

4G MARKET and TECHNOLOGY UPDATE

VoLTE global deployments

165 operators are investing in VoLTE in 73 countries including 102 operators with commercially launched VoLTE-HD voice service in 54 countries

Country	Operator	VoLTE status
Algeria	Algérie Télécom / Mobilis	Launched
Argentina	Movistar	Launched
Australia	Optus	Launched
Australia	Telstra	Launched
Australia	Vodafone	Launched
Austria	A1 Telekom	Launched
Bahrain	Batelco	Launched
Brazil	TIM Brasil	Launched
Cambodia	SEATEL	Launched
Canada	Bell Mobility	Launched
Canada	Eastlink	Launched
Canada	Rogers Wireless	Launched
Canada	Telus	Launched
China	China Mobile	Launched
China	China Unicom	Launched
Colombia	Movistar	Launched
Czech Republic	O2 CR	Launched
Czech Republic	T Mobile	Launched
Czech Republic	Vodafone	Launched
Denmark	TDC	Launched
Denmark	Telenor	Launched
Estonia	Telia	Launched
Finland	DNA	Launched
Finland	Elisa	Launched
France	Bouygues Telecom	Launched
France	Orange	Launched
Gabon	Gabon Telecom	Launched
Germany	DT	Launched
Germany	O2	Launched
Germany	Vodafone	Launched
Hong Kong	3 HK	Launched
Hong Kong	China Mobile HK	Launched
Hong Kong	CSL	Launched
Hong Kong	Smartone	Launched
India	Reliance Jio	Launched
Indonesia	Smartfren	Launched
Indonesia	XL Axiata	Launched
Italy	TIM	Launched
Italy	Vodafone	Launched
Japan	KDDI	Launched
Japan	NTT DoCoMo	Launched
Japan	Softbank	Launched
Kuwait	Viva	Launched
Kuwait	Zain	Launched
Liechtenstein	Swisscom	Launched
Lithuania	Omnitel	Launched
Macau	CTM	Launched
Malaysia	DiGi	Launched
Malaysia	YTL (Yes)	Launched
Netherlands	KPN	Launched
Netherlands	Tele2	Launched
Netherlands	Vodafone	Launched
Nigeria	Ntel	Launched
Nigeria	Smile	Launched
Norway	Telenor	Launched
Norway	Telia	Launched

Peru	Movistar	Launched
Poland	Orange Polska	Launched
Poland	T-Mobile	Launched
Portugal	Vodafone	Launched
Puerto Rico	AT&T Mobility	Launched
Qatar	Ooredoo	Launched
Romania	Orange	Launched
Romania	Vodafone	Launched
Russia	Beeline (Vimpelcom)	Launched
Russia	Megafon	Launched
Saudi Arabia	STC	Launched
Saudi Arabia	Zain	Launched
Singapore	M1	Launched
Singapore	SingTel	Launched
Singapore	StarHub	Launched
Slovakia	4ka (Swan Telecom)	Launched
South Africa	Vodacom	Launched
South Korea	KT	Launched
South Korea	LG Uplus	Launched
South Korea	SK Telecom	Launched
Spain	Orange	Launched
Spain	Vodafone	Launched
Sri Lanka	Dialog	Launched
Switzerland	Swisscom	Launched
Taiwan	Ambit Microsystems	Launched
Taiwan	Asia Pacific Telecom	Launched
Taiwan	FarEasTone	Launched
Taiwan	Taiwan Mobile	Launched
Taiwan	Taiwan Star	Launched
Tanzania	Smile	Launched
Thailand	AIS	Launched
Thailand	DTAC	Launched
Thailand	True Move	Launched
Turkey	Turkcell	Launched
Turkey	Turk Telecom	Launched
Turkey	Vodafone	Launched
Uganda	Smile	Launched
UAE	Etisalat	Launched
UK	3 UK	Launched
UK	EE	Launched
USA	AT&T Mobility	Launched
USA	Evolve Broadband	Launched
USA	KPU	Launched
USA	T-Mobile US	Launched
USA	Verizon Wireless	Launched
US Virgin Isles	AT&T Mobility	Launched
Algeria	Ooredoo	In deployment
Angola	Unitel	In deployment
Argentina	Personal	In deployment
Austria	T Mobile	Trialling
Belgium	Proximus	In deployment
Bulgaria	Mtel	Planned
Bulgaria	Max	In deployment
Cambodia	Chuan Wei Ltd	In deployment
Canada	Freedom Mobile	In deployment
Canada	Sasktel	In deployment
China	China Telecom	In deployment
Colombia	Avantel	In deployment
Denmark	3	In deployment
DRC	Smile	In deployment
Ecuador	CNT	In deployment
France	SFR	In deployment

