The developing trends of Vehicular multimedia industry
and
Reflection on business side

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Focus Group on Vehicular Multimedia

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Four key factor driving the development of Vehicle manufacture industry

Intelligence

Connected

Sharing

E-Power

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Revolution

Connected

Multi-screen

Intelligence
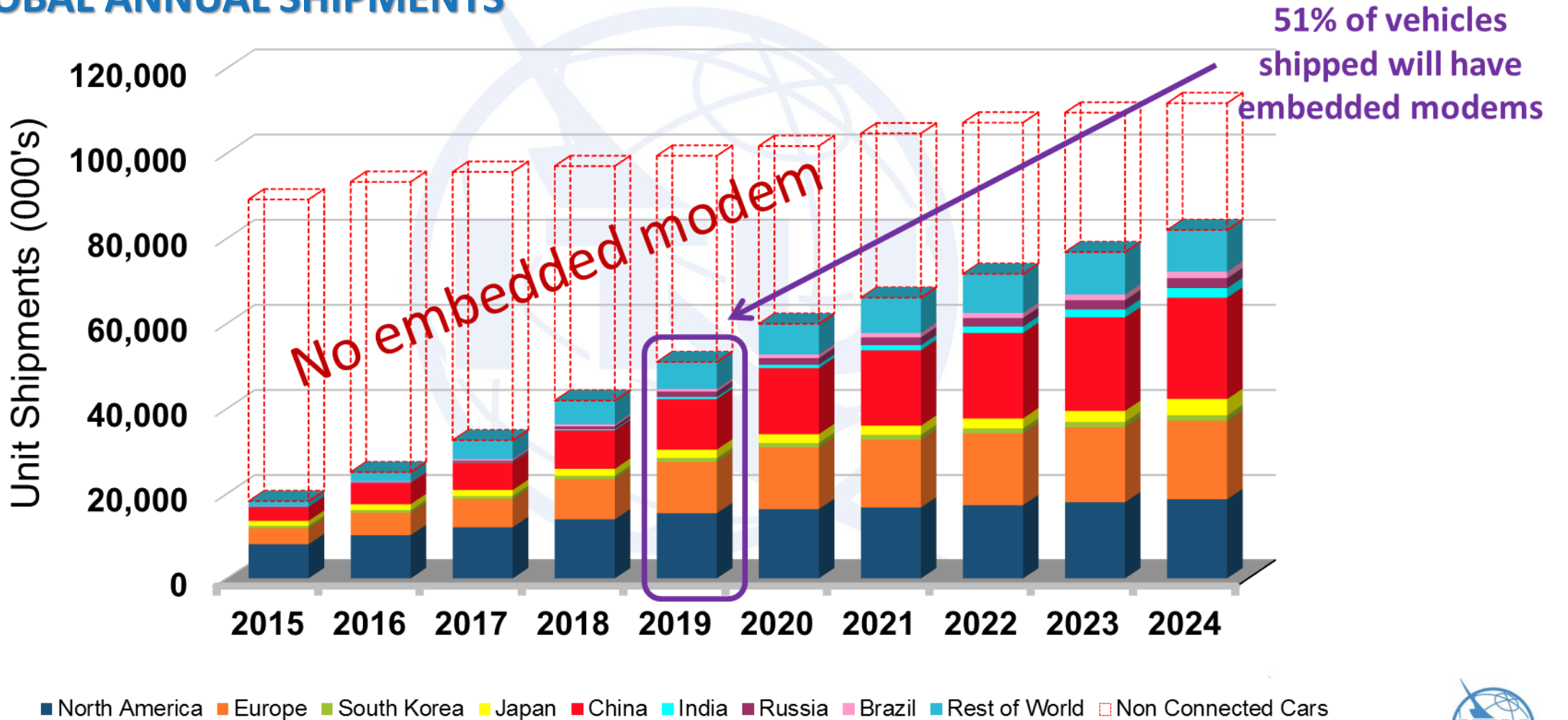
Multimedia

Sharing

No-App

AUTOMOTIVE EMBEDDED MODEMS
GLOBAL ANNUAL SHIPMENTS

Concept of Development

Standalone

Independent function
No information interaction
Simple HMI

Interconnected

Multifunction display
Information interaction
Complicated HMI

Integration

Large screen display
Mass information integration
Comfortable HMI

Based on mobile internet interactive、 big data、 man-machine interaction（Voice，gesture control etc.）

User portrait，consumer behavior analysis，intelligence engine etc.

Satisfied various and diversify user`s demand.

Multimedia

The evolution of the interior

Previous

FM/AM

Current

Multimedia

**Sharing
in-vehicle
space**

**Independent and personal
GIS+ID
Management System**

Car-Sharing
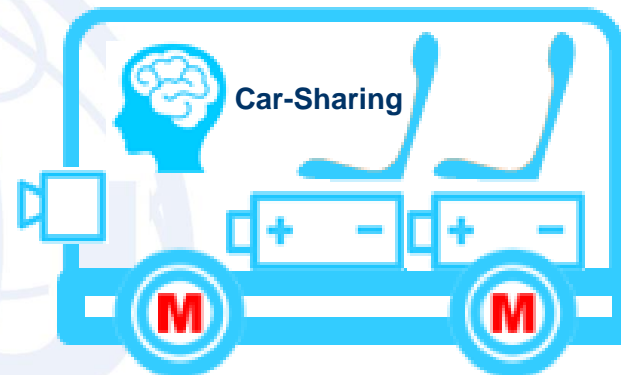
THE CAR IS NOT A SMARTPHONE...

