

# Glossary

---

## 4K/8K (Ultra HD)

Ultra-high definition broadcasts have even higher resolutions than HD formats. 4K (displays with a width of 3,840 pixels and a height of 2,160 pixels) offers four times the resolution of HD broadcasts and 8K (displays with a width of 7,680 pixels and a height of 4,320 pixels) offers 16 times the resolution.

---

## 5G (5th Generation Mobile Communication System)

Fifth generation mobile communication system that has been attracting attention as next-generation networks. "High speed and large capacity," "high reliability and low latency," and "multi simultaneous connectivity" are its features. It was fully launched in Japan in 2020.

---

## Average Monthly Contractor's Payment

This is the average monthly subscription fee and other fees paid by each contractor.

---

## Backhaul

Backhaul refers to a relay line or network of a communication carriers that connects access lines at the end with the central core communications network (backbone line).

---

## BCP (Business Continuity Plan)

A business continuity plan refers to a plan that companies and other organizations follow in the face of an emergency, such as a natural disaster, major fire, or terrorist attack, in order to minimize damage to business assets and enable the continuation or early recovery of core business operations. It sets out the activities to be carried out under normal circumstances as well as the methods and procedures for continuing business operations in an emergency.

---

## BS (Broadcasting Satellite)

Broadcasting satellites are an artificial satellite in the geostationary orbit designed and built for broadcast services, providing BS broadcasts.

---

## Beyond 5G/6G

Beyond 5G/6G refers to the next generation of wireless and wired networks after 5G to be developed by the 2030s. In 2020, Japan launched a study of this generation of networks beyond 5G known as "Beyond 5G" under the leadership of the Ministry of Internal Affairs and Communications.

---

## CS (Communications Satellite)

Communications satellites are an artificial satellite in the geostationary orbit designed and built mainly for communications services. In Japan, these satellites, like broadcasting satellites, have been in use for broadcast services since 1992. The Group uses communications satellites, JCSAT-3A (128 degrees east), JCSAT-4B (124 degrees east) and JCSAT-110A/JCSAT-110R (110 degrees east), for broadcast services.

---

## DTH (Direct To Home)

"Direct to home" refers to direct distribution of programs to households via satellite.

---

## Drone

A drone refers to a small unmanned aerial vehicle that can fly autonomously. Drones are used for a variety of purposes such as aerial picture taking, crop dusting, surveying, transportation, disaster response and relief, and more.

---

## FSS (Fixed Satellite Services)

Fixed satellite services is a term for satellite communications services that provide communications services mainly to fixed earth stations. On the other hand, satellite communications services that provide communications services mainly to mobile earth stations are called MSS (Mobile Satellite Services).

---

## Flexible Payload

Flexible payload refers to a next-generation digital satellite communications technology that enables in-orbit reconfiguration, such as flexible setting of the irradiation area by changing the beam shape, power control and redistribution, and bandwidth variations using a digital channelizer. The Group plans to launch Asia's first satellite equipped with flexible payload technology in fiscal 2024.

---

## FTTH (Fiber To The Home)

An access optical communications service that uses optical fiber as a transmission line to provide videos and Internet lines directly to homes.

---

## Geostationary Earth Orbit (GEO)

### Low Earth Orbit (LEO)

GEO is an orbital position of artificial satellites about 36,000 km above the equator. Since these satellites are synchronized with the Earth's rotation, artificial satellites in the GEO appear to be stationary when they are seen from the Earth. LEO is a low orbital position at an altitude of 2,000 km or less from the Earth's surface. Because the satellites are constantly moving above the Earth compared to geostationary satellites, a satellite constellation consisting of multiple satellites must be built to provide continuous communications services.

---

## HAPS (High Altitude Platform Station)

A high altitude platform station refers to a drone (unmanned communications base station) that enables the deployment of ultra-low latency, large-capacity communications platform services from the stratosphere 20 km above the ground. Winds are calm in the stratosphere throughout the year, making stable flight control possible. Research and development on the stratosphere is under way as a next-generation communications platform that allows for replacement and repair of equipment as well as relocation of service areas even after operations begin.

