China AI Solution Market Study

Independent Market Research Report

Confidential For

Date : June 20, 2025

For and on behalf of
Frost & Sullivan (Beijing) Inc., Shanghai Branch Co.

Name: Terry Tse
Title: Consulting Director

云知声
Unisound

Frost & Sullivan
March 2025

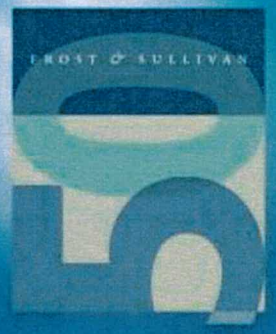
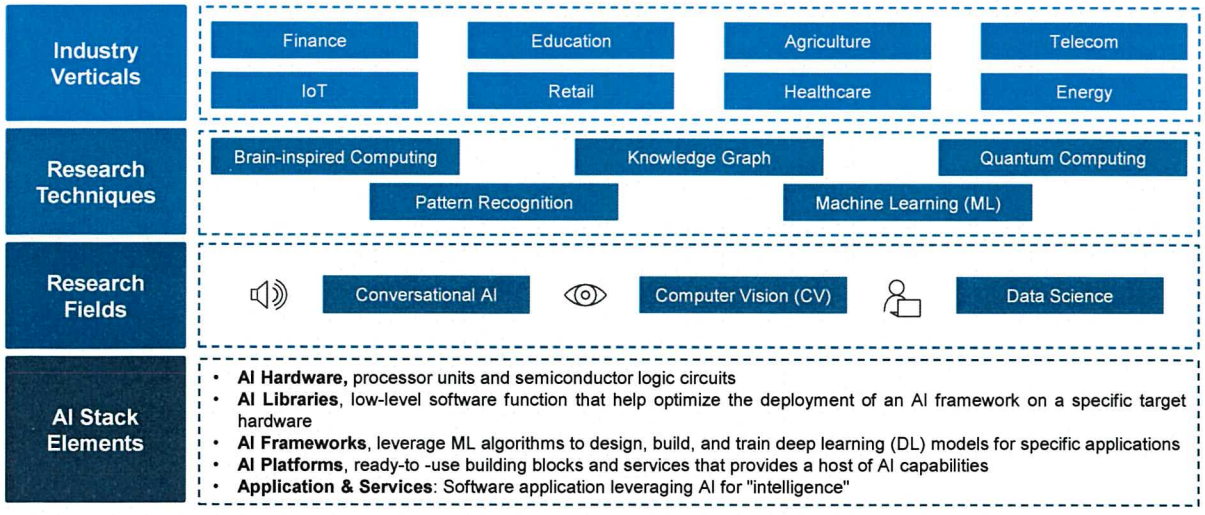


Table of Contents

Overview of Artificial Intelligence

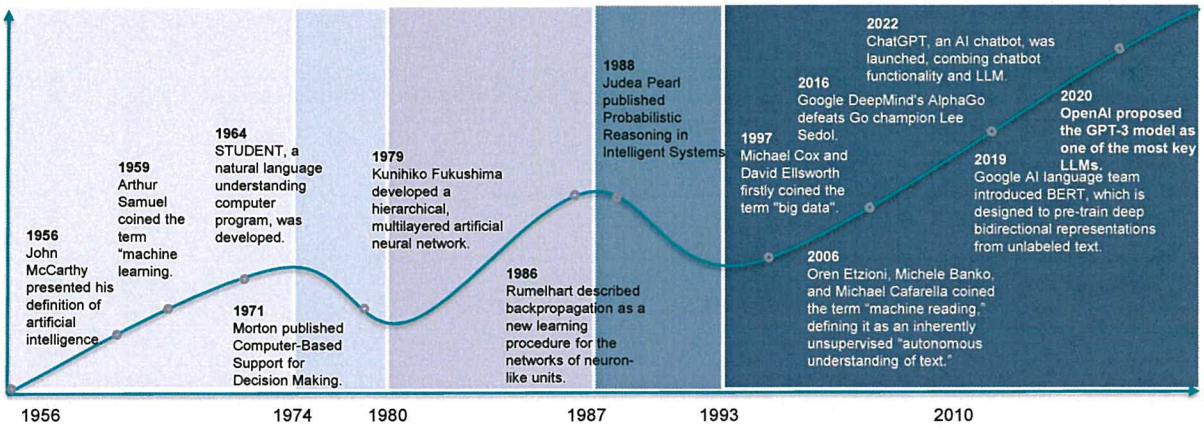
- Artificial Intelligence (AI) is a branch of computer science that aims to empower machines to simulate human intelligence and intimate cognitive functions, associated with learning, reasoning, and problem-solving. AI works in two main phases: training and inference. In the training phase, a developer feeds their model a curated dataset so that it can "learn" everything it needs to about the type of data it will analyze. In the inference phase, the model can make predictions based on live data to produce actionable results.
- AI is now one of the fastest-growing areas in all of science and one of the most discussed topics in society. It represents a transformational foundation technology for the future of computing and is expected to transform human-to-human, human-to-machine, machine-to-human and machine-to-machine interaction for decades to come. The influence of AI will continue to permeate deeper into many other industries for the foreseeable future.



Source: Frost & Sullivan Analysis

Key Milestones of Artificial Intelligence

- In 1950, Alan Turing published "Computing Machinery and Intelligence" in which he proposes thinking machines, which would be later known as "Turing Test".
- The first high-tide of AI, from 1956 to 1974, occurred several algorithms such as geometric theorem provers and chess-playing programs, which simulated the operation of the human brain on specific problems. However, these algorithms can only solve problems in a narrow field, with insufficient computing power.
- The second high-tide, from 1980 to 1987, emerges more complicated systems, leveraging logic rules and reasoning algorithms, such as speech recognition, machine translation, expert systems, and neural network. However, high maintenance expenses made the application of neural network algorithms less than expected.
- Since 1993, the explosion of data, brought about by the Internet and increasing computing power, have significantly promoted the development of deep learning and greatly improved the influence of neural networks.



Source: Frost & Sullivan Analysis

Trends of AI Evolution

- It is commonly believed that there would be 3 stages of AI evolution – symbolic intelligence, perceptual intelligence and cognitive intelligence. Current intelligent systems have reached or even surpassed human level in perception, but there are still many shortcomings in terms of interpretability, robustness, safety and reliability. The fundamental goal of artificial intelligence is to mimic the core activities of human.
- Common sense map, logic generation and cognitive reasoning are the 3 typical characteristics of cognitive intelligence, which may not accomplish in the coming years.

Cognitive intelligence have the ability to continuously learn new things from existing facts and feedback, and to complete some more complex tasks.

Perception AI interprets, acquires, selects, and then organizes the sensory information from the physical world to make actions like humans.

Symbolic AI involves the explicit embedding of human knowledge and behavior rules into computer programs.

Perceptual Intelligence

Cognitive Intelligence

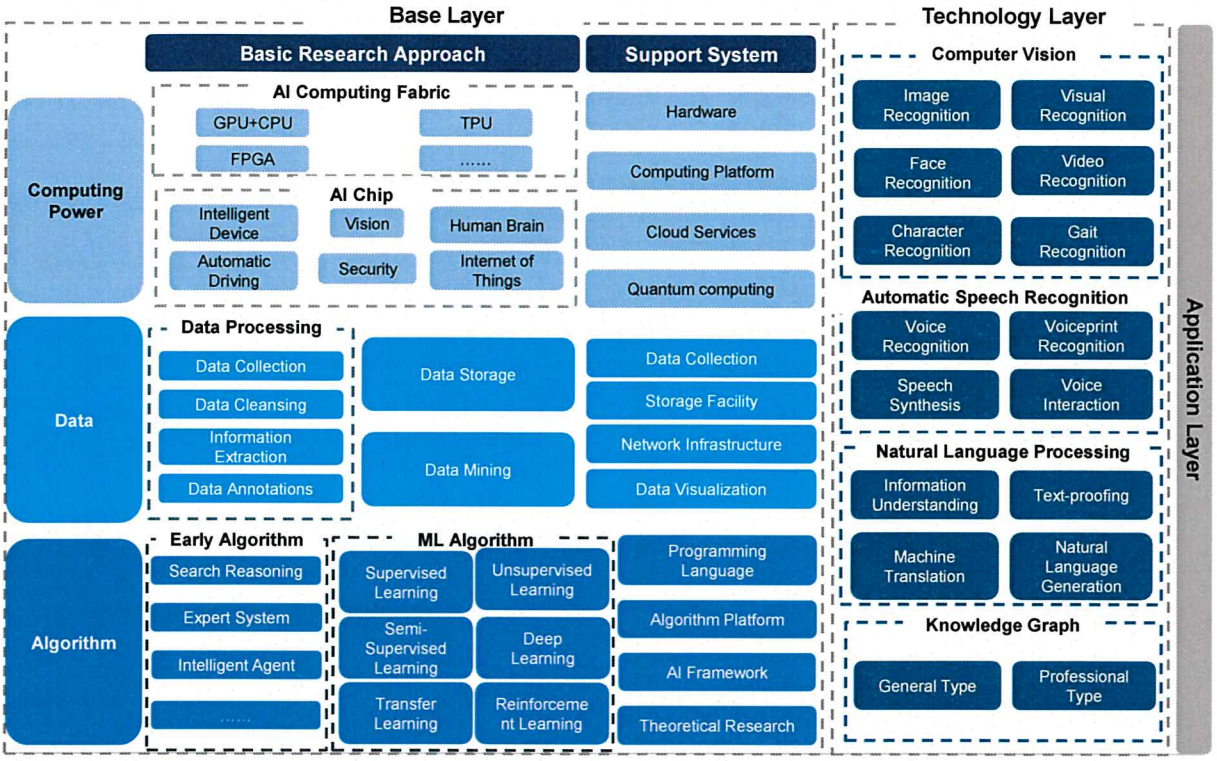
Symbolic Intelligence

3 Core Elements of Cognitive Intelligence

- **Common sense map**. For example, high-precision knowledge graph construction tools, domain knowledge graph application systems, super-large-scale common sense knowledge graphs, recommendation/search based on knowledge graphs, etc.
- **Logic generation**. Related to computing models, such as ultra-large-scale pre-training models, can automatically generate content.
- **Cognitive reasoning**. That is, let the computer have the ability of reasoning and logical thinking, and think like a person.

Source: Frost & Sullivan Analysis

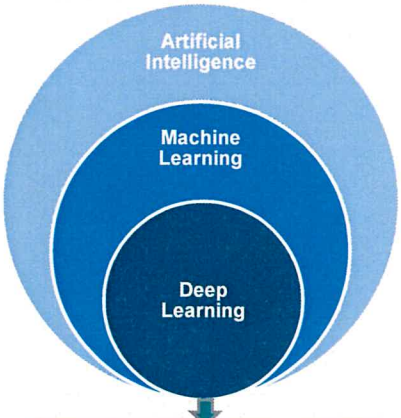
Key Techniques of AI



Source: Frost & Sullivan Analysis

Relationship between AI, ML, DL

- The nuance between ML and DL is in how each algorithm learns. Deep learning automates much of the feature extraction process, avoiding some manual human intervention and allowing larger data sets. Non-deep, classic machine learning is more dependent on human intervention to learn, usually requiring more structured data.
- Deep learning can leverage labeled datasets, known as supervised learning, to inform the algorithm, but not necessarily requiring a labeled dataset. Deep learning and neural networks are primarily regarded as accelerating progress in areas, like computer vision (CV), natural language processing (NLP) and speech recognition.



Deep Learning has three fundamental network structure: Convolutional Neural Networks (CNN), Recurrent Neural Networks and Recursive Neural Networks.

Relationship between AI, ML and DL

- AI and DL is bridged through machine learning (ML). ML is a subset of AI, and it consists of the techniques that enable computers to figure things out from the data and deliver AI applications. DL is a subset of ML that enables computers to solve more complex problems.
- **AI** is the most general of these terms, as it includes systems that aim to mimic human intelligence by learning from data and by applying manually defined decision rules.
- **Machine learning** includes neural networks but also pertains to other methods, such as kernel methods and decision tree–based methods.
- **Neural networks,** mimicking the human brain through a set of algorithms, are comprised of a node of layers, containing an input layer, one or more hidden layers, and an output layer.
- **Deep learning** is a subset of machine learning in which multi-layered artificial neural networks can learn from large amounts of data. Within each layer of the neural network, deep learning algorithms do calculations and make predictions repeatedly, gradually improving the accuracy of the outcome over time. Deep learning, which involves study of neural networks consisting of many layers, is currently the most successful in practical applications and the subject of the most intense research. It is foreseeable that deep learning will lead to a major change in the automated analysis of images.
- **Conclusion**: Deep learning is a collection of multi-layer neural networks using various learning algorithms to solve image, text and other related problems.

Source: Frost & Sullivan analysis

AI Solution by Industry Verticals

- Combing one or more research fields—including conversational AI, computer vision and data science—and industry know-how, companies develop AI solution in specific industry verticals.
- Industry verticals of AI solution can be mainly categorized into IoT, healthcare, telecom, finance, education, retail, and others.

AI Solution by Industry Verticals

IoT: an intelligent, connected network that collects data from interconnected devices and the interaction between people and devices and generates automated actions. Empowered by 5G networks and big data, IoT has wide-reaching potential across various segments such as life and manufacturing.

Healthcare: utilizes AI technologies to dynamically access, connect, and manage information and stakeholders related to healthcare, actively responding to medical ecosystem needs in an intelligent manner to achieve better healthcare outcomes and efficiency.

Telecom: provides intelligent customer service hotline and outbound call services to reduce labor costs and realize the improvement of customer experience and service value.

Finance: provides optimal infrastructure to accelerate digital and intelligent convergence, enhance the safe and secure transfer of data, and unlock the potential value of advancing financing inclusion via AI technology.

Education: enables greater student engagement and personalized learning and supports a flexible and collaborative education approach among teachers, students and parents.

Retail: retail utilizes big data and AI to deliver omnichannel marketing messages to consumers and offer a clearer view of evolving customer behavior.

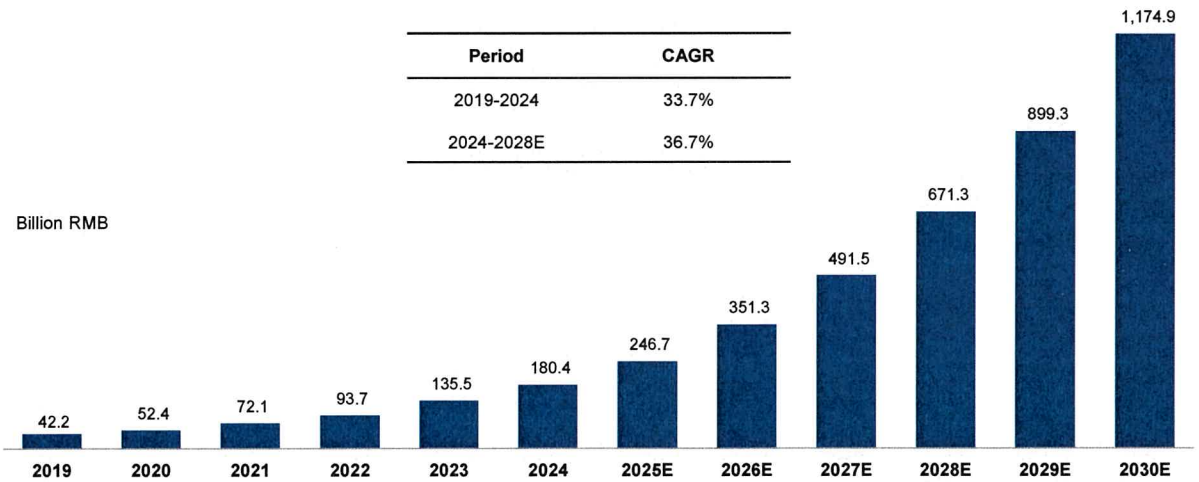
Source: Frost & Sullivan Analysis

Market Size of AI Solution in China, 2019-2030E

- Accompanying with the economy growth and customer demand, AI solution market in China increased from RMB42.2 billion in 2019 to RMB180.4 billion in 2024, with a CAGR of 33.7%. In 2030, AI solution market in China is expected to grow to RMB1,174.9 billion with a CAGR of 36.7% from 2024 to 2030.

