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Developer & Testing Forum

Input to AI TF Discussion

China Mobile's Inhouse Practice & Industrial Promotion of Network AI

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China Mobile's Practice of Intelligent Network Operation

1st large-scale full-fledged production-network practice world wide

Background: Digital economy puts higher requirements on CSP' services

- 5.5/6G/Fusion perception, high-precision position, etc

- conected and enhanced computing power by network
- flexible and efficient computing force network services

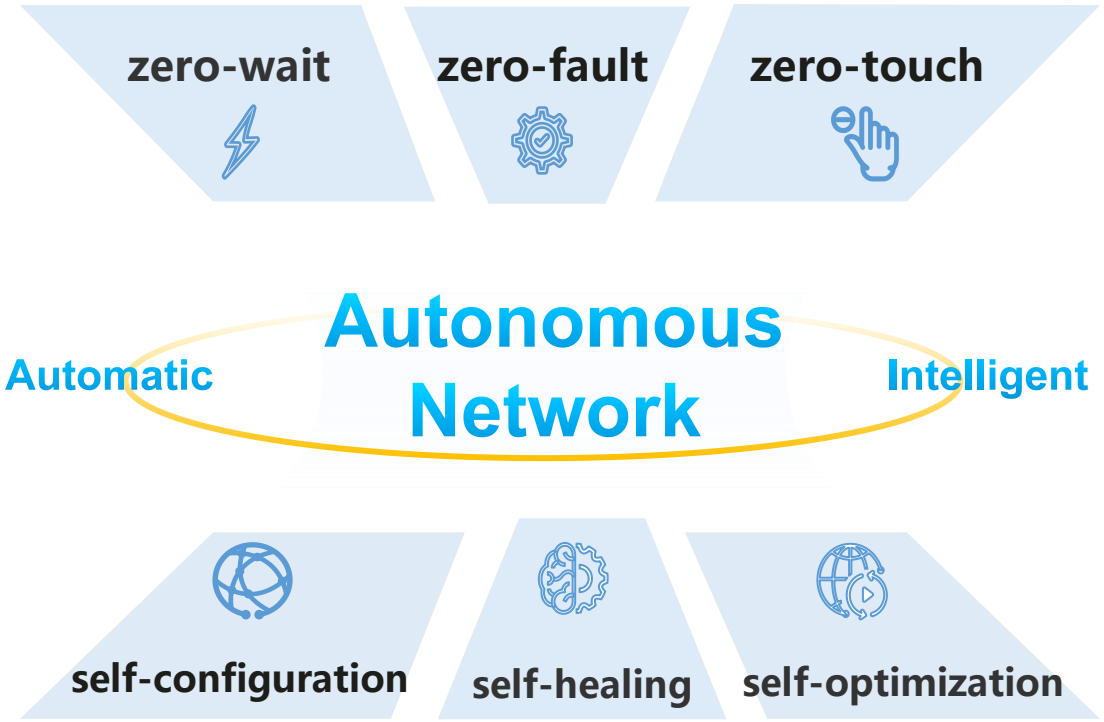
- Differentiated network services
- Deterministic network experience

- High-quality network to ensure network security and stability, reduce costs and increase efficiency

