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Internet of Things Industry

The **Internet of Things (IoT)** originated in the field of media and is the third revolution in the information science and technology industry. The IoT is a network based on information carriers such as the Internet, radio and television networks, and traditional telecommunications networks, which allows all ordinary physical objects that can be independently addressed to achieve interconnection and interoperability.

Driven by both the supply side and the demand side, the IoT has entered the third wave of development represented by basic industries and large-scale consumption. Infrastructure such as 5G and low-power wide area networks are being built at an accelerated pace. Trillions of new devices will be connected to the network and generate massive amounts of data. New technologies such as artificial intelligence, **edge computing**, and blockchain are accelerating their integration with the IoT, and application hotspots are emerging. The IoT has ushered in a new stage of cross-border integration, integrated innovation, and large-scale development.

Chinese name	物联网产业	Foreign name	iot
Other name	Sensor network	Nature	Concept of Internet of Things

Background introduction

"If the Internet of Things is connected to the Internet through the Internet of Things domain name, we can instantly obtain information about everything anywhere in the world. It can be said that the Internet of Things plus the Internet equals a smart earth." The Internet of Things has a wide range of uses and can be applied to urban public safety, industrial safety production, environmental monitoring, intelligent transportation, smart home, public health, health monitoring and other fields, allowing people to enjoy a safer and easier life.

Let's take a few examples. When driving from Chengdu to Chongqing, after getting on the car, as long as you set the destination, you can sleep and watch movies at will. The on-board system will drive intelligently through the signals received on the road; if you don't live in the hospital, as long as you use a small instrument, the doctor can monitor the patient's body temperature, blood pressure, and pulse 24 hours a day; after get off work, as long as you send a command with your mobile phone, the rice cooker at home will automatically heat up and cook, and the air conditioner will start to cool down...

This is not a scene in a science fiction movie. Through the gradual realization and

improvement of the "Internet of Things", everyone's life will move closer to this. The so-called Internet of Things, also known as the sensor network in China, refers to a huge network formed by combining various information sensing devices with the Internet.

Basic situation

Specifically, it is to connect all items to the network by installing information sensing equipment, such as radio frequency identification (RFID) devices, infrared sensors, global positioning systems, laser scanners, etc., so as to facilitate identification and management. It can be used on TVs, washing machines, air conditioners, even bicycles, door locks and blood pressure monitors.

Experts predict that within ten years, the Internet of Things may be widely popularized and will be widely used in smart transportation, environmental protection, government work, public safety, safe homes, smart fire protection, industrial monitoring, elderly care, personal health and other fields, and a high-tech market of more than one trillion yuan will be born.

To put it simply, if the Internet of Things is successfully popularized, it means that almost all electrical appliances, household goods, and automobile manufacturing are in urgent need of upgrading.

In actual use, the sensor products of Wuxi Sensor Network Center have derived economic effects. According to Wuxi media reports, the anti-intrusion system of Shanghai Pudong International Airport has laid more than 30,000 sensor nodes, covering the ground, fences and low-altitude detection. After a variety of sensing means form a coordinated system, it can prevent offensive intrusions such as climbing over, smuggling, and terrorist attacks. The National Aviation Administration officially issued a document requiring that all civil airports across the country adopt domestic sensor network anti-intrusion systems.

Related industries

Manufacturing

The next industrial revolution has begun, and this rise is driven by the Internet of Things. Products and devices can provide data during use.

66% of early adopters use the Internet of Things to measure risks, protect company assets, and improve employee safety.

76% of manufacturing pioneers help them better understand customer preferences and behaviors.

61% of pioneers use the Internet of Things to improve their reliability and product performance and services.

66% of pioneers believe that the Internet of Things is the key to their competitive

advantage.

Healthcare

The increase and aging of the population is placing a heavy burden on healthcare, and the Internet of Things can help alleviate this. Through the Internet of Things, patients can choose to receive treatment at home. Medical staff and equipment can track patients through the Internet of Things, not only improving existing conditions, but also responding in a timely manner. Monitoring health conditions and identifying symptoms will also be faster than before.
82% of medical companies believe that the automation of the Internet of Things has greatly simplified the processes of their logistics departments.
54% of medical industry pioneers enrich their products or services with information from the Internet of Things.
For example, the baby monitor market mainly uses video and audio equipment for continuous information collection, and even mobile monitoring, but it is very easy to cause false alarms. By feeding back the baby's blood oxygen saturation measured by pulse oximetry through the Internet of Things, parents can be reminded of the emergency of the baby's sudden cessation of breathing on their mobile phones in a timely manner.