Market Size of AI Solution in China, 2019-2030E

Period	CAGR
2019-2024	33.7%
2024-2028E	36.7%



Note: The market size is measured by the total revenue of AI solution providers in China, including integrated solution, software, hardware and services.

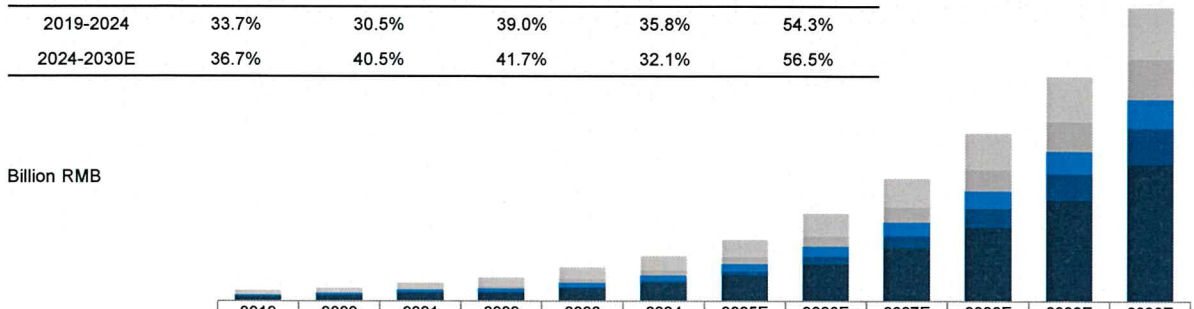
Source: Public information, Expert interview, Frost & Sullivan Analysis

Market Size of AI Solution in China, 2019-2030E

- AI solutions refers to ready-to-use and automated analytics AI programs that can generate accurate and meaningful insights to meet new business trends and customer demands by deploying hardware, software and cloud computing services. The market size is measured by the total revenue of AI solution providers in multiple industry verticals, such as IoT, healthcare, education, and so on.
- Accompanying with the economy growth and customer demand, AI solution market in China increased from RMB42.2 billion in 2019 to RMB180.4 billion in 2024, with a CAGR of 33.7%. In 2030, AI solution market in China is expected to grow to RMB1,174.9 billion with a CAGR of 36.7% from 2024 to 2030.

Market Size of AI Solution in China, 2019-2030E

Period	CAGR				
	AI Solution	AI Solution in IoT	AI Solution in Healthcare	AI Solution in Consumer	AI Solution in Finance
2019-2024	33.7%	30.5%	39.0%	35.8%	54.3%
2024-2030E	36.7%	40.5%	41.7%	32.1%	56.5%



	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
AI Solution	42.2	52.4	72.1	93.7	135.5	180.4	246.7	351.3	491.5	671.3	899.3	1,174.9
Others	13.8	15.9	20.3	34.1	47.7	57.9	69.8	91.0	116.5	145.4	180.5	206.3
AI Solution in Finance	3.8	5.1	7.4	9.9	14.7	20.0	28.4	41.5	60.2	86.2	120.0	161.6
AI Solution in Consumer	4.7	6.3	9.0	11.7	16.7	21.6	28.9	39.5	53.7	70.2	90.7	114.4
AI Solution in Healthcare	1.1	1.6	2.3	3.6	5.6	9.9	16.9	29.9	48.3	73.3	105.5	146.5
AI Solution in IoT	18.8	23.6	33.1	34.4	50.8	71.0	102.6	149.3	212.7	296.3	402.6	546.1

Source: Public information, Expert interview, Frost & Sullivan Analysis

Advantages of AI Solution Providers

- AI solution market can be categorized based on provider types, which mainly include AI solution providers who primarily provide AI solutions based on machine learning, digital solution providers and system integrators
- AI solution providers have accumulated relatively more advantages in technological research and development, which has become an important factor for such companies to maintain market competitiveness and continue business expansion. In addition, the full-stack and modularized platform provides the foundation for efficient and cost-effective industrial application implementation.

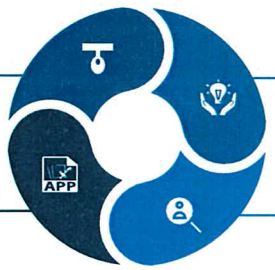
Technical Advantages

- Cutting-edge AI Algorithms and Data Processing Capabilities
- Modularized AI Platforms
- Full-stack AI Capabilities

Commercial Advantages

- **Refined Industry Vertical**
High engagement in some specific refined industry verticals help accumulate deep industrial experience and fast-growing revenue.

- **Quick Technical Advancement**
Cutting-edge AI capabilities such as deep learning enable a fast technical advancement and product innovation to meet rapidly changing customer demands.



- **Resource Integration Capability**
Flexible integration of complete and modularized AI platforms, including upstream infrastructures and midstream technology

- **High Efficiency in Vertical Landing**
Attributed to modularized AI platforms and fast technical iterating capabilities, customized services can be provided in a short time.

Source: Frost & Sullivan Analysis

Ranking of AI Solution Providers, China

The ranking below is based on the following criteria:

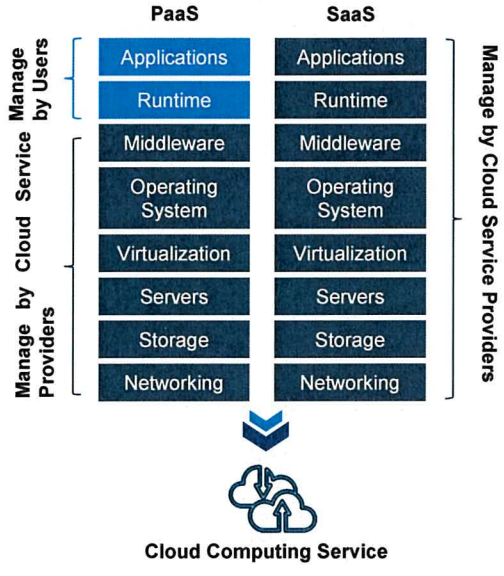
- Company Orientation: AI solution providers in China
- Year of Revenue: 2024
- Technology Platform: AI
- Scope of Revenue: AI-related business revenue which include software, AI functional hardware and services.

Ranking	Company Name	2024 Sales Revenue, RMB Million	2024 Market Share, %	2022-2024 Revenue Growth, %
1	iFLYTEK 科大讯飞	~16,500	9.7%	6.7%
2	SenseTime 商汤	~4,000	2.3%	2.5%
3	MEGVII 旷视	~3,000	1.8%	53.4%
4	**Unisound** **云知声**	939.0	0.6%	24.6%
5	CloudWalk 云从	~500.0	0.3%	-2.4%

Source: Public information, Expert interview, Frost & Sullivan Analysis

Cloud Computing Service Models of AI Solution

- Platform as a service (PaaS) and Software as a service (SaaS) are two of the most popular types of cloud computing service offerings.
- Through cloud platform, various companies that lack top technical talent, access to massive data sets, and their own computing power, can access services that address these shortfalls—without having to make big upfront investments.



- **PaaS**

PaaS provides a cloud-based platform for developing, running, managing applications. The cloud services provider hosts, manages and maintains all the hardware and software included in the platform - servers (for development, testing and deployment), operating system (OS) software, storage, networking, databases, middleware, runtimes, frameworks, development tools - as well as related services for security, operating system and software upgrades, backups and more.

- **SaaS**

SaaS (sometimes called cloud application services) is cloud-hosted, ready-to-use application software. Users pay a monthly or annual fee to use a complete application from within a web browser, desktop client or mobile app. The application and all of the infrastructure required to deliver it - servers, storage, networking, middleware, application software, data storage - are hosted and managed by the SaaS providers.

Cloud

- **Public Cloud** alleviates the responsibility for management of the infrastructure since they are by definition hosted by a public cloud provider.
- **Private Cloud** resides on a company's own infrastructure, typically firewall protected and physically secured.

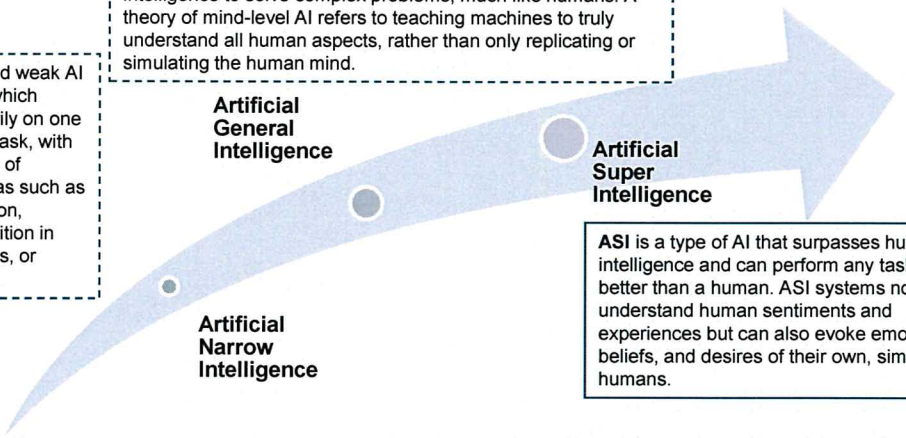
Source: Frost & Sullivan Analysis

3 Stages of AI Evolution

- AI is machine intelligence that mimics a human mind's problem-solving and decision-making capabilities to perform various tasks. AI uses algorithms and techniques such as machine learning and deep learning to learn, evolve, and get progressively better at assigned tasks. AI is categorized into three types based on the human characteristics it can replicate, its real-world applications, and the theory of mind prerequisites: artificial narrow intelligence (ANI), artificial general intelligence (AGI) and Artificial superintelligence (ASI).
- It is believed that pre-training a large-scale multimodal foundation model is a potential approach to achieving AGI.
- An AI model learns to analyze a predetermined set of data in the training phase and makes predictions based on novel data to produce actionable results in the inference phase.

AGI often refers to strong AI or deep AI, is the ability of machines to think, comprehend, learn, and apply their intelligence to solve complex problems, much like humans. A theory of mind-level AI refers to teaching machines to truly understand all human aspects, rather than only replicating or simulating the human mind.

ANI often called weak AI or narrow AI, which focuses primarily on one single narrow task, with a limited range of abilities, such as such as facial recognition, speech recognition in voice assistants, or driving a car.

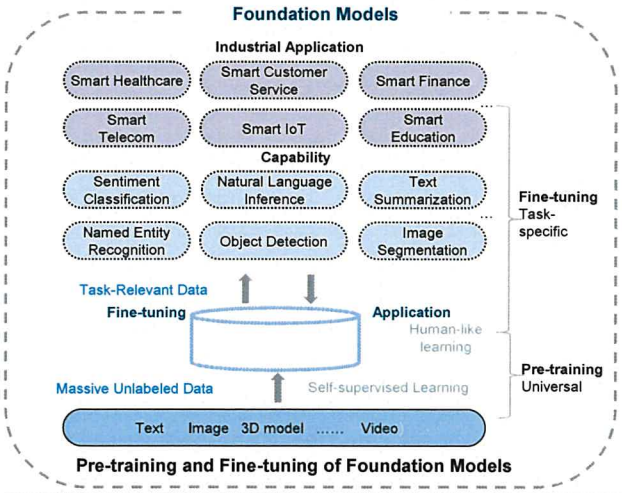


ASI is a type of AI that surpasses human intelligence and can perform any task better than a human. ASI systems not only understand human sentiments and experiences but can also evoke emotions, beliefs, and desires of their own, similar to humans.

Source: Frost & Sullivan Analysis

Overview of Foundation Model (FM)

- A foundation model (also well-known as pre-trained model) is a large artificial intelligence (AI) model trained on a vast quantity of data at scale often by self-supervised learning or semi-supervised learning, resulting in a model that can be adapted to a wide range of downstream tasks. Key characteristics of foundation models are emergence and homogenization.
- Specifically, advanced large language models, such as the generative pre-trained transformer (GPT), enable machines to perform language-related tasks with high accuracy, leading to breakthroughs in multiple sectors of the AI industry and new possibilities for human-machine interaction.



Key Features of AI Foundation Models

1. **Strong generalization capability**

AI foundation models can capture knowledge from a mass of labeled and unlabeled data, and fine-tunes specific tasks by storing knowledge into enormous parameters. This means models can **be rapidly adapted to new tasks using fewer labeled examples**, which is critical in many medical settings where diseases or outcome of interest may be rare or complicated to label at scale.

2. **Self-supervised learning capability**

The self-supervised learning method of AI foundation models can reduce data annotations, and partly solve the problems of **high cost, long cycle and low accuracy of manual annotations.**

3. **Break the accuracy limitations of existing model structures**

The experimental researches in recent years show that larger models and data scale may greatly **expedite algorithm iteration and then break the existing accuracy limitations.**

Source: Frost & Sullivan Analysis

Overview of Commercialized Foundation Models[1] with Industrial Task in China

Manufacturer	Commercialized LLM	Parameter Size	Dataset Size	Computing Power
Baidu 百度	ERINE 3.0	10 billion	a 4TB corpus consisting of plain texts and a large-scale knowledge graph	PaddlePaddle open-source deep learning platform and Baidu cloud
Alibaba 阿里	M6	> 10 trillion	Over 1.9 TB of images and 292GB of text	AliCloud
Tencent 腾讯	HunYuan-NLP 1T 混元	> 1 trillion	Five cross-modal retrieval data	Tecent Cloud
Huawei 华为	Pangu 盘古	200 billion	40TB	Kunpeng and Ascend
SenseTime商汤	SenseNova	180 billion	NA	SenseCore
Chumenwenwen 出门问问	Mobvoi 序列猴子	10 billion	NA	NA
Langboat 澜舟科技	Mengzi 孟子	10 billion and 100 billion	NA	NA

Note: 1, This table only involved foundation models with enterprise clients in China.

Source: Frost & Sullivan Analysis

Competitive Landscape of Conversational AI Technology Companies, China

- The comparison of representative conversational AI technology companies in China, iFLYTEK, Unisound, AISPEECH are listed below. The table below listed conversational AI technology companies which are among the first to apply deep neural network algorithms to speech recognition and release a commercial cloud-based speech recognition engine based on deep learning.

	科大讯飞 iFLYTEK 科大讯飞	云知声 Unisound 云知声	思必驰 AISPEECH 思必驰
Found Year	1999	2012	2007
Cloud Platform	2010	2012	2014
Deep Learning	2011	2012	NA
IoT Chips	NA	UniOne (2018)	Taihang (2019)
Supercomputing Platform	NA	Near 200 PFLOPS computing power	NA
Far-field Speech Recognition	2015.03	2015.06	NA
Off-line Speech Recognition	2013	2014	NA

Note: NA means public information is not available.