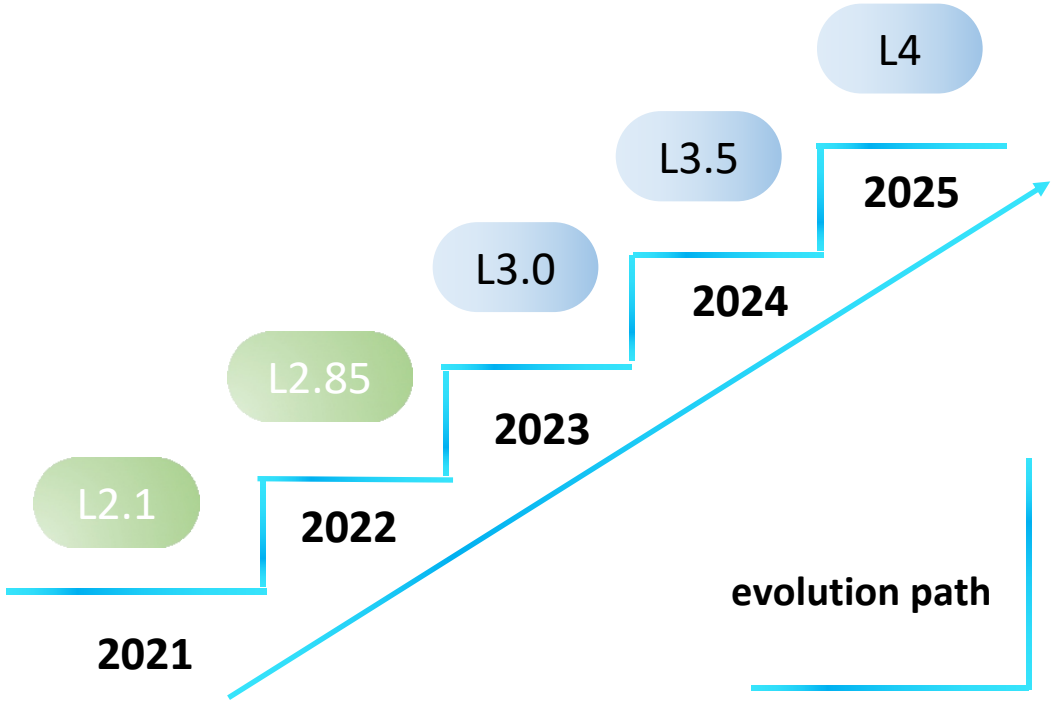
China Mobile has repositioned itself as "A world-class information service technology innovation company".