## Glossary

---

### HD (High Definition)

High definition broadcasts in Japan refers mainly to HDTV broadcasts for displays with a width of 1,920 pixels and a height of 1,080 pixels, or displays with a width of 1,440 pixels and a height of 1,080 pixels.

---

### HTS (High Throughput Satellite)

A high throughput satellite refers to a communications satellite that allows for high speed, large capacity services. It can provide around 10 times the throughput of a standard conventional communications satellite by using different frequencies for adjacent spot beams and reusing the same frequency for non-adjacent spot beams.

---

### OTT (Over The Top)

OTT is a collective term for services that distribute large-volume contents such as video over the Internet. Operators that provide video services directly to viewers by bypassing conventional communications infrastructure are called OTT service providers.

---

### Quantum Cryptography Technology

Quantum cryptography technology applies quantum mechanics, a science that illustrates the movement and behavior of minuscule substances such as light grains (photons), the smallest unit of light. This technology splits the encryption key, which is key to deciphering ciphers, encodes the bits of the key on individual photons, and sends them. This data is separate from the information that is encrypted and exchanged. It is a next-generation cryptography communication technology that ensures secure data communication.

---

### Right handed circular polarization / Left handed circular polarization

Polarization refers to the direction into which a signal is oscillating. Right handed circular polarization refers to a signal which oscillates in clockwise rotation, and left handed circular polarization refers to a signal that oscillates in counterclockwise rotation. By separating the polarization into right and left, a single frequency can be used as if there were two.

---

### SAC (Subscriber Acquisition Cost)

Subscriber acquisition cost is the costs to acquire new subscribers. It includes advertising cost, promotion and campaign costs, and the customer center operating cost.

---

### SAR (Synthetic Aperture Radar)

Synthetic aperture radar is mounted on an artificial satellite or aircraft and uses motion to act as a large virtual aperture (radar diameter). It utilizes technology that improves the resolution by repeating transmission and reception while moving in orbit and synthesizing the received waves. It is called "synthetic aperture" because a small aperture antenna is synthesized to realize a large aperture antenna.

---

### SDGs (Sustainable Development Goals)

The SDGs consist of 17 goals and 169 targets based on the current global issues. They refer to a set of common international rules to be voluntarily implemented by governments and companies across the world by 2030 and represent a culmination of rules for creating a sustainable society.

---

### Space integrated computing network

Space integrated computing network refers to an independent, carbon free, autonomous space communications network infrastructure, unaffected by disasters on Earth, which SKY Perfect JSAT Corporation and Nippon Telegraph and Telephone Corporation are developing to realize a sustainable society. The network aims to build an ultra low power consumption, ultra high speed communication, and highly secure network based on the three features of space sensing, space data center, and space RAN (Radio Access Network).

---

### Space Intelligence

A term coined by the Company. It refers to a new initiative to connect spaces and utilize various data acquired and collected from the spaces for the use, analysis, and provision of intelligence that people want to see and access.

---

### Space Debris

Space debris refers to unnecessary artificial objects orbiting the Earth's satellite orbit, such as artificial satellites that have stopped functioning after their service life or have become uncontrollable due to malfunctions, rocket components used for launches, fragments, and fine debris generated by collisions between debris. The space debris count has continued to rise every year as development and use of space enter into full swing, making remediation measures necessary. The Group is developing an approach that uses a laser to remotely irradiate space debris drifting in space and change its trajectory to enter the Earth's atmosphere.

---

### Transponder

The term transponder combines the words "transmitter" and "responder." In satellite communications, it is a general term referring to communications equipment that amplifies, converts, and transmits radio waves (electrical signals) received from the ground.

---

### Uplink/Downlink

An uplink refers to a transmission from ground stations to communications satellites, and a downlink refers to a transmission from communications satellites to ground stations.

---

### X-band

X-band is one of the bands of frequencies in the microwave spectrum, which is mainly used for military communications and radars, meteorological satellites, high-resolution precipitation radars, and synthetic aperture radars (SAR) for earth observation satellites.