Source: Frost & Sullivan Analysis

Growth Drivers of AI Solutions Market

Advancement in Technology	It is believed that in the near future, advancements in computing power, modelling approach, data volume and quality will lead to further development of AI. Such AI are expected to be more intelligent, conversable and capable. • Computing power: Further advancement e.g. more powerful GPUs and potential developments in quantum computing could enhance the ability to build more powerful AI at lower costs • Data: The exponential growth in the volume of data worldwide and the utilization of 5G will provide large ample data sets for training AI algorithms, thus greatly improving the accuracy of the algorithms and enriching the number of AI application scenarios. • Modelling approach: The evolution of deep learning methodologies will result in higher performance of AI models and higher accuracy in AI-related disciplines. For example, recently released AGI systems have brought fundamental changes to AI solution market, demonstrating AGI's autonomy in surpassing human capabilities in economically valuable tasks, addressing unforeseen challenges, and effectively applying learned knowledge across diverse contexts.
Growing Demand of AI Solution	• AI technologies have the potential to improve data processing efficiency by standardizing the process of analyzing extensive data of diverse types and quality from different sources, kick starting a new wave of applications. These applications hold great potential for cost reduction and increased effectiveness in various industries, empowering companies to improve their products and services. This has resulted in the broad acceptance of AI technologies in various sectors, where it can efficiently automate repetitive tasks and enable accurate decision-making in domains such as financial investments and medical diagnostics.

Favorable Policies	• **Growth in demand for AI solutions is further supported by favorable government policies.**
	• The Chinese government has attached great importance to the technological advancement and industrial progress of AI, which has gradually become a national strategy.
	  • *"Three-year Guidance for Internet Plus Artificial Intelligence Plan"* 《"互联网+"人工智能三年行动实施方案》 states the focus on supporting neural network chips to achieve large-scale application of AI in China.
	  • *"The National Guide to the Construction of a New Generation of AI Standard System"* 《国家新一代人工智能标准体系建设指南》 clarifies that by 2023, an AI standard system will be initially established, and standards will be urgently needed in key industries and fields such as manufacturing and transportation.
	  • "*Measures of Promoting the Innovation of and Development of Artificial General Intelligence*" 《北京市促进通用人工智能创新发展的若干措施》 required to construct AGI capabilities, such as foundation model, and promote the industrial applications of AGI, such as in healthcare industry.

Source: Frost & Sullivan Analysis

Future Trends of AI Solutions Market

Improved Customer Experience	• Customer satisfaction plays a vital role in the business world, whether it is a website, application, or service. Many AI companies have invested their efforts into developing the next generation solutions to enhance customer engagement and experience, and more businesses will prioritize AI and machine learning in their IT budgets. AI can help break down communications barriers and automate customer interactions by using technologies such as machine learning and deep learning. AI can also employ predictive analytics to create real-time insights and deliver targeted recommendations and solutions to customers, thus improving customer experience and leading to better business performance.
More Responsible AI Development	• Responsible AI is defined as explainable, ethical, secure, human-centered and compliance. As attention builds around the ethical and cultural impact of AI, some organizations are beginning to invest in ancillary but important technologies that utilize consensus and other trust-ensuring systems as part of the AI framework. To create trust in AI, organizations must move beyond defining responsible AI principles and put those principles into practice. In addition, the government is starting to pay more attention to the regulations of users' data privacy to facilitate ethical AI development and implementation.
Growing Application of AGI	• The fundamental goal of artificial intelligence is to mimic the core activities of human. With the breakthrough of cutting-edge AI technologies, AI industry is undergoing fundamental change. Recently, AGI has become the development focus and frontier area for the AI evolution with enormous processing capabilities. With the rapid iteration and self-supervised capabilities of large-scale, pretrained foundation model, AGI is expected to improve the cost efficiency for business and public clients, and rapidly penetrate various application scenarios. AI solution providers, equipped with self-developed AGI platform and expanding knowledge accumulation of various industry verticals will enjoy greater advantages in technological research and commercialization.
Expanding Application Scenarios	• AI is capable of revolutionizing a variety of traditional industry verticals through digitalized transformation and technical innovation. For instance, AI technologies have been increasingly leveraged in the healthcare industry to facilitate more precise and accurate diagnosis and treatment. In the near future, AI models can be deployed in a wider range of clinical scenarios to support hospital departments, such as radiology, cardiology, orthopedics and pathology. In addition, AI has the potential to revolutionize the process of medical insurance payment management, by maintaining compliance with diagnosis, treatment and charging regulations.

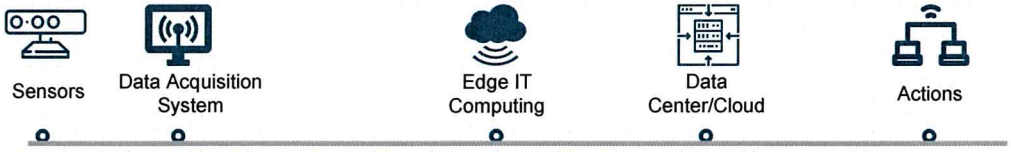
Source: Frost & Sullivan Analysis

Table of Contents

Overview of IoT

- The internet of things, or IoT, is a system of interrelated objects with sensors, processing ability, software, and other technologies that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. In China, the number of IoT devices was around 1.8 billion in 2022, presenting significant opportunities for AI-empowered enhancement. The system enables data flows from sensors to data center or the cloud for processing and analysis, and initiates actions or changes a physical event or state accordingly. Smart IoT solutions empower the digitalization of business and public sectors.

IoT Components



IoT Process

Data Collection → Data Transfer and Connectivity → Data Processing → Action and User Interface

1. **Data Collection** The use of sensors to generate information about a physical event or state.
2. **Data Transfer and Connectivity** The transmission and gathering of information created at different times or from different sources
3. **Data Processing** The discernment of patterns or relationships among phenomena that leads to descriptions, predictions, or prescriptions for action.
4. **Action and User Interface** Initiating, maintaining, or changing a physical event or state

Values of IoT

Cost Reduction
Using data from IoT solutions, operators can proactively make better decisions, leading to increased efficiency and reducing operational costs.

Potential Revenue Growth
Using data from interconnected systems, a customized offering can be created for end consumers, leading to potential revenue boost.

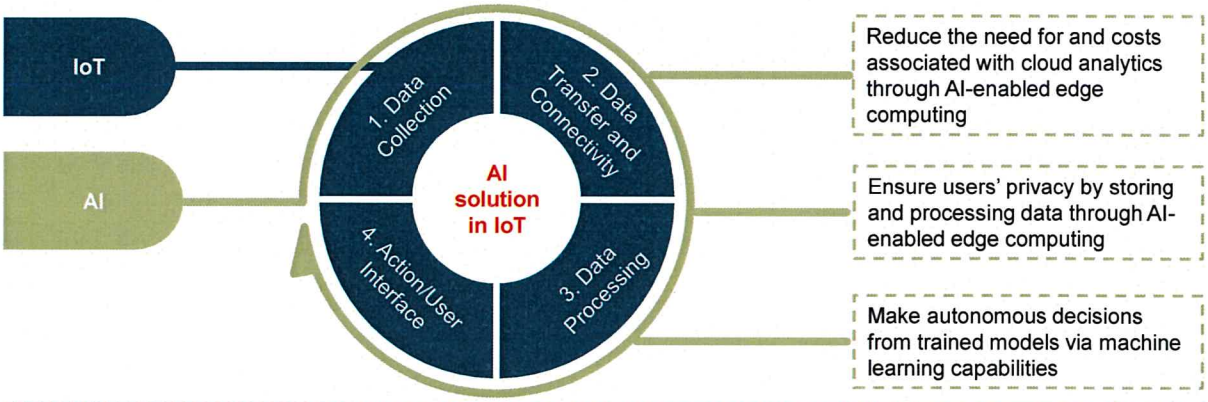
Security and Safety
Remote monitoring and control of critical asset supports operators in determining trends and patterns, and report any abnormality

Quality Control
Assessing process historical data from sensors or edge devices helps operators manage the product's quality

Source: Ministry of Industry ad Information Technology of the People's Republic of China, Frost & Sullivan Analysis

Overview of AI Solution in Intelligence of Things (IoT)

- AI solution in IoT unleashes synergy between AI and IoT technologies, and aims to enhance workflow efficiency and risk management through the collection of data by physical devices and the use of AI analytical capabilities. Leveraging AI analytical capabilities, AI solution in IoT enables customized offering, and can be applied to remote monitoring, control of critical assets, and quality control processes by identifying trends and patterns and reporting abnormality. The use of AI solution in IoT helps users optimize decision making, leading to increased efficiency and reduced operational costs.



- Increase operational efficiency and reduce operational costs
- Improve risk management and better inform business decisions
- Improve customer experience by machine learning user preference
- Foresee and analyze potential risk and conduct real-time monitoring activities

Source: Frost & Sullivan Analysis

Key Players of AI solution in IoT Market in China

- AI solution in IoT market is highly fragmented and covers a wide range of industry verticals. AI solution providers, when entering into each industry vertical, also compete with traditional digital solution providers, such as existing IoT and cloud-based solution providers, that are penetrating into AI solution in IoT market. Different solution providers may each have unique competitive strengths in the technology infrastructure, operating systems or downstream applications.
- Players in AI solution in IoT market have developed their respective innovative strategies and offerings that serve the market at different levels, with some focusing on the technical infrastructures and others focusing more on the operating system and downstream application. Typically, system integrators play the role of aggregating different component solutions from AI solution in IoT players to deliver a comprehensive offering that serves the end users' special needs.

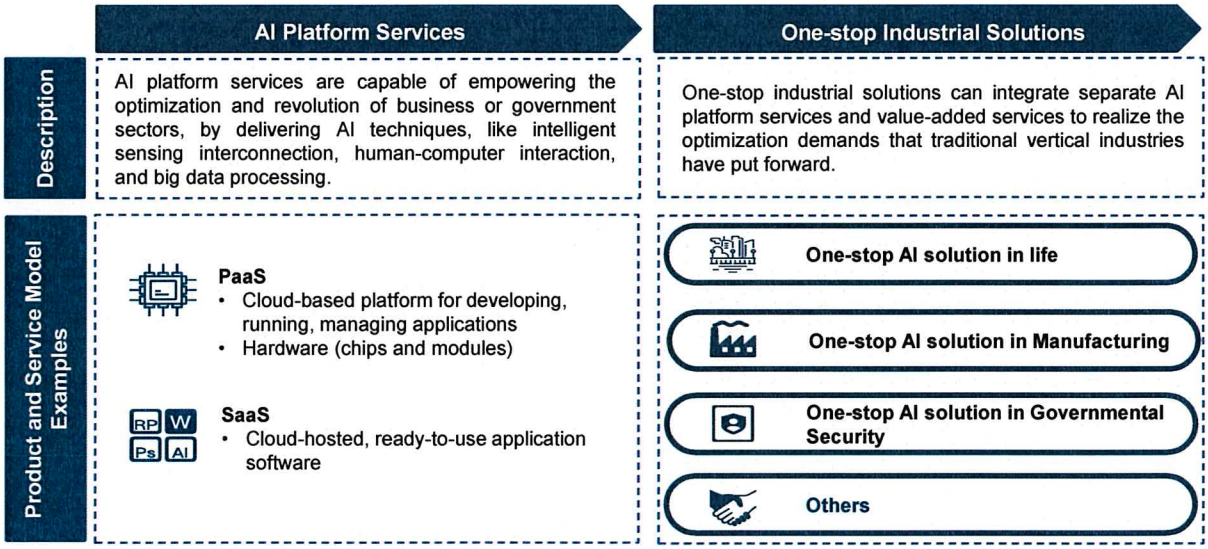
Key Players in AI solution in IoT Market

Classification	AI Solution Providers	Traditional Digital Solution Providers	
		Cloud-based Companies	IoT Companies
Business Features	• Large-scale cutting-edge algorithm research and development capabilities • Attach importance to the application of cutting-edge technologies in the vast market, such as CV and conversational AI	• Cloud-side computing and capabilities • Cooperate with IoT and other stack providers	• Numerous equipment categories and huge connectivity • Integrate infrastructures and AI technical platforms
Representative Companies	Unisound, SenseTime, IFLYTEK	BATs, and Huawei Cloud	Hikvision, Dahua Tech, Tuya

Source: Frost & Sullivan Analysis

Product and Service Models of AI solution in IoT

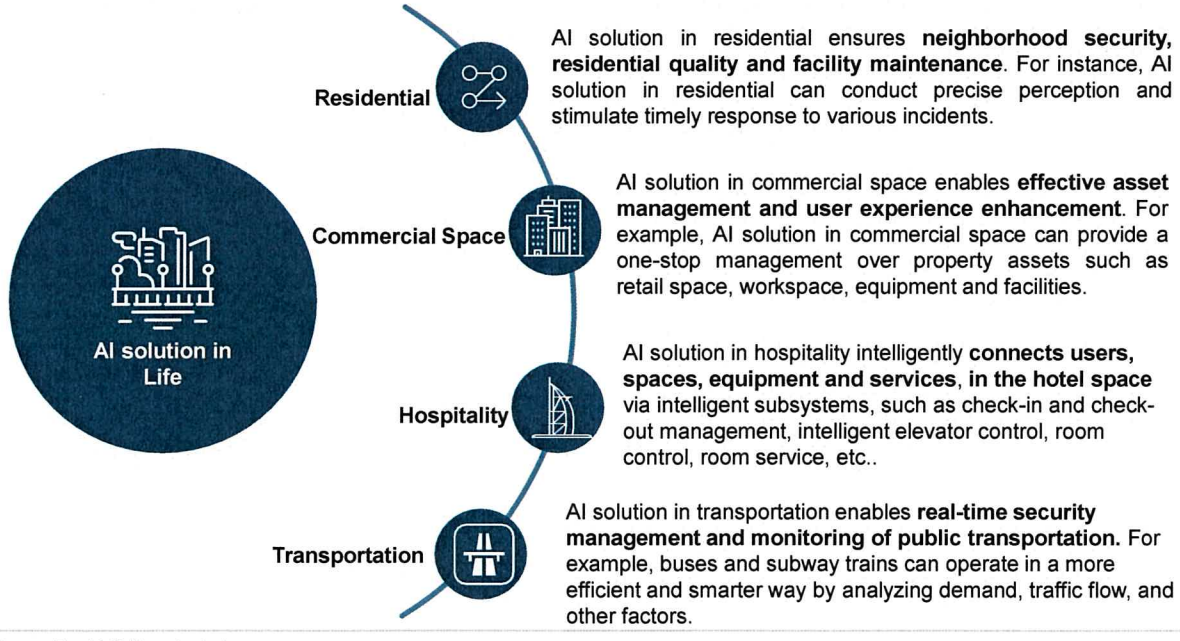
- Currently, AI solution in IoT companies mainly deliver AI capabilities by 2 approaches, AI platform services and one-stop industrial solutions. One-stop industrial solutions are capable of deep ploughing industry demands and integrating separate platform services to achieve the landing in multiple scenes.



Source: Frost & Sullivan Analysis

Overview of One-stop AI Solution in Life

- AI solution in life is an important category and industry vertical within the Smart IoT market as it will bring great convenience to people's daily life and imply a wide range of application scenarios. Smart life is composed of smart space, smart home, smart hotel, and smart transportation, with the goal of improving consumers' quality of life and creating smooth user experience.