Overview : the 1st CSP to initiate the intelligent transformation in network O&M

1st to propose the concept and vision of Autonomous Network



1st to carry out large-scale Autonomous Network practice



Promotion of network O&M automation

Automatic handling of massive alarms

auto-collecton of network alarm

100million/day

auto-correlation of alarms/ auto-dispatching

150k /day

alarms/tickets

600:1

Automatic configuration and deployment

auto-collection of config data

450million+/day

service auto-dispatchingo of provision/scheduling orders

6million+/day

auto-dispatching of inspection orders

50million+/day

Automatic analysis of service quality

network data collection and processing

3PB+/day

ToC、ToH service quality degradation delimitation accuracy

90%+

5G ToB quality degradation auto-delimitation time

2 hours->15mins

Automatic network security incident

auto-collection of security alarms

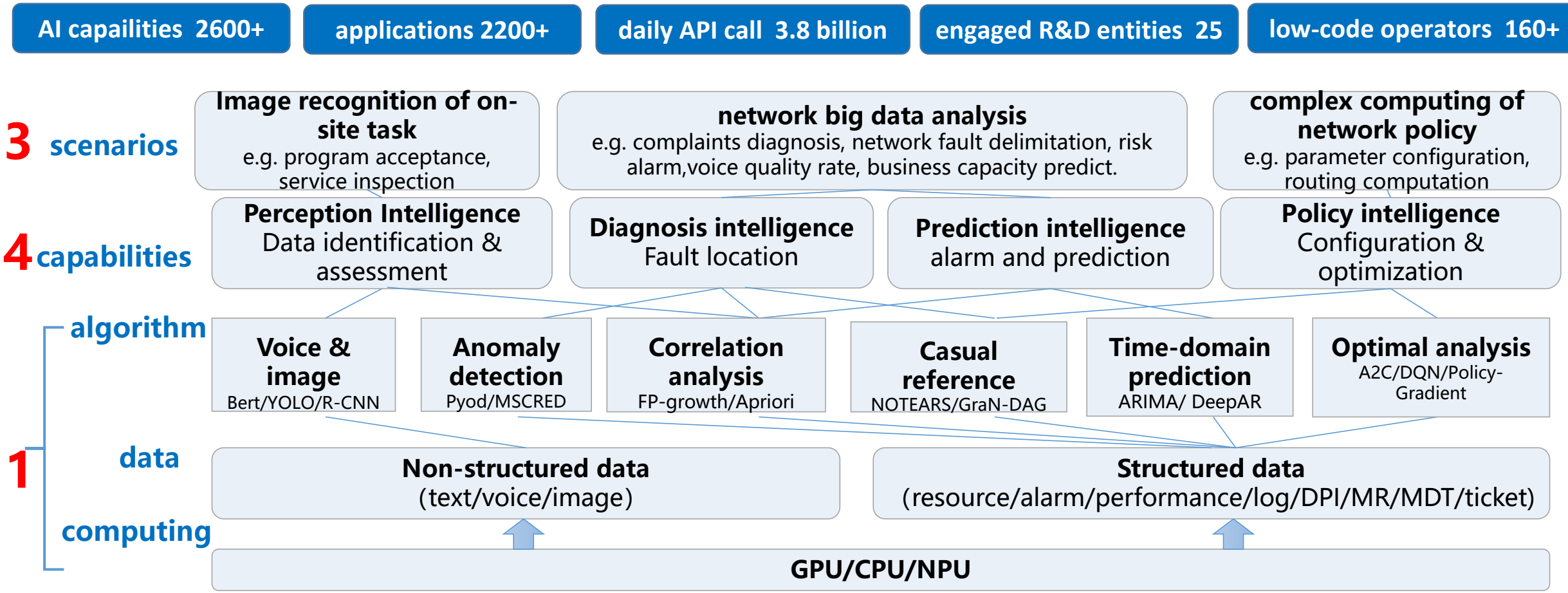
1 auto-id of security event

20k+/day

processing time of security event

120 hours->19hours

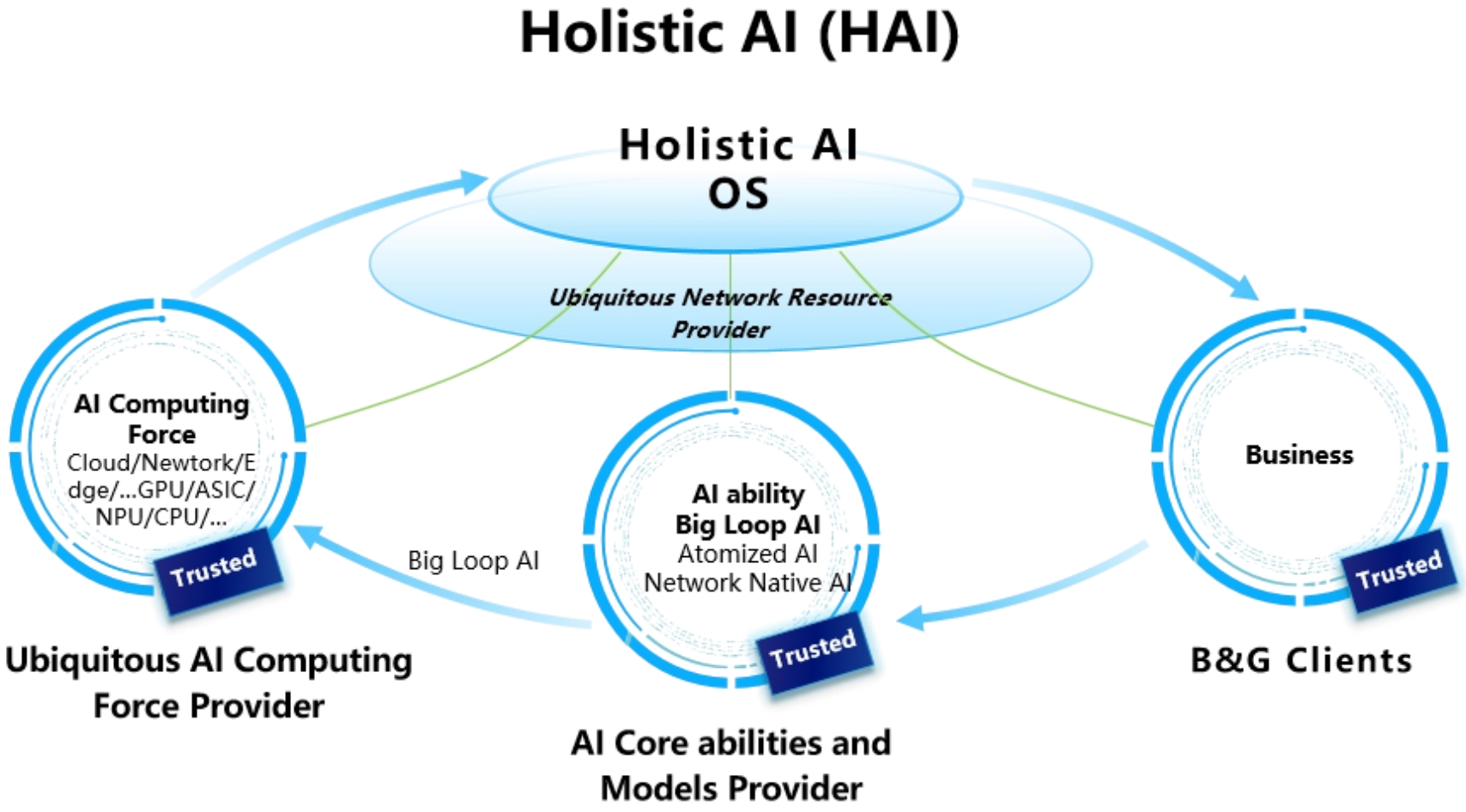
Intelligent network O&M framework



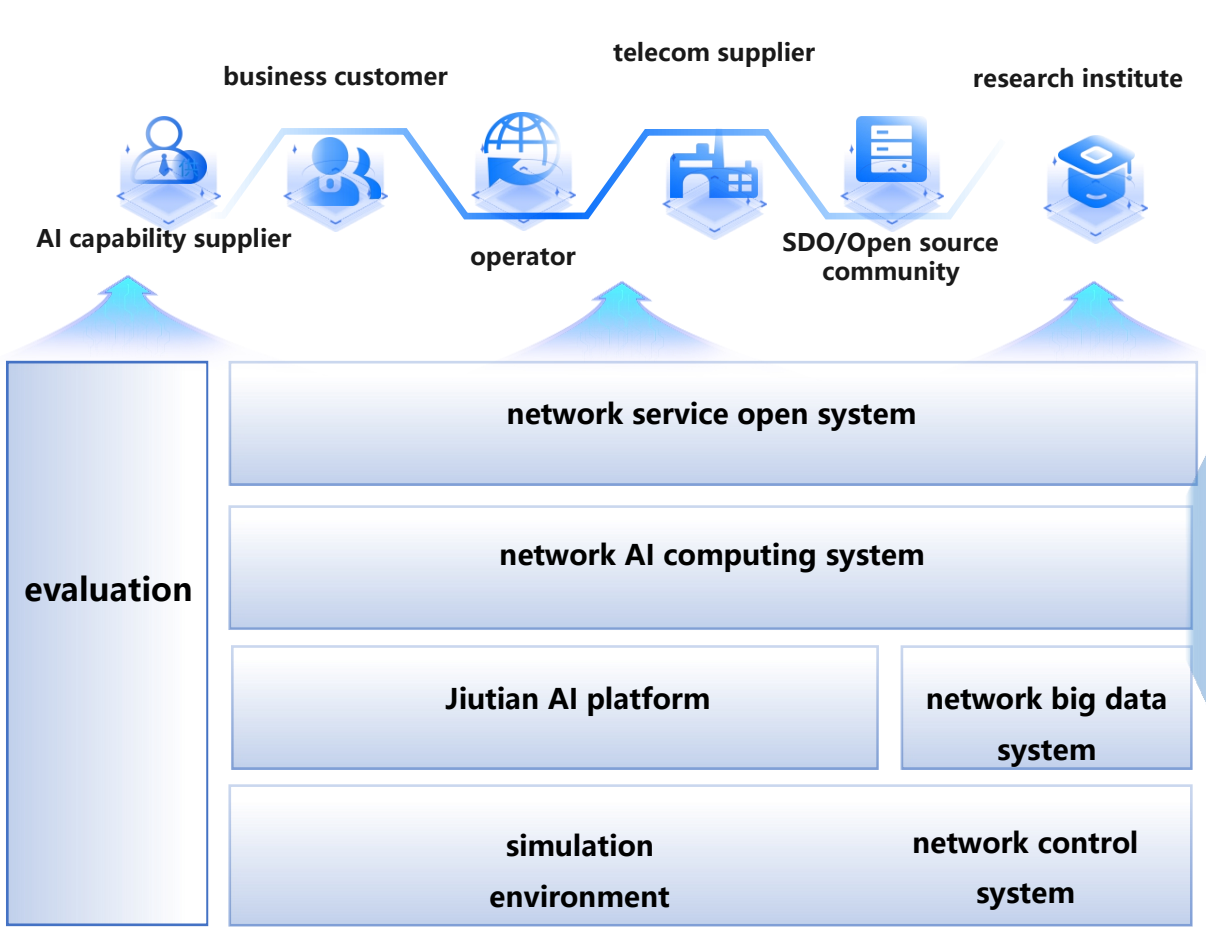
China Mobile's Open Innovation Platform for Network AI