Service platform

Overall requirements for the multimedia system in vehicles, in the future

connectivity
- multiple channels
- multiple terminals

content
- diversify
- fusion
- intelligence

HMI
- intelligence
- multiple carriers

management
- user-ID
- standardization of copyright
- authority management

security
- personal information
- driving safety

experience
- cross-network and multi-screen
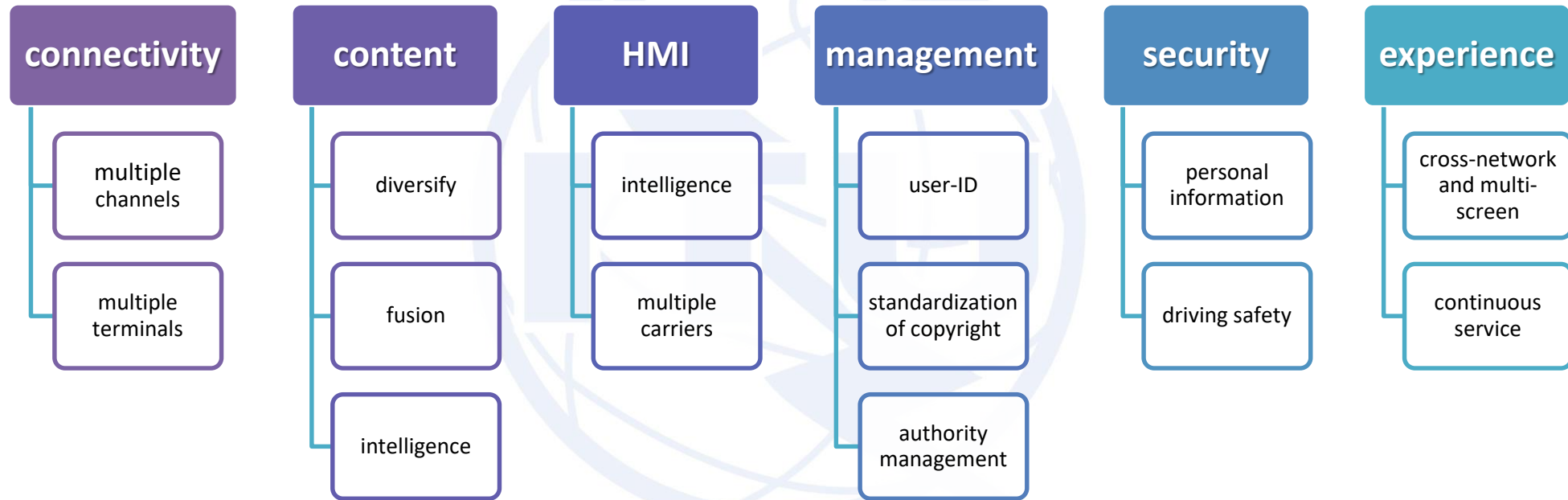- continuous service

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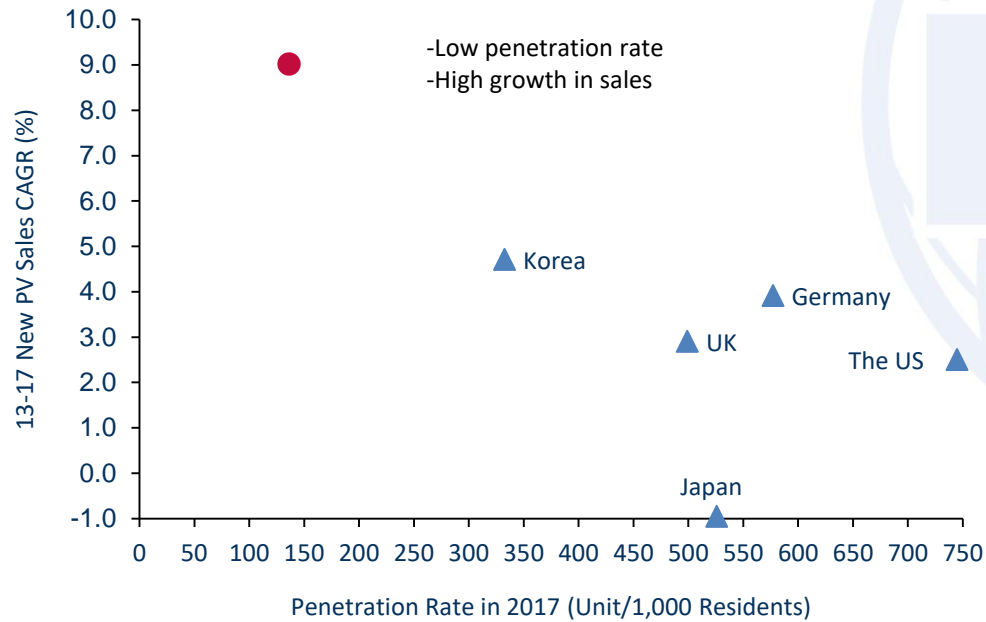- **One case-Global Vision**

Where is the revenue?

