Research and Analysis on Smart Home

Chao Dai

West Institute,CAICT

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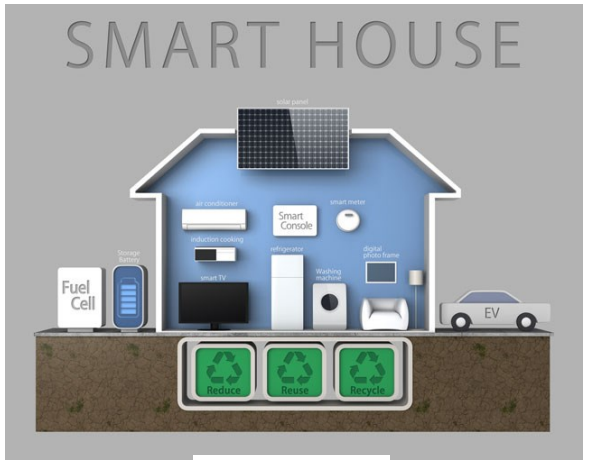
Course Objectives

- The definition of smart home
- Development status of Smart home
- Home intelligent research results sharing
- The future trend of Smart Home
- Standardization work of Smart Home

Definition of smart home

Safety

Comfortable



Energy saving

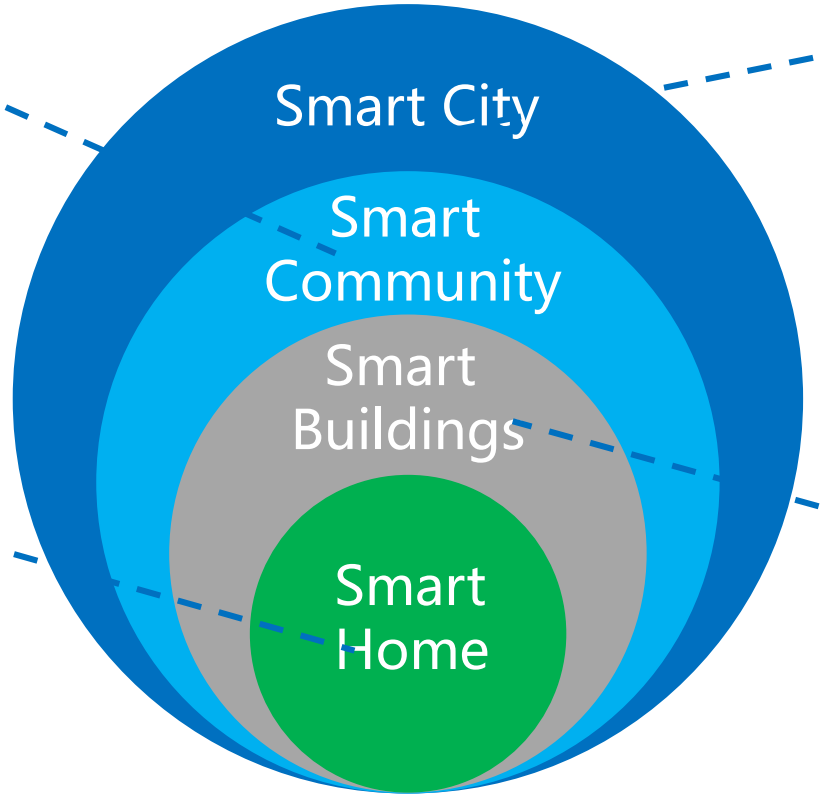
Efficient&Convenient

Smart home with residential or office and extension (balcony/courtyard/garage, etc.) as a platform, based on the matter network and related sensing technology, from intelligent terminal equipment, networking devices, software systems, cloud computing platform composed of a home ecosystem.

The realization of human remote control equipment, equipment interconnection, equipment self-learning and other functions, and through the collection, analysis of user data to provide users with personalized life services.

The relationship between Smart home and Smart city

Smart Community Applications: Smart buildings, road network monitoring, smart parking, community security and many other areas.



The application of Smart city is the whole city. Smart Home is the micro-node of the intelligent city construction, which is the basis of the organic interaction and benign operation of the intelligent city.

Smart home for the residential platform, smart home rapid popularization of the need for real estate industry, chain hotels, hotel management companies, property management companies, housing leasing business and other close cooperation.

The application category of Smart buildings is high-grade residential quarters, villas, hotels, office buildings, shopping malls and so on.

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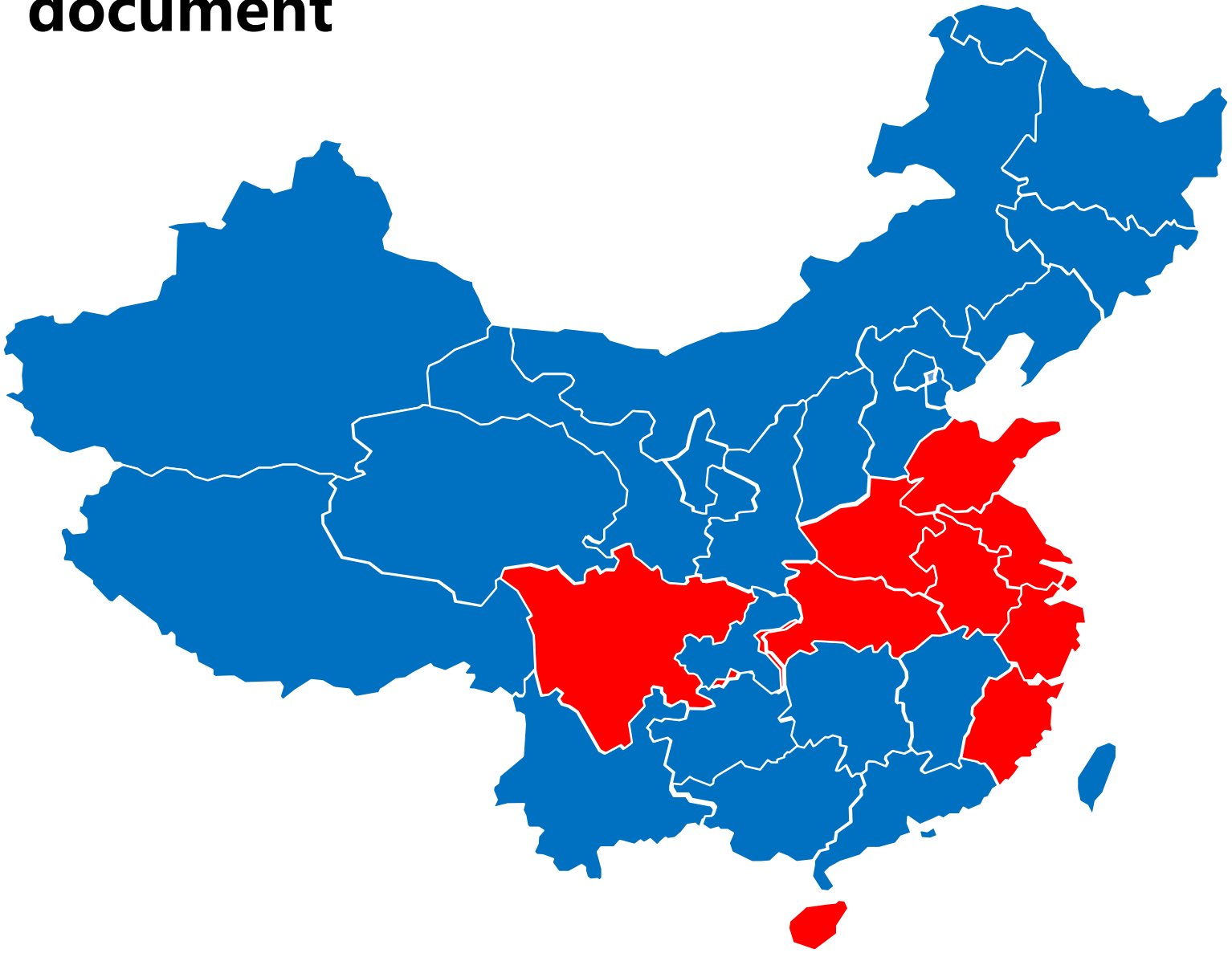
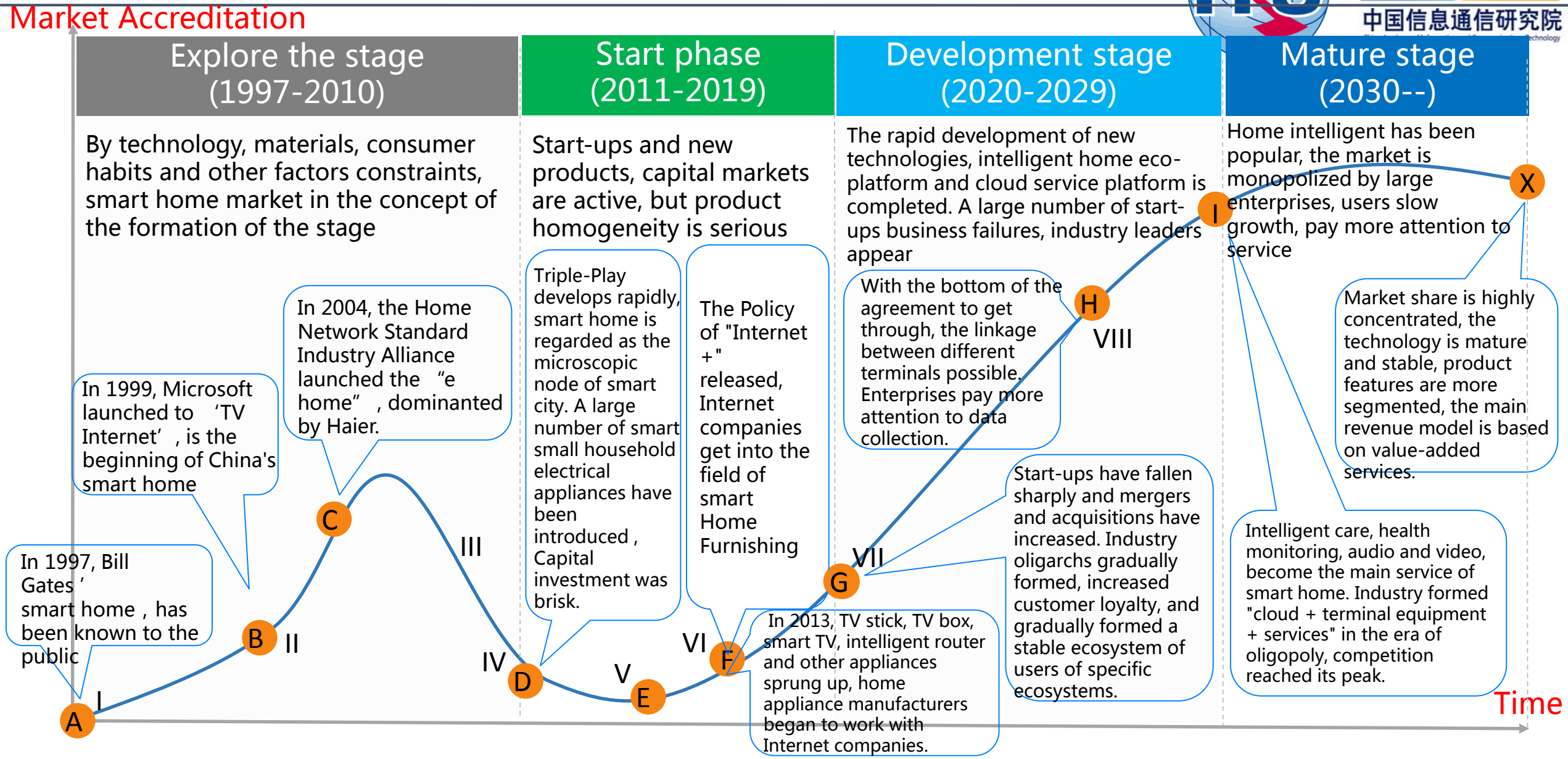
A number of provinces and cities issued a new building housing overall decoration Guidance document