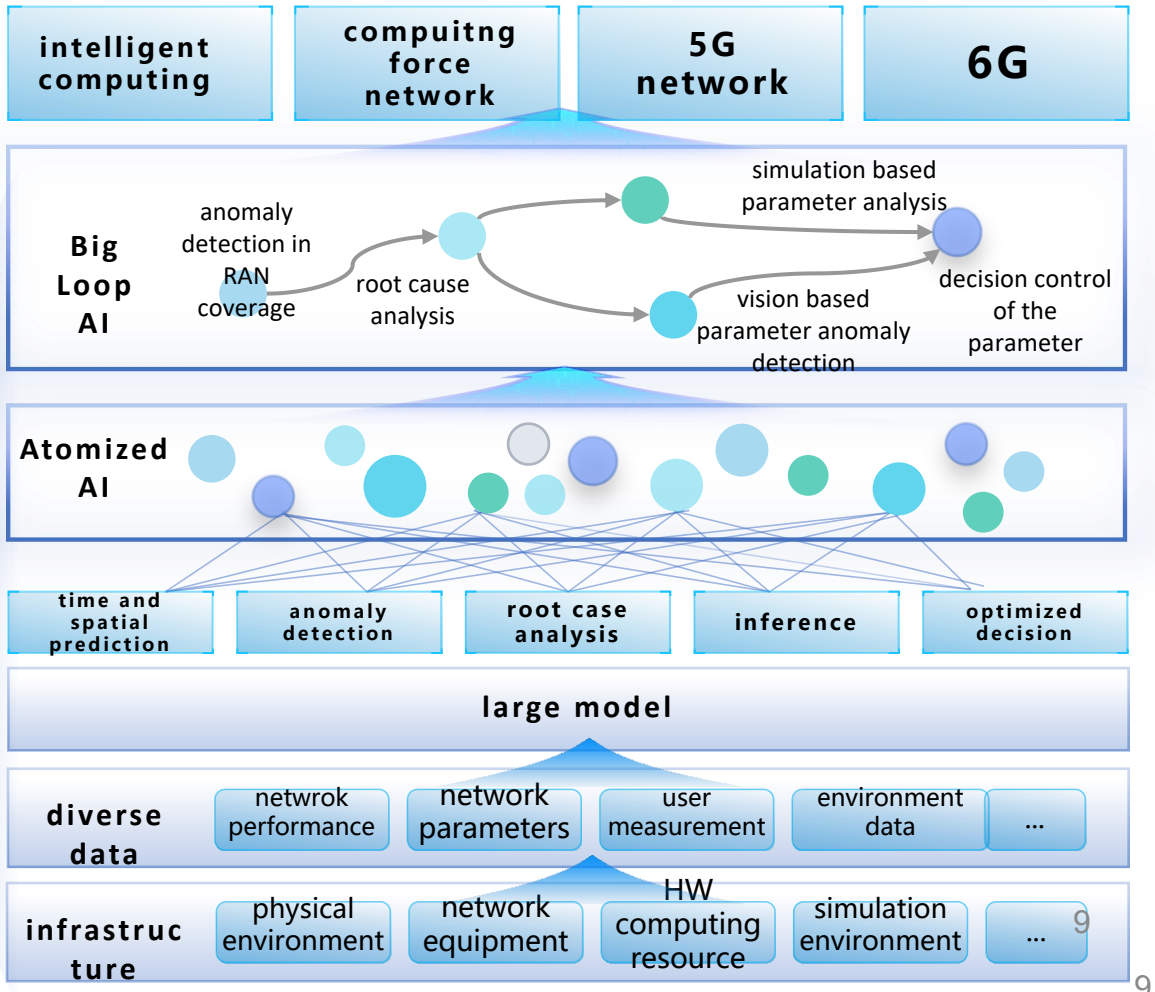
1st End-to-End Open Platform for network AI innovation world wide

