



Living on AI, Present and Future

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Contents

Present

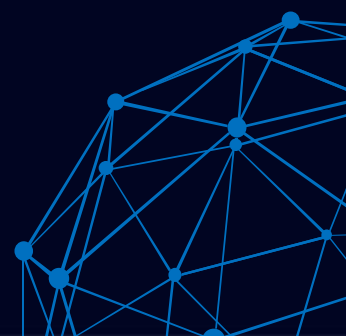
2

1

Trend

3

Future





Trend

The 3rd Wave of AI in the History

Sprouting

- Focus on classic machine learning algorithms
- Limitation on tasks like image recognition
- The buds of deep learning



2006

Maturing

- Effectiveness of deep learning algorithms in feature extraction
- Breakthrough in voice and visual recognition
- GAN, adversarial attack
- Google autonomous driving



2012

Spreading

- Renaissance of reinforcement learning
- Commercialized AI products
- Development of AI Chips, 5G, and IoT
- Autonomous driving technology



2021

The technological breakthrough marked by automatic feature extraction has formed the 3rd wave of AI. A new technological breakthrough with a cycle of about 20 years has been gestating.

Four Major Evolution Trends

Penetration Industry

- Accelerated penetration of AI technologies into industries
- Industrial revolution AI may bring

Deepening Research

- AI technology research: in-depth details
- Research work expands from theory to application
- Demand for foundational work

Closed-loop Project

- The ultimate goal of AI applications
- Closed loop of perception, transmission, storage, decision, and action
- Closed loop of perception, learning, and deployment
- AI process is automated

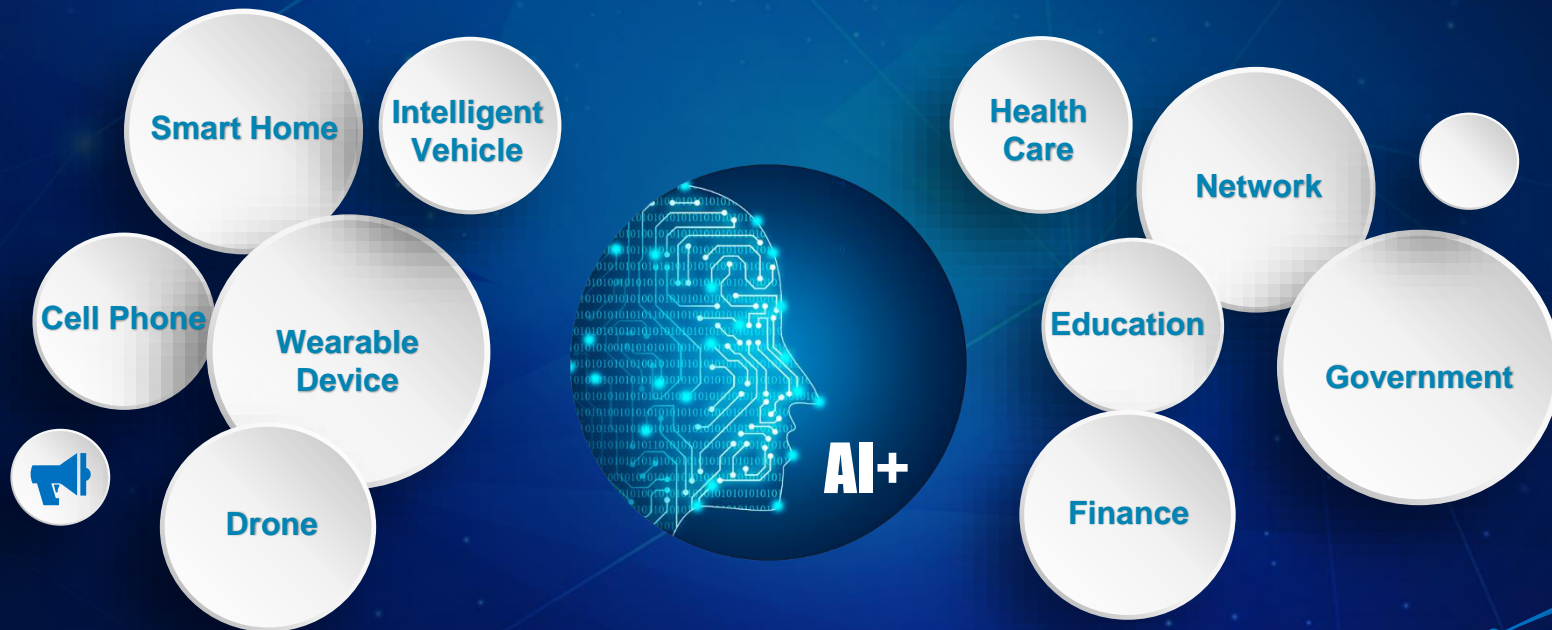
Trusted AI Practice

- The risks of AI development
- Against attacks, backdoors
- Privacy, ethics
- Prejudice, discrimination, trust
- Explainable AI



Present

AI+, Shaping Today's Society



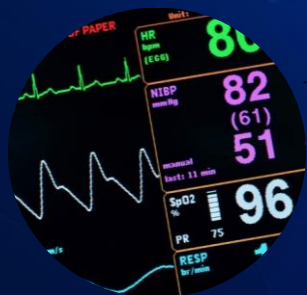
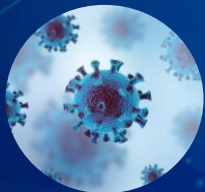
**Natural Interaction
Changing Life**

**Intelligent Learning
Re-shaping Industries**

AI for Healthcare

COVID-19-like INFECTIOUS DISEASE TRACKING

Achieve efficient disease tracking



CHRONIC DISEASE MONITORING

Issue health risk alerts



RESCUE OF SUDDEN DISEASE AND ACCIDENT

Request timely medical treatment



RESCUE OF SUDDEN DISASTER

Assign rescuers in time

AI for Industrial Park



Park introduction: ZTE Nanjing Binjiang Manufacturing Base