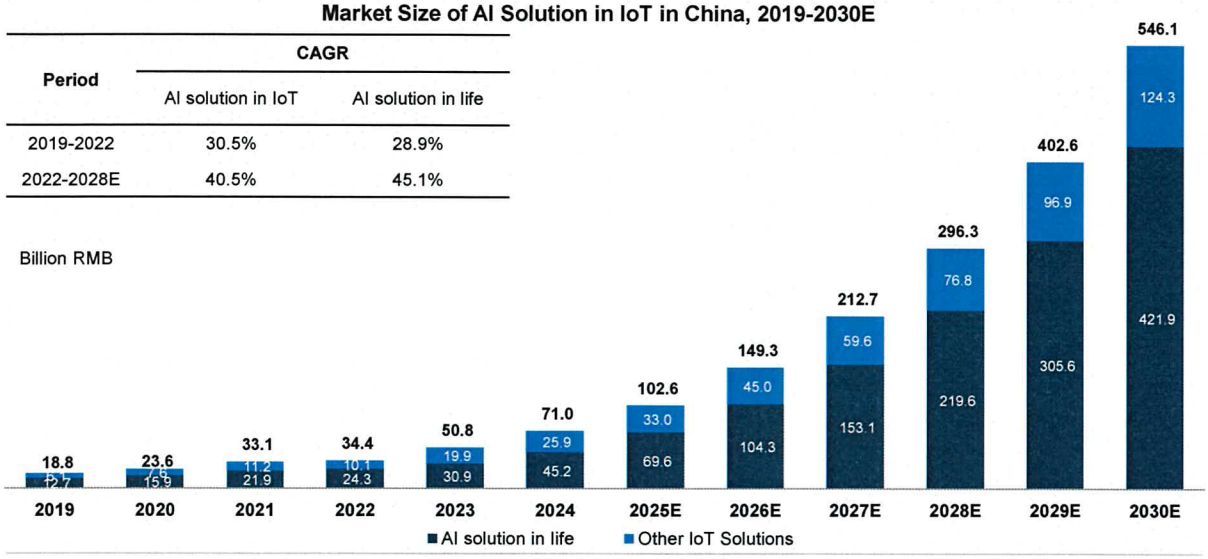
Source: Frost & Sullivan Analysis

Market Size of AI Solution in IoT in China, 2019-2030E

- AI solution in IoT market in China increased from RMB18.8 billion in 2019 to RMB71.0 billion in 2024, growing at a CAGR of 30.5%. In 2030, AI solution in IoT market in China is expected to grow to RMB546.1 billion with a CAGR of 40.5% from 2024 to 2030. AI solution in life market in China increased from RMB12.7 billion in 2019 to RMB45.2 billion in 2024, growing at a CAGR of 28.9%. In 2030, AI solution in life market in China is expected to grow to RMB421.9 billion with a CAGR of 45.1% from 2024 to 2030. AI solution in life is the most prominent sector in the AI solution in IoT industry, and is expected to further drive the growth of AI solution in IoT market in the foreseeable future.

Market Size of AI Solution in IoT in China, 2019-2030E

Period	CAGR	
	AI solution in IoT	AI solution in life
2019-2022	30.5%	28.9%
2022-2028E	40.5%	45.1%



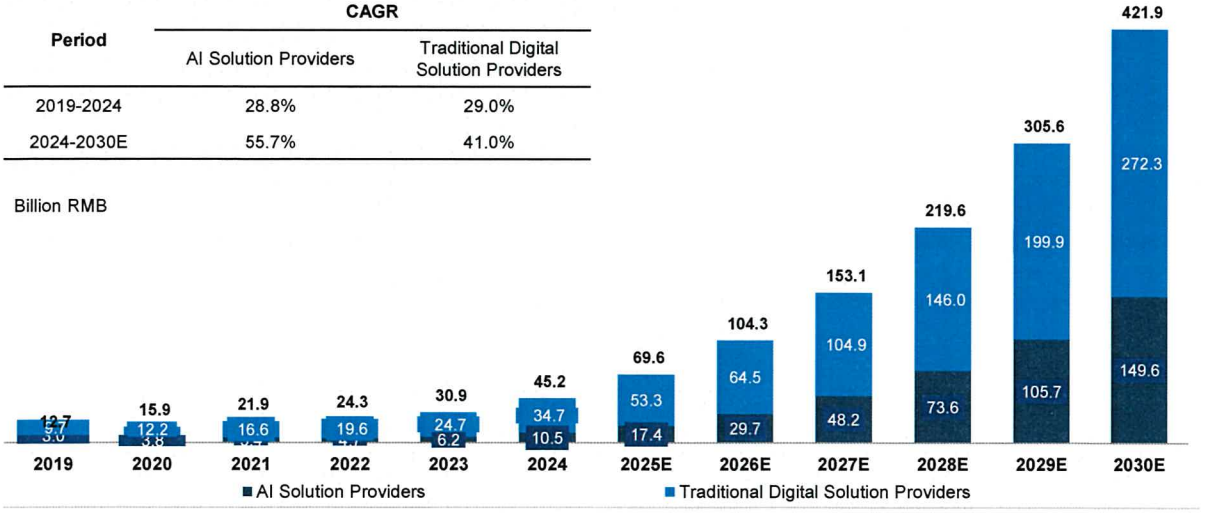
Source: Public information, Expert interview, Frost & Sullivan Analysis

Market Size of AI Solution in Life in China by Company Classification, 2019-2028E

- The revenue of AI solution in life market, provided by AI solution providers increased from RMB3.0 billion in 2019 to RMB10.5 billion in 2024, growing at a CAGR of 28.8%. In 2030, it is expected to grow to RMB149.6 billion with a CAGR of 55.7% from 2024 to 2030.
- Traditional digital solution providers are occupying a comparatively larger market share in China AI solution in life market, while AI solution providers accounting for approximately 23% in 2024.

Market Size of AI Solution in Life in China, 2019-2030E

Period	CAGR	
	AI Solution Providers	Traditional Digital Solution Providers
2019-2024	28.8%	29.0%
2024-2030E	55.7%	41.0%



Source: Public information, Expert interview, Frost & Sullivan Analysis

Ranking of AI Solution Providers in AI Solution in Life Market, China

The ranking below is based on the following criteria:

- Company Orientation: AI solution providers in China
- Year of Revenue: 2024
- Technology Platform: AI
- Scope of Business: AI Solution in Life

*Note: The revenue of self-supplied product or service and the revenue of security-related solutions are excluded.

Ranking	Company Name	Sales Revenue, RMB Million	Market Share, %
1	SenseTime 商汤	~950.0	7.5%
2	iFLYTEK 科大讯飞	~880.0	6.9%
3	**Unisound 云知声**	739.8	5.8%
4	MEGVII 旷视科技	~500.0	3.9%
5	AISPEECH 思必驰	~190.0	1.5%

Note: 1, Players in AI solution in life mainly deliver AI capabilities by 2 approaches, AI platform services and one-stop industry solutions. Based on the feedback of our market survey, it is applicable to divide the sales revenue of this two approaches. Companies involving SenseTime, iFLYTEK and MEGVII only provides one-stop industry solutions, which cover AI platform service.

2, Market share is calculated among AI solution in life market provided by AI technology companies.

Source: Public information, Expert interview, Frost & Sullivan Analysis

Market Outlook of AI Solution in Life

Industry vertical	Market Size, RMB Billion	2019-2024 Historical CAGR	2024-2030E Forecast CAGR	Market outlook and competitive landscape
Transportation	14.6	54.7%	46.4%	• As China continues to experience rapid urbanization and population growth, China has made significant investments in its public transportation infrastructure in recent years, with a focus on integrating AI technologies to improve efficiency, convenience, and accessibility. In particular, as of 2023, a total of 53 cities in 31 provinces and Xinjiang Production and Construction Corps, had constructed 290 metro lines, with an operating length of 9,584km and 5,609 stations. The integration of AI, big data analytics, and IoT is enabling metro enterprises to gather and analyze vast amounts of data in real time, leading to more informed decision-making and proactive maintenance strategies. Additionally, the emergence of autonomous metros and intelligent control systems is revolutionizing the way metros are operated and managed, opening up new possibilities for efficiency and cost savings.
Commercial Space	6.7	40.4%	39.8%	• As more people move to urban areas and businesses continue to expand, the demand for smart commercial space solutions is expected to soar. Enterprises seek to implement solutions that can help them optimize energy usage, improve security, and create more personalized and seamless user experiences.
Hospitality	3.2	34.7%	31.8%	• AI solution in hospitality solution enable hospitality enterprises to gather and analyze vast amounts of data in real time, allowing them to deliver a more personalized, efficient, and secure guest experience. • As of 2023, the total number of lodging facilities in China was approximately 610,000, of which approximately 320,000 were hotel facilities. As technology continues to advance, we can expect these solutions to play an increasingly pivotal role in driving innovation and driving growth in the hospitality industry.
Residential	2.5	28.5%	35.6%	• As the world's most populous country and a rapidly expanding middle class, China presents a vast and lucrative market for smart residential solution. With a focus on convenience, security, connectivity, and privacy, AI solution in residential is set to become an integral part of modern living, offering a seamless and personalized experience for users. • "Notice by 13 Departments Including the Ministry of Commerce of Several Measures for Promoting the Consumption of Household Products"《商务部等13部门关于促进家居消费若干措施的通知》, stated that the interconnection of smart household equipment shall be promoted, sound standard systems shall be established, and the development from intelligence of single products into intelligence of whole houses shall be promoted.

Growth Drivers of AI Solution in IoT Market

Advancement in AI Technology	• **Advancement of AI technology makes AIOT devices smarter and thereby drives demands.** • Until 2022, rule-based IoT systems drove smarter interactions between humans and items / spaces, such as human interactions with vehicles through specific voice commands. • The recent development of task-agnostic foundation models, especially LLMs, presents significant and continuously evolving improvements in AI capabilities. By being able to understand a vast amount of cross-domain and sometimes unpredictable contextual knowledge, it could start to infer user intent behind ambiguous commands and generating appropriate context-dependent responses. E.g., home control with LLMs shows its potential to reduce user burden by providing seamless, unobtrusive, and quick interfaces to IoT devices, and could substantially improve user satisfaction.
Continued Deployment of 5G Networks	• **5G networks provides the basis for larger scale up-take of AI capabilities on IOT devices.** • The growing application of 5G networks, benefited from its low latency, ultra-fast speed and broad connectivity, brings more efficient information transmission channel for Smart IoT. The high-throughput data access of 5G networks can maximize the capacity of information carried and guarantee the authenticity of data transmission and recovery, significantly improving the video quality and transmission speed within the smart IoT network. Thus, the growing deployment of 5G networks is a fundamental enabler of Smart IoT market growth.
Advent of Edge Computing	• Driven by the wide adoption of 5G technologies, the growing scale and complexity of data has exceeded the capacity of the network infrastructure capabilities, requiring fully distributed AI systems. The advent of edge computing enables fully distributed AI services, where edge devices increasingly handle intelligent data processing, bringing resources closer to the user and safeguarding local sensitive and private data. As such, the storage and computing capabilities are no longer limited to the cloud. Such fully distributed AI systems enhance processing speed due to reduced latency, improve data privacy and reduce data communication and storage costs, further facilitating the industrial application of smart IoT.
Favorable Policy	• **The Chinese government has promoted AI Solution in IoT market development by launching a series plans and policies at the national level.** In 2021, *"Three-year Action Plan (2021-2023) for the Construction of New Types of Infrastructure for the Internet of Things"*《物联网新型基础设施建设三年行动计划（2021—2023年）》 cleared that by the end of 2023, the new IoT infrastructure is to be preliminarily established in major domestic cities, and increase capability for innovation and market competitiveness for key technologies, such as AI, big data, block chain and so on. This initiative has significantly driven AI solution in IoT industry by providing a strategic roadmap for the development and implementation of IoT infrastructure.

Source: Frost & Sullivan Analysis

Future Trends of AI Solution in IoT Market

One-stop AI Solution in IoT	• Although the development of AI Solution in IoT elicits growing demands by markets, downstream application scenarios and demands is highly fragmented, which might lead to incompatibility of terminal devices from different manufacturers, bringing up challenges in interconnection. In this case, current AI Solution in IoT development requires the support from platform-based enterprises to overcome the fragmented information silos. In order to realize the effective expansion of AI Solution in IoT application scenarios, one-stop system will become a necessary trend.
Growing Protection of Users' Privacy	• The balance between leveraging data for product optimization and personalization versus privacy and security will become increasingly vital for AI players. The greater the users' trust in AI solution in IoT, the greater their acceptance. The technological basis for a more reliable and secure AI solution in IoT will be put in place to ensure users' privacy, such as using self-sovereign identities. In addition, the general trend in policies and regulations calls for data privacy in and security of AI solution in IoT information.
Broader Application Scenarios	• AI solution in IoT combines the capability and efficiency of AI and IoT, making it suitable for solving specific problems with distributed, intelligent systems. Industries are increasingly shifting towards AI-powered solutions, propelling continued technology development. Moreover, utilizing advanced AGI technologies, the capabilities of AI solution in IoT can be upgraded to achieve human-machine interaction, resulting in their broad acceptance and promoting innovation across various application scenarios.
Multimodal Interaction	• Multimodal interaction, encompassing voice, vision, and text, plays a crucial role in driving growth by expanding the range of AI applications. Future features for AI solution in IoT will require synchronization among multiple devices to accomplish integrated tasks , and the systems will offer multimodal interactions including voice, visual and text to meet diversified user needs.

Source: Frost & Sullivan Analysis

Entry Barriers of AI Solution in IoT in China

Talent Barrier	• The development and implementation of AI solution in IoT require a team of highly skilled professionals with expertise in AI, IoT, data analytics and various industry verticals of AI solution in IoT. This requires a unique set of skills that can be difficult to find in a single individual or team to have. New entrants that lack this expertise may struggle to develop and implement, smart IoT solutions, which prevents them from delivering competitive smart IoT solutions.
Capital Barrier	• Another entry barrier is the cost of hardware and software tools required to build and deploy AI solution in IoT. This includes sensors, processors, and other components that are necessary for creating smart and connected devices, as well as the requirement for highly skilled professionals who can develop and maintain these solutions. These costs can be significant, particularly for new entrants with limited resources.
Regulatory Barriers	• Regulatory barriers are also a significant obstacle to the adoption of AI solution in IoT. The use of AI in IoT devices raises ethical concerns around privacy, security, and bias. Governments and regulatory bodies are still grappling with how to regulate smart IoT solutions to ensure that they are safe and ethical. The lack of clear regulatory guidelines can make it difficult for companies to develop and implement smart IoT solutions, especially with AI solution in IoT.
Technical Barrier	• One of the most significant barriers is the complexity of the technology itself. AI and IoT are both complex technologies that require a deep understanding of both fields in order to successfully integrate them. Additionally, the technology is constantly evolving, which means that companies must stay up-to-date with the latest advancements in order to remain competitive. New entrants that lack deep accumulation of technology may hard to develop and iterate their AI solution in IoT.

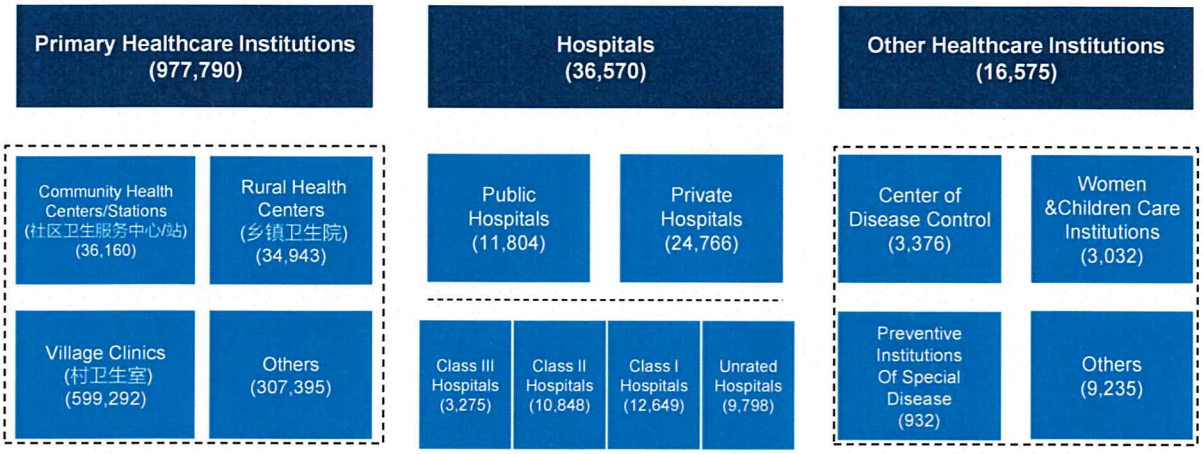
Source: Frost & Sullivan analysis

Table of Contents

Overview of Healthcare Service System in China, 2021

- At present, China's healthcare providers consist of hospitals, primary healthcare institutions, and other healthcare institutions, among which hospitals play the most important role. According to National Bureau of Statistics, the supply of medical doctors per 1,000 in Chinese resident population in 2021 is 3.04.
- There were 36,507 hospitals in China by the end of 2021. With regards to the ownership, China's hospitals are mainly categorized as public hospitals and private hospitals. With regards to the specialization, China's hospitals consist of general hospitals, specialized hospitals, TCM hospitals, and other hospitals. With regards to the tier of hospitals, China's hospitals are categorized as Class I hospitals, Class II hospitals and Class III hospitals. Each tier has three levels – A, B and C, for example, Grade A Primary hospital, Grade B Primary hospital. Class and levels are evaluated according to the hospital's size, technique level, medical equipment, management level, service quality and etc.