French Polynesia	ORA (Viti)	Studying
Greece	Cosmote	Trialling
Greece	Vodafone	Trialled
Hungary	Telenor	Trialling
India	Bharti Airtel	Trialling
India	Videocon	Planned
Indonesia	Telkomsel	Trialled
Kazakhstan	Altel	In deployment
Kuwait	Ooredoo	Trialled
Lebanon	Alfa	In deployment
Macau	3Macau	In deployment
Mongolia	Unitel	In deployment
Myanmar	Telenor	Planned
Namibia	MTC	Planned
Netherlands	T-Mobile	In deployment
New Zealand	Spark	Trialling
New Zealand	Vodafone	Trialled
Norway	Ice.net	Trials planned
Poland	Polkomtel Plus	Trialled
Poland	Play P4	In deployment
Poland	Sferia	Planned
Russia	MOTIV	In deployment
Russia	MTS	In deployment
Saudi Arabia	Mobily	In deployment
Serbia	Vip Mobile	Trialled
Slovakia	Orange Slovensko	In deployment
Slovakia	Slovak Telekom	Trialling
Slovenia	Si.mobil	In deployment
Slovenia	Telekom Slovenije	In deployment
Spain	Telefonica Movistar	Trialling
Sri Lanka	Mobitel	Trialling
Sweden	3	User trial
Sweden	Tele2	In deployment
Sweden	Telenor	In deployment
Sweden	TeliaSonera	In deployment
Switzerland	Sunrise	In deployment
Tanzania	TTCL	In deployment
Taiwan	Asia Pacific Telecom	In deployment
Tokelau	Teletok	In deployment
UAE	Du	In deployment
UK	O2	In deployment
UK	Vodafone	In deployment
USA	C Spire	Planned
USA	US Cellular	In deployment
USA	Sprint	In deployment
USA	VTel	In deployment
Venezuela	Digitel	Testing

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 (rows in **RED TEXT** show launch updates applied in this report)

EVS (Enhanced Voice Service) Codec

The EVS codec was developed within 3GPP as part of Release 12 and offers HiFi call quality for speech and audio alike. EVS is the first 3GPP conversational codec offering up to 20 kHz audio bandwidth, delivering speech quality that matches other audio

input such as stored music. In addition, EVS increases call reliability and network efficiency due to its high robustness against packet loss.

http://www.3gpp.org/news-events/3gpp-news/1639-evs_news

EVS deployment status

Country	Operator	EVS status
Germany	Vodafone	Launched
Japan	NTT DoCoMo	Launched
USA	T-Mobile	Launched

The first mobile phones to support EVS include:

- Sony Xperia Xz
- Sony Xperia X Performance
- Samsung Galaxy S7 edge
- Sharp AQUOS Zeta

Although the EVS codec was developed in particular for LTE, it will bring benefits to any VoIP and CS system. The EVS codec is fully interoperable with HD Voice. EVS is the industry mandatory audio codec for superwideband transmissions via VoLTE. Read more about the EVS codec at:

<http://resources.alcatel-lucent.com/asset/200002>

<https://www.ericsson.com/res/docs/whitepapers/wp-evolved-hd-voice-for-lte.pdf>

ViLTE (Video over LTE)

ViLTE is “video over LTE” and is an extension of VoLTE, which enhances voice services with a high quality video channel. In order to deploy ViLTE, Voice over LTE (VoLTE) is required.

ViLTE deployment status (source: GSA)

Country	Operator	ViLTE status
Argentina	Movistar	Launched
Australia	Telstra	Launched
Brazil	TIM Brasil	Launched
Indonesia	Smartfren	Launched
Macau	CTM	Launched
Slovakia	4ka	Launched
Turkey	Turkcell	Launched
Argentina	Personal	In deployment
Czech Rep	T-Mobile	In deployment