

A satellite view of Earth from space, showing the curvature of the planet and several bright, curved tracks representing satellite orbits. The background is a deep blue and black space filled with stars and smaller satellite trails.

China's MSO and New Technique Deployment

Feng OUYANG, ABS, CHINA

2018-11-26

ABS - Academy of Broadcasting Science



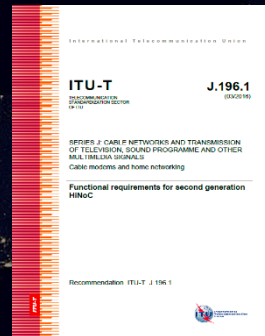
1958

ABS founded

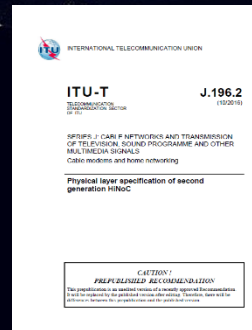


2012

J.HiNoC
J.195.1, J.195.2,
J.195.3

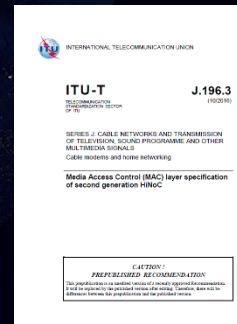


2014



2015

J.HiNoC2
J.196.1, J.196.2,
J.196.3



2016

J.C-DOCSIS
J.223.1, J.223.2



2018