Chinese Healthcare Service System, 2021



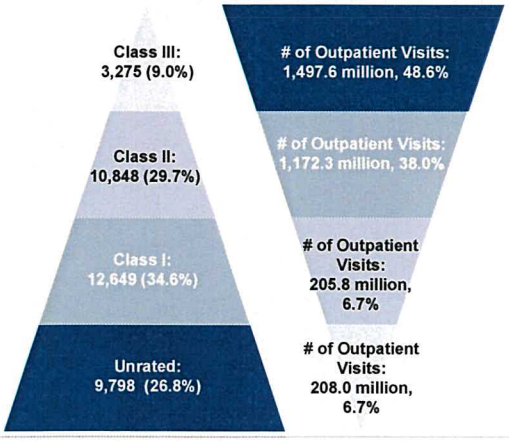
Source: NHFPC, Frost & Sullivan Analysis

Pain Points of China Healthcare Service System (1/4)

Imbalance of Medical Resource and Diagnosis Demands

- China's medical resources are concentrated in large Class III hospitals and patients also preferentially seek healthcare services in big hospitals whether they have a cancer or a cold, which leads to the severe inversion of medical resource and diagnosis demands. Although there have been various supportive policies announced for primary healthcare institutions in recent years, the need to enhance the diagnosis capability of the doctors at the primary level is urgent in order to realize the forecasted growth in outpatient visits to primary healthcare institutions.
- Due to the scarcity of China's medical resources, effective diagnosis time among the total time consumption in the diagnosis process only accounts for 4.4% (8 minutes).

Imbalance of Medical Resource and Diagnosis Demand, 2021



Time Structure for a Diagnosis Process, 2020

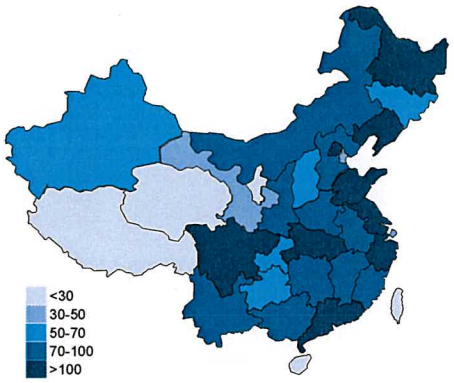
Source: NHC, Frost & Sullivan Analysis

Pain Points of China Healthcare Service System (2/4)

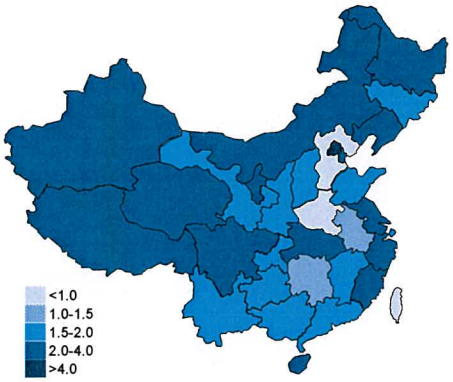
Uneven Geographic Distribution of Medical Resources

- China is not only in a shortage of medical resource, but also suffer from uneven geographic distribution of existing medical resource. For example, as one of the most developed cities in China, Beijing is abundant in medical resources, indicated by relative high number of Class III hospitals per million population.
- Meanwhile, in those relatively underdeveloped provinces such as Hebei, Henan and Hunan, less than one hundred Class III hospitals can be found in each province and there is on average less than one Class III hospital per million population.

Geographic Distribution of Class III Hospitals in China, 2019



# of Class III Hospitals Per Million Population in China, 2019



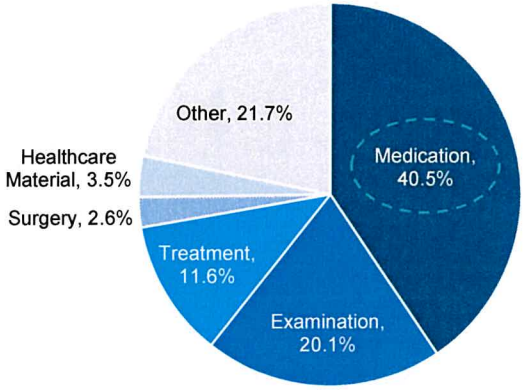
Source: Frost & Sullivan Analysis

Pain Points of China Healthcare Service System (3/4)

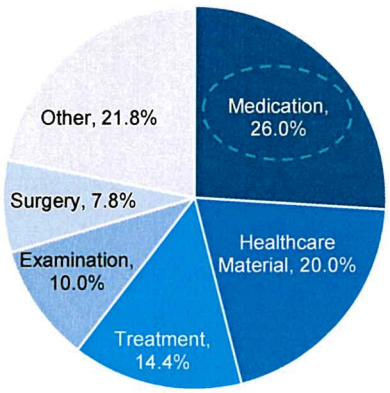
Hospitals' Financial Reliance on Drug Sales

- Even though average revenue in China public hospitals has been experiencing gradual growth year by year, when breakdown by source, it shows that public hospital revenue highly rely on sales of drugs.
- In 2020, in public hospitals, the proportion of drug sales accounted for 40.5% in outpatient and 26.0% in inpatient. In both cases, drug sales is the largest contributor of hospital revenue.

Breakdown of Outpatient Revenue in Public Hospitals, 2020



Breakdown of Inpatient Revenue in Public Hospitals, 2020



Source: Frost & Sullivan Analysis

Pain Points of China Healthcare Service System (4/4)

Low Market Share of Commercial Healthcare Insurance

1 — Sluggish progress of EHR, Lack of patient medical data

- Commercial insurance companies rely on manual inspection and calculation during underwriting, which is extremely inefficient.
- EHR (electronic health records) is the systematized collection of patient and electronically stored health records in digital format. The record can be shared across different healthcare institutions.
- It will be costly to establish medical database and widely collect EHR among patients, which lead to sluggish progress of EHR promotion.

2 — Jumble data form among different HISs

- HIS (hospital information system) provide a common source of information about a patient's health history. The system has to keep data in a secure place and controls who can reach the data in certain circumstances.
- HIS service are provided by different vendors among different hospital, which lead to huge mismatch for insurance companies.
- Also, the digital format from different HIS are various, which make it even more difficult for insurance institution to extract medical data.

3 — Focus on funds control rather than disease prevention

- The subsidiary health services provided by health insurance are inadequate. Most of commercial health insurance focus more on composition for insured after medical fee arise during treatment.
- Oppositely, commercial insurance should promote the integration of disease prevention and health services, which is also conducive to optimize the structure of medical industry.

4 — Difficulties in insurance profitability

- Commercial health insurances in China are teetering, even industry-leading companies are struggling to realize profit. This is because that:
  - ✓ Lack of understanding of customer demands
  - ✓ The sales model leads to a relatively high cost, and companies rely on their own sales team large scale.
  - ✓ All insurance companies carry out homogeneous competition, due to insufficient differentiation among products.
  - ✓ China market does not provide tax incentives to encourage employers with health insurance purchase.

Source: Frost & Sullivan Analysis

Overview of Healthcare Reform in China-I

- In early 2009, the Central Committee of China Communist Party along with the China State Council announced a comprehensive healthcare reform initiative through a program titled "Opinions on Deepening Pharmaceutical and Healthcare System Reform" (《关于深化医药卫生体制改革的意见》). The plan primarily targets four fundamental healthcare systems in China.

Public Health Services System

This system focuses on preventing disease and promoting health. The public health services system will provide services such as immunizations, regular physical check-ups (for senior citizens over 65 years old and children under three years old), pre-natal and post-natal check-ups for women, prevention of infectious or chronic diseases and other preventative and fitness programs.

Public Medical Insurance System

This system covers drugs and medical treatments for the majority of the population. The healthcare reform plan will retain the framework of the current public medical insurance schemes under the national program, but will be expanded to cover more of the population and increase the scope of treatments, raise the cap on claim payments and cover more claims at higher percentages.

Public Health Delivery System

One of the primary goals of the plan is to build more healthcare facilities and to improve the training of healthcare professionals. Beyond additional public wellness centers, the reform plan aims to place a medical clinic in every village and a hospital in every prefecture by 2011.

Drug Supply System

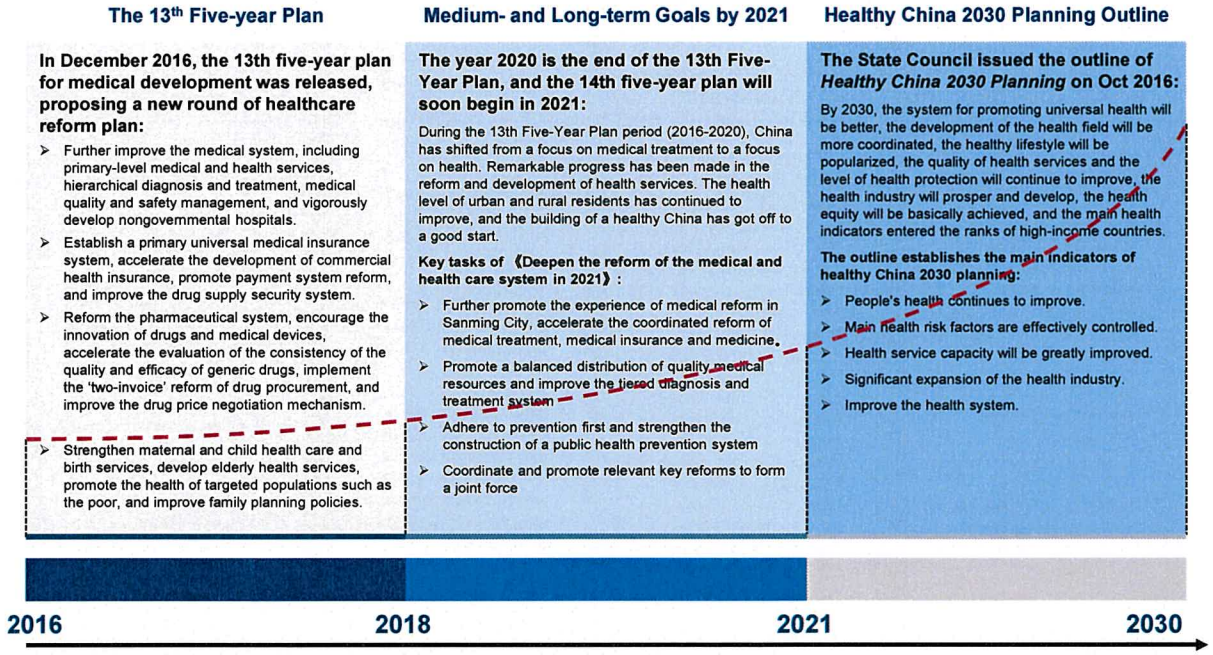
This system regulates pricing and how drugs will be procured, prescribed and dispensed at healthcare facilities. The healthcare reform plan will focus on pricing, procurement, prescription and dispensing of essential drugs.

Healthcare Reform

Sources: Government Notice, Frost & Sullivan Analysis

Overview of Healthcare Reform in China-II

The ultimate goal of healthcare reform: everyone can have access to and afford basic healthcare services



Sources: Government Notice, Frost & Sullivan Analysis

Overview of Healthcare Reform in China-III

《Healthy China 2035 Planning Outline for 14th Five-year Plan》

The goal of Healthy China 2035 Planning Outline: give top priority to the protection of people's health in the strategic position of development, adhere to the principle of putting prevention first, deepen the implementation of the Healthy China Initiative, improve the national health promotion policy, strengthen the national public health protection net, and provide full range of life-cycle health services for people.

In the next five years, the state will jointly promote the development of public health, medical services, universal medical insurance and other health systems, and accelerate the expansion of quality medical resources and balanced distribution among regions.

In March 2021, the 14th five-year plan for medical development was released, chapter 44 points out the comprehensive promotion of the construction of healthy China 2035

- Section 1: Building a Strong Public Health System
- Section 2 Deepening the reform of the medical and health care system
- Section 3 Improving the National Medical Insurance System
- Section 4: Promoting Inheritance and Innovation of Traditional Chinese Medicine
- Section 5 Building a Nation in Sports
- Section 6 Conducting in-depth patriotic health campaigns

The National Health Security Project

The Healthy China 2035 Planning also released a national health security project.

- **Disease prevention and control**

Launch the second phase of the project of the Chinese Center for Disease Control and Prevention, build about 15 regional public health centers based on existing disease control and prevention institutions, upgrade and renovate about 20 national bases for prevention, control and treatment of major infectious diseases and 20 national bases for emergency medical assistance

- **National Medical Center**

Strengthen the development of national medical centers for cardiovascular, respiratory, oncology, trauma and pediatrics. Focusing on major diseases to build several leading domestic and globally influential high-level medical centers and medical innovation transformation.

- **Regional Medical Centre**

Support high-level medical institutions to build a number of regional medical centers in provinces with a lot of medical treatment and weak medical resources, and build regional medical centers in Hebei, Henan, Shanxi, Liaoning, Anhui, Fujian, Yunnan, Xinjiang, etc. Center.

- **County-level Hospital**

Promote provincial and municipal high-quality medical resources to support the development of county-level hospitals, and strive to increase the number of 500 county-level hospitals (including traditional Chinese medicine hospitals) to reach the level of tertiary hospital facilities and service capacity

- **Development of Traditional Chinese Medicine**

Set up about 20 national centers for the inheritance and innovation of traditional Chinese medicine,20 flagship hospitals in collaboration with Western medicine,20 bases for TCM disease prevention and treatment, and 100 key hospitals with TCM characteristics, forming a number of specialties with advantage.

