 21 Mbps HSPA+ launched Sept 2009. 42 Mbps DC-HSPA+ launched April 2011	42 Mbps	5.8 Mbps	42 Mbps upgrade launched April 2011	Launched
576	USA	Stelera Wireless	Launched Feb 8, 2008	7.2 Mbps	2 Mbps	·	
577	USA	TerreStar	Ancillary terrestrial component HSPA in deployment				
578	USA	BendBroadband	Launched December 15, 2009 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 15.12.09	
579	USA	Mosaic Telecom	Launched 2009 * speed subject to confirmation with operator	7.2 Mbps	2 Mbps		
580	Uzbekistan	Uzmobile	Launched April 15, 2015 21 Mbps HSPA+	21 Mbps		21 Mbps launched 15.04.15	Launched
581	Uzbekistan	Unitel/Beeline	Launched 2009 21 Mbps HSPA+ in deployment	3.6 Mbps		In deployment	Launched
582	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
583	Uzbekistan	Ucell	Launched February 28, 2009 42 Mbps DC-HSPA+ launched Feb 2011	42 Mbps	5.8 Mbps	42 Mbps launched Feb 2011	Launched
584	Vanuatu	Digicel	Launched December 7, 2011	7.2 Mbps	5.8 Mbps		Launched
585	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
586	Venezuela	Movilnet	Launched March 24, 2010	3.6 Mbps		2012	Launched
587	Venezuela	Movistar	Launched December 9 2008 HSUPA launched November 25, 2009	7.2 Mbps	2 Mbps		Launched
588	Vietnam	EVN Telecom	Launched June 2010 14.4 Mbps planned	7.2 Mbps			Launched
589	Vietnam	Vinaphone	Launched October 13, 2009 Initially 7.2 Mbps; 14.4 Mbps in 2010 21 Mbps HSPA+ launched in 2012 Trialling 42 Mbps DC-HSPA+ to deploy in 2015	21 Mbps	5.8 Mbps	21 Mbps launched 2012	Launched
590	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
591	Vietnam	S-Fone	CDMA operator planning HSPA in 850 MHz	04 141	5 0 Mb	04 Mb	Launched
592	Vietnam	Viettel/Metfone	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
593	Vietnam	Vietnamobile	Launched December 1, 2011 21 Mbps HSPA+	21 Mbps		21 Mbps launched 01.12.11	Launched
594	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
595	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
596	Zambia	Zamtel/Cell Z	Launched April 26, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 26.04.12	Launched
597	Zanzibar	Zantel	Launched May 5, 2012 21 Mbps HSPA+	21 Mbps	5.8 Mbps	21 Mbps launched 05.05.12	Launched
598	Zimbabwe	Econet Wireless	Launched August 28, 2009	1.8 Mbps			Launched
599	Zimbabwe	Telecel	Launched 2011 * speed subject to confirmation with operator	1.8 Mbps			Launched
600	Zimbabwe	NetOne	Launched 2011 * speed subject to confirmation with operator	1.8 Mbps			Launched





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#### **NOTES TO THIS REPORT**

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