Holistic AI (HAI)



Platform development Pathology





Available Resources of the platform

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Template

- Network AI application template
- 5 G+AI industry application template

AI Capability

AI capability

- CV
- Intelligent voice
- NLP
- Intelligent recommendation
- data analysis

Network AI capability

- Perception intelligence
- Diagnosia intelligence
- Prediction intelligence
- Decision intelligence

data

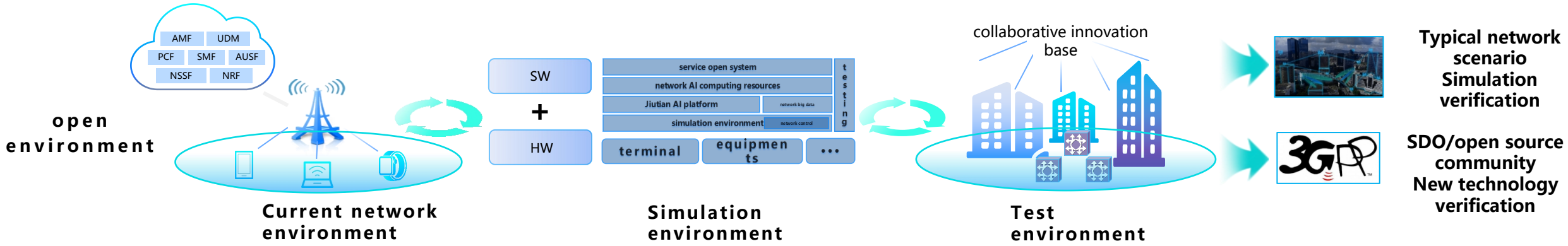
- dynamic data
- Static data
- Generated data
- emulated data
- Data cleaning
- Data masking
- Data annotation
- Data regeneration

Open computing Infra

- GPU
- CPU
- NPU
- ASIC

Evaluation

- Accuracy and performance evaluation of AI capability
- End to end verification evaluating
- Intelligent software and hardware evaluation



Empowering education and academic research

teaching

- **AI lessons**
- **AI Labs**
- **practice environment**

research

- **compuitng resources**
- **pre-set major frameworks**
- **advanced performance**