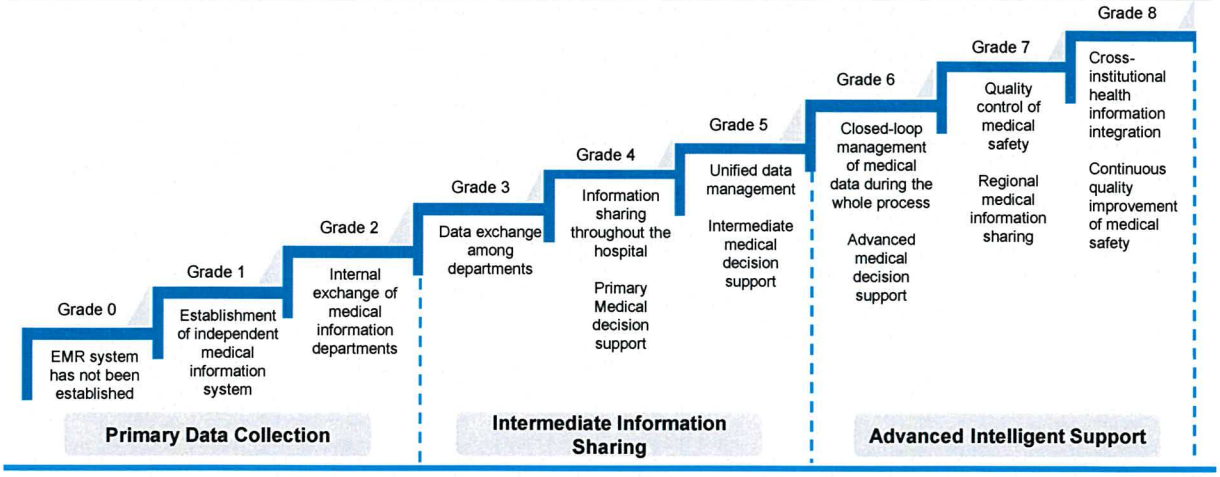
- **National Fitness Facilities**

A total of 1,000 sports parks will be built, renovated or expanded, and supporting public infrastructure for household sports, fitness and leisure will be built. We will promote the construction of social football venues and fitness trails

Sources: Government Notice, Frost & Sullivan Analysis

Electronic Medical Record System Grading Standards in China

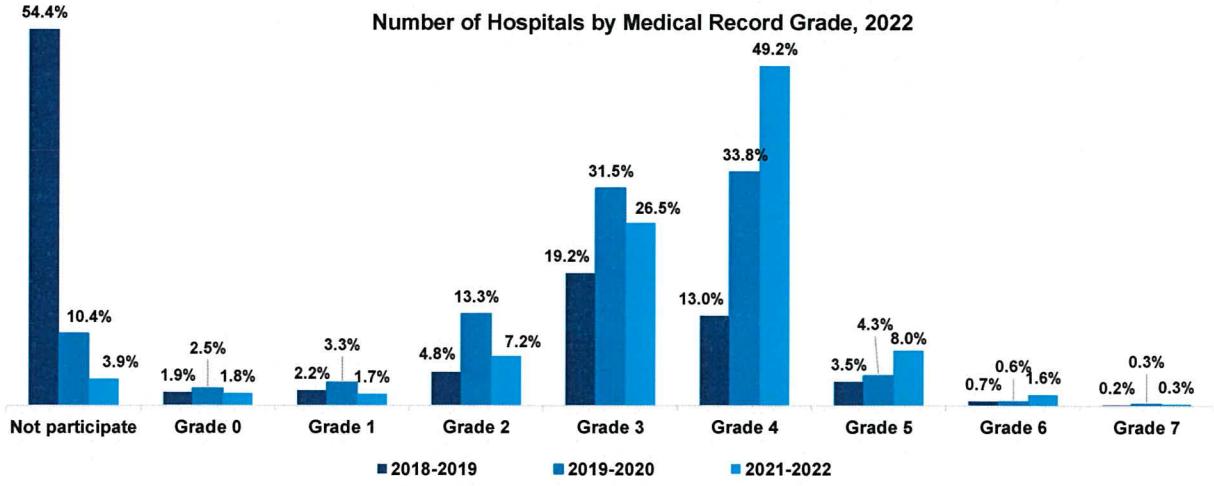
- In China, hospital information system development and digitalization centering around electronic medical record (EMR) system has become an important part of medical reform. In 2018, the government proposed the Administrative Measures for Grading Evaluation of Application Level of Electronic Medical Record System (Trial)《电子病历系统应用水平分级评价管理办法（试行）》. It stipulates the standards for different grades of EMR system, and proposes that by 2020, all Class III hospitals should reach Grade 4 or above, and Class II hospitals should reach Grade 3 or above. The followings are the details:
- Grade 0-2 requires the realization of internal data exchange within the hospital; Grade 3-5 requires to achieve data management of the whole hospital and provide medical decision support; Grade 6-8 requires regional medical information sharing and cross-agency information integration.
- Thus, realizing the regional medical information sharing is the direction and the goal of the construction of EMR system and smart hospital.



Source: Government Notices, Frost & Sullivan Analysis

Grade Evaluation of Electronic Medical Record System in China, 2022

- According to the survey data, 96.1% of the total number of hospitals participated in the grading evaluation of electronic medical record system. Most hospitals have participated in evaluating the practical application grading of electronic medical record systems.
- Given the low number of hospitals equipped with advanced EMR systems, there are considerable market opportunities for companies providing smart healthcare solutions.



Note: The 2021-2022 survey report on China's hospital informatization status held by CHIMA received 1,394 survey reports, of which 1,062 were valid. These 1,062 hospitals accounted for 2.9% of the total number of hospitals in the country and covered 31 administrative regions. Stratified by hospital class, there are 684 Class III hospitals, accounting for 64.4% of the total sample.

Source: Frost & Sullivan analysis

Overview of Medical Insurance System in China

China Medical Insurance System

- **Social Medical Insurance**
  - **Basic Medical Insurance**
    - ***Employee Basic Medical Insurance***
      - Urban Employee Basic Medical Insurance Scheme (UEBMIS) was established in 1998. Urban enterprises and their employees are required to participate while situation-based for rural enterprises. Insurance premiums are paid jointly by employees and employers, with employees pay 2% of the total salary, and employers pay 6-10%.
      - The maternity insurance system was established in 1994 and is applicable to urban enterprises and their employees, regardless of sex. The insurance premium shall be borne by employers and the rate should not exceed 1% of the salary.
      - In 2019, the two insurance system merged, thereby forming the new Employee Basic Medical Insurance Scheme.
    - ***Urban and Rural Residents Basic Medical Insurance***
      - Urban and Rural Residents Basic Medical Insurance Scheme (URBMIS) is now combined with the New Rural Cooperative Medical Insurance Scheme (NRCMIS)
      - The National Medical Insurance Bureau started to manage basic medical insurance to achieve more effective regulation of drugs and medical treatment since its establishment in 2018.
      - The basic medical insurance system for urban residents began in 2007. People who are not covered by the employees basic medical insurance can participate voluntarily.
      - In 2019, the per capita financial subsidy standard for urban and rural residents' medical insurance has reached no less than RMB 520/person/year.
    - ***New Rural Cooperative Medical Insurance***
      - The pilot execution of the New Rural Cooperative Medical Insurance System began in 2003, and by the end of June 2008, all 31 provinces had been covered. Since 2016, it has gradually merged with the basic medical insurance for urban residents to form the Urban and Rural Residents Basic Medical Insurance System.
      - The population covered by the New Rural Cooperative Medical Insurance are all rural residents, and they can participate voluntarily in unit of family. Migrant workers who have difficulties in participating in the Employee Basic Medical Insurance can participate voluntarily. The premium is mainly payed by the government, and supplemented by individuals.
    - ***Serious Illness Medical Insurance and Medical Aid***
      - The Urban and Rural Residents Serious Illness Medical is the expansion of the Basic Medical Insurance, aiming to further cover high medical expenses incurred by severely ill patients.
      - The serious illness insurance system was initially implemented in 2009. At the end of 2015, it covered all urban and rural residents who are covered by Basic Medical Insurance, where part of fund for the Serious Illness Medical Insurance is drawn from.
      - The urban Medical Aid has been implemented since 2005, and it covers the people in need that is approved. Urban and rural medical aid funds are raised through channels such as government allocation and social donations.
  - **Commercial Health Insurance**
    - ***Commercial Health Insurance***
      - The main types of commercial health insurance are medical expense insurance and sickness insurance.
      - Commercial Health Insurance is not limited to certain population. Unlike the government medical insurance, which can be renewed indefinitely, with relatively low insurance premium, and applicable to different populations groups; Commercial Health Insurance is highly dependent on policy of insurance company policy, and cover population beyond the ones that are covered by government insurance.
      - In China, Commercial Insurance emerged since the last century and it is developing rapidly in the recent years.

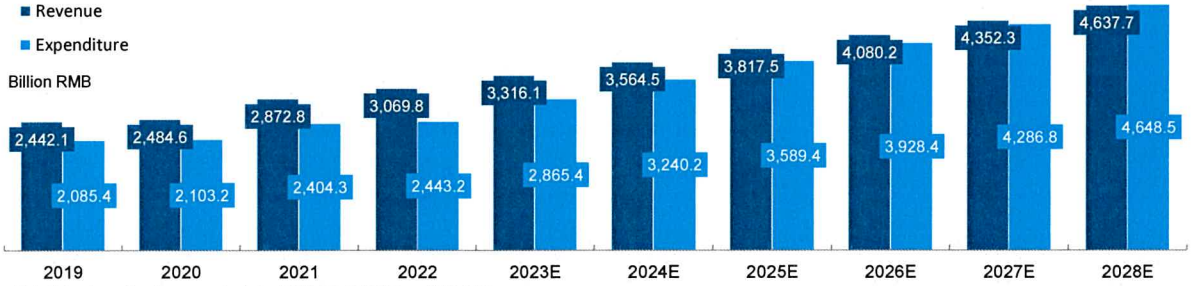
Source: Frost & Sullivan analysis

Basic Medical Insurance Fund in China, 2019-2028E

- The revenue of basic medical insurance fund has increased from RMB2,442.1 billion in 2019 to RMB3,069.8 billion in 2022, with a CAGR of 7.9%, while the expenditure has increased from RMB2,085.4 billion in 2019 to RMB2,443.2 billion in 2022, representing a CAGR of 5.4% during the indicated period.
- The revenue is expected to continue its growth while the expenditure will experience a much higher growth if no intervention is implemented. The expenditure will surpass the revenue in 2028 and reach RMB4,648.5 billion in 2028. Therefore, there is a high willingness to control the expenditure of basic medical insurance fund.
- Given the growing revenue and expenditure, efficient expense control solutions are needed to standardize treatment patterns, ensure compliance and prevent insurance fraud.

Revenue and Expenditure of Basic Medical Insurance Fund[1], 2019-2028E

Period	CAGR	
	Revenue	Expenditure
2019-2022	7.9%	5.4%
2022-2028E	7.1%	11.3%



Note 1: basic medical insurance includes URBMIS, UEBMIS and NRCMIS.

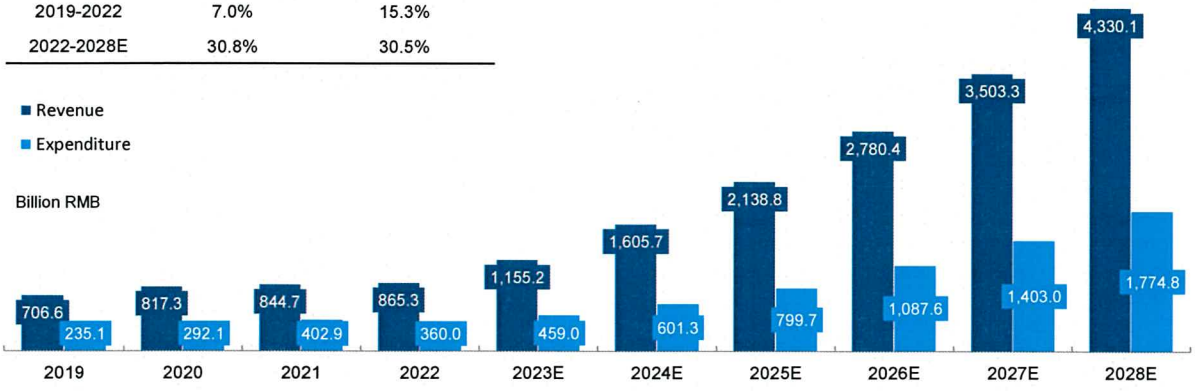
Source: NMPA, Frost & Sullivan Analysis

Commercial Health Insurance Fund in China, 2019-2028E

- According to China Insurance Regulatory Commission, the revenue of commercial health insurance fund has increased from RMB706.6 billion in 2019 to RMB865.3 billion in 2022, with a CAGR of 7.0%, while the expenditure has increased from RMB235.1 billion in 2019 to RMB360.0 billion in 2022, representing a CAGR of 15.3% during the indicated period.
- After the introduction of a series of regulatory measures by China Insurance Regulatory Commission, commercial health insurance premiums began to reflect the real demand for health insurance. Along with demographic changes and increasing health awareness, the commercial health insurance is expected to continue its growth. The revenue and the expenditure is projected to reach RMB4,330.1 billion and RMB1,774.8 billion in 2028, respectively.

Revenue and Expenditure of Commercial Health Insurance Fund, 2019-2028E

Period	CAGR	
	Revenue	Expenditure
2019-2022	7.0%	15.3%
2022-2028E	30.8%	30.5%

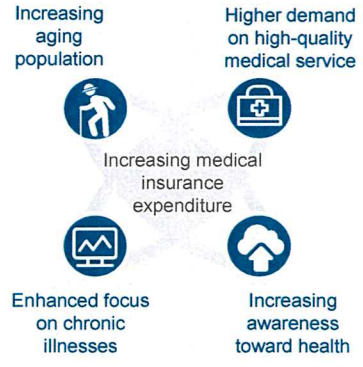


Source: CIRC, Frost & Sullivan Analysis

Pain Points of China Medical Insurance Market

Risk of Medical Insurance Deficit

- Due to factors such as accelerated population aging and higher demand on high-quality medical service, it is expected that the expenditure of medical insurance will rise, which would increase the risk of insurance fund deficit. Thus, there is demand for intelligent expense control solutions.



Difficulties of Insurance Expenses Management

- Given a complicated basic medical insurance payment system, there are three aspects that are worth attention in resolving the difficulty in managing medical insurance expenses.

Prevent insurance fraud such as illegal cash-out, imposture, excessive medical treatment, etc.

Ensure medical legitimacy of the treatment by standardizing treatment paradigm

Reform the payment method from paying by treatment items to paying by individuals

Low Penetration Rate of Commercial Insurance

- Though China commercial insurance has experienced accelerated development in the recent years, it still has relative low penetration rate due to the following reasons.