Subscription of TSP service

Activation

Vehicular Multimedia

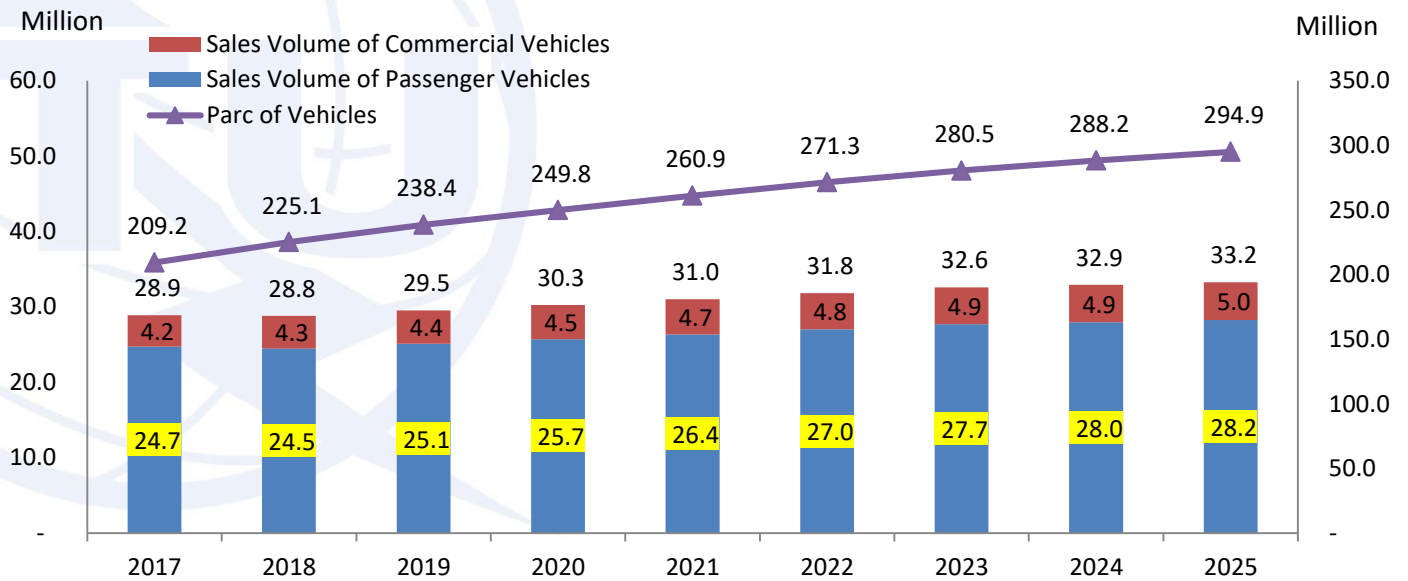Advertisement

Subscription of content
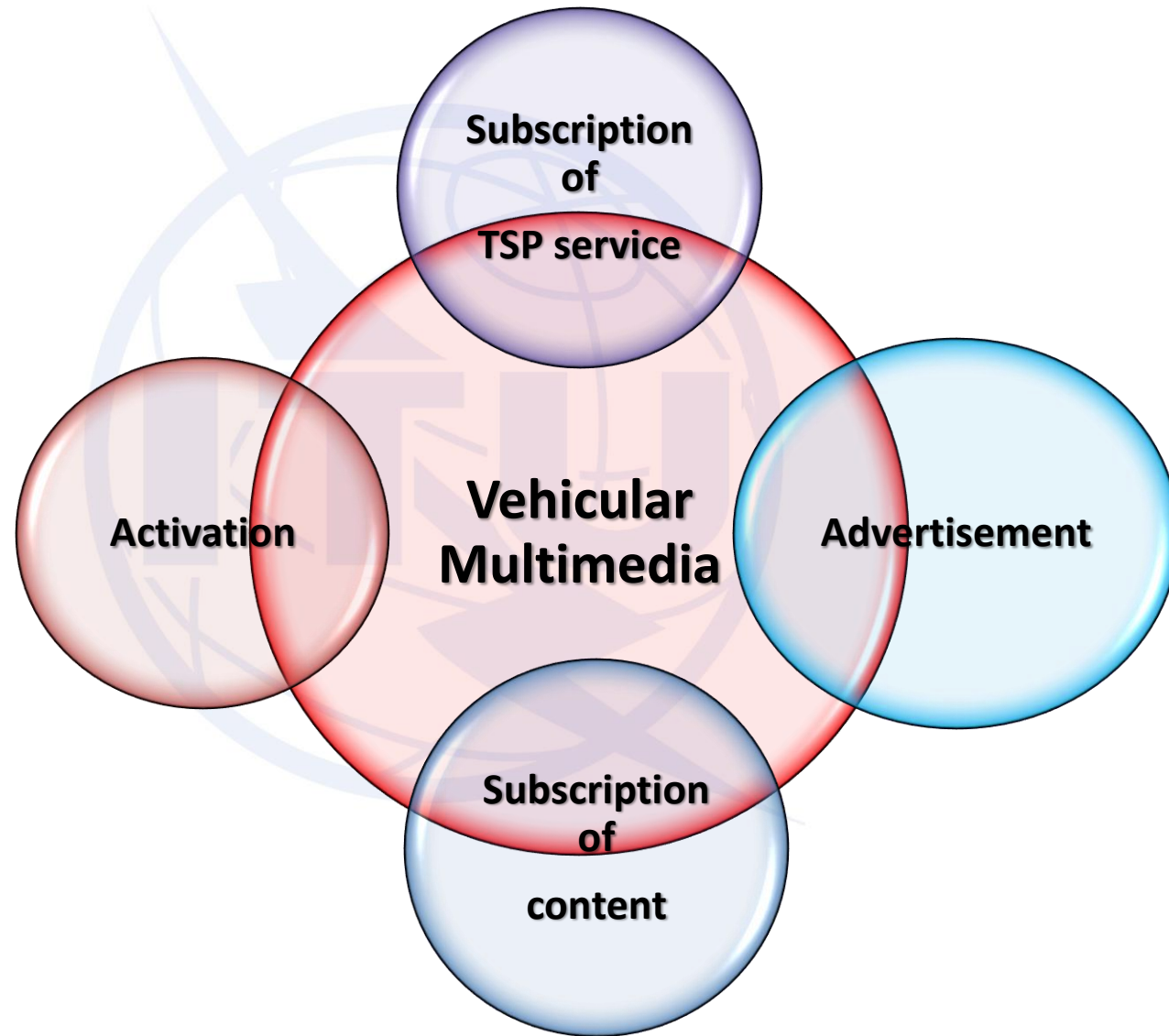
Activation

- **Generates one-time revenue from car makers for every installation of their service in new vehicles.**

  (1) The total number of installations of IVI service in new vehicles based on sales volume of new vehicles;
  (2) Average activation fee based on the feedback from car makers.

New PV Sales Volume and PV Penetration Rate*, 2017

-Low penetration rate
-High growth in sales

Korea
Germany
UK
The US
Japan

13-17 New PV Sales CAGR (%)

Penetration Rate in 2017 (Unit/1,000 Residents)

* Penetration rate is measured by the PV parc divided by total population

Sales Volume of Vehicles and Parc of Vehicles Forecast, China, 2017–2025

Million

- Sales Volume of Commercial Vehicles
- Sales Volume of Passenger Vehicles
- Parc of Vehicles

Year	2017	2018	2019	2020	2021	2022	2023	2024	2025
Parc of Vehicles	209.2	225.1	238.4	249.8	260.9	271.3	280.5	288.2	294.9
Total	28.9	28.8	29.5	30.3	31.0	31.8	32.6	32.9	33.2
Commercial	4.2	4.3	4.4	4.5	4.7	4.8	4.9	4.9	5.0
Passenger	24.7	24.5	25.1	25.7	26.4	27.0	27.7	28.0	28.2

	CAGR (17-25)
Total New Vehicles	**1.8%**
Passenger Vehicles	1.7%
Commercial Vehicles	2.3%
Parc of Vehicles	**4.4%**