Energy and Utilities

The Internet of Things can connect more energy sources with more and more needs, and it can also integrate renewable energy to achieve clean power generation. Through the Internet of Things, people can understand the information of the equipment in almost real time, thereby reducing the impact of temporary power outages.
There are more than 60 million smart meters in use in the United States.
By 2025, the use of Internet of Things technology in distribution and substation automation can achieve an additional profit of 13-24 billion US dollars per year.

Transportation and Distribution

The Internet of Things takes tracking to a whole new level. It allows all parameters in the delivery process to be recorded, not only the location, but also temperature, humidity, vibration, tilt, etc. This all-round monitoring of drivers and equipment greatly improves safety. In particular, it makes driverless cars closer to reality.
83% of pioneers use IoT to improve their foresight of operational performance and risks to help them make better decisions.
83% of pioneers believe that IoT has brought new business models to the transportation industry.
86% use IoT to assess risks and protect company property and employee safety.

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Agricultural technology

The Internet of Things helps achieve precision agriculture. It helps make sowing, irrigation and fertilizer use more accurate. IoT can monitor soil quality, wind speed and sunlight, which allows farmers to know how their crops are growing. At the same time, using IoT in agricultural production can also save resources, reduce costs and reduce environmental impact.
For example, sensor data can recommend how much water is needed for irrigation. These predictive irrigation recommendations save resources such as water and electricity, prevent crop diseases, reduce costs and improve crop quality.
For another example, the Internet of Things can also help farmers manage their farms. By using applications and sensors, farmers can collect, store and track farm data information, including temperature, air quality, energy supply and feed use, so that various farm operations can be remotely observed and managed.

Smart city

The complete form of smart city may not appear yet. But smart cities are being built. IoT can be used to reduce energy use, manage traffic, and increase citizen safety. IoT can help urban residents, who make up half of the world's population, make their lives easier, cleaner, safer, and more enjoyable.
81% of people strongly expect that IoT information will bring them better services.
76% of pioneers use IoT to improve their foresight of operational performance and risks to help them make better decisions.
68% of pioneers use IoT automation to greatly simplify their logistics department processes.
71% use IoT to assess risks and protect company property and employee safety.
For example, early signs of earthquakes can be detected through network accelerometers. If an earthquake is detected, a warning will be sent to the user's smartphone on the risk map, prompting people that the earthquake will occur in a few minutes, giving people more time to find shelter or stop critical activities.

Retail

The Internet of Things has been changing the retail industry. It can make the in-store shopping experience more personalized. In addition to no longer having to worry about getting lost in the mall, the Internet of Things can also recommend you "might like" channels based on your purchase history.
89% of manufacturing pioneers help them gain better insights into customer preferences and behaviors.
77% of retailers believe that the Internet of Things can change the user experience.
84% of retailers say that consumer value lies in the exchange of information, which can improve their shopping experience.
77% of pioneers believe that the Internet of Things is creating new opportunities and

new partnerships in terms of providing products and services to customers.

Financial Services

In a data-driven global financial environment, the Internet of Things is conducive to increasing intelligence, reducing risks and providing a better digital experience. It can be used to calculate insurance premiums, for accurate credit analysis, personalize the retail banking experience and provide customized new products.
77% of pioneers believe that the Internet of Things is the key to their competitive advantage.
77% of pioneers believe that the Internet of Things is creating new opportunities and new partnerships in terms of providing products and services to customers.
83% of pioneers believe that more and more customer relationships are due to ongoing service agreements rather than product sales.
77% of pioneers believe that their customers fully understand the value of the Internet of Things.

Smart Home

"China's annual shipments of home appliances are more than a billion, with a production value of nearly $300 billion. The replacement cycle of each home appliance is 3 to 5 years. The additional cost after the introduction of the Internet of Things is actually not much..." Helix Technology said that 80% of home appliance manufacturers have done research and development in smart homes. For example, half of the sweepers we are familiar with are connected to the Internet of Things.

