

3rd Generation Partnership Project (3GPP)

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About 3GPP

- 3rd Generation Partnership Project (3GPP) is a **collaborative project** aimed at developing globally acceptable specifications for **third generation (3G) mobile systems**.
- Established in 1997, the project was based on the Global System for Mobile Communications (GSM) specifications and the International Telecommunication Union's Mobile Telecommunications-2000 effort.
- The 3GPP caters to a large majority of the telecommunications networks in the world.
- It is the **standard body behind UMTS** (Universal Mobile Telecommunications System), which is the 3G upgrade of GSM. Most cellular networks on the planet are based on GSM.

Role of 3GPP

- 3GPP standards are geared towards mobile systems based on evolved GSM core networks as well as the radio access technologies they support, service capabilities and security.
- This includes the maintenance and development of the following:
 - 2G/2.5G standards, including General Packet Radio Service (GPRS) and Enhanced Data rates for GSM Evolution (EDGE)
 - 3G standards, including High Speed Packet Access (HSPA), Universal Terrestrial Radio Access (UTRA) and Japan's Freedom of Mobile Multimedia Access (FOMA)

- LTE, LTE-Advanced and 4G standards
- Next generation and 5G standards
- The **3GPP unites telecommunications standards organizations** around the world such as Japan's Association of Radio Industries and Businesses (ARIB), the Telecommunications Technology Committee (TTC), the China Communications Standards Association (CCSA), South Korea's Telecommunications Technology Association (TTA), the European Telecommunications Standards Institute (ETSI), and the Alliance for Telecommunications Industry Solutions (ATIS).

3GPP and 5G

- The 3GPP has begun outlining the **extensive specifications** required to design and build out a 5G network.
- In December 2017, the organization released specifications for building **non-standalone versions of 5G New Radio (NR)**, which is the backbone wireless standard for 5G. Following this, specifications for standalone 5G NR were produced.
- NR will initially expand and improve upon today's **LTE network** coverage, later building technology that relies on standalone versions of 5G NR that are wholly separate from **4G LTE networks**.