Lack of understanding of customer needs

Lack of support from digital health data

Products not differentiated with each other

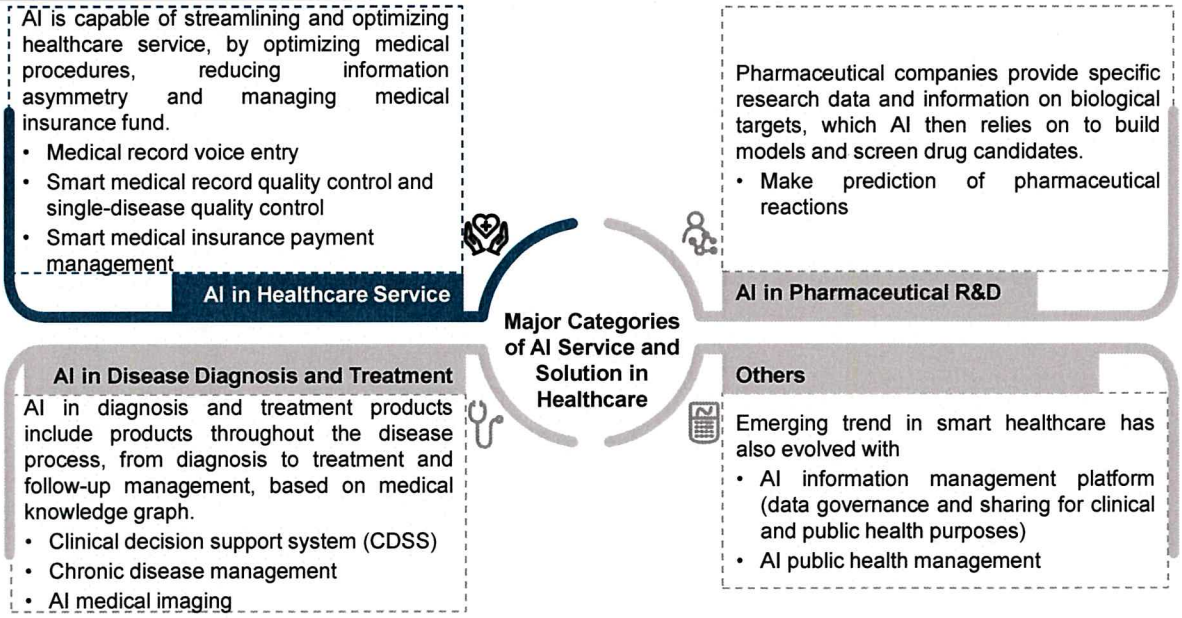
High cost given current mode of sales

Hospitals are not motivated to cooperate

Source: Frost & Sullivan analysis

Overview of AI Service and Solution in Healthcare

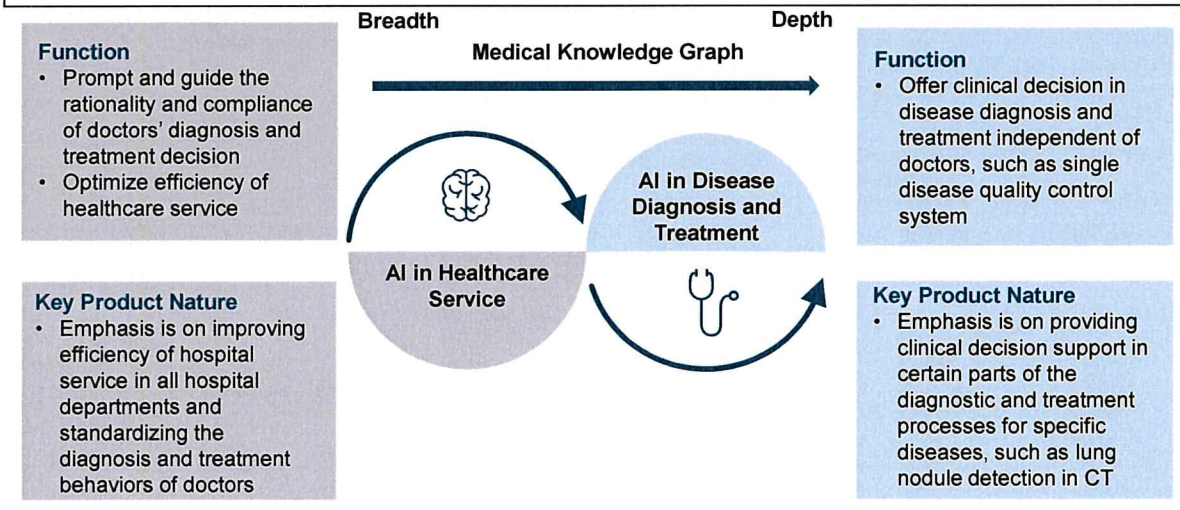
- AI Service and Solution in Healthcare is mainly composed of AI in healthcare service, AI in pharmaceutical R&D, AI in disease diagnosis and treatment, and other emerging solutions empowered by AI. Among them, AI in healthcare service is an important component, which has the potential in optimizing healthcare procedures, enhancing the quality of diagnosis and treatment, and ensuring efficient hospital management. AI in healthcare service involves AI in healthcare service and AI in disease diagnosis and treatment service.



Source: Frost & Sullivan analysis

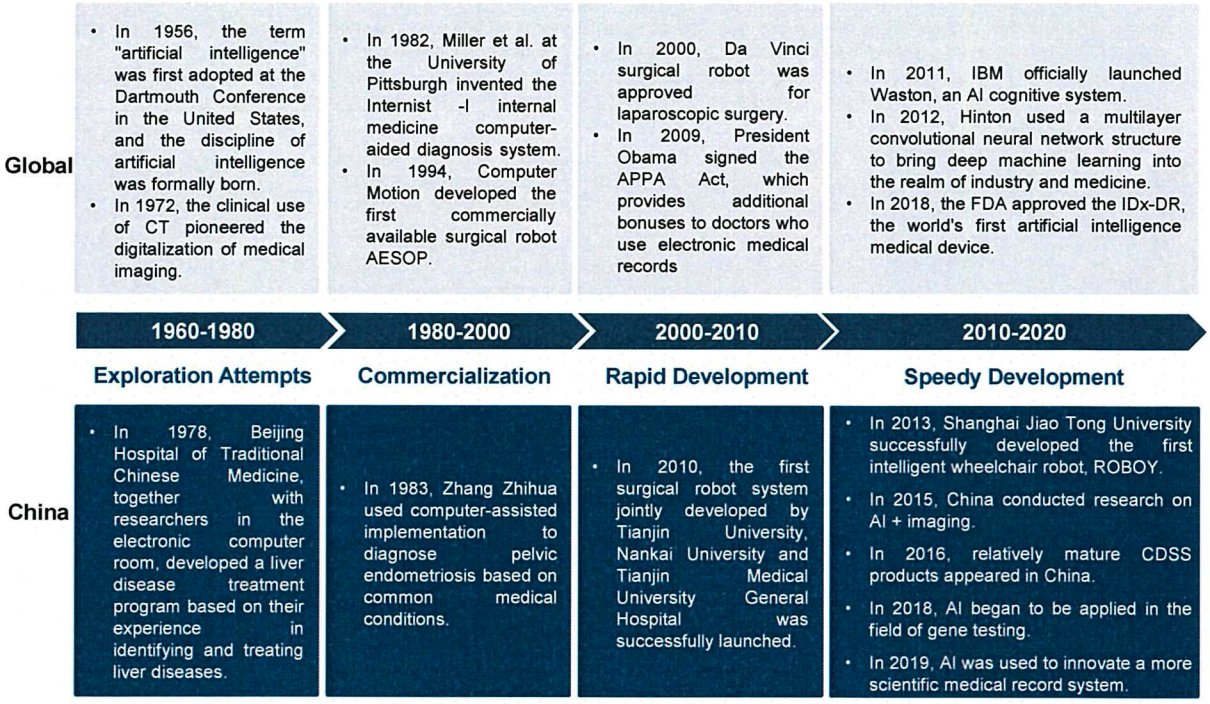
Overview of AI in Healthcare Service and Treatment

- AI in healthcare service and treatment involves AI in healthcare service and AI in disease diagnosis and treatment service. In terms of medical knowledge graph, AI in healthcare service players focus more on its breadth, while AI in disease diagnosis and treatment players focus more on its depth and extensiveness, due to their distinct key product nature.
- As the core technology of AI in healthcare service and treatment, namely medical knowledge graph, continues to evolve and as the cooperation with hospitals continues to deepen, players in AI in healthcare service are capable of laying out AI in disease diagnosis and treatment by engaging in clinical decision support of certain parts of the diagnosis and treatment processes. Due to their technical capability and continuous accumulation of medical expertise, players in AI in healthcare service have the potential to achieve breakthrough in the depth of medical knowledge graph.



Source: Frost & Sullivan Analysis

Artificial Intelligence Development in Healthcare



Source: Frost & Sullivan analysis

Policy Analysis of AI Service and Solution in Healthcare

Policy	Release Date	Issuing Authority	Comments
《Development Plan on the New Generation of Artificial Intelligence》 (National Development [2017] No. 35)	2017-07	State Council	Promote the application of new modes and means of artificial intelligence treatment. Explore the construction of intelligent hospitals and develop human-machine collaborative surgical robots and other equipment. Promote the intelligence of pharmaceutical regulation.
《National hospital information construction standards and norms (for trial implementation)》 (National Health Office Planning and Development [2018] No. 4)	2018-04	NHC	Using AI technology for disease risk prediction, enabling medical image assisted diagnosis, clinical assisted treatment, intelligent health management, intelligent hospital management and virtual assistants.
《Guidance on promoting the deep integration of artificial intelligence and the real economy》	2019-03	CCDRC	Steadily promote the internal integration, sharing and opening up of data in education, healthcare, energy, public safety and other fields, support relevant enterprises and institutions to jointly carry out AI services around application scenarios, and encourage high-quality institutions to open up their AI service capabilities and resources to the local community.
《Work Guidelines for the Construction of National Open Innovation Platforms for the New Generation Artificial Intelligence》	2019-08	State Council	Encourage the leading enterprises in AI segments to build open source, open platform, open AI technology research and development resources to the public, export AI technology service capabilities to the community, and help the growth of small and medium-sized enterprises.
《Guiding Principles of Artificial Intelligence Medical Software Product Classification and Demarcation》 (No. 47 of 2021)	2021-07	NMPA	• Further strengthen the supervision and management of AI medical software products and promote the development of the industry. • Contents involve: For AI medical software with low maturity in medical application, if it is used for assisted decision-making, it should be managed as the Class III medical equipment; If it is used for non-assisted decision-making, it should be managed as the Class II medical equipment.

Source: Government Notices, Frost & Sullivan analysis

Artificial Intelligence Core Technology in Healthcare

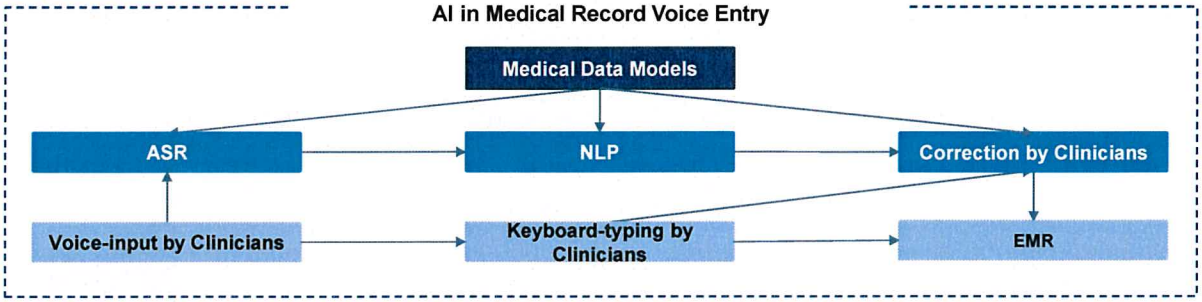
- The core technology of artificial intelligence include data acquisition, recognition and inference - acquisition: the computer acquires a large amount of structured data on health care; recognition: the computer acquires recognition capabilities by recognizing pictures, language, gestures, etc.; inference: the computer's ability to reason by understanding the relationship between people, places, time, etc..
- In the process of data transmission, 5G technology brings high speed (up to 10Gbp/s), low latency (<10ms), and massive mechanical communication (100w/km2), which greatly improves the efficiency of medical data transmission and reduces medical costs.

	AI Core Technology		Key Trends in AI Medical
Acquisition	• Big Data Collection • Internet of Things	• Rich data sources: China has a large population, a large data base, and rich diversity, which provides rich data sources for big data analysis and also provides a wide range of data sets for AI training and optimization of algorithm models. • Gradually increasing data accessibility: In recent years, the accessibility of electronic medical record data, medical image data, drug management information, medical insurance information, gene sequencing data, etc. has been growing explosively.	• Technology integration: In its current form, a mature product often has multiple technologies such as artificial intelligence, big data, IoT and deep learning.
Recognition	• Computer Vision • Audio Recognition • Natural Language Processing	• Take medical image data as an example: medical image data is huge in volume, high in dimensionality and complexity, and is typical unstructured data. Medical images account for more than 80% of all clinical medical data volume. • Convolutional neural network can well solve the extraction problem of image features by imitating multiple neural networks of human visual features, and its can downscale the huge image recognition problem and can read medical images after training.	• Cloud-based: Combine smart devices and cloud platforms to bring part of the business and data online and break the information isolation.
Inference	• Deep Learning • Edge Computing	• Deep learning is an important force of artificial intelligence technology, and currently speech recognition and computer vision are based on deep learning technology to complete. With the development of deep learning Resnet network structure in the image field, medical image analysis plays a bigger role in diagnosis and treatment. • Edge computing moves applications, data and services from the central node of the network to the logical edge node of the network for processing, closer to the user terminal device, which can speed up the processing and delivery of information and reduce latency.	• Data-driven: acquire massive medical big data, institutionalize it, and dig out the value behind these data to achieve data-driven technology evolution.

Source: Frost & Sullivan analysis

Analysis of AI in Medical Record Voice Entry

- AI in medical record voice entry is an automatic generation system of electronic medical records based on AI technologies, voice diction and NLP to simplify the EMR inputs process for doctors.



Value of AI in Medical Record Voice Entry

- **Improve Efficiency in Healthcare Service**: Audio-text dictation and NLP technology enable doctors to spend only 1-2 minutes to write a new record and 30 seconds to write follow-up records. AI in medical record voice entry improves the efficiency of diagnosis and treatment and mitigates physician burnout and stress epidemic that runs rampant in the medical industry.
- **Improve Service Quality:** AI in medical record voice entry enables quick access to patient records for more coordinated, efficient care and securely sharing electronic information with patients and other clinicians to help provide more higher quality medical service to patients.
- **Healthcare Quality Assurance:** AI in medical record voice entry makes the information collection more efficient, facilitates outpatient care, thereby improving the medical care quality. Through the collection and analysis of the clinical data of patients, workflow system and process evaluation tactics can be appropriately designed to further enhance working efficiency and care service quality.

Source: Frost & Sullivan Analysis

Analysis of AI in Medical Record Quality Control

- AI in medical record quality control is an important component of medical quality management. Its goal is to ensure the objectivity, accuracy, authenticity, and timeliness of medical records, via knowledge graph and NLP. It is mainly tailored to the needs of large comprehensive hospitals and seamlessly embedded in doctors' workflows to improve the clinical efficiency by post-review of the medical record.
- AI in medical record quality control aims to effectively prevent omission and errors in medical record for doctors and improve efficiency in hospital management.

Core Sections of AI in Medical Record Quality Control

Medical Knowledge Base

Data Source	Entity Recognition	Relation Detection
• Instruction of drugs • Semantic data • Others	• Entity definition • Data labelling	Relationship specification and ER modelling

Condition Comprehension

Sequential Decisions
Decision Optimization

Decisions

Reasoning Based on Knowledge Base	Reasoning Based on Medical Record Retrieval
Information extracted from knowledge graph can be reference for making decision.	Past experience extracted from existing medical records is referred to make decision.

Value Analysis

Reduce Incidence of Diagnostic Errors

AI-assisted medical record quality control can help reduce diagnostic errors such as medication errors by developing safeguards for dosing, duplication of therapies, and DDI checking.

Enhance Efficiency of Hospital Management

AI can have a significant impact on streamlining compliance investigation workflows by finding anomalous activity within massive electronic health record queries.

Source: Frost & Sullivan Analysis

Analysis of AI in Medical Insurance Payment Management

- In order to reduce unreasonable medical expenses and effectively control the quality of diagnosis and treatment, AI in medical insurance payment management is introduced, which is capable of analyzing the cover page of medical record and expense data, automating audit of diagnosis, treatment, and expense behavior. In addition, it can provide decision support for hospital in diagnosis and treatment compliance and cost compliance.

AI in Medical Insurance Payment Management

Data Source	*Rules*	*Data Processing*	*Applications*
HIS/EMR System	Rules for Medical Insurance Catalogue 《医保目录规则》	Compliance: in accordance with policies and norms	Pre-audit of insurance reimbursement
Medical insurance Reimbursement data		Authenticity: verify surgical procedures and disease diagnosis	Digitalized hospital management platform
Cover Page of Medical Record	DRG/DIP	Rationality: in accordance with medical knowledge graph	Quality control of diagnosis and treatment

Value Analysis

Pre-Audit	Intra-Audit	Post-Audit
For Clinicians: Pre-audit provides warning, in terms of excessive diagnosis and treatment behavior while writing the medical record cover page.	**For Hospital Medical Insurance Department:** Intra-audit provides multi-dimensional medical prescription analysis to meet the regulatory requirements of compliance, authenticity and rationality.	**For Hospital Regulatory Department:** Post-audit provides effective decision support for hospital regulatory department to manage diagnosis and treatment compliance and cost compliance.

Note: Commercial insurance supervision and audit system was not involved in the smart medical insurance payment management system.