Development focus

(I) Focus on the development of Internet of Things technology
1. New sensor and sensor node research and development technology
2. Sensor node networking and collaborative processing technology
3. Internet of Things software and system integration technology
4. Internet of Things application abstraction and standardization technology
5. Internet of Things common support technology

(II) Vigorously cultivate the Internet of Things industry
Market-oriented, make full use of the characteristics of the Internet of Things industry with strong explosive power, large correlation and wide application range, use application as a breakthrough and drive, strengthen the business model, and focus on cultivating and developing the three key industrial fields of the Internet of Things core industry, supporting industry and driving industry according to the degree of industrial correlation.

(III) Fully promote the application of the Internet of Things

Focusing on key areas, first build Internet of Things application demonstration projects in the fields of industry, agriculture, logistics, electricity, transportation, environmental protection, water conservancy, medical care, security, home, park, etc., provide a market environment for the application innovation and industrial development of the Internet of Things, and cultivate a complete market application service system. Actively participate in the construction of national and Jiangsu provincial Internet of Things application demonstration projects. On the basis of demonstration first, gradually carry out application promotion, and build our city into a "Perceiving China" strategic application demonstration pilot area in a planned and step-by-step manner.

(IV) Strive to build an Internet of Things platform
Adopt introduction, cooperation, and cultivation to quickly gather a group of high-level scientific research forces and R&D institutions in the field of Internet of Things at the national, provincial, and municipal levels. In accordance with the principles of unified planning, market operation, and encouraging enterprise participation, establish and improve various service platforms at all levels required for Internet of Things technology innovation and industrial development, and coordinate the development of the advantages of various platforms.

Related technologies

Core technology perception layer: sensor technology, radio frequency identification technology, QR code technology, micro-electromechanical system and GPS technology

1. Sensor technology

Sensor technology, together with computer technology and communication technology, is called the three major technologies of information technology. From the perspective of bionics, if the computer is regarded as the "brain" that processes and identifies information, and the communication system is regarded as the "nervous system" that transmits information, then the sensor is the "sensory organ". Micro wireless sensor technology and the sensor network based on this component are important technical means of the perception layer of the Internet of Things.

2. Radio Frequency Identification (RFID) Technology

Radio Frequency Identification (RFID) is a wireless communication technology that identifies specific targets and reads and writes related data through radio signals. In China, RFID has been widely used in fields such as identity cards, electronic toll collection systems, and logistics management.

RFID technology has mature market applications and low tag costs, but RFID generally does not have data collection functions and is mostly used to identify items and store attributes. It is also limited in metal and liquid environments. RFID technology belongs to the information collection layer technology of the Internet of Things.

3. Microelectromechanical System (MEMS)

Microelectromechanical system refers to a microelectromechanical system that integrates micro sensors, actuators, signal processing and control circuits, interface circuits, communications and power supplies using large-scale integrated circuit manufacturing processes and micron-level processing. MEMS technology belongs to the information collection layer technology of the Internet of Things.

4. GPS technology

GPS technology, also known as the Global Positioning System, is a new generation of satellite navigation and positioning system with all-round real-time three-dimensional navigation and positioning capabilities by sea, land and air. As a mobile sensing technology, GPS is an important technology for the Internet of Things to extend to mobile objects to collect information about mobile objects, and it is also an important technology for intelligent logistics and intelligent transportation.

Information aggregation layer of core technologies: sensor network self-organizing network technology, local area network technology and wide area network technology.

1. Wireless Sensor Network (WSN) Technology

The basic function of a wireless sensor network (WSN) is to connect a series of spatially dispersed sensor units through a self-organizing wireless network, so that the data collected by each unit can be transmitted and aggregated through the wireless network to achieve collaborative monitoring of physical or environmental conditions within the spatially dispersed range, and to perform corresponding analysis and processing based on this information.

WSN technology runs through the three levels of the Internet of Things. It is an emerging technology that combines the three technologies of computing, communication, and sensors. It has the advantages of a large range, low cost, high density, flexible deployment, real-time collection, and all-weather operation, and has a significant driving effect on other industries in the Internet of Things.