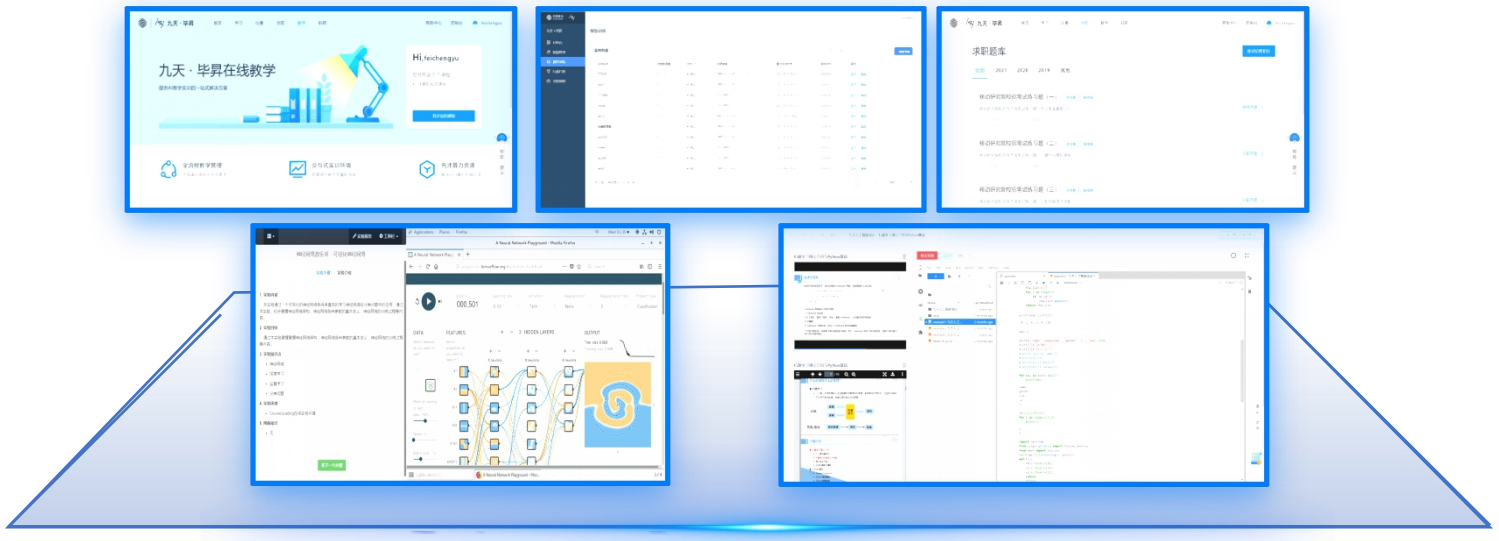
practice

- **AI contests**
- **challenges**
- **individual project support**

jobs

- **online testing**
- **internship offering**

Accumulated 154 AI courses,
Serving more than 200 colleges and universities and over 95,000 teachers and students.



Hosting AI contests

Accumulated support for more than 20 competitions and more than 10,000 candidates.

Industrial quality inspection competition

Complex network modeling competition

Wireless big data competition

Smart city thematic competition

Ocean target challenge

RAN big data competition

Network AI modeling competition

AI+ Innovation and Entrepreneurship Competition

Liaoning AI creative competition

Mobile cloud API contest

China Mobile Chuangmasai

Internet + Entrepreneurship

Xingzhi Cup Artificial Intelligence Thematic

Computer design competition

CCF Data and Computing Intelligence Competition

China Software Cup Competition

JIUTIAN Cup AI Tournament

中国人工智能产业发展联盟 Artificial Intelligence Industry Alliance

chinese association for artificial intelligence

中国通信学会 China Institute of Communications

ITU

WAIC

JIUTIAN AI Ecosystem

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Joint research on key technologies

Accelerate the key technology research

清華大學 Tsinghua University
西安交通大學 XI'AN JIAOTONG UNIVERSITY
北京郵電大學 Beijing University of Posts and Telecommunications
東南大學
杭州電子科技大學 HANGZHOU DIANZI UNIVERSITY
北京智源人工智能研究院 BEIJING ACADEMY OF ARTIFICIAL INTELLIGENCE

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Aggregating SW/HW

Jointly build open AI infrastructure

- AI chip
- AI framework
- AI server
- Platform assembly

Introduce diversified AI capabilities

Jointly build a perfect ability system.