Advertisement

Classification of Advertising Market

Major Categories of Ads

- **Non-digital Ads**
  - Outdoor Ads
  - Television Ads
  - Radio Ads
  - Magazine Ads
  - Newspaper Ads
- **Digital Ads**
  - Audio/Video Marketing
  - Social Media Marketing
  - Email Marketing
  - Search Engine Marketing
  - Ecommerce Marketing
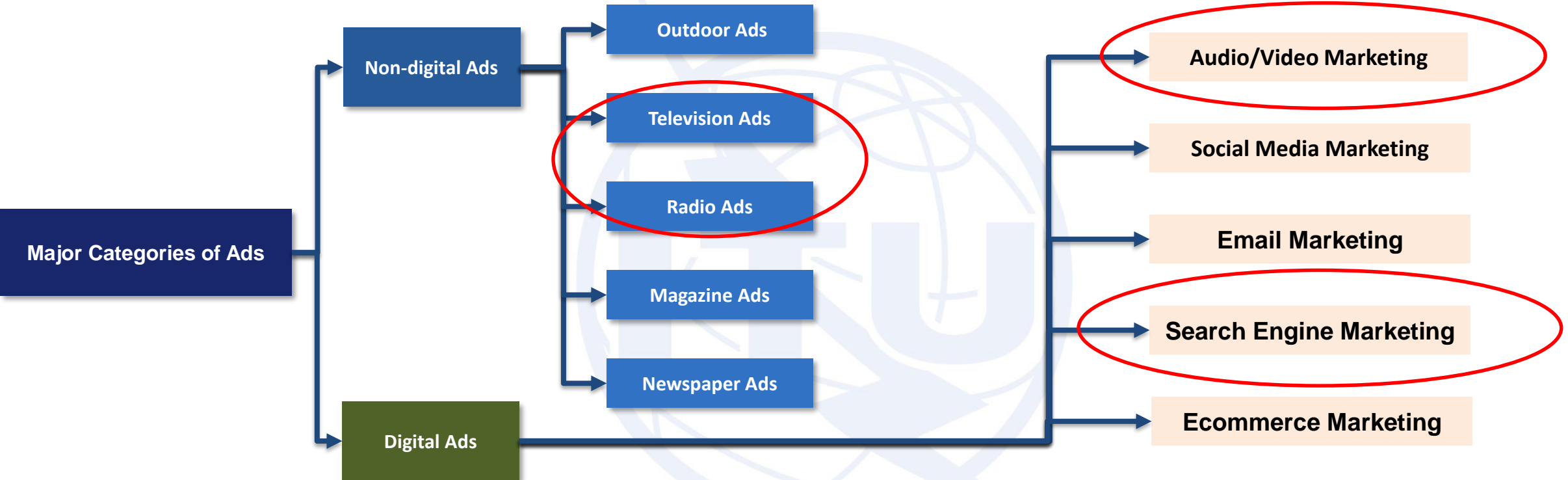
1. **Provides advertising space in the radio, audio, TV and video programs and generates advertising revenue from advertisers.**
2. **With the increasing connectivity of vehicles, provides precision advertising and marketing based on the profiling of their users (generally car owners), creating value-add on top of traditional advertising.**
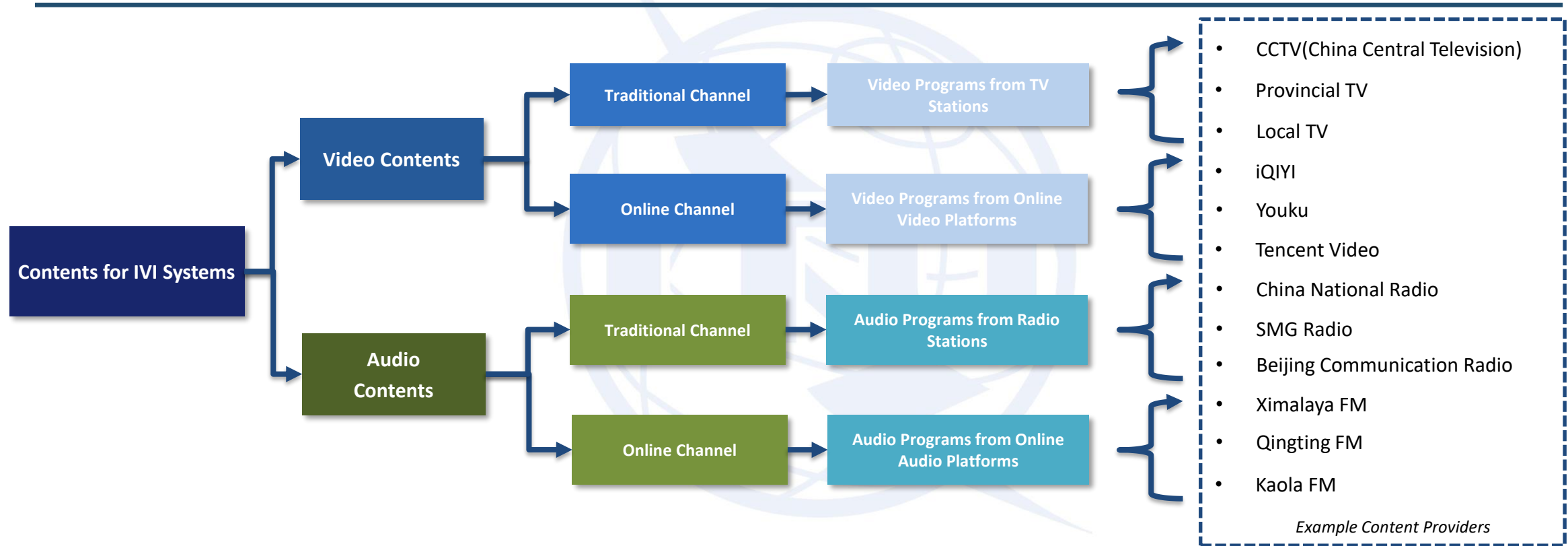
Subscription of TSP service