Institutes: 7
Projects: 166



Cable Users



233,801,020

Cable TV users

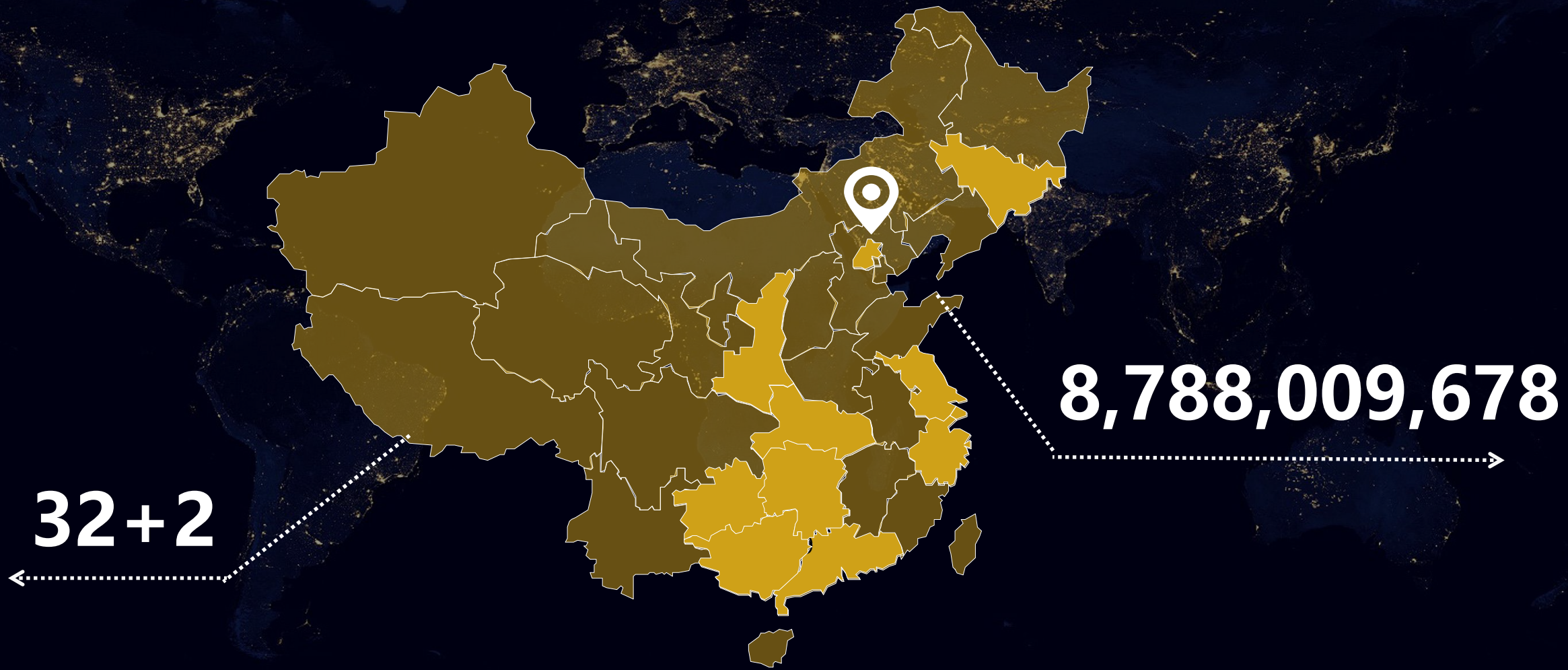
208,899,305

Cable digital TV users

149,503,560

Cable digital TV Payment users

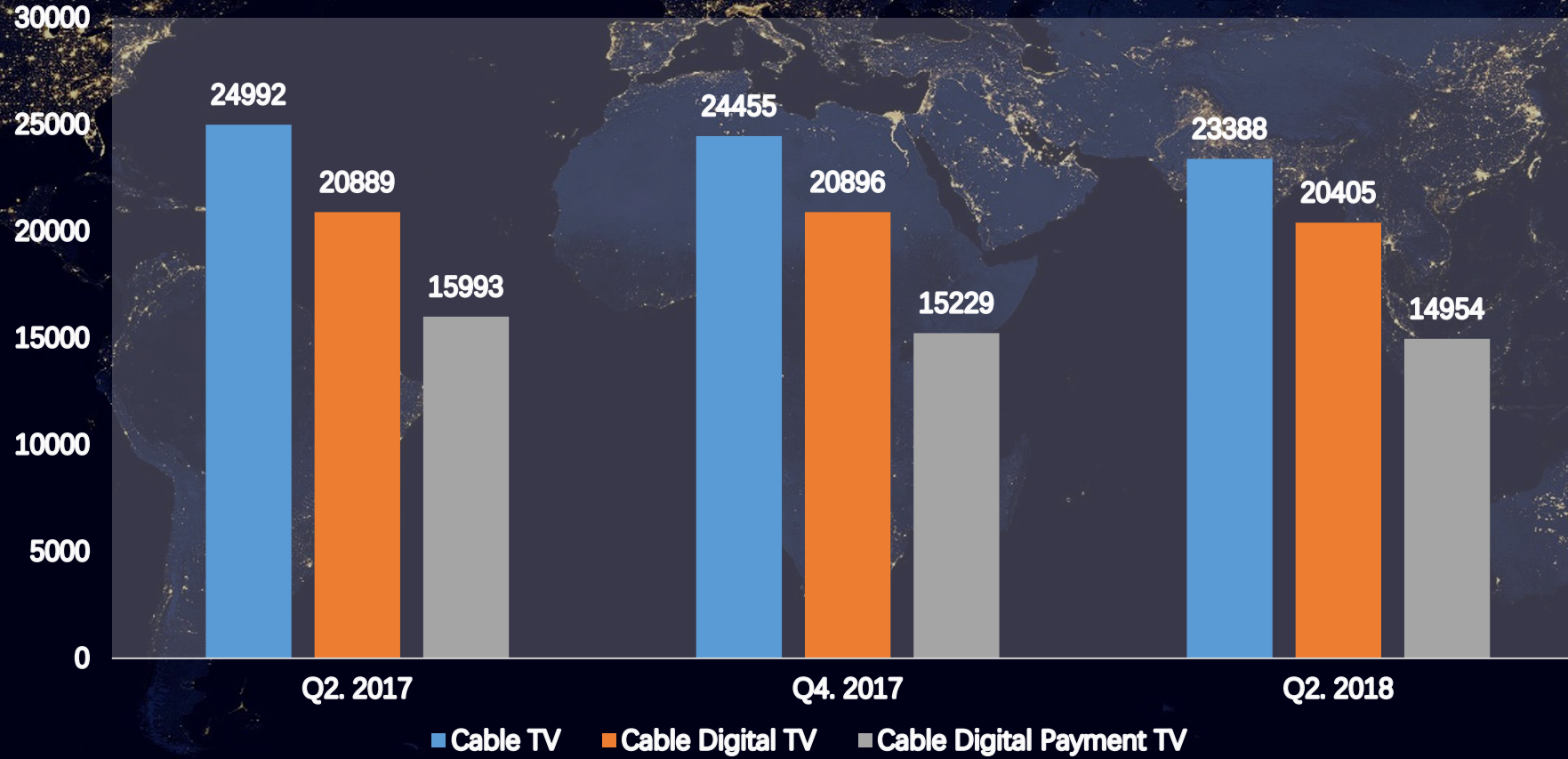
MSOs



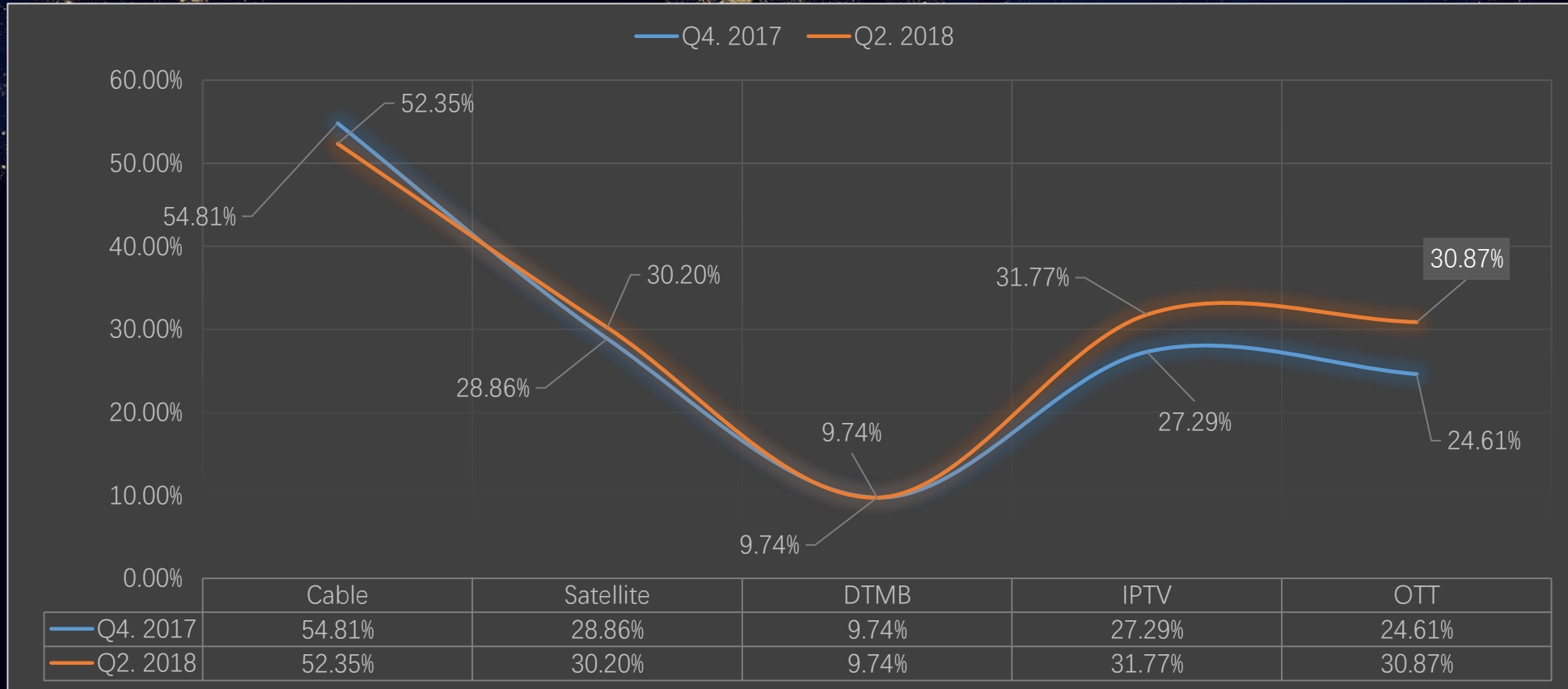
32+2

8,788,009,678

