



8K & Future Media

NHK initiated research on 8K ultra-high definition television (UHDTV) in 1995. Since then, considerable progress has been made on both device and system development for 8K. NHK has also held 8K public viewing events, conducted demonstrations, and made contributions to international standardization in collaboration with overseas organizations.

After two years of test satellite broadcasting of 4K/8K from 2016 to 2018, NHK finally started a 4K/8K Super Hi-Vision regular service on December 1, 2018 in Japan. Viewing 4K/8K channels in the home is expected to become widespread by around 2020. NHK will now proceed with R&D on technologies for advanced 8K and future broadcasting media.

World's first 8K channel launched — 8K Satellite Broadcasting System —

This exhibit introduces the 8K Super Hi-Vision satellite broadcasting system. The outside broadcasting vans, live production studio, post production rooms, master control room, satellite system, and 8K TVs are all designed for true 8K quality. Since the launch of 4K/8K satellite broadcasts on December 1, 2018, 8K programming (as well as 4K programming) has been delivered to the home in Japan for 12 hours a day (16 hours a day for 4K).

NHK
BS4K8K



— 8K Content Showcase —

You will experience 8K Super Hi-Vision programs with a 98-inch 8K display along with a 22.2 multichannel sound system. The content includes a drama, documentary, culture, music, and sports.



About NHK

Japan's only public broadcaster NHK (Japan Broadcasting Corporation) is leading the development of broadcast technologies, such as satellite broadcasting, HDTV, and UHDTV. For more details, please visit <https://www.nhk.or.jp/corporateinfo/>. To find out more about our R&D activities, visit the website of NHK Science & Technology Research Laboratories (STRL) at <https://www.nhk.or.jp/strl/index-e.html>

Advanced Terrestrial Broadcasting

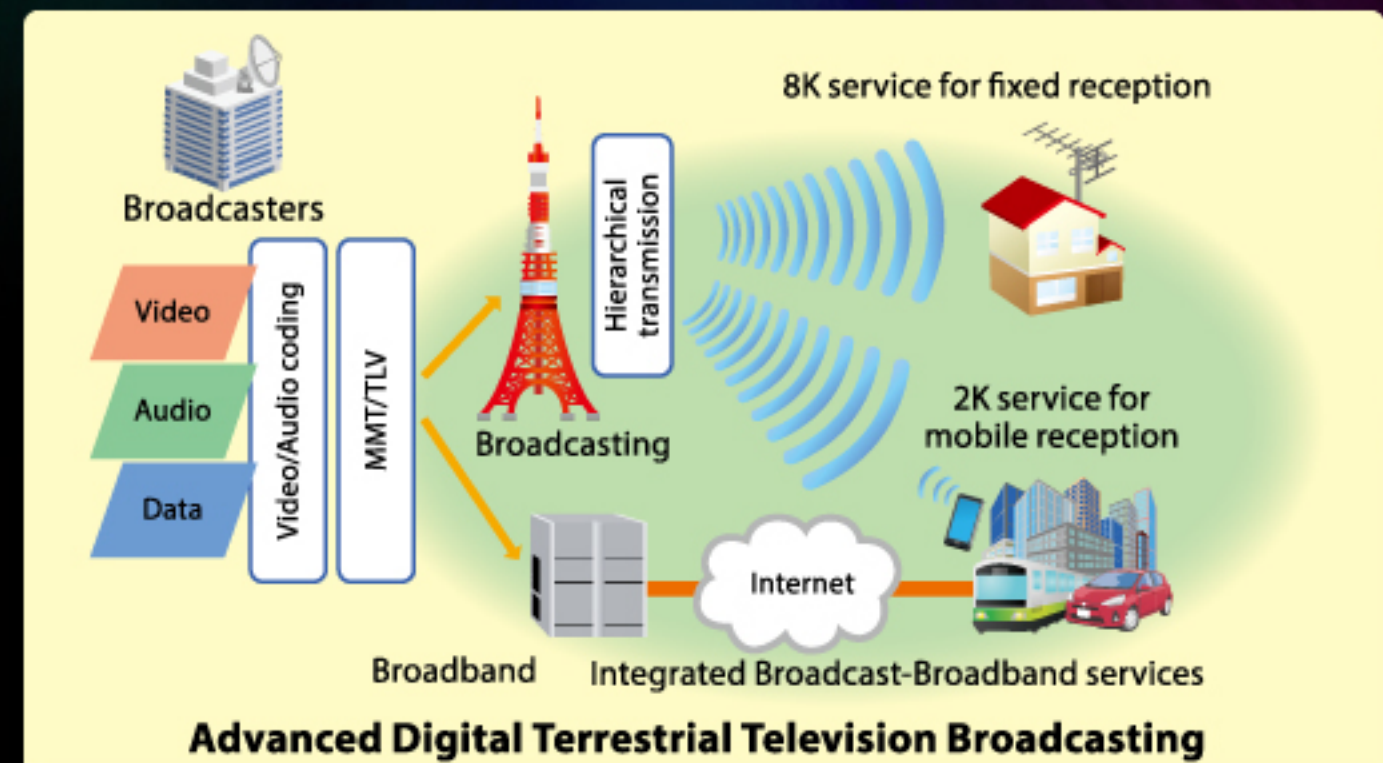
NHK is developing terrestrial broadcasting technologies for advanced ISDB-T*¹ that can provide UHDTV services. Field trials were conducted in large cities to test its transmission characteristics in urban, sub-urban, and rural areas. The hierarchical transmission, which is expected to provide not only an 8K service for fixed reception but also a 2K service for mobile reception, is one of the features implemented using the MMT/TLV*² multiplexing and transmission scheme.

*1 ISDB-T: Integrated Services Digital Broadcasting - Terrestrial

*2 MMT/TLV: MPEG Media Transport/Type Length Value

Versatile Video Coding (VVC)

To achieve UHDTV terrestrial broadcasting, NHK is participating in the development of VVC, which will be a video coding standard for the next generation of broadcasting and video distribution services, in the international organizations for standardization, MPEG and ITU-T. The goal is to complete standardization by July 2020 to improve coding efficiency by 30-50% compared to HEVC.



Integral 3D Display for Personal Use

NHK is conducting research on an integral 3D imaging system that makes it possible to view natural 3D images without using special glasses. To provide a service for viewing 3D videos on personal devices, we prototyped a system that tracks the viewer's eyes to display integral 3D images on a small display with high pixel density, achieving a wider viewing zone and higher quality 3D videos.



New Viewing Experience using AR Technology

NHK is researching a new TV viewing style utilizing AR/VR. This exhibit lets you experience "virtual space sharing" using AR technology by wearing a head-mounted display. "Virtual space sharing" is a possible future broadcast service in which TV performers, friends, and family members in remote places appear virtually in the same place around a TV set and share a context of TV program.



Equivalent Applications for Hybridcast and HbbTV 2

NHK is studying a technique to create equivalent applications that run on various Integrated Broadcast-Broadband (IBB) systems. This technique enables broadcasters to deploy their IBB services in wider areas in the world. This exhibit shows a prototype application development tool to create applications that have the same behavior on Hybridcast and HbbTV 2.



For full details, please visit our website

<https://www.nhk.or.jp/str/ibc2019/>