科大讯飞 iFLYTEK
商汤 sensetime
MEGVII 旷视
alhua TECHNOLOGY

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Gather excellent ISV partners

Share broad opportunities with whole industry.

inspur 浪潮
ZTE中兴
大汉软件
Epoint新点
中科国力 KNOWOLOGY
CG希冀 Course Grading

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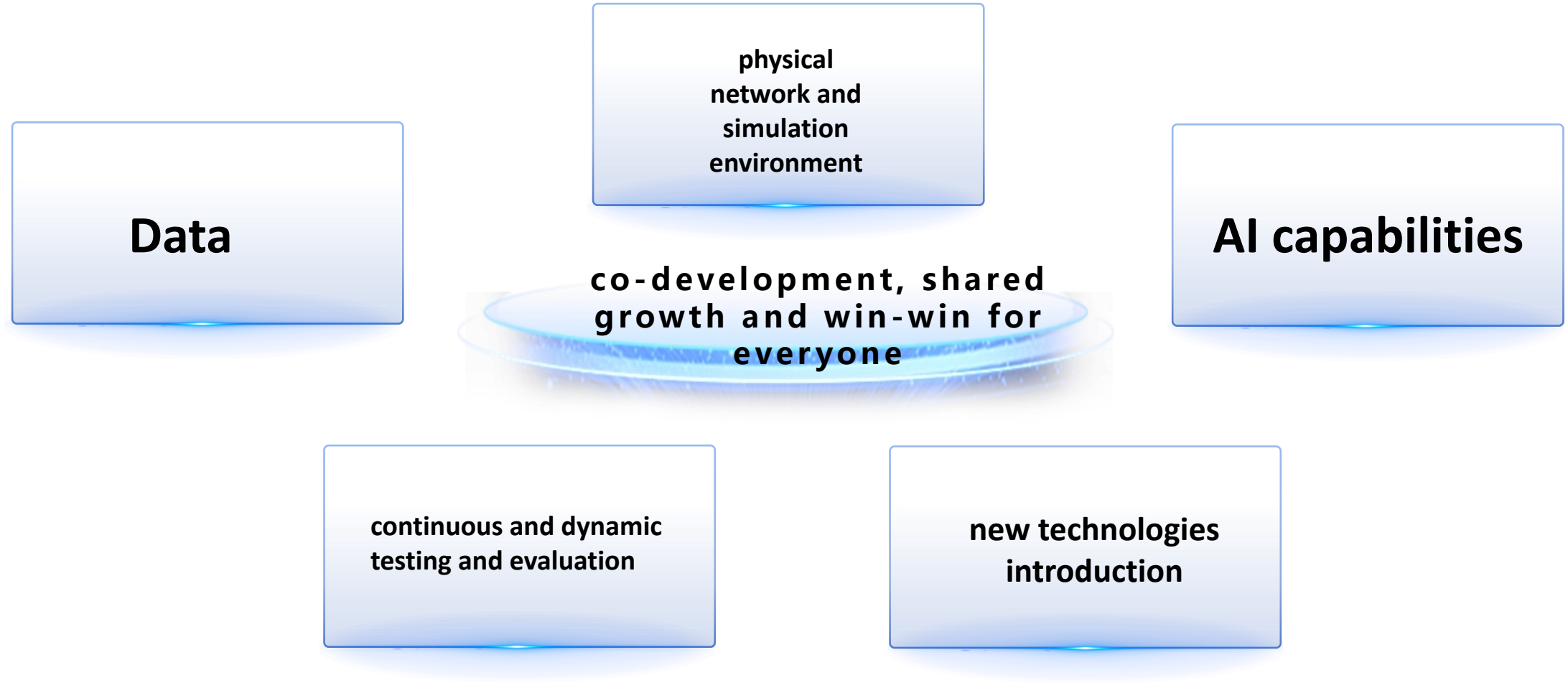
China mobile Collaborative Innovation Base

Contents

- China Mobile's Practice of Intelligent Network Operation
- China Mobile's Open Innovation Platform for Network AI
- Input to AI TF Planning

Discussion on the open mechanism of co-development, shared growth and win-win for everyone



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感谢聆听

Thank you for your attention

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