- **Potentially obtain revenue from users who subscribe traditional TSP service, including navigation, security, data traffic, remote road supporting, basic entertainment contents, etc., on a monthly or yearly basis.**
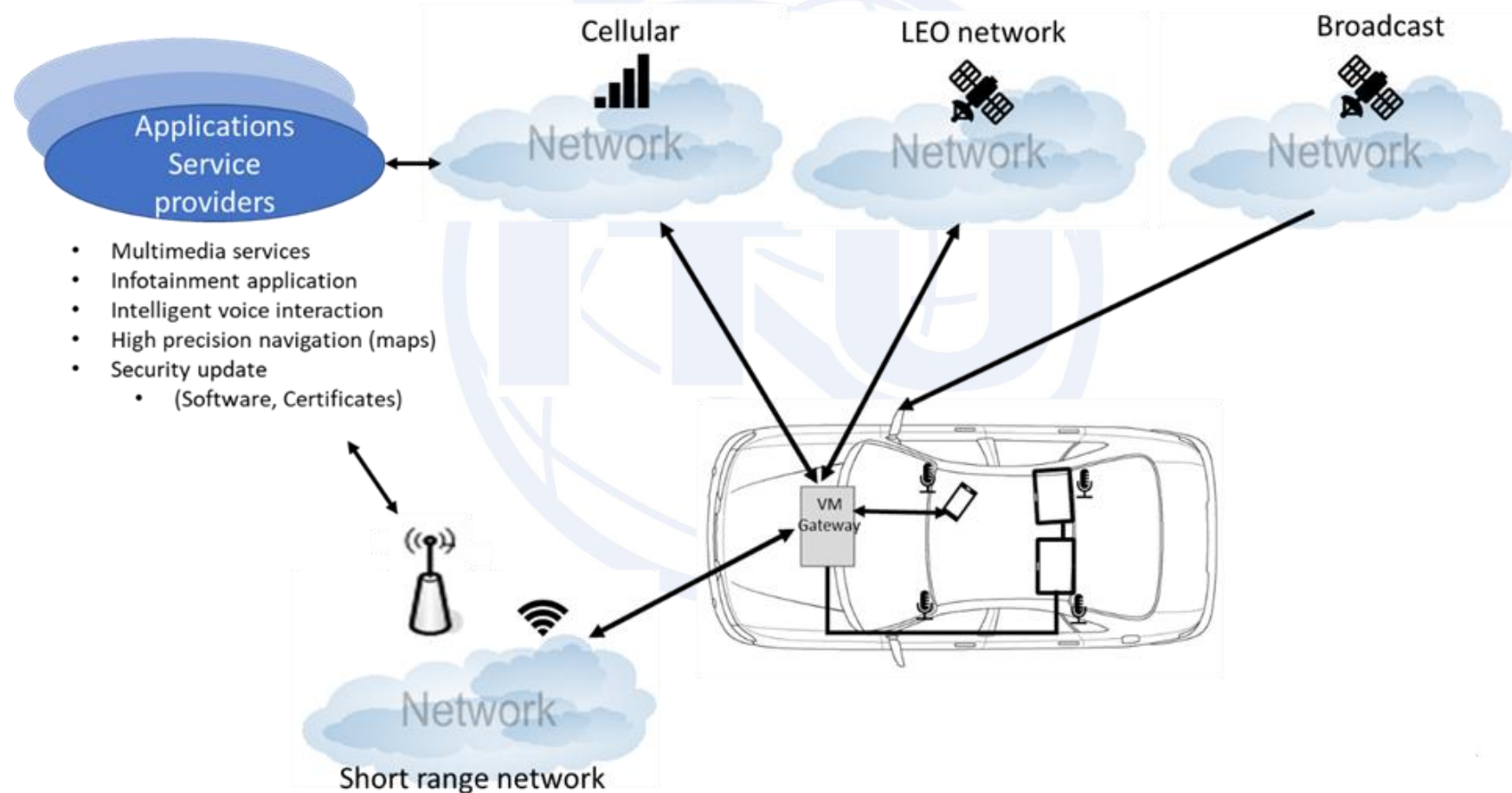
Subscription of content

Classification of Content Providers for IVI Service Market , China

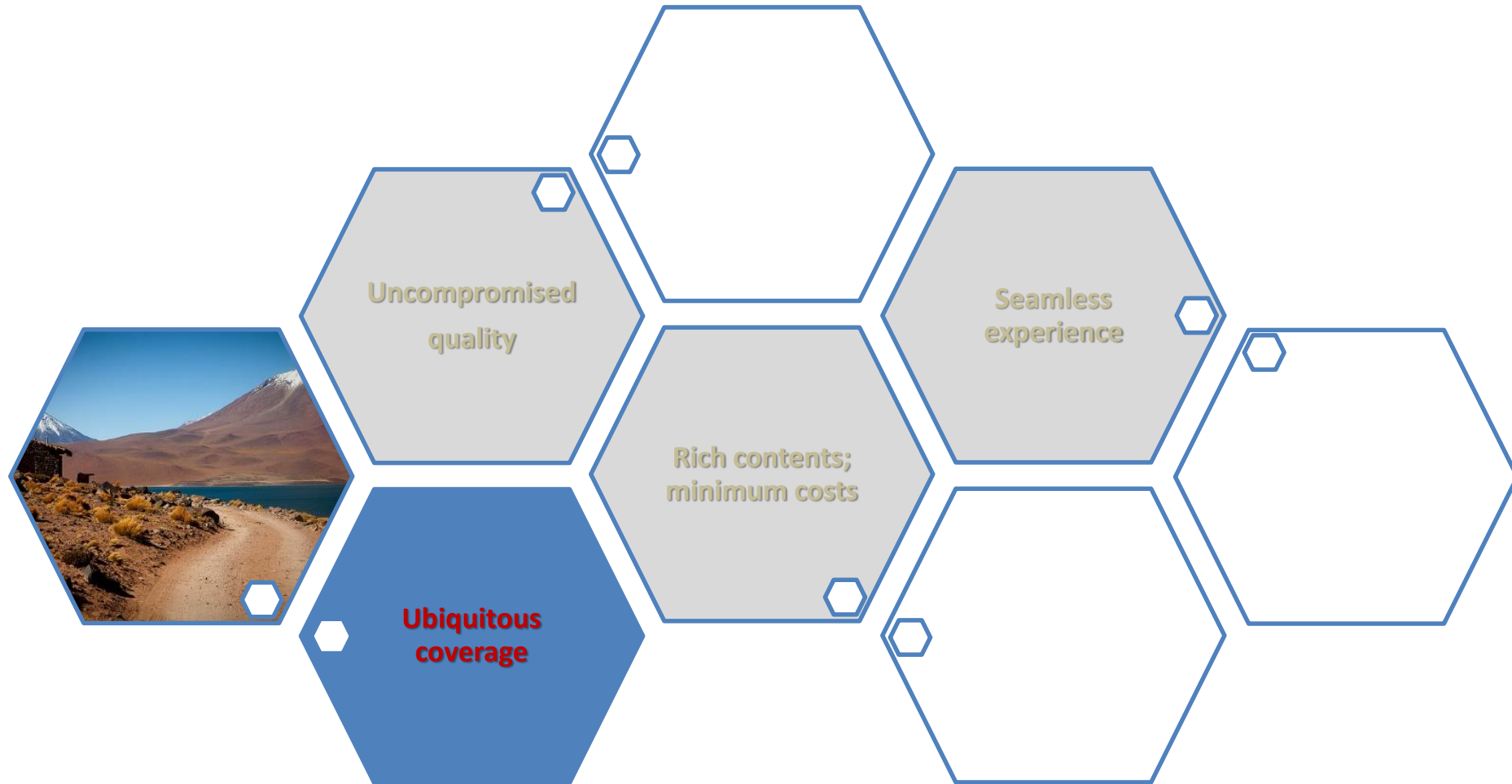| Contents for IVI Systems		
Video Contents	Traditional Channel → Video Programs from TV Stations	• CCTV(China Central Television) • Provincial TV • Local TV
	Online Channel → Video Programs from Online Video Platforms	• iQIYI • Youku • Tencent Video
Audio Contents	Traditional Channel → Audio Programs from Radio Stations	• China National Radio • SMG Radio • Beijing Communication Radio
	Online Channel → Audio Programs from Online Audio Platforms	• Ximalaya FM • Qingting FM • Kaola FM