Including the city of Shanghai, Shandong Province, Anhui Province, Henan Province, Jiangsu Province, Hubei Province, Zhejiang Province, Sichuan Province, Fujian Province, Hainan Province and other provinces and cities were released on the new real estate (residential and commercial) overall decoration, Full decoration of the guidance, and some from the beginning of 2016 began trial.

In the future may be the country at all levels of provinces and cities will introduce relevant guidance.

China 's smart home market trends



Engineering construction, Smart device upgrades, O2O services to promote smart home 100 billion market

Engineering construction

- The new real estate project construction and transformation, the main participants are: real estate development companies, hotels, property companies and so on. Involved in the field of security, control, lighting and so on

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Smart device Replacement

- Replacement of traditional household appliances
- Procurement of new terminal equipment

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Online To Offline Services

- With the increase in the number of new smart terminals in the home environment, the data will provide a more accurate reference for home O2O and advertising

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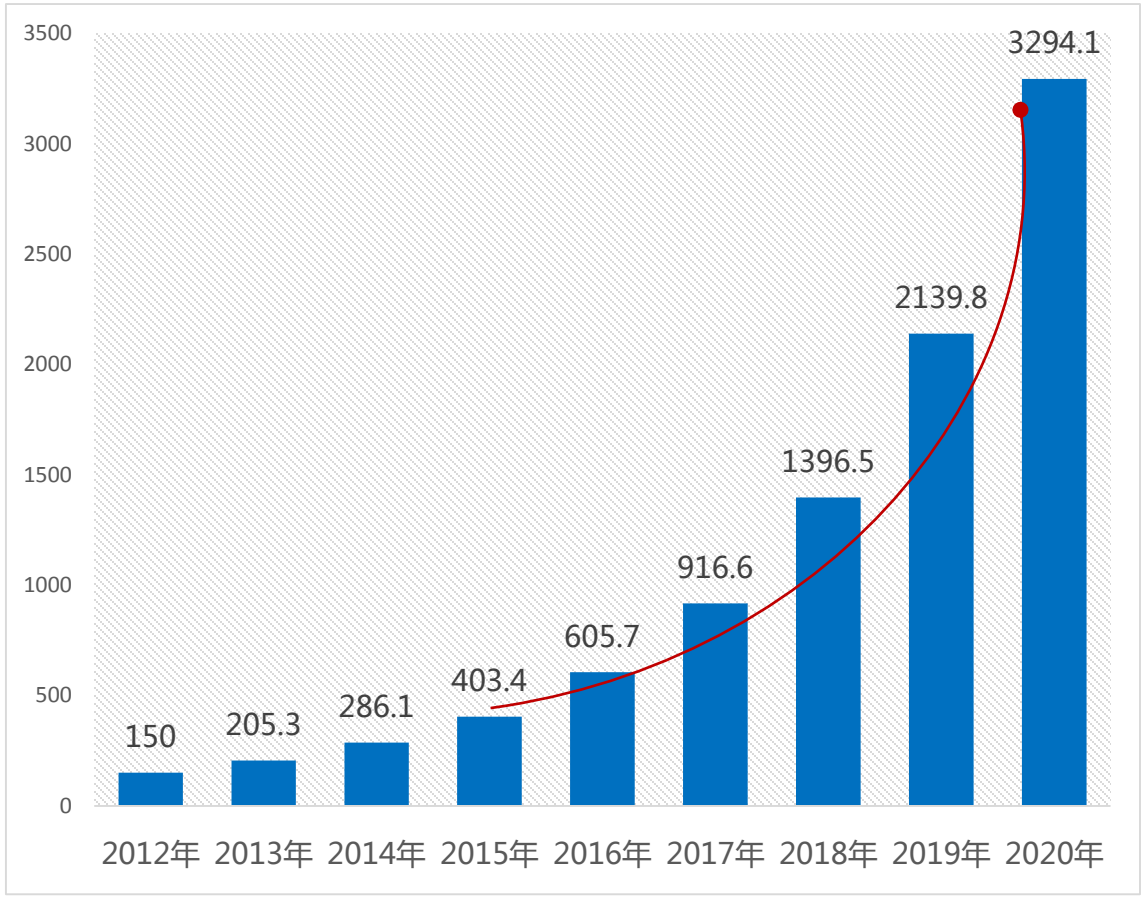
100 billion market

Analysis and Forecast of the Scale of smart Home Appliances Market

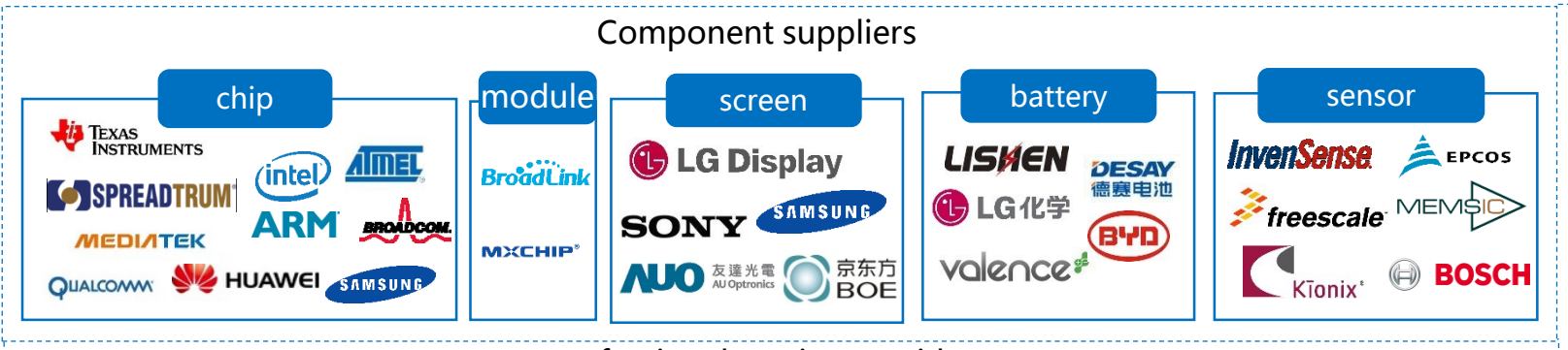
China 's smart home market size growth trend2012-2020

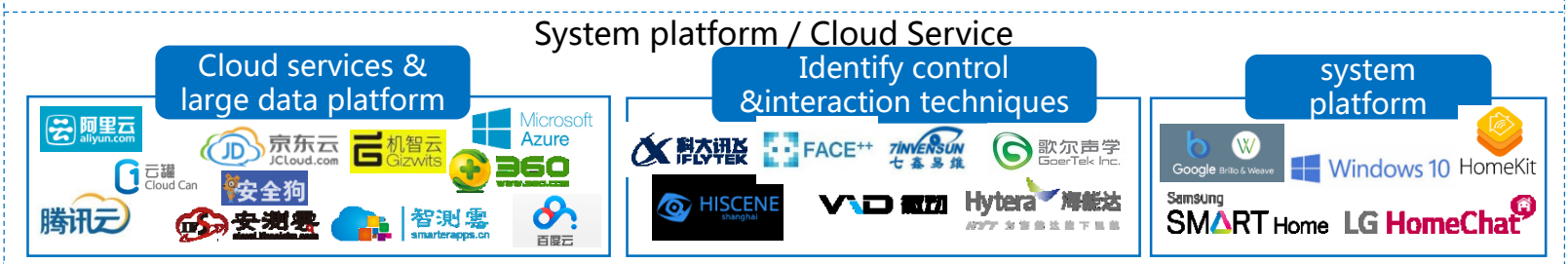


Data Sources：QianJia《2012-2020 China's smart home market trends and investment opportunities analysis report》

- With the popularization of smart home appliances in the consumer market, is gradually being used in the traditional industry pilot applications, such as: Real estate developers, chain hotels and so on. China‘s smart home market is expected to grow significantly
- According to QianJia research reports, by 2018, the smart home market will be close to 140 billion yuan.