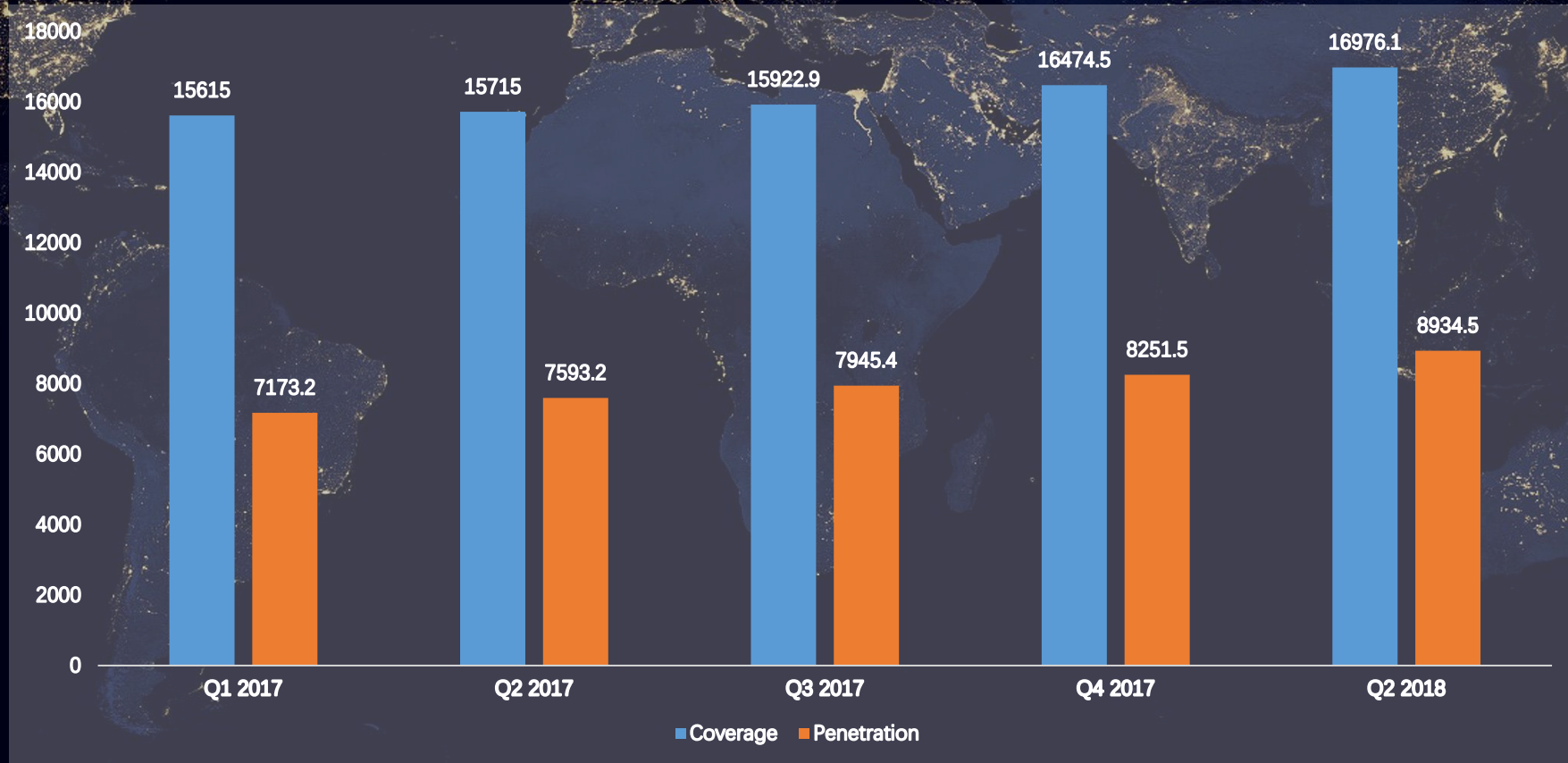
Subscribers



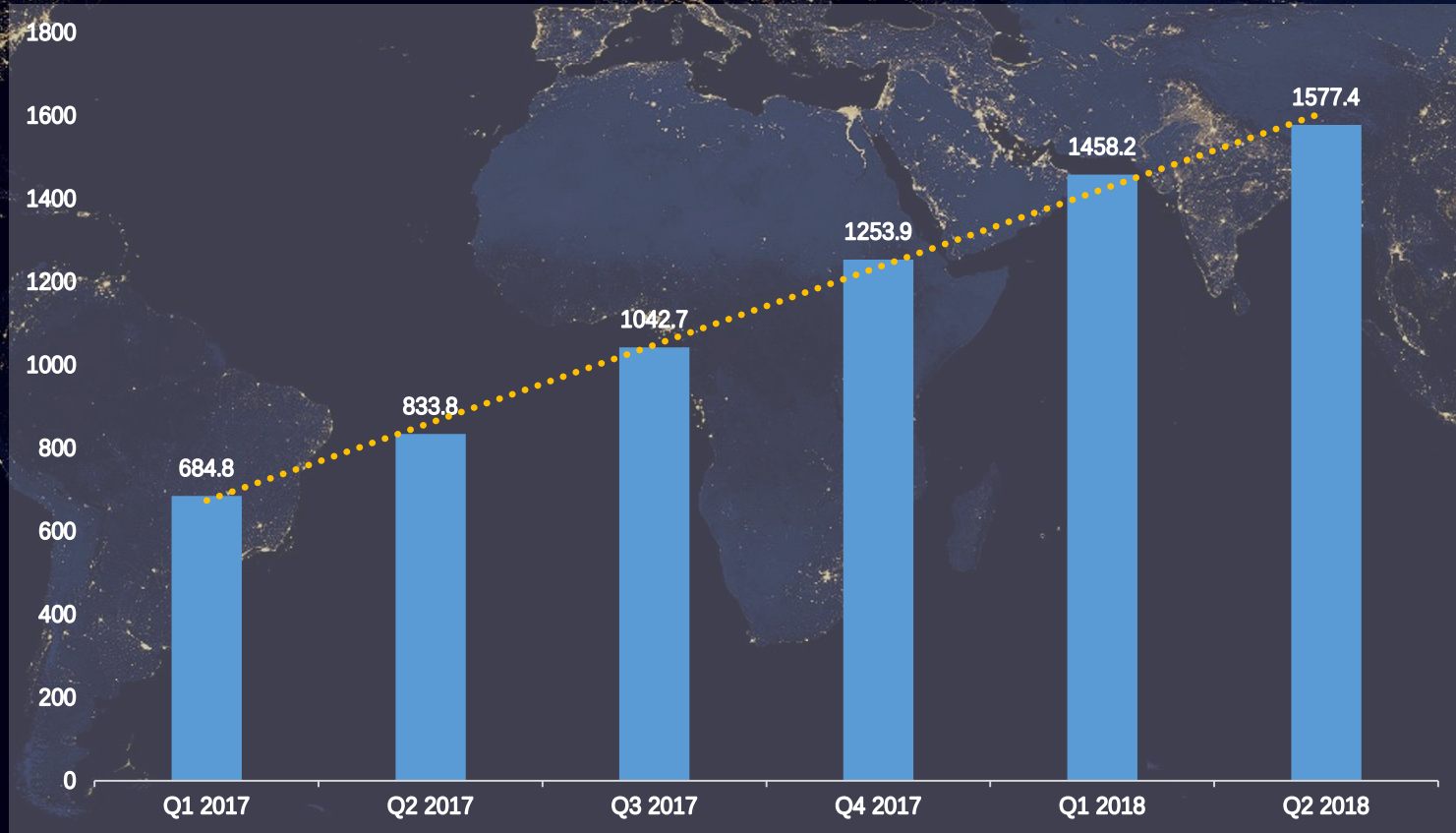
Viedeo Pattern



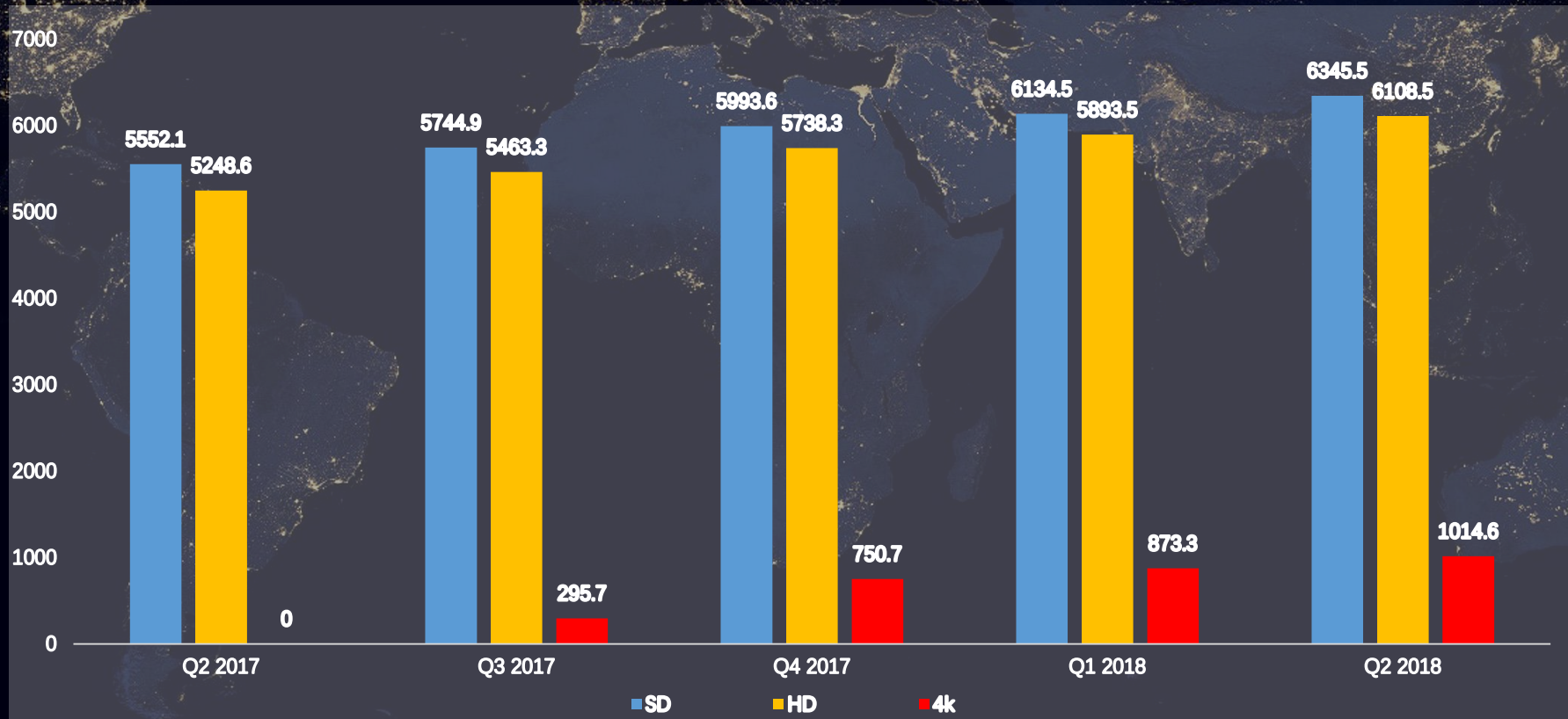
Broadband Networks



Smart Terminals



VOD Users





Internet Video users



Bandwidth growth: rigid demand

New business boosts the rapid growth of bandwidth demand



4K/8K TV



