Glossary

Term	Description
3GPP (3rd Generation Partnership Project)	A project that was established to set third-generation (3G) mobile communications technology standards and LTE, LTE-Advanced (4G), and is now developing international standards for 5G.
5G New RAT (5G New Radio Access Technology)	A new wireless communications technology for use with 5G. It can handle ultra-high speed communications in excess of 10Gbps.
6G (Six Generation)	Sixth-generation mobile communications technology. The name given to next-generation mobile communications technology which is being researched in various countries with the aim of launching services around 2030.
AOC (Active Optical Cable)	A cable that combines optical fibers with an electrical signal connector that has an embedded optical-electric converter.
Beyond 5G	Mobile communications technology that will follow 5G. Essentially the same meaning as 6G.
Connectivity	A general term signifying connections between and among mobile devices and other equipment and devices. This term is used to distinguish Wi-Fi, Bluetooth, Near Field Communication (NFC), and other communication modes from cellular communications. In recent years, the use of connectivity has been expanded to include any connectable device, including automobiles, digital cameras, home appliances, game devices, and healthcare devices.
CPRI (Common Public Radio Interface)	An interface specification used to realize communication between Base-Band Units (BBU) and Remote Radio Heads (RRH) in systems where these are separated.
C-RAN (Centralized Radio Access Network)	A radio access network architecture. Each wireless base station is equipped with only Radio Transceiver Devices. Radio Control Units are clustered upstream within the network to form a "Housing station" where signals are processed.
Ethernet	The world's most-widespread Local Area Network (LAN) standard.
IoT (Internet of Things)	IoT not only allows computers and other communications devices to interact but also gives communications functions to manufacturing equipment in factories, appliances, and virtually anything else in the world around us. This enables these "things" to communicate when connected to the Internet and carry out tasks such as automated control and remote measurement.
LTE/LTE-A (Long Team Evolution/LTE-Advanced)	Fourth-generation (4G) mobile communications standards approved by the International Telecommunication Union (ITU). LTE is a high-speed mobile communications system that enables data communication at 5 to 10 times the speed of 3G. LTE-Advanced is a standard that has realized speeds faster than LTE through the use of new technology such as carrier aggregation. International standards are set by 3GPP.
Massive MIMO	A technology that realizes advanced beamforming and spatial multiplexing by incorporating as many as 128 antennas, which is a huge increase compared to previous technologies, and dedicating an individual radio signal path to each antenna. This enables the comfortable use of mobile communications in crowded areas, such as stations and downtown districts, which previously tended to experience lags in communication speeds.
MIMO (Multiple-Input and Multiple-Output)	A wireless communications technology that enables faster communications speeds by using multiple antennas at both the transmitter and receiver to transmit and receive data on the same frequency axis. One of the key technologies for LTE Advanced
NB-IoT (Narrow Band-IoT)	An IoT communications system that uses mobile phone networks and has been standardized as an LTE standard by 3GPP.
NFV (Network Functions Virtualization)	A way to manage network communications functions as software on a virtual server OS.
NSA-NR/SA-NR (Non-Standalone New Radio/ Standalone New Radio)	5G international standard specifications developed by 3GPP. NS-NR: An operating format that uses an existing LTE system to control data being sent through a 5G system. SA-NR: An operating format that controls every aspect of data communications through a 5G system on a stand-alone basis.
OSS (Operation Support System)	A name given to systems that support networks operated by telecommunications business operators and service providers that offer mobile phone and other communications services.
OTA (Over The Air)	Methods for testing wireless systems without using cables, used when testing mobile terminals.
OTN (Optical Transport Network)	An optical communications standard which enables WDM that was previously limited to one transmitter and one receiver to be used through a network. In addition to conventional telephone signals, it also enables signals such as IP and Ethernet to be processed in a unified manner.
PCI-E (Peripheral Component Interconnect Express)	An interface specification for PC expansion slots. It uses serial I/O interface standards set by Peripheral Component Interconnect Special Interest Group (PCI-SIG) in 2002. It is also referred to as PCIe and PCI Express.
SDH (Synchronous Digital Hierarchy)	International standards for signal multiplexing methods used in digital transmissions systems. These technologies enable low-speed signals, such as voice communications, to be multiplexed into and transmitted through predetermined high-speed signals.
SDN (Software Defined Network)	SDN is the name for technologies that enable structure, configuration, and settings of computer network to be altered in a flexible and dynamic manner by centrally controlling the communications devices that comprise the network through an individual piece of software.
Sub 6	The name used for bands of 6GHz or less when referring to frequency ranges used in 5G systems. These are low band compared to millimeter wave bands. In 5G standards, bands of 6GHz or less have been defined as FR1, while millimeter wave bands have been defined as FR2.
WDM (Wavelength Division Multiplexing)	An optical communications technology for transmitting large-capacity signals.
Small Cell	A type of base station for mobile communications that have lower output power and are used to cover smaller areas. They are receiving attention for their potential application in 5G systems, which use high-frequency ranges and therefore require base stations to be established in high concentrations.
Beamforming	A technique that combines and concentrates radio signals and beams them in a specified direction. This technique improves spatial multiplexing performance by avoiding mutual interference between simultaneous communications using the same frequency bands.