2. Wi-Fi

Wi-Fi (Wireless Fidelity) is a wireless network structure based on access points (Access Point). It has been deployed on a certain scale and is combined with sensors in some applications.

Media promotion

"Internet of Things Technology" magazine is the first professional Internet of Things science and technology journal in China approved by the State Administration of Press and Publication and with complete procedures. The domestic unified serial publication number is CN61-1483/TP.
The Internet of Things is the third revolution in the world's information technology after computers and the Internet.

The Internet of Things Technology magazine is committed to welcoming this revolutionary wave, using paper media and online communication as means, and adopting the method of online magazine interaction to promote the concept of the Internet of Things, which has been promoted to a national development strategy, to everyone in easy-to-understand language and case studies, laying a solid foundation for its widespread popularization and application. At the same time, we will be committed to collecting and disseminating the latest global and national development dynamics and trends of the Internet of Things technology; promoting new technologies, new products, new solutions and new application cases in the Internet of Things industry, building an interactive platform for the development of the Internet of Things industry, and promoting the innovation, exchange and prosperity of the Internet of Things technology.

The magazine invited the Electronic Information Industry Branch of the China Council for the Promotion of International Trade, the Internet of Things Expert Committee of the China Electronics Society, the Shaanxi Internet of Things Experimental Research Center, the China RFID Industry Alliance, the Shaanxi Internet of Things Industry Alliance, the Henan Internet of Things Industry Alliance, the Zhejiang Internet of Things Industry Technology Innovation Alliance, the Hangzhou Internet of Things Industry Association, the Chengdu Internet of Things Industry Development Alliance, the Nanjing Internet of Things Industry Alliance, the Tianjin Internet of Things Industry Alliance, the Zhongguancun Internet of Things Industry Alliance, the Wuhan • China Optics Valley Internet of Things Industry Technology Innovation Alliance, the Institute of Microelectronics of Peking University, the Institute of Internet of Things and Sensor Networks of Nanjing University of Posts and Telecommunications, Xidian University, and the Institute of Internet of Things and Integration of Industrialization and Informationization of Xi'an University of Posts and Telecommunications as co-organizers of the magazine, making the magazine a national magazine with a high starting point, wide information sources and wide coverage from the very beginning, playing a leading role in the Internet of Things industry.
Internet of Things Technology is a monthly magazine with full-color printing. It was founded in March 2011. The domestic unified serial publication number is CN61-1483/TP, and the price is 10 yuan/issue.

Target audience
Mainly targeted at decision-makers, product designers, and R&D personnel in government agencies, research institutes, and large enterprises, high-tech personnel in various military services, college teachers and students, and electronic enthusiasts.

Main columns
Global IoT development trends, domestic IoT development trends, regional IoT development trends, special topic introductions, industry leaders, academic research results, success stories, latest selling points, trading platforms, corporate yellow pages, etc.

Promoting development

The Internet of Things is the third wave of the information industry after computers, the Internet, and mobile communication networks. It has great development and application prospects and has been listed as one of the country's five major emerging strategic industries. According to the forecast of Forrester, a US research institution, the industrial value brought by the Internet of Things is 30 times greater than that of the Internet, and will form the next trillion-level communication business.
The National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Industry and Information Technology and other relevant departments have supported a number of RFID (electronic tags), sensor networks and smart sensor projects respectively. The Golden Card Project has also launched a number of RFID industry (local) application pilot projects, but most of the application projects are mainly closed-loop applications, and large-scale applications are still in the initial stage.

It is reported that the policy support for IoT enterprises in the 12th Five-Year Plan of the Internet of Things will still focus on major application projects. The key areas of the top ten applications of the Internet of Things in the 12th Five-Year Plan are smart grid, smart transportation, smart logistics, smart home, environmental and safety testing, industrial and automation control, medical health, precision agriculture and animal husbandry, finance and services, and national defense and military. Backbone IoT enterprises with independent intellectual property rights may receive more financial support. There is still a certain gap between my country's chip research and development, manufacturing, and packaging and those abroad. Considering the information security of the Internet of Things industry and the goal of seizing the commanding heights of the development of the Internet of Things industry, chip manufacturers are expected to be highly valued.