Example Content Providers

- **Potentially obtain revenue from users who now subscribe on-demand audio and video contents online video/audio platforms. Similarly, could generate continuous revenue from subscription.**

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A wish list for Media Service

Uncompromised quality

Seamless experience

Rich contents; minimum costs

Ubiquitous coverage

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No single-solution available to deliver all the promises
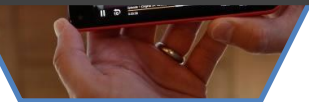
Analysis on Global Vision Technology

- **From the perspective of users' demand, the innovative solution offered by Global Vision, which is mainly supported by converged network of mobile broadcasting satellites, terrestrial cellular network and terrestrial broadcasting network and enriched by various sources of contents at a low cost, can bring users high-quality and seamless experience of IVI services.**

Top 3 Factors of Consumers' Selection of IVI Services*

1 Stable Signal Source

2 Low cost and High-quality of Sound and Image

3 Rich and Diverse Content Library

*Note: *The factors are based on the result of customer survey*

Current Solutions of IVI Services

Current Solution: Terrestrial cellular network 3G/4G

Problem: 1. Limited coverage and poor quality of in rural and remote areas; 2. Network congestion during peak hours

Current Solution: FM/AM radio, wireless or wired connection with smartphone and retransmitting via 3G/4G network

Problem: 1. Relatively low quality; 2. Complexity of operation

Current Solution: Purchasing from third-party content providers and play contents via 3G/4G network

Problem: 1. High purchase cost; 2. Extra cost on mobile data usage

Global Vision's Innovative Solutions

Innovative Solution: Converged network that integrates satellite network, terrestrial cellular network and terrestrial broadcasting network

Benefits: 1. Increasing the coverage in a cost-efficient way; 2. Expanding the capacity and enhancing the quality of network backed by the complementary strengths of 3 networks

Innovative Solution: Content management by content cloud and transmission via converged network

Benefits: 1. Increasing multimedia quality supported by powerful converged network; 2. Improving efficiency of handling requests for various content via a consolidated cloud center; and 3. Authorized contents from radio and TV stations with high-quality sound track and image

