

Vodafone Idea Ltd. joins ranks of EVS providers



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One of the world's largest mobile network providers uses technology from Fraunhofer IIS to upgrade their VoLTE services with the 3GPP communication codec Enhanced Voice Services (EVS).

Around the world, an estimated 6.95 billion people used mobile phones in 2020^[1]. Nearly 1.7 billion of them were served by the three largest Indian providers, with 284 million subscribers to Vodafone Idea alone. In their constant work to improve the quality of service provided to their customers, the carrier decided to team up with Fraunhofer IIS to introduce Enhanced Voice Services (EVS) in their Voice over LTE (VoLTE) network. With the advanced communication codec now functional in many areas of the country, the number of EVS calls is expected to rise steadily.

EVS: Improved call quality at lower bitrates

EVS noticeably improves the robustness and quality of mobile phone calls. In contrast to the Adaptive Multi-Rate (AMR) and AMR-Wideband codecs still widely used today, EVS enables the transmission of the full audible audio bandwidth. Its 16 kHz bandwidth ensures natural speech sound and excellent intelligibility. In areas with very high network utilization, where only low data rates can be used, EVS means that robust, high-quality voice services can be achieved. Especially for this purpose, the codec uses unique inherent robustness tools in combination with operation modes starting at data rates as low as 5.9 kbit/s. Of course, it also supports modes with transmission rates of 13.2 and 24.4 kbit/s. Like many mobile network operators, Vodafone Idea decided to use the 13.2 kbit/s rate in order to improve their voice services wherever possible while not raising their bandwidth requirements.

Robust connections between WiFi and Mobile networks

Another way EVS can benefit Vodafone Idea's customers is that it improves not only the robustness of transmission of mobile calls but also of those made via wireless internet connections (Voice over WiFi, VoWiFi). Vodafone Idea has also made its VoLTE and VoWiFi

networks interoperable for calls by connecting them to the same IP Multimedia Subsystem (IMS) core in each region. This can lead to improved call quality for connections between both networks and to a decreased load on congested mobile networks.

Collaborating to improve services

With more than 1 billion smartphone subscribers, the Indian mobile market is one of the largest in the world. It frequently faces congestion challenges due to a slowly growing infrastructure. Introducing smart technologies like EVS in the Indian mobile ecosystem is, therefore, imperative. Over the last years, Fraunhofer IIS was able to showcase the positive impact the EVS technology can have on the infrastructure capacity and assisted all major mobile operators, including Vodafone Idea, to implement solutions that result in high voice calling quality, greater cell size, higher robustness, and greatly improved reliability in VoLTE and VoWiFi calls for customers across India.

“We are excited that Vodafone Idea chose to use the EVS codec in their VoLTE networks. This means that they can now offer their VoLTE customers a significantly improved call quality at the same bitrate,” says Manfred Lutzky, Head of Audio for Communications department at Fraunhofer IIS. “We believe that this improvement will support the use of the VoLTE and VoWiFi infrastructure at its fullest capacity.”

[1] <https://www.statista.com/statistics/218984/number-of-global-mobile-users-since-2010/>

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