China Smart Home Industry map





A series of problems in the field of Smart home

Definition confusion: The definition of intelligent buildings and smart hotels is unclear, and there is no clear specification of the functions.

Lack of intelligent evaluation system: Before the intelligent transformation, there can be no basis for the intelligent transformation function level guidance documents or policies can refer to, can not be issued intelligent transformation star rating.

Lack of acceptance criteria: After the completion of the smart transformation acceptance, there is no reference to the national-level inspection standards, at this stage usually by the party's own acceptance, and only for functional acceptance.

Security worrying: Smart system and Smart equipment itself security worrying, user privacy data easy to disclose, the use of data is lack of third-party supervision and evaluation.

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Smart home four scenes - Smart control, Smart security, health management, entertainment video

Entertainment & video

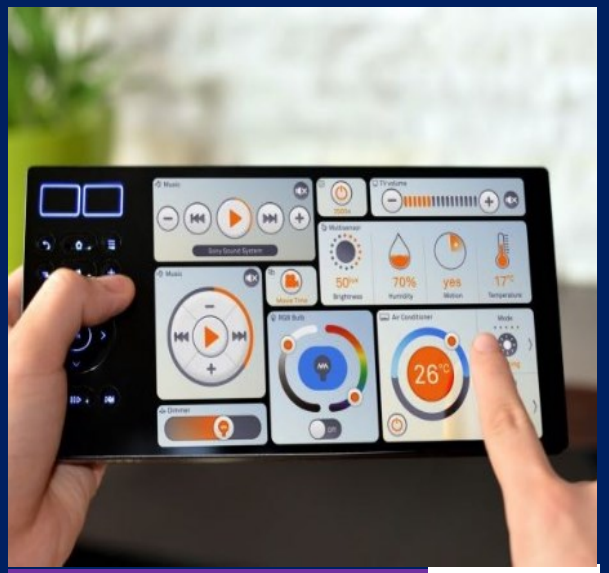
By the TV, audio equipment and other components. The main application scene around the living room, to provide users with multimedia video, interactive games, interactive education, shopping,and so on

Health management

Including home health monitoring terminals, routers, cloud services, such as chronic patients, sub-health population of real-time monitoring and management and remote monitoring and control

Smart security

Including surveillance cameras, intelligent access control, sensors, alarm systems. To control the entrance and exit effectively, to achieve anti-theft, gas leakage, leakage prevention, fire protection, etc.

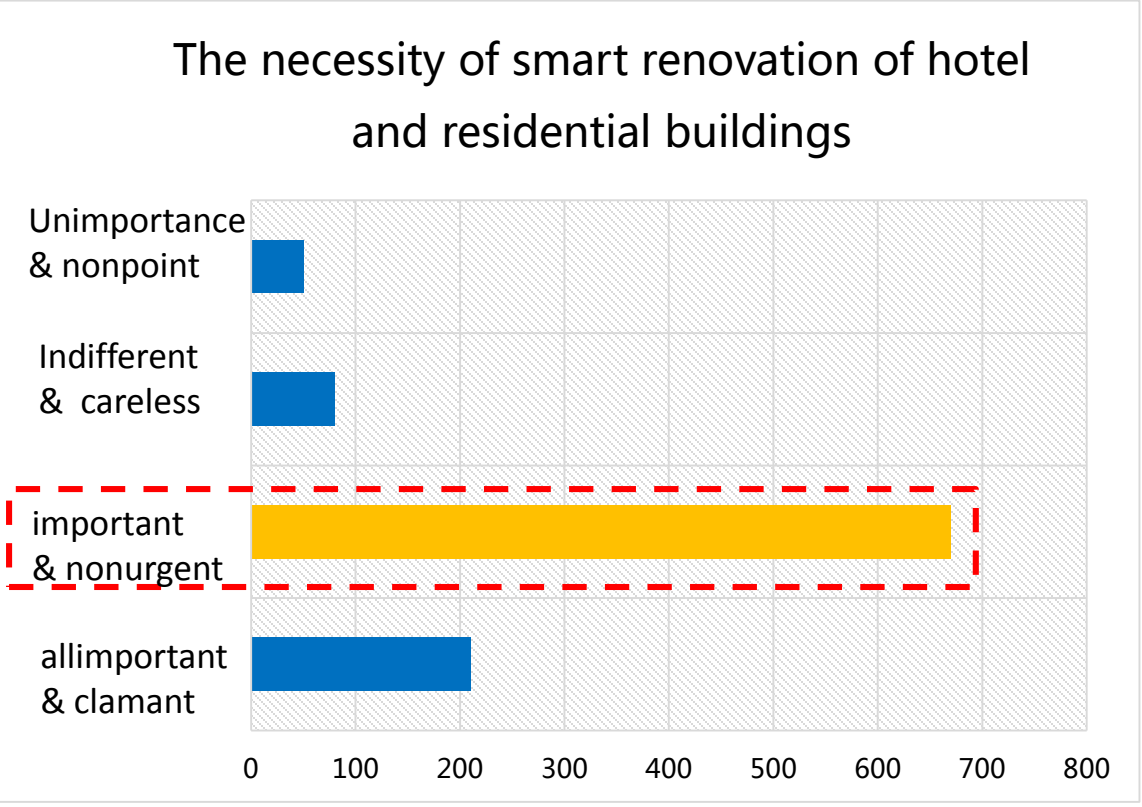


Smart control

Cloud platform through the sensor acquisition of user data analysis, the initiative to the House lighting, power supply, heating, cleaning, doors and windows and other equipment to adjust to meet user needs. can also realize the linkage between different devices

Research on smart transformation of hotel and real estate industry

More than 50% of the respondents believe that the hotel, real estate field of intelligent transformation at this stage is important but not urgent.



Data Sources ： Based on 1010 Offline survey questionnaires

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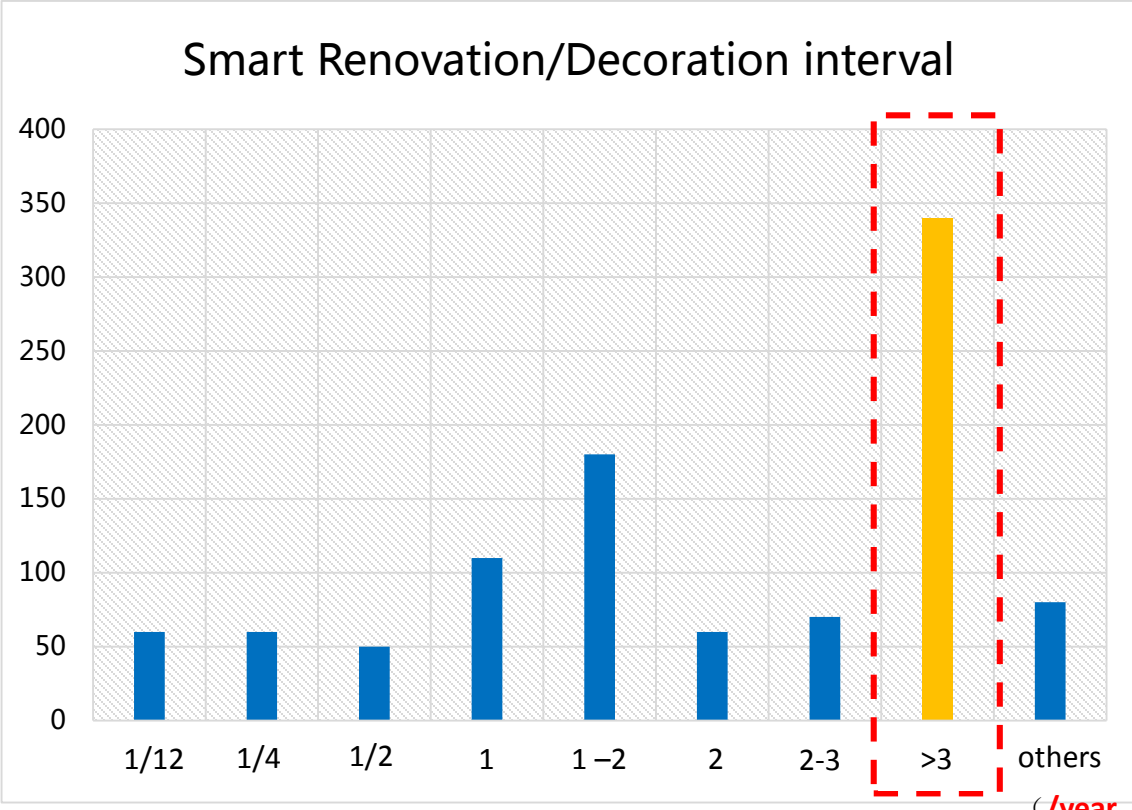
The companies surveyed said that the time interval for intelligent transformation was generally more than 3 years.