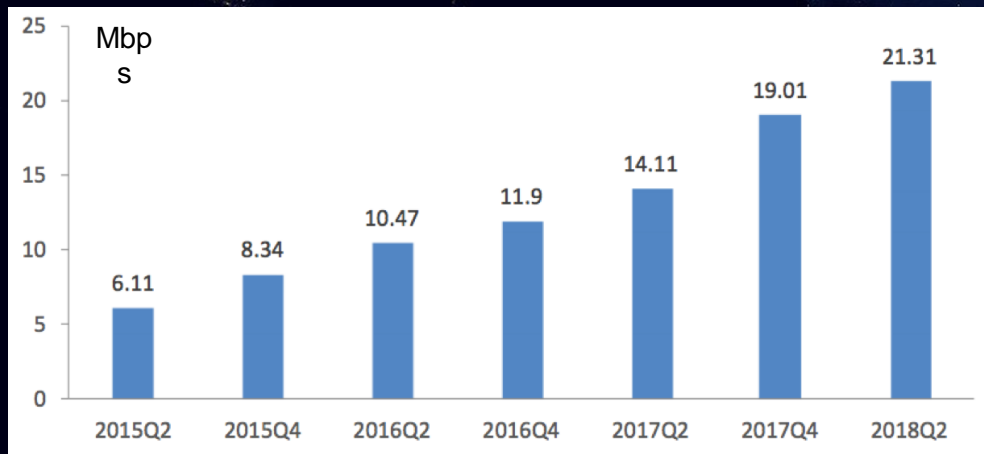
IoT, Smart Home



VR, AR



Cloud computing



Source:

Average available download rate of fixed network in China

Average annual growth rate: >50%

Requirement of access network

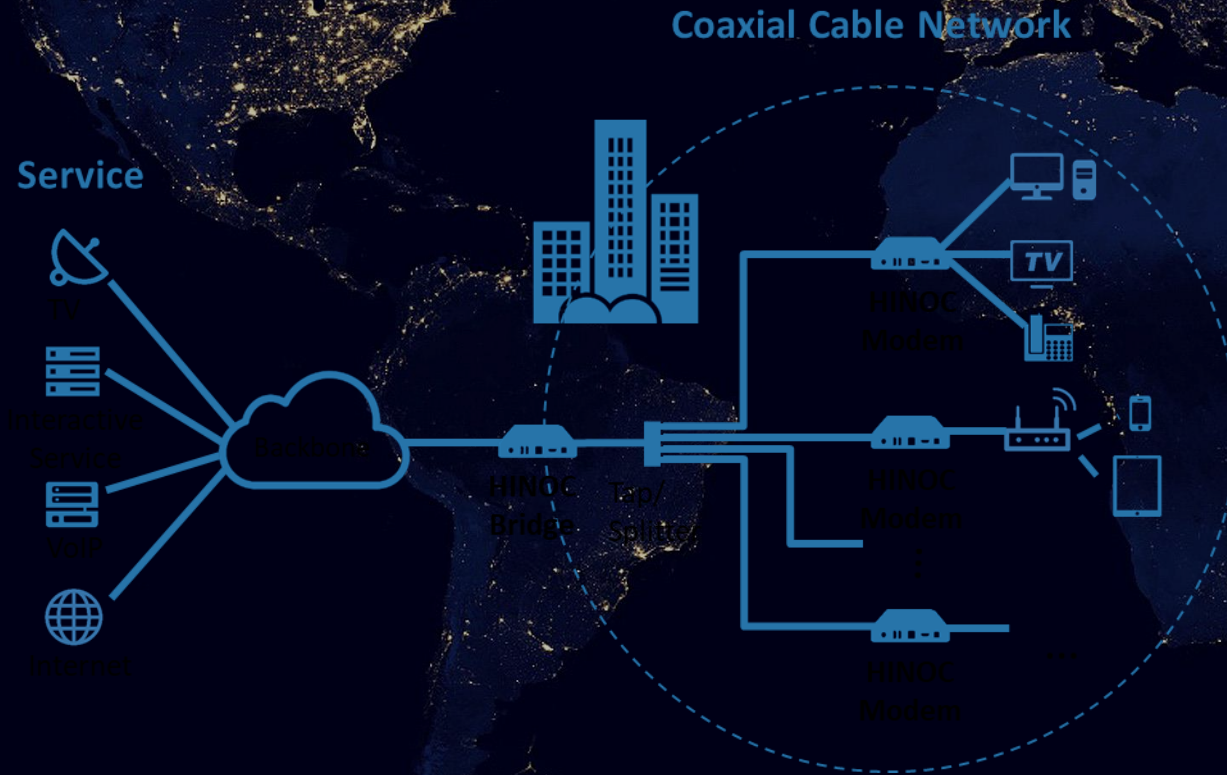
High bandwidth
Gigabit access capability

Low latency
End-to-end RTT < 20ms

Complete OAM
Excellent operation and maintenance system

Easy-to-install
Easy to deploy, lower cost

HINOC 2.0 — Gigabit broadband access



As a broadband access technology over coax, HINOC is designed to provide a high performance bi-directional data transmission over the 'last 100-meter' coaxial network.