Miao Wei, Minister of Industry and Information Technology, pointed out recently that the Internet of Things is still in its infancy in the world, and all countries are basically

on the same starting line. Therefore, seizing the rare strategic opportunity and accelerating the development of the Internet of Things is an inevitable choice to enhance my country's international competitiveness.

Prior to the central government, local governments have issued relevant plans for the development of the Internet of Things, clarifying the development goals and key application areas of the Internet of Things in the next 3 to 5 years. In the local plans that have been issued, Shanghai, Chongqing, Jiangsu, Guangdong, Shaanxi, Liaoning and other provinces and cities have listed the Internet of Things as a key development area in the 3-5 year development plan of smart grids. Not only have the plans for the Internet of Things been issued one after another, but the pilot projects of the Internet of Things have also been carried out vigorously in various places. Driven by national policies, the Internet of Things industry in various provinces and cities has flourished, and the prelude to the industrialization of the Internet of Things in my country has begun.

As an emerging industry, the Internet of Things has become a stage for local economies to show their strength and compete with each other.

Analysis of key factors in the development of China's Internet of Things industry

The key factors for the breakthrough development of China's Internet of Things industry are mainly the following five aspects: First, the establishment of a standardization system. The development of the Internet of Things in my country is still in its early stages. Even in the world, there is no unified standard system. The lack of standards will greatly restrict the development of technology and the large-scale application of products.

The second is the breakthrough of core technologies with independent intellectual property rights. As a national strategic emerging technology, if you do not master key core technologies, you cannot form the core competitiveness of the industry. Therefore, the establishment of national and regional Internet of Things research centers and the mastery of core technologies with independent intellectual property rights will become the top priority for the development of the Internet of Things industry.

The third is the introduction of positive feasibility policies. The introduction of relevant feasible industrial support policies is one of the key factors for China's Internet of Things industry to seek breakthroughs. "Policy first" will be an important guarantee for the large-scale development of China's Internet of Things industry.

Fourth, the active coordination and interaction of various industry authorities. The application field of the Internet of Things is very wide, and many industry applications have great cross-industry, but these industries belong to different

government functional departments. In the process of industrialization, it is necessary to strengthen the coordination and interaction of various industry authorities to effectively ensure the smooth development of the Internet of Things industry.

Fifth, the implementation of major projects in key application areas. To promote the rapid development of the Internet of Things industry, it is also necessary to establish a number of major projects in key application areas, promote the research and development of key technologies and application demonstrations, and drive the sustainable and healthy development of the entire industry through the "local pilot, key demonstration" industrial development model.

Although the development of the domestic Internet of Things is still affected by some unstable factors, business people believe that it will be the next trillion-level industry. Relevant people said that in the ten years from 2010 to 2020, China's Internet of Things industry will go through three key development stages of application innovation, technological innovation, and service innovation, and grow into a huge industry with a scale of more than 5 trillion.

The Internet of Things market has huge potential. While the Internet of Things industry is developing itself, it will also drive the continuous development of a series of related industries such as microelectronics technology, sensor components, automatic control, and machine intelligence, bringing about a huge industrial cluster effect.

The Internet of Things is the commanding height of future competition in the information industry and the core driving force for industrial upgrading. The development of the Internet of Things industry is not only a strategic choice to enhance the core competitiveness of the information industry, promote economic transformation and upgrading, and create new development advantages, but also an important means to transform and upgrade traditional industries and promote the integration of industrialization and information technology.

Development trend

Industry experts believe that the Internet of Things can improve economic efficiency and greatly save costs on the one hand; on the other hand, it can provide technical impetus for the recovery of the global economy. The United States, the European Union, etc. are investing heavily in in-depth research and exploration of the Internet of Things. my country is also paying close attention to and attaching importance to the research of the Internet of Things. The Ministry of Industry and Information Technology, together with relevant departments, is conducting research on the new generation of information technology to form policy measures to support the development of the new generation of information technology.