Innovative Solution: Converged content library of free live audio and video resources, including satellite-based TV programs and radio broadcasting programs, and access to on-demand contents from self-owned library or other third-party content providers
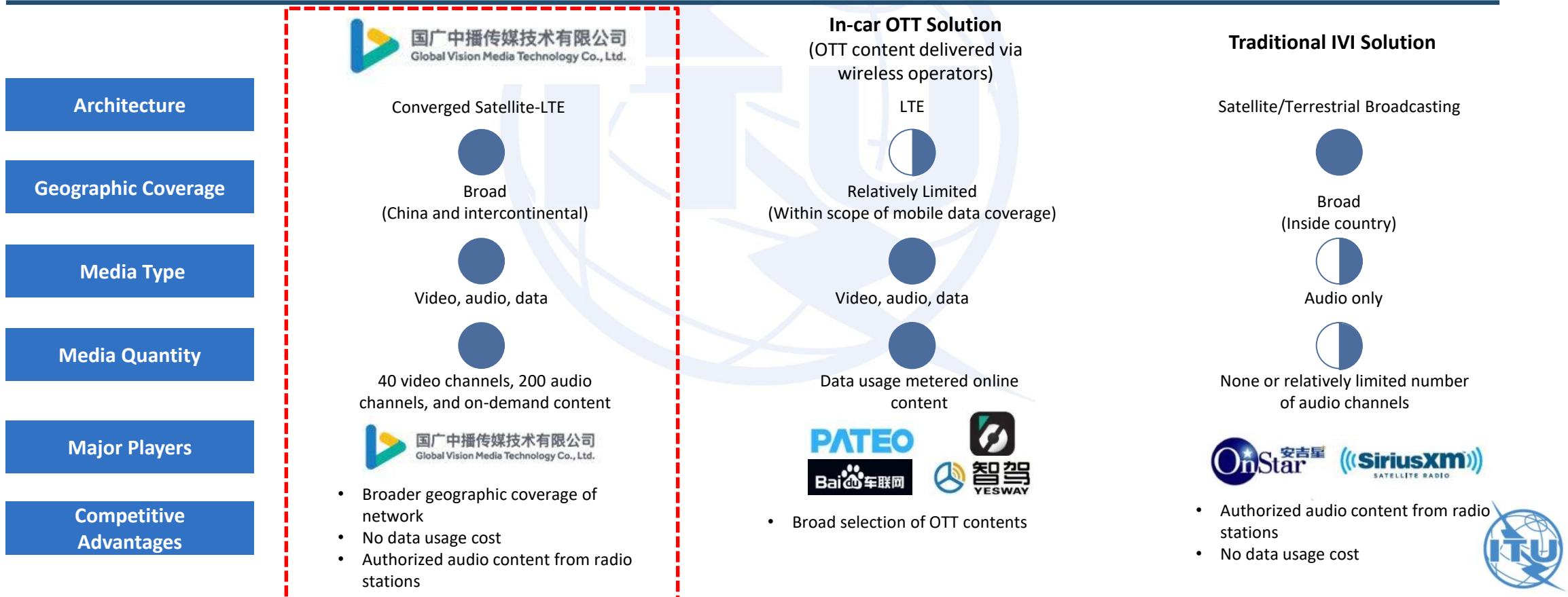
Benefits: 1. Decreasing the overall cost of contents; 2. increasing the richness of content from different content sources; and 3. no extra mobile data charge to users when consuming on-demand video or audio contents

Comparison of Current IVI Solutions

- Currently there are three types of IVI solutions, namely the converged satellite and cellular network of Global Vision, in-car OTT delivery and traditional IVI delivery. The converged network has advantage in either geographic coverage, or medium type and quantity compared with in-car OTT and traditional IVI delivery solutions.

- The first stage of Global Vision's go-to-market strategy would focus on IVI content providing based converged network, and then the second-stage would be extended to the IVI platform instead of only content. Global Vision then would compete with in-car OTT delivery and traditional IVI delivery solution providers directly such as PATEO, Banma, and Yesway.

Comparison of Current IVI Solutions

	国广中播传媒技术有限公司 Global Vision Media Technology Co., Ltd.	In-car OTT Solution (OTT content delivered via wireless operators)	Traditional IVI Solution
Architecture	Converged Satellite-LTE	LTE	Satellite/Terrestrial Broadcasting
Geographic Coverage	Broad (China and intercontinental)	Relatively Limited (Within scope of mobile data coverage)	Broad (Inside country)
Media Type	Video, audio, data	Video, audio, data	Audio only
Media Quantity	40 video channels, 200 audio channels, and on-demand content	Data usage metered online content	None or relatively limited number of audio channels
Major Players	国广中播传媒技术有限公司 Global Vision Media Technology Co., Ltd.	PATEO, Baidu 车联网, 智驾 YESWAY	OnStar 安吉星, SiriusXM SATELLITE RADIO
Competitive Advantages	• Broader geographic coverage of network • No data usage cost • Authorized audio content from radio stations	• Broad selection of OTT contents	• Authorized audio content from radio stations • No data usage cost

Global Vision service platform ability

- ❑ **Trial during: over 500 days, 7×24 hours per week, since 26th May 2017**

- ❑ **Program offerings:**
  - ▪ **123 audio channels**
  - ▪ **39 video channels**
  - ▪ **319 movies and 762 TV serials pushed**
  - ▪ **dedicated data services: Beidou GBAS, Maritime weather forecast**

- ❑ **Devices launched:**
  - ▪ **variety of devices ranging from before-market to after-market**
  - ▪ **more than 500 sets**

- ❑ **Data of driving measurement:**
  - ▪ **more than 1,050,000 km**
  - ▪ **over 80,000 hours**
  - ▪ **still on-going**

Key technology validation
- Physical links of satellite broadcasting
- Video and audio live broadcasting in Converged Network
- Big File Push technology

Service validation
- Live video and audio channel
- Push service (audio, movie, serials and short video)
- Data service (Beidou GBAS, Maritime weather forecast)

Network stability validation
- Key equipment of Headend and Satellite Uplink Station
- Devices (M-box, Vehicle Media Platform and all-in-one box)

Coverage and capacity validation
- Signal strength and quality of satellite
- Signal status of mobile network
- Service receiving status and key parameters

To be the Enabler of Wonderful Car-life

Thank you for your attention.