The overall transmission paths between head-end and customers are realized by the HINOC system, which includes the HINOC Bridge (HB) at the head-end and HINOC Modem (HM) on the customer side.

HINOC 2.0 — Complete Industry Chain

Chip Manufacturing



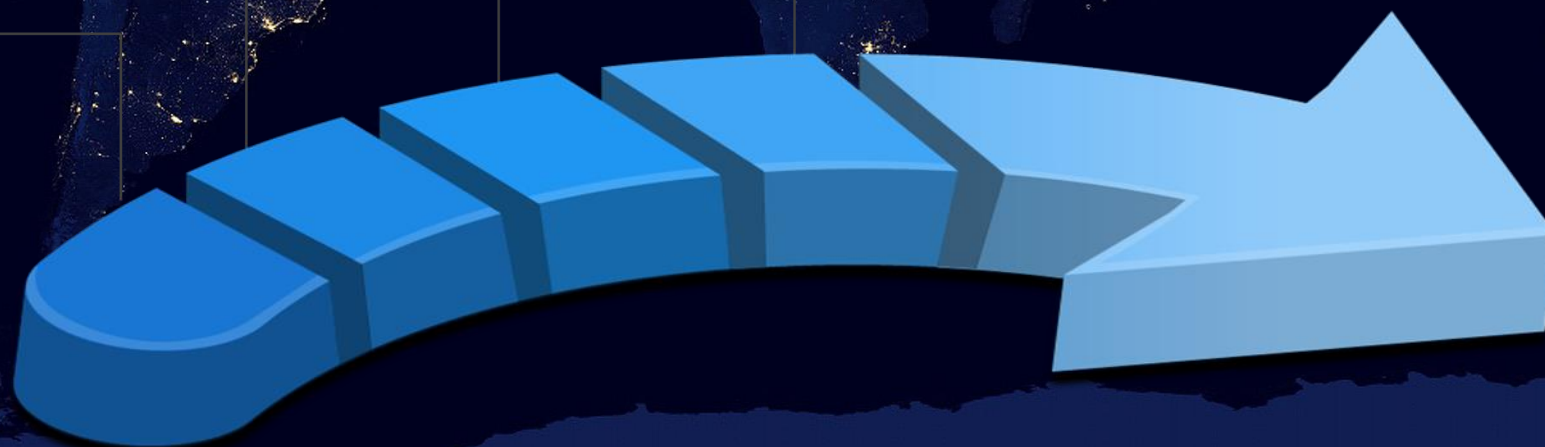
Standard, Chip and Solution



Equipment Producer

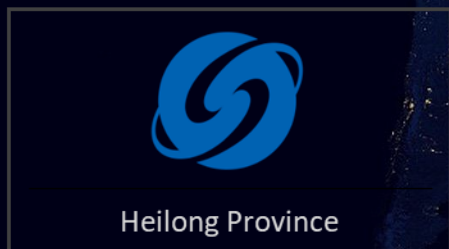


Operator



HINOC 2.0 — Deployment

HINOC technology and equipment receive recognition from authority agency and Operators



TVOS — Developing Process



TVOS — Ecosystem

Users

DVB STB users more than 8300000
OTT STB users more than 1120000
Smart TV users more than 2360000

Operators

Cable TV Network Companies in China

TV Apps

DVB VOD EPG VideoCall
CloudGames CloudVR

STB/TV

HUAWEI ZTE SKYWORTH
Hisense CHANGHONG

SOC vendors

Broadcom MSTAR
HiSilicon Zhaoxin

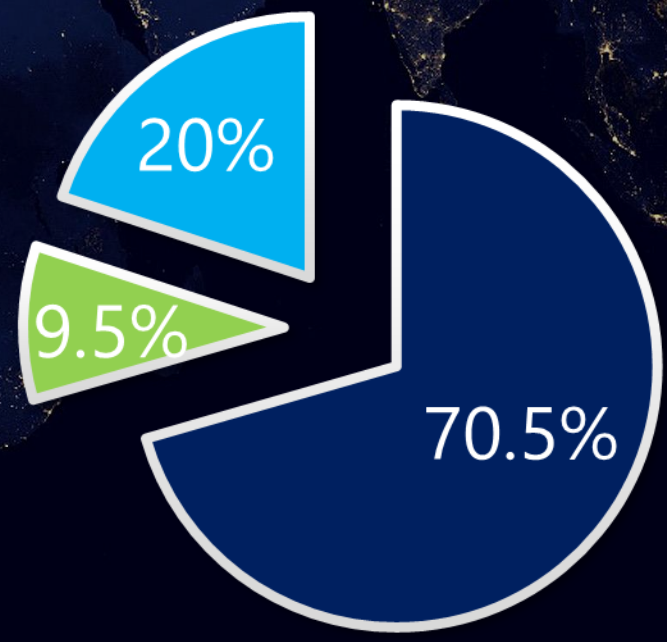
TVOS — Deployment

TVOS Industrialization Application is actively developing in China.
Up to now, The number of TVOS Smart Terminals deployments is as follows:

70.5% Smart DVB STB: 8,365,000

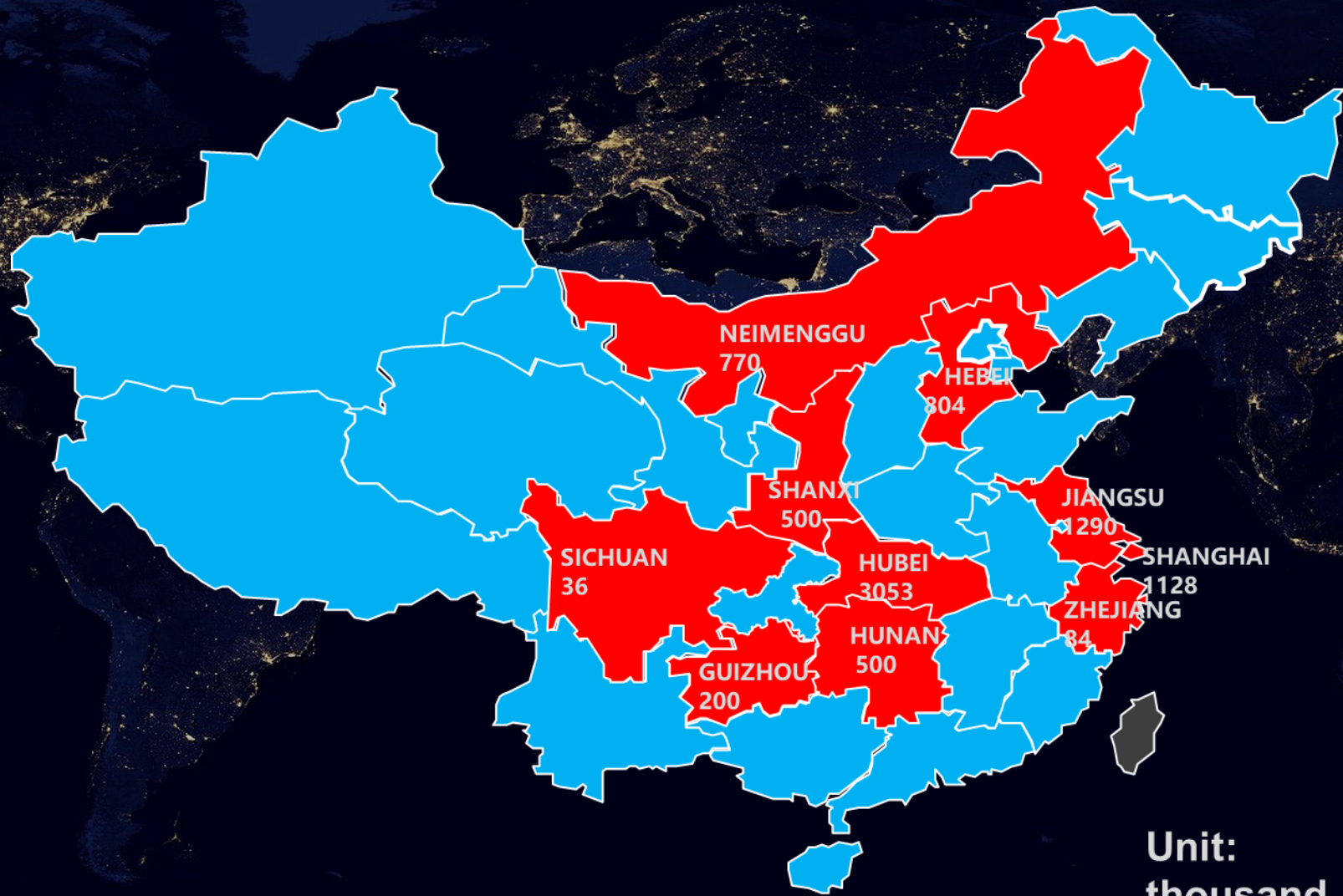
9.5% Smart OTT STB: 1,127,600

20% Smart TV: 2,366,100



■ DVB STB ■ OTT STB ■ Smart TV

TVOS — Deployment



A dark blue world map with glowing yellow city lights. The map is centered on the Atlantic Ocean, showing the continents of North America, South America, Europe, Africa, Asia, and Australia. The glowing lights represent major cities and urban areas across the globe.

Thank you