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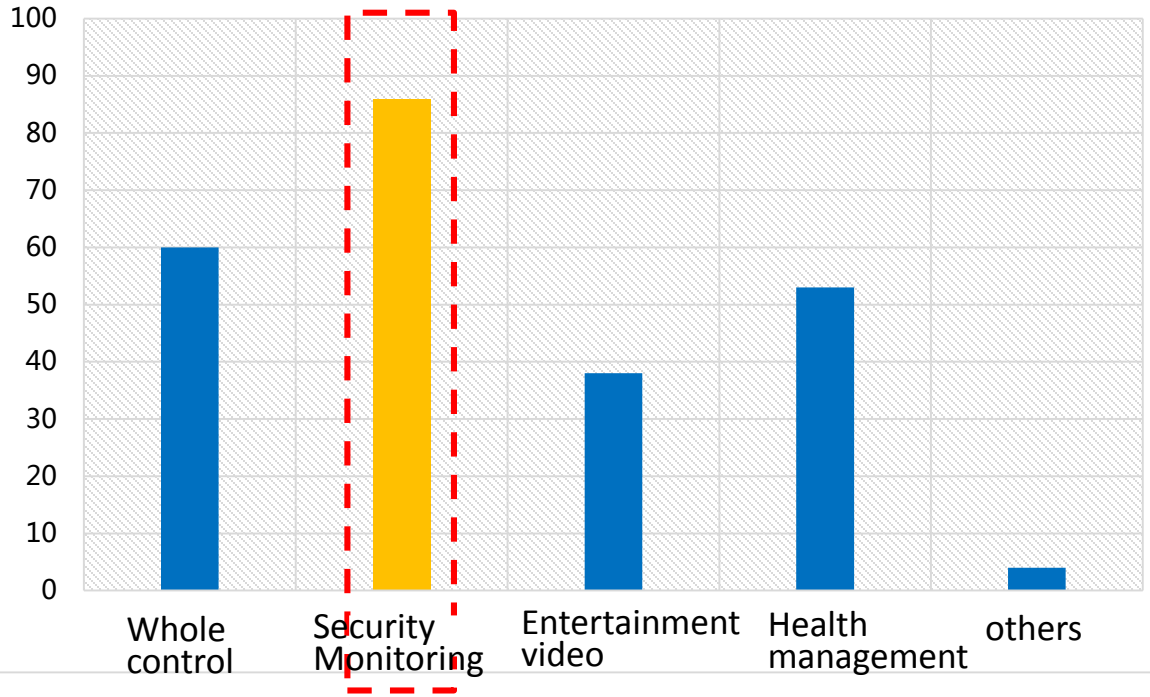
Research on smart transformation of hotel and real estate industry

The companies surveyed believe that "security monitoring" is still the most important first use scene and transformation scene, 36% of the surveyed companies think that security monitoring is the most important use of the scene.



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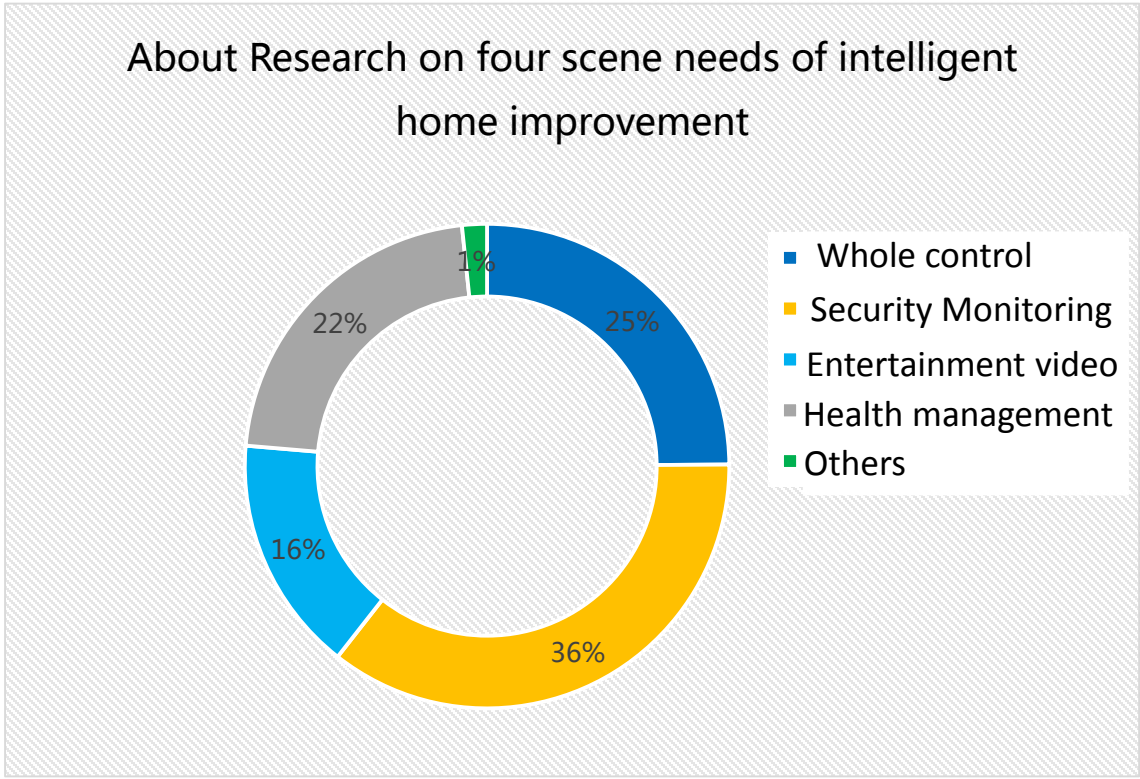

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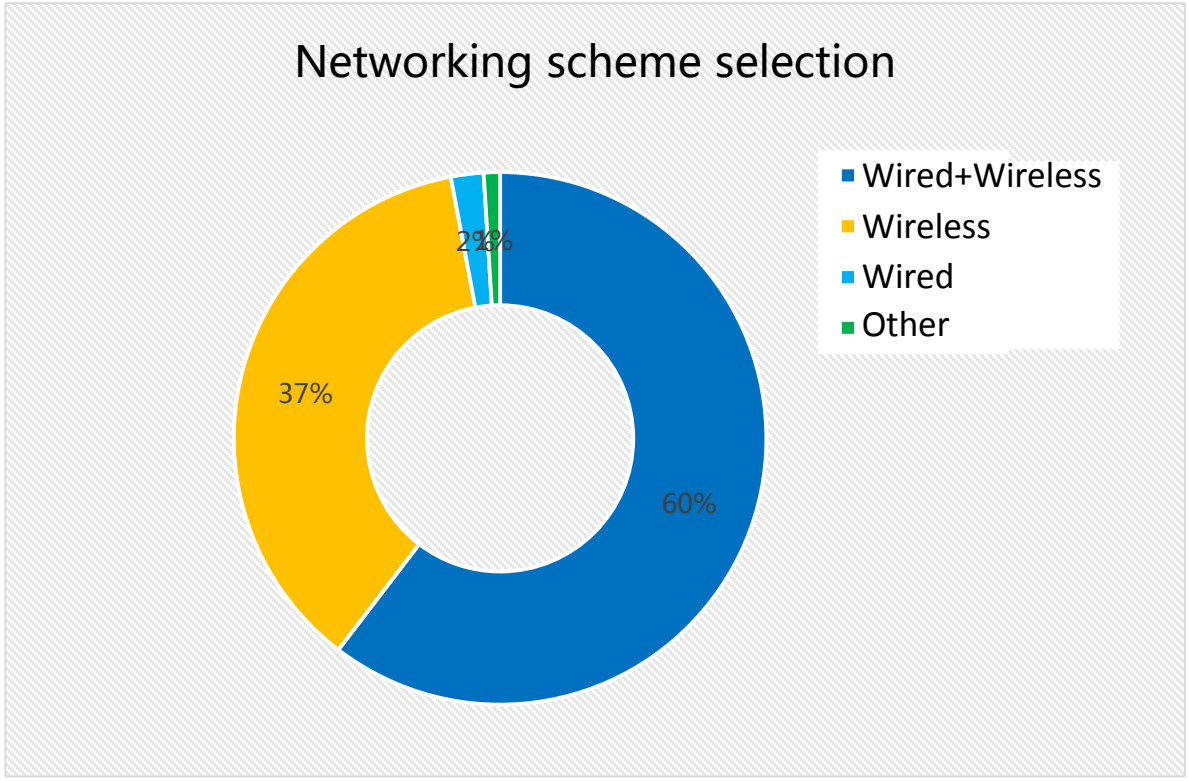
Research on smart transformation of hotel and real estate industry

About 60% of the companies surveyed used "Wired + wireless" networking. About 37% of enterprises choose to use wireless mode for networking.



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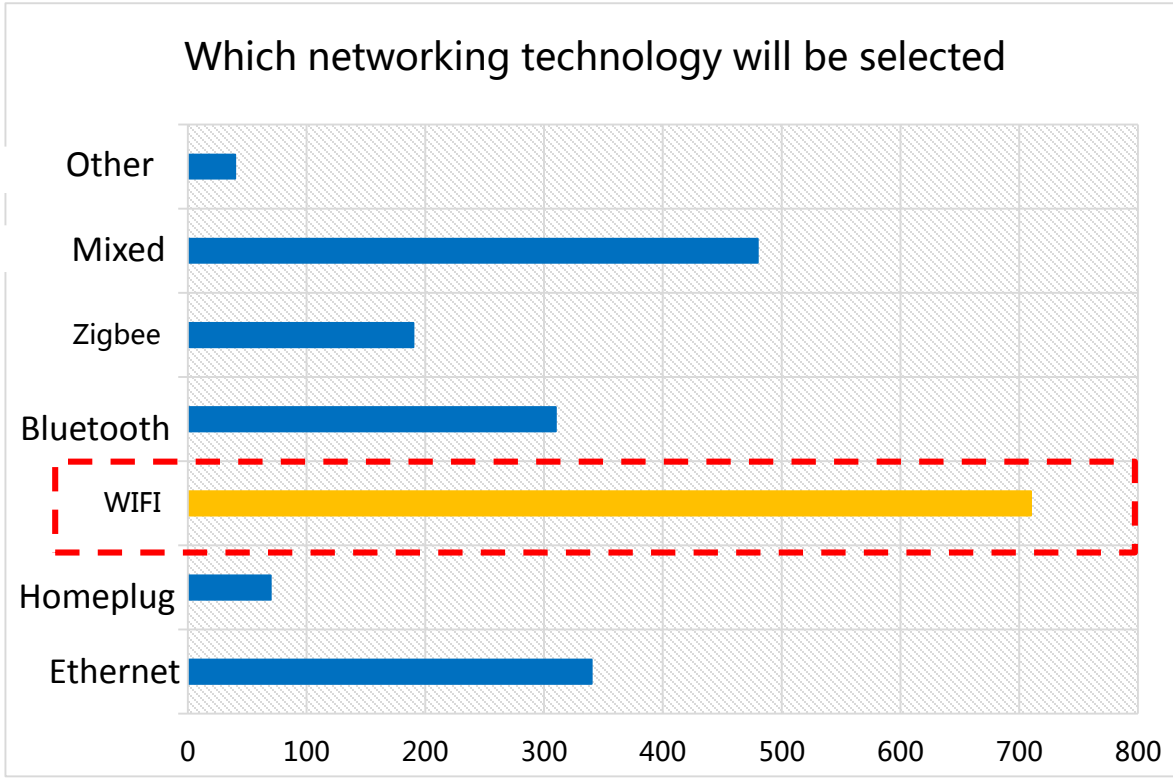
The companies surveyed preferred Wi-Fi, followed by hybrid networking and Ethernet networking.



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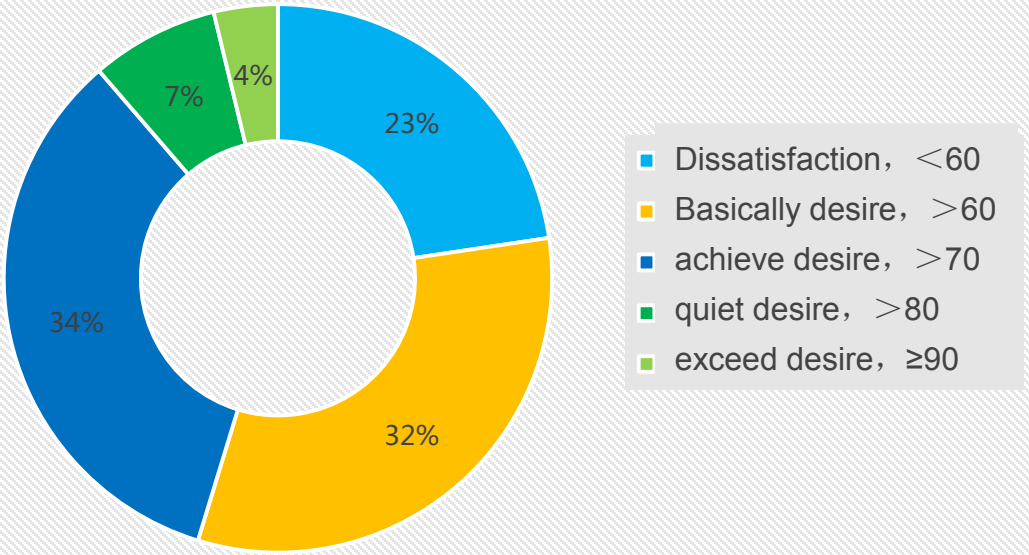
Research on smart transformation of hotel and real estate industry

About 34% of the enterprises that the smart transformation to achieve the desired. About 32% of the enterprises that basically achieve the desired results.

After the smart transformation achieves the anticipated effect statistics



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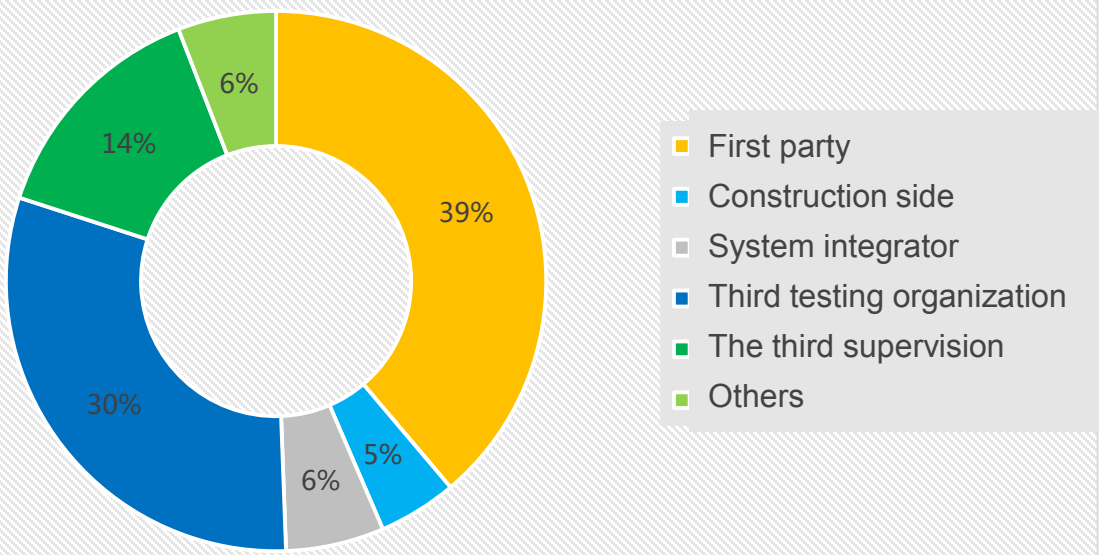
After the completion of the transformation, About 39% of the enterprises that the final acceptance of the project is a party, mainly functional acceptance.

The acceptance status of intelligent transformation



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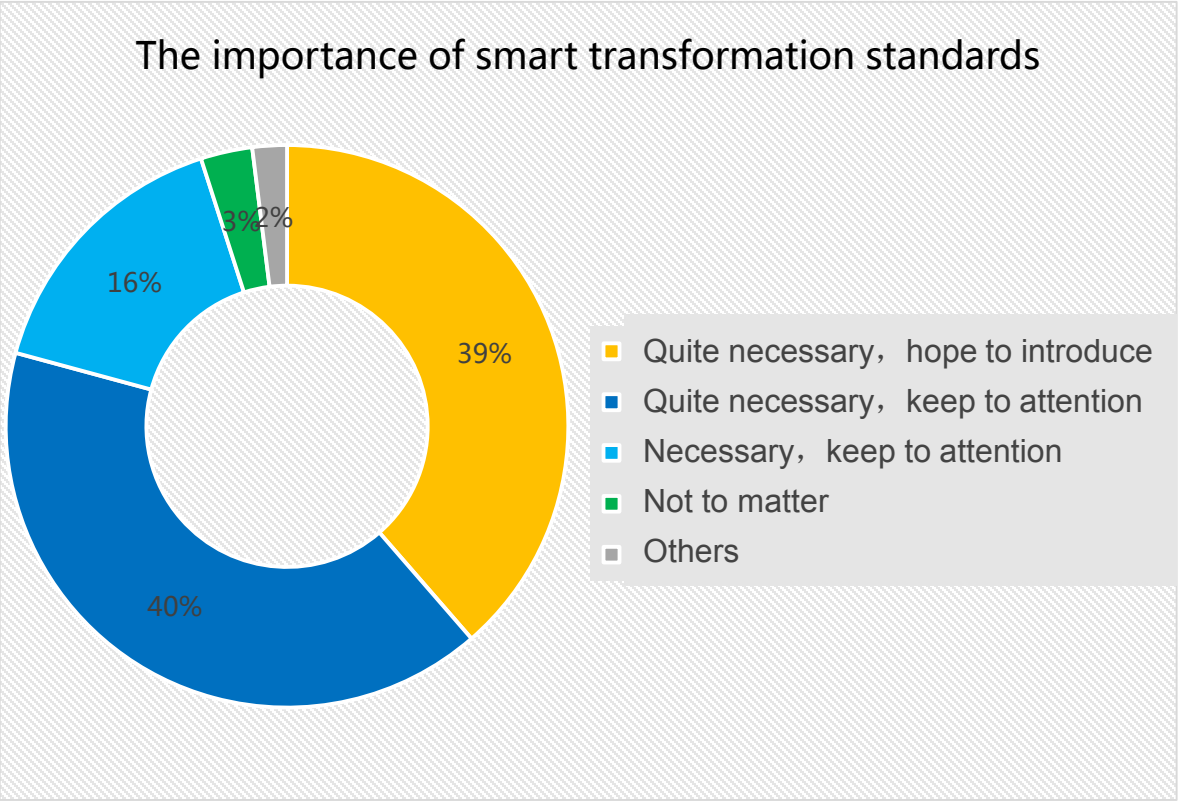
Research on smart transformation of hotel and real estate industry

More than 79% of the companies surveyed think it is necessary to introduce the relevant standards of intelligent transformation



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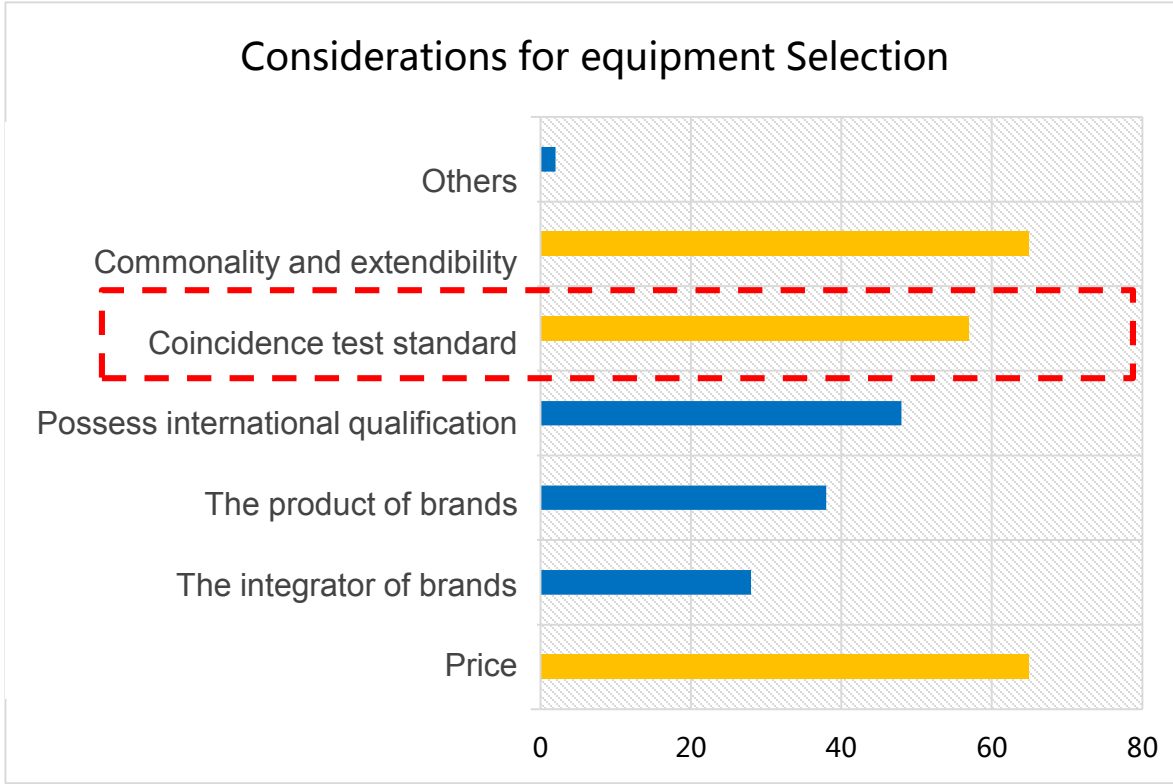
Enterprises in the smart transformation and equipment selection priority factors include: prices, equipment, universality, scalability, compliance with the relevant testing standards



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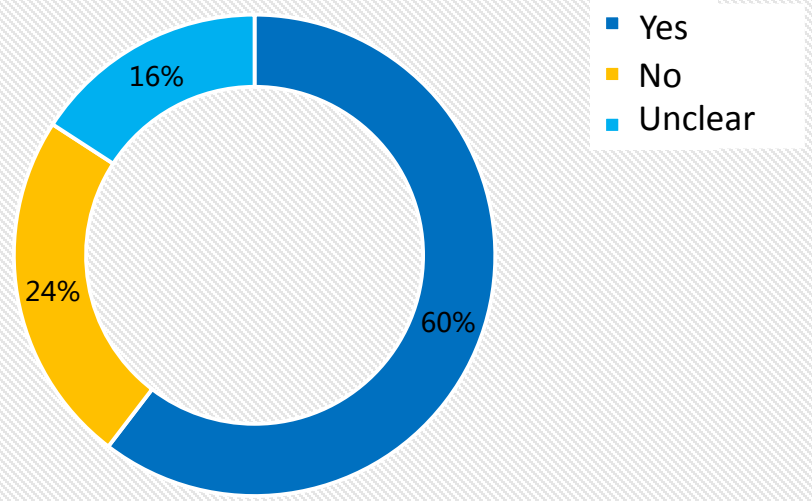
Research on smart transformation of hotel and real estate industry

About 60% of the companies believe that when they are in the product selection, the product conform to the relevant criteria is to select important factors.

With the national standard of the product is a key factor in the selection



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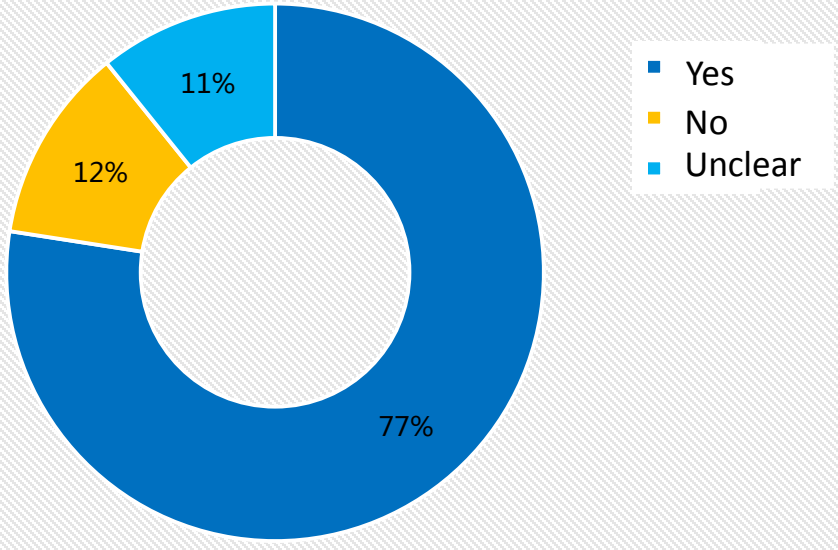
About 77% of enterprises believe that in the process of intelligent transformation, the need for ecosystems related to the overall norms or guidance documents.

Need to test specifications or guidance documents



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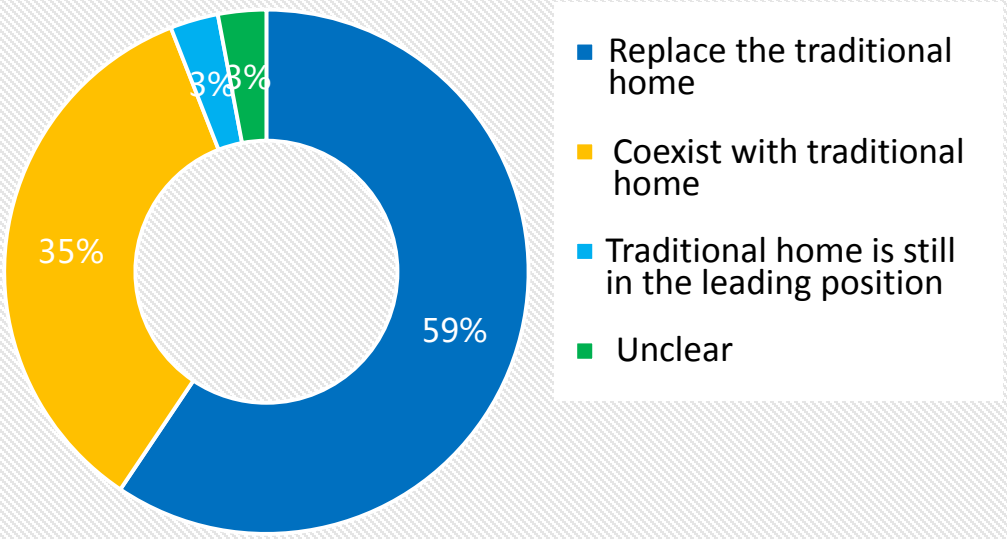
Research on smart transformation of hotel and real estate industry

About 59% of companies believe that smart homes will replace traditional homes. 35% of companies believe that smart home will coexist with the traditional home.

Intelligent home is the future development trend



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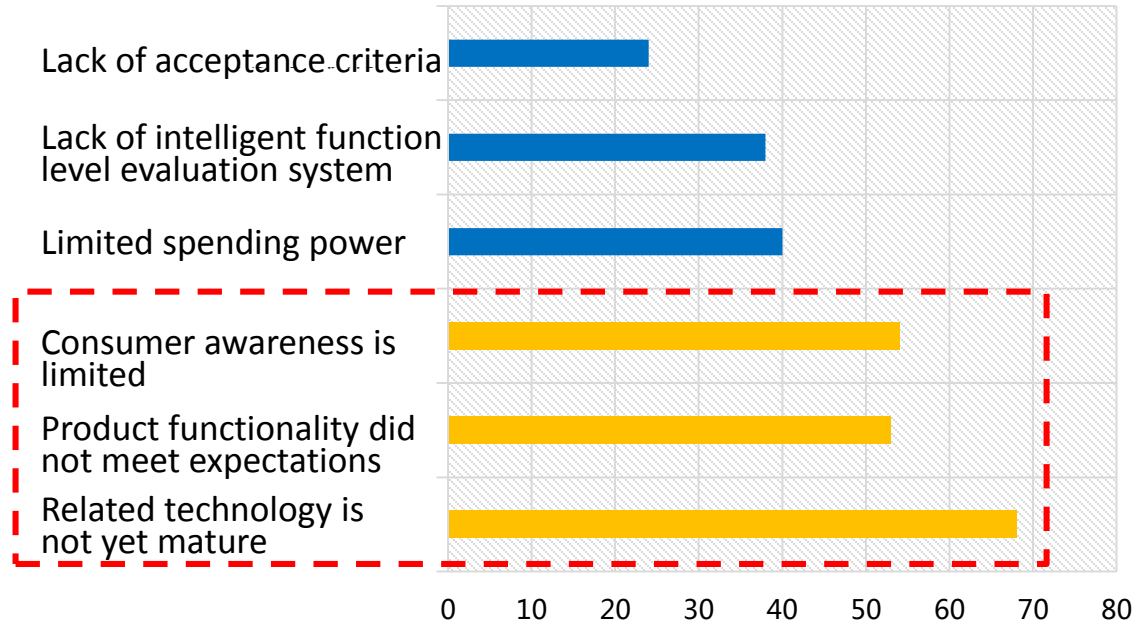
The Companies believe limit the popularity of smart home wide range of issues include: low technology maturity, product features less than expected, consumer awareness is limited.

What limits the wide popularity of smart homes



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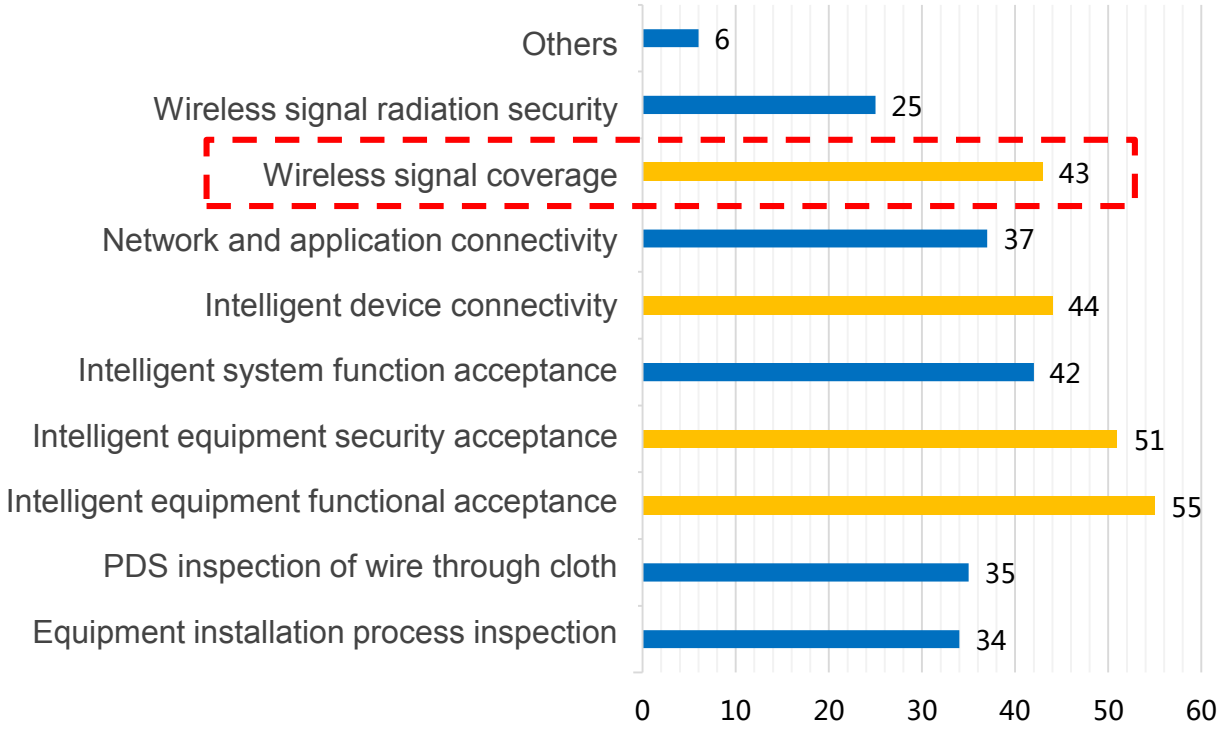
Research on smart transformation of hotel and real estate industry

The acceptance of the project is carried out from four directions including: function, security, connectivity, wireless signal coverage

Research on Project Acceptance function



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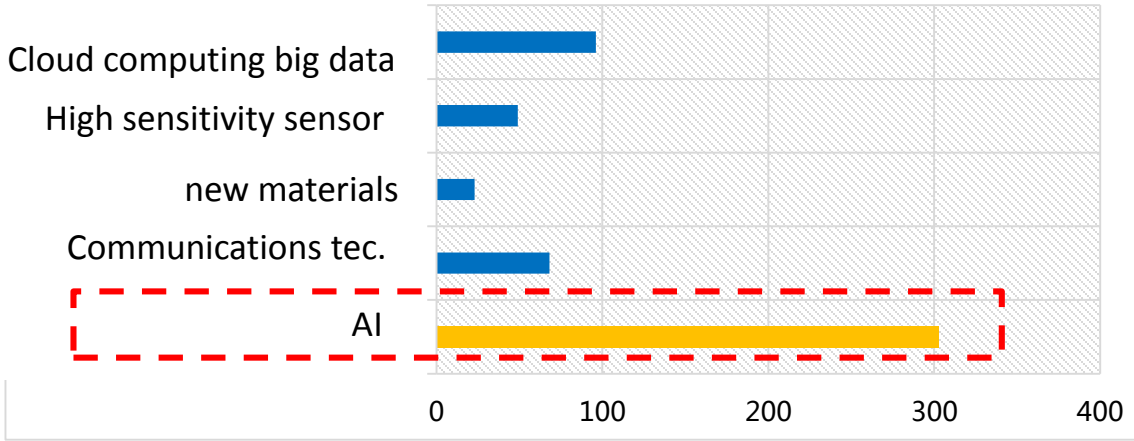
The technical field of promoting intelligent home development in the future



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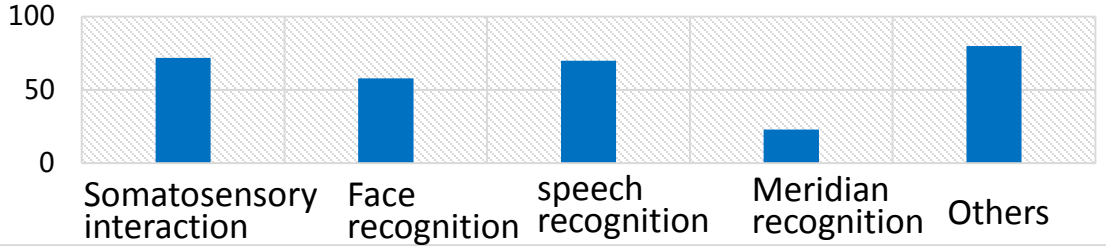
Which AI technologies are used most in smart home applications



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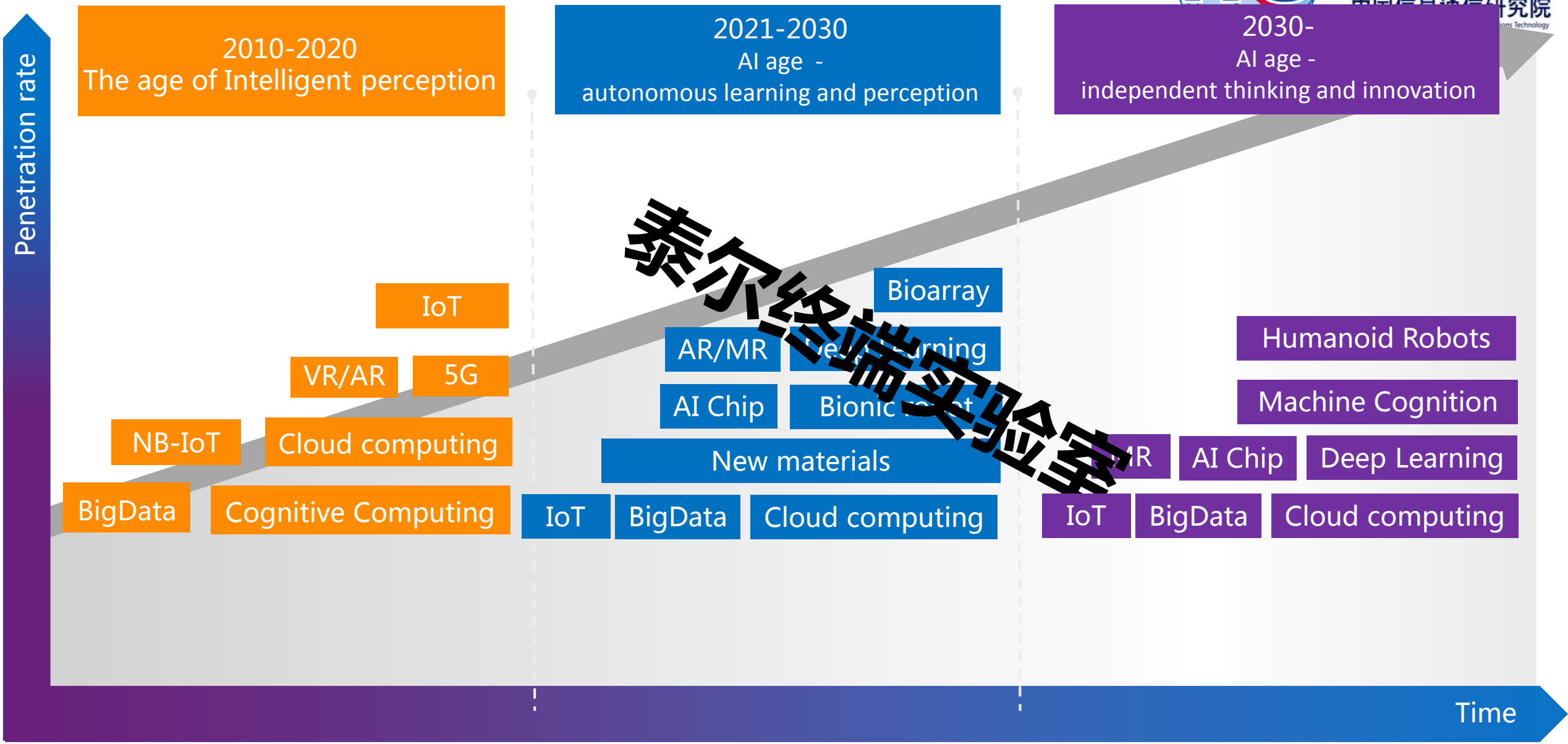
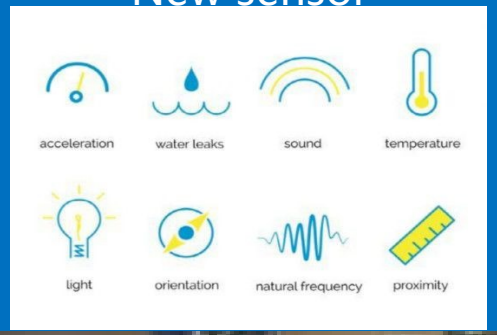
The future trend of the smart home



泰尔终端实验室

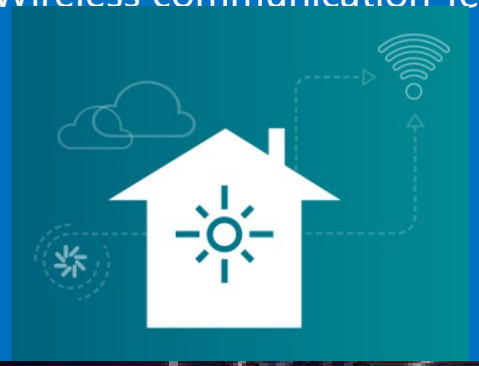
Smart home industry technology development trend

New sensor



- Miniaturization
- Intelligent
- multi-functional
- wireless network

Wireless communication Technology

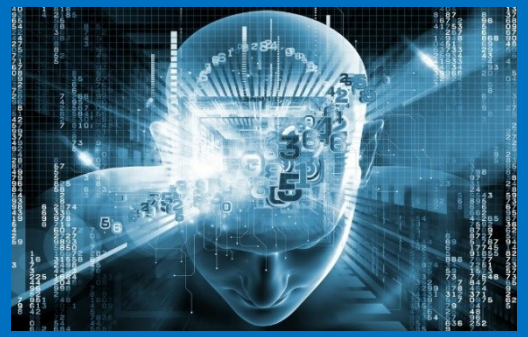


- NB-IoT
- Bluetooth 5.0、BLE Mesh
- Wi-Fi、Wi-Fi HaLow
- NFC
- Zigbee3.0

Big Data & Cloud

- Mode transformation: smart home from the device side + mobile terminal mode to equipment + cloud + mobile terminal.
- Security：Equipment、Data…

Artificial Intelligence



- Human–Computer Interaction：speech recognition, voice recognition, machine vision, motion recognition
- Machine learning
- Deep learning

Service Robot

With the decrease of birth rate and the aggravation of aging, service robots will be popularized in the fields of family, office and public service.

The follow-up work of Smart home standardization

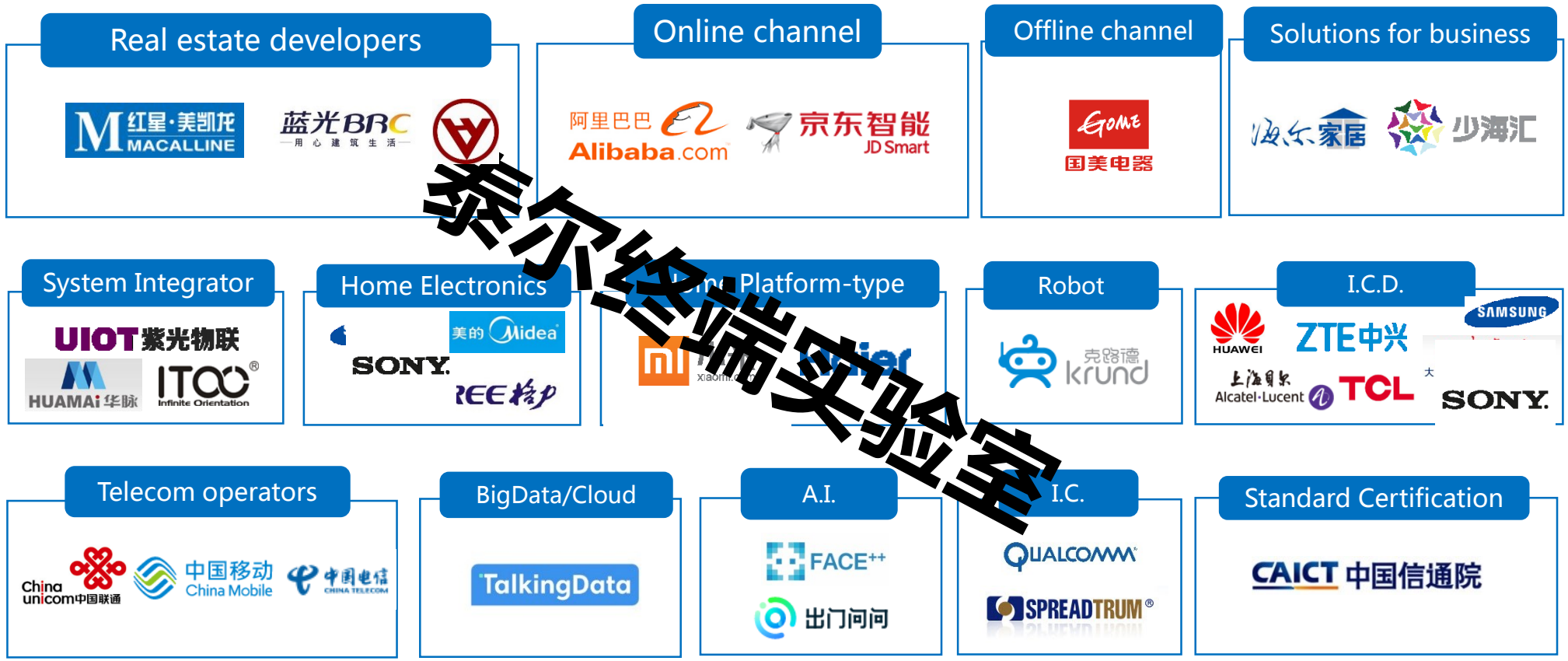
The China Telecommunication Technology Labs -terminals is the leader in the CCSA TC11 WG1 SmartHome group.

Smart Home Working Group is responsible for the organization of Smart home Partners in the field of joint research and discussion of the Smart home field technical standards.

CCSA TC11 Smart Home Working Group will work with OCF, AllSeen and other international Intelligent Home Forum Organization Standards Organization, joint research and intelligent home related technology and standardization. At the same time, with Wi-Fi Alliance, Bluetooth forum, ZigBee Alliance, NFC, USB, home Plug and other related technical alliance organizations to cooperate closely.

Five important points of standardization work

Ecological Atlas of some member enterprises



Note: The above content includes some partner enterprises that are inviting to join

Five important points of standardization work

General standard of Intelligent home

Standardize the definition, terminology, System architecture, networking principles, application scenarios and functional requirements of smart home systems

Interface protocol standard

Communication and networking, such as low-level physical interface and protocol requirements, different kinds of products of commonality and special technical requirements and test program class standards

Smart Home specific Application scenario standards

Definition of Smart Home application scenario and technical Requirements analysis and test program standards

Technical standard of Big Data

Data relating to intelligent terminals and intelligent systems, including: data classification, data definition, collection and management, data use and other standards

Security standards

Related to equipment safety, network security, data security, etc.

Trainer: Chao Dai

E-mail: daichao@catr.ac.cn

Department: Consult department of West institute of CAICT

Address: Yuma Road, Nan’an District, Chongqing, China

Thank you

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