Source: Frost & Sullivan Analysis

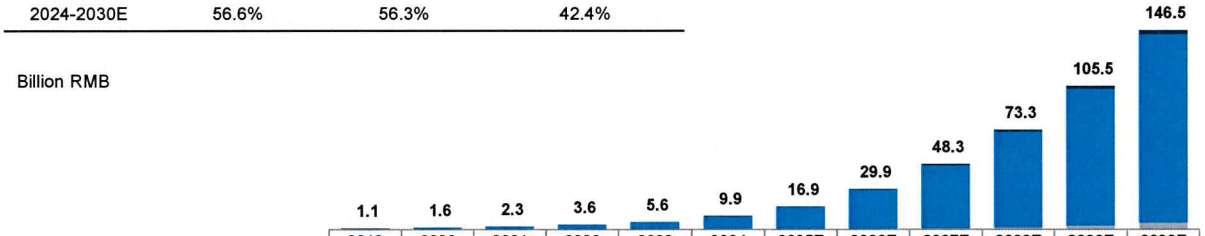
Market Size of AI Service and Solution in Healthcare in China, 2019-2030E

- AI service and solution in healthcare market in China increased from RMB1.1 billion in 2019 to RMB9.9 billion in 2024, with a CAGR of 54.3%. In 2030, AI service and solution in healthcare market in China is expected to grow to RMB146.5 billion with a CAGR of 56.6% from 2024 to 2030. AI in healthcare service and treatment, encompassing AI solutions for hospital and medical institutions, represents the largest section in smart healthcare. AI in healthcare service and treatment market in China increased from RMB1.1 billion in 2019 to RMB9.5 billion in 2024.

Market Size of AI Service and Solution in Healthcare in China, 2019-2030E

Period	CAGR		
	AI Service and Solution in Healthcare	AI in Healthcare Service and treatment	AI in Pharmaceutical R&D
2019-2024	54.3%	55.0%	38.4%
2024-2030E	56.6%	56.3%	42.4%

Billion RMB



	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
AI Service and Solution in Healthcare	1.1	1.6	2.3	3.6	5.6	9.9	16.9	29.9	48.3	73.3	105.5	146.5
AI in Pharmaceutical R&D	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.8	1.1	1.7	2.4	3.3
AI in Healthcare Service and Treatment	1.1	1.5	2.2	3.4	5.3	9.5	16.2	28.7	46.3	69.9	100.1	138.2
Others	-	-	-	-	0.0	0.1	0.2	0.4	0.9	1.7	3.1	5.0

Source: Public information, Expert interview, Frost & Sullivan Analysis

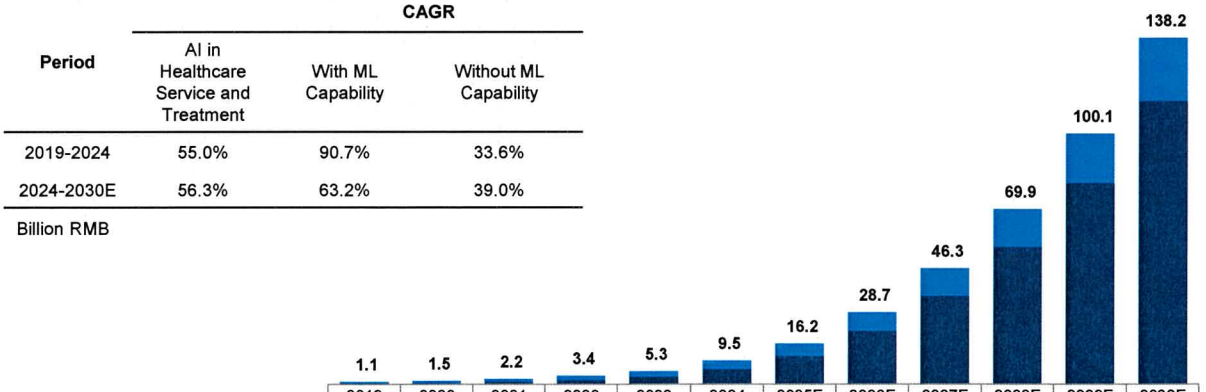
Market Size of AI in Healthcare Service and Treatment with Machine Learning Capability in China, 2019-2028E

- The revenue of AI in healthcare service and treatment solution providers with machine learning capability in China increased from RMB0.2 billion in 2019 to RMB6.0 billion in 2022, growing at a CAGR of 90.7% from 2019 to 2024. In 2030, it is expected to grow to RMB113.0 billion with a CAGR of 63.2% from 2024 to 2030.

Market Size of AI in Healthcare Service and Treatment with Machine Learning Capability in China, 2019-2030E

Period	CAGR		
	AI in Healthcare Service and Treatment	With ML Capability	Without ML Capability
2019-2024	55.0%	90.7%	33.6%
2024-2030E	56.3%	63.2%	39.0%

Billion RMB



	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
AI in Healthcare Service and Treatment	1.1	1.5	2.2	3.4	5.3	9.5	16.2	28.7	46.3	69.9	100.1	138.2
Without ML Capability	0.8	1.0	1.2	1.7	2.4	3.5	5.0	7.6	11.1	15.2	19.8	25.2
With ML Capability	0.2	0.5	0.9	1.7	2.9	6.0	11.2	21.1	35.2	54.7	80.3	113.0

Source: Frost & Sullivan Analysis

Ranking of AI Solution Providers in AI in Healthcare Service and Treatment Market

The ranking below is based on the following criteria:

- Year of Revenue: 2024
- Technology Platform: Machine learning
- Scope of Business: AI in healthcare service and treatment, involving AI in healthcare service and AI in disease diagnosis and treatment
- Scope of Customer: Healthcare institutions.

Ranking	Company Name	Sales Revenue, RMB Million	Market Share, %
1	灵医智惠 Baidu Ling Yi Zhi Hui 百度灵医智惠	~480.0	5.1%
2	科大讯飞 iFLYTEK iFLYHealth 安徽讯飞医疗	~430.0	4.5%
3	商汤 sensetime SenseTime 商汤	·400.0	4.2%
4	云知声 Unisound **Unisound 云知声**	**199.2**	**2.1%**
5	UNITED IMAGING 联影 United Imaging 联影	160.0	1.7%

Source: Frost & Sullivan analysis

Growth Drivers of AI Service and Solution in Healthcare in China

Growing Demand	The healthcare system in China faces challenges due to inadequate and uneven distribution of medical resources, requiring support to ensure the financial sustainability of public healthcare funds. Consequently, there is a significant demand for AI service and solution that can improve efficiency, facilitate better information sharing and reduce overall healthcare expenditure.
Advancement in AI Technologies	• Until 2022, AI service and solution in healthcare are generally supported by medical AI models that are largely still developed with a task-specific approach. This is potentially disrupted by recent advances in large-scale foundation model research. Foundation model allows for models to stay relevant to new settings and keep pace with emerging diseases and technologies with few-shot finetuning. In addition to the continuous and rapid iteration, by combining large-scale foundation models with industry specific knowledge enhancements (e.g. knowledge graph), the new AI service and solution in healthcare can provide high-quality multimodal outputs, drive more accurate and efficient decision making process, and better patient experience, ultimately boosting growth of AI service and solution in healthcare in China.
Favorable Policy	• The Chinese government has been vigorously driving the digital transformation of its health system. In 2018, "Administrative Measures for Grading Evaluation of Application Level of Electronic Medical Record System (Trial)"《电子病历系统应用水平分级评价管理办法（试行）》stipulated the standards for different grades of EMR system and specific digitalization requirements. In addition, various policies have been rolled out to address challenges in the health system. For instance, in 2021, the National Health Security Administration (NHSA) launched a Three-Year Action Plan for Payment Reform, which will roll out DRG and DIP payment systems among hospitals under state health insurance coverage by 2025 to control medical costs, further promoting digitalization in healthcare service through AI-enabled cost and quality management solutions to address such challenges.
Development of Hospital Information System	• Given favorable policies, and hospital's own needs to digitalize, the quality of medical data & information (e.g. electronic medical record) will continue to grow. With continually growing computing power, standardized and structured medical data will provide large sample data sets for training AI medical algorithms, thus greatly improving the accuracy of medical AI models and enhance users' acceptance. Thus, the development of medical database is expected to continue to drive the development of smart healthcare.

Source: Frost & Sullivan analysis

Future Trends of AI Service and Solution in Healthcare in China

Enhanced Healthcare Data Security	• Data security and privacy is an increasingly critical issue in healthcare. As AI's capabilities in healthcare settings are continually expanding, there is an increased need for multi-disciplinary industry standards and regulations to promote responsible AI implementation in healthcare. Since most AI algorithms require access to massive datasets, various techniques will be applied to ensure data security, such as ensuring solid access controls and multi-factor authentication as well as implementing endpoint security and anomaly detection technologies.
Growing Penetration of Smart Healthcare Solutions	• AI service and solution in healthcare are predicted to be more widely implemented as they continue to develop and gain popularity in the coming years. At present, the large-scale landing of AI service and solution in healthcare is still in its early phase. However, several pioneering AI service and solution in healthcare , especially CDSS and smart medical record quality control platform, has been employed by numerous end users. This may help improve user acceptance of AI service and solution in healthcare, paving the way for wider use.
Unified Standard	• As the evolution of AI technology and development of AI service and solution in healthcare, new challenges are introduced. For instance, there is a lack of standards among medical institutions that operate in different regions and organizations. It is therefore necessary to improve data integrity and enhance the exchange of information. In the future, it is expected that the PRC government will introduce regulatory guidance and systematic protocols to regulate market practices, with a view to setting unified standards. This standardization effort aims to improve compatibility among devices and platforms, ultimately enhancing data quality and enabling more effective AI solutions.
Knowledge-based and Language-based Applications	• During the COVID-19 pandemic, medical imaging has become one of the most popular fields and the fastest commercializing segments of AI in medical application. Recent technical advancements in LLMs worked particularly well with knowledge-based and language-based model. With LLMs, smart healthcare solution can function as a totally independent and autonomous practitioner with sufficient knowledge and ability to involve in various healthcare scenarios, especially, with healthcare service. In the coming years, AI in healthcare service solution is expected to dominate the market growth of AI service and solution in healthcare .

Source: Frost & Sullivan analysis

Entry Barriers of AI Service and Solution in Healthcare in China

Talent Barrier	• AI service and solution in healthcare require having a team of multi-disciplinary talents, especially those with knowledge across medical, healthcare service, technology and public policy. Such talents are often single disciplinary talents trained to become multi-disciplinary on the job, as there is a significant talent gap. New entrants face challenges in acquiring talents.
Data and Technical Barrier	• One of the biggest technical barriers of AI service and solution in healthcare is lack of accurate and complete basis of medical knowledge graph. Products, such as medical transcription solutions, rely on an accurate and complete base of medical knowledge graph. Currently, most of the AI service and solution in healthcare leverage clinical practice guidelines for AI training inputs, yet medical science is also an empirical discipline, requiring accumulated experience. The accumulation of standardized and authentic medical knowledge graph is difficult to achieve in a short term by new entrants.
Capital Barrier	• In order to increase core competitiveness, smart healthcare solutions providers may need to invest a large amount of capital in production, R&D, brand promotion, channel construction, and commercialization, etc. It is difficult for new entrants with inadequate financial capabilities to operate their funds efficiently and achieve steady development in the industry. Since some AI service and solution in healthcare require a long development period due to a strict need for data accumulation, new entrants are less likely to afford this huge investment.
Hospital Engagement Level	• Expanding the integration of AI service and solution in healthcare in healthcare institutions can be challenging due to system variations across institutions and patient populations different preferences. It can therefore be challenging for market entrants to scale up the products and solutions and implement them in a cost-efficient manner. Commercialization success of AI service and solution in healthcare depends on the ability to establish stable, highly-engaging partnership with healthcare institutions and local authorities. In the early stage of collaborations, most of them prefer add-on functions that can be easily integrated with the existing systems, rather than replacing existing systems.

Source: Frost & Sullivan analysis

General Information of AI Solution Providers, China

iFLYTEK

iFLYTEK, founded in 1999, is a well-known intelligent speech and AI publicly listed company, focusing on AI communication, AI office, AI education and AI service. Since its establishment, the company is devoted to cornerstone technological research in speech and languages, natural language understanding, machine learning, machine reasoning, adaptive learning. In 2008, iFLYTEK was listed on the Shenzhen Stock Exchange.

SenseTime

SenseTime, established in 2014, is a leading AI company in China, focusing on key technological areas such as computer vision, natural language processing, perceptual intelligence, decision intelligence, and AI generated content (AIGC). SenseTime provides diverse AI products and solutions for smart life, smart business, smart city, and smart auto. SenseTime was successfully listed on the Hong Kong Stock Exchange in 2021.

MEGVII

MEGVII, is an AI company founded in 2011 in Beijing, specializing in AI for IoT applications. Megvii has created an AIoT product system that integrates hardware and software solutions catering to three core applications: Consumer IoT, City IoT, and Supply Chain IoT, to deliver value for customers and society by creating a smarter, more connected world.

CloudWalk

CloudWalk, founded in 2015, is a leading enterprise in the Chinese AI industry. With man-machine coordination as a core, CloudWalk constructed the closed-loop core technology covering intelligent perception, cognition and decision-making. CloudWalk, is providing diverse products and solutions for smart finance, smart governance, smart transport and smart commerce.

Source: Frost & Sullivan Analysis

General Information of AI Solution Providers, China

AISpeech

AISpeech, founded in 2007, is a conversational AI platform company in China. It provides the natural language interaction solutions, mainly covering smart IoT, smart governance, smart auto and smart finance.

Source: Frost & Sullivan Analysis

General Information of AI Solution Providers

NA	**iFLYHealth** iFLYHealth, founded in 2016, is the subsidiary of iFLYTEK. Based on the leading AI technologies and experiences accumulated by iFLYTEK for more than 20 years, iFLYHealth leverages nature language processing, computer vision and other core technologies to provide products and solutions, involving CDSS, medical record voice entry, smart medical record quality control, for the healthcare industry.
灵医智惠	**Baidu** Baidu is a leading AI company in Asia with strong Internet foundation. 01.Baidu, established in 2018, is an AI medical brand driven by Baidu's AI cloud platform, which focuses on a wide range of products and solutions to serve the whole in-hospital and out-of-hospital scenario, including CDSS, AI retinal imaging, chronic disease management, medical data service and pre-diagnosis assistant and so on.
InferVision	**InferVision** InferVision, founded in 2016, is an AI medical technology company dedicated to developing AI medical products intended for disease screening and diagnosis, disease intervention and treatment, patient management and medical research, for full-hospital deployment serving physicians from multiple departments. InferVision's full range of products and solutions cover various therapeutic areas, involving cancers, infectious diseases, cardiovascular diseases, cerebrovascular diseases, and trauma conditions.
UNITED 联影 IMAGING	**United Imaging** United Imaging, founded in 2011 in Shanghai, develops and manufactures advanced medical imaging equipment, committed to providing global customers with a full range of independently developed high-performance medical imaging diagnostic and treatment equipment, life science instruments, and innovative solutions covering the entire chain of "basic research-clinical research-medical transformation

Source: Frost & Sullivan Analysis

Appendix

We are independent global market research and consulting company founded in 1961 and is based in the United States. Services provided by us include market assessments, competitive benchmarking, and strategic and market planning for a variety of industries.

During the preparation of the market research report, we performed both (i) primary research, which involved in-depth interviews with leading industry participants and industry experts; and (ii) secondary research, which involved review of company reports, independent research reports and data based on our own research database. Projected data was obtained from historical data analysis plotted against macroeconomic data with reference to specific industry-related factors. We believe that the basic assumptions used in preparing the report, including those used to make future projections, are factual, correct and not misleading. We have independently analyzed the information, but the accuracy of the conclusions of its review largely relies on the accuracy of the information collected. Our research may be affected by the accuracy of these assumptions and the choice of these primary and secondary sources.