Wang Jianzhou, President of China Mobile, mentioned that the Internet of Things will become the future development focus of China Mobile. He said that he would invite

Taiwanese manufacturers of RFID, sensors and barcodes to cooperate with China Mobile. Using the Internet of Things technology, Shanghai Mobile has tailored a complete set of wireless integrated application solutions integrating data collection, transmission, processing and business management for customers in multiple industries. Data shows that more than 100,000 chips have been installed on taxis and buses. Various forms of Internet of Things applications have been used in various industries to ensure the orderly operation of the city. During the World Expo, "Vehicle Service" was fully used in Shanghai's public transportation system, using the most advanced technology to ensure the smooth flow of large-volume traffic around the World Expo Park; "e-Logistics" for logistics companies' transportation management will provide users with real-time and accurate cargo information, vehicle tracking and positioning, transportation route selection, logistics network design and optimization and other services, greatly enhancing the comprehensive competitiveness of logistics companies.

Industrial Application

With the gradual implementation of a number of projects such as IoT technology innovation, industrial development, and application demonstration, IoT applications in the fields of security, electricity, and transportation have initially had a large-scale foundation. In these areas, governments, enterprises, and scientific research institutions are stepping up their exploration of relevant business models. Statistics show that among the major industry applications of IoT, security (security protection, anti-intrusion, smart home), electricity, and transportation are at the forefront. Among them, the IoT application in the security industry is the most extensive, with a market size of 99.2 billion yuan, but its share has declined. The **IoT application** in the power industry and the transportation industry has developed rapidly, with market sizes reaching 40.5 billion yuan and 29.7 billion yuan respectively. It is estimated that in 2012, the market size of the three major industries of security, electricity, and transportation will reach 118.1 billion yuan, 54.6 billion yuan, and 45.3 billion yuan respectively.

Ivano's unique IoT lighting energy-saving street lamp solution fully takes into account the cost and convenience of use of enterprises and governments. Its versatility and high performance not only have significant effects in reducing energy consumption and reducing carbon dioxide emissions, but also save enterprises and governments from the trouble of repeated maintenance and high maintenance costs.

Ivano saves 40%-65% of energy consumption for corporate public lighting through energy conservation and cost control. Ivano uses the most advanced remote wireless control system technology to fully guarantee the illumination of light in the street lighting system, maximize the brightness of street lighting, and best guarantee the

visibility and safety of street lighting.

Ivano makes the global energy-saving and environmentally friendly lighting system truly move towards electronic, digital, information and intelligent roads, and truly realizes the new concept of "on-demand electricity, fine management".

Product features:
Multi-function wireless control system
1. Energy saving of more than 60%.
2. Extend the service life of the light source.
3. Automatic alarm system.
4. All street lights can be controlled by multiple terminal devices.
5. The geographical location of all street lights can be displayed through GPS.
6. Compatible with driving high-pressure sodium lamps and LED lamp technologies.
7. Intelligent control and management system to reduce management costs.

System components
Management center: All street lights can be conveniently controlled and managed through software or web access to the centralized controller.
Centralized controller: integrates GPRS and RF communication modules, each centralized controller can control 250 street lamps.
Single lamp controller: a bridge connecting the centralized controller and the electronic ballast.
Electronic ballast: connects the street lamp and the single lamp controller, and executes the commands of the single lamp controller.

Successful cases

Fuzhou Economic and Technological Development Zone has been making continuous moves in the Internet of Things industry. On January 11, Fuzhou Economic and Technological Development Zone established the city's first Internet of Things Association. On March 21, the zone held a seminar on the strategic planning of the development of the Internet of Things industry. On April 19, the "Fuzhou Economic and Technological Development Zone Internet of Things Industry Development Plan" passed the provincial expert review. At the end of this month, the zone will start the application for the National New Industrialization Industry Demonstration Base of the Internet of Things. According to the plan, the zone will strive to achieve an output value of 50 billion yuan in the Internet of Things industry in 2015 and an output value of 70 billion yuan in 2018.

The annual output value of the Internet of Things in the development zone has reached 27.4 billion.

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When you turn on your mobile phone, you can see the real-time information of the light and humidity of the potted plants at home; when you look at the LED display on the platform, you can know how many stops away the bus you are going to take is from your station; when you drive, the car will tell you whether there are vacancies in the nearby parking lot, how much the parking price is, and make an appointment for a parking space... This "magical" future life comes from the Internet of Things technology.

In Fuzhou Economic and Technological Development Zone, from the above-mentioned smart life scenes to a Bluetooth headset, and even to the optical components and control instruments on the Shenzhou spacecraft, you can find them here. According to the survey of 19 enterprises in the zone by CCID Consultants, a well-known domestic consulting company, the Internet of Things industry chain in Fuzhou Economic and Technological Development Zone has taken shape, and a number of leading enterprises in the province and even in the country are distributed in the main links of the industry chain.

For example, the supporting layer companies such as Getong Electronics and Guoguang have products involving low-power communication modules, LCD modules, information security, etc.; the perception layer companies such as Fuguang Digital, Newland, and Shangrun have products involving navigation terminals, optical lenses, QR codes, sensors, etc.; the transmission layer companies are mainly telecom operators, and have built a complete communication network.

According to statistics, the output value of the Internet of Things in the district reached 27.4 billion yuan, showing a vigorous development momentum. Newland was the first in the world to release a new generation of QR code chips; Scud's first portable mobile power supply standard was approved, filling the gap in domestic standards in this field; Shangrun intelligent actuator and other projects have been completed and put into production; the first phase of Korish, with a total investment of US$1.02 billion, has been completed and put into production this month.

Invest 10 million yuan every year to support industrial development

In order to strengthen and expand the Internet of Things industry, the district has set up an Internet of Things industry support fund, with an annual allocation of no less than 10 million yuan; encourage domestic scientific research institutions and Taiwan's Industrial Technology Research Institute to start businesses in Fuzhou Economic and Technological Development Zone, and for academicians, professors and above senior talents who set up Internet of Things technology research and development and achievement incubation enterprises with an investment of more than 10 million yuan in the district's Internet of Things Industrial Park, after one year of normal operation, a subsidy of 5% of the actual registered capital of the enterprise will be given, with a maximum of no more than 1 million yuan; leading

manufacturing enterprises in the Internet of Things industry in the district purchase products and processing services from upstream supporting enterprises of the Internet of Things registered in the district for more than 1 million yuan throughout the year, and give the legal representative or main operating manager of the enterprise a reward of 3‰ of the actual purchase amount, and the maximum reward for a single enterprise is no more than 1 million yuan.

At present, Fuzhou Economic and Technological Development Zone has set short-term, medium-term and long-term goals for the development of the Internet of Things industry. By 2015, the district will strive to gradually improve the Internet of Things industry chain, make the "Haixi Internet of Things Information Identification Base" and "Haixi Internet of Things Application Demonstration Base" basically take shape, and build the "Haixi Internet of Things Technology R&D Center", striving to achieve an output value of 50 billion yuan for the Internet of Things industry.

By 2018, the district will expand the market breadth and depth of the Internet of Things enterprises in the district, fully build the "Haixi Internet of Things Public Service Platform", the Haixi Internet of Things Industry Innovation and Entrepreneurship City, and the Haixi Internet of Things Application Demonstration Base, and achieve an industrial output value of 70 billion yuan.
In terms of industrial layout, the district will focus on building the Internet of Things industry in Kuaian and Langqi in the future. China Fuzhou Kuaian will focus on developing Internet of Things application products and services such as smart home, smart transportation, smart grid, and smart logistics; Langqi will focus on developing system integration and related services for smart tourism, smart agriculture, etc.

About IOT Cloud Platform

IOT Cloud Platform (**blog.iotcloudplatform.com**) focuses on IoT solutions, IoT programming, security IoT, industrial IoT, military IoT, best IoT projects, IoT creativity, IoT companies, Chinese IoT companies, American IoT companies, top IOT companies, IoT modules, embedded development, IoT circuit boards, Raspberry Pi development and design, Arduino programming, programming languages, RFID, lora devices, IoT systems, sensors, temperature and humidity sensors, liquid level sensors, sensor devices, artificial intelligence, blockchain, robotic arms, smart homes, smart cities, smart agricultural factories, edge computing, big data, cloud computing, brain-computer interfaces, machine learning, robots, VR/AR, AI simulation technology, motion control, new energy, photovoltaic solar energy, lithium batteries, silicon brain SBB, unmanned aerospace navigation, unmanned driving, AGI, chips, semiconductors, smart hardware and other scientific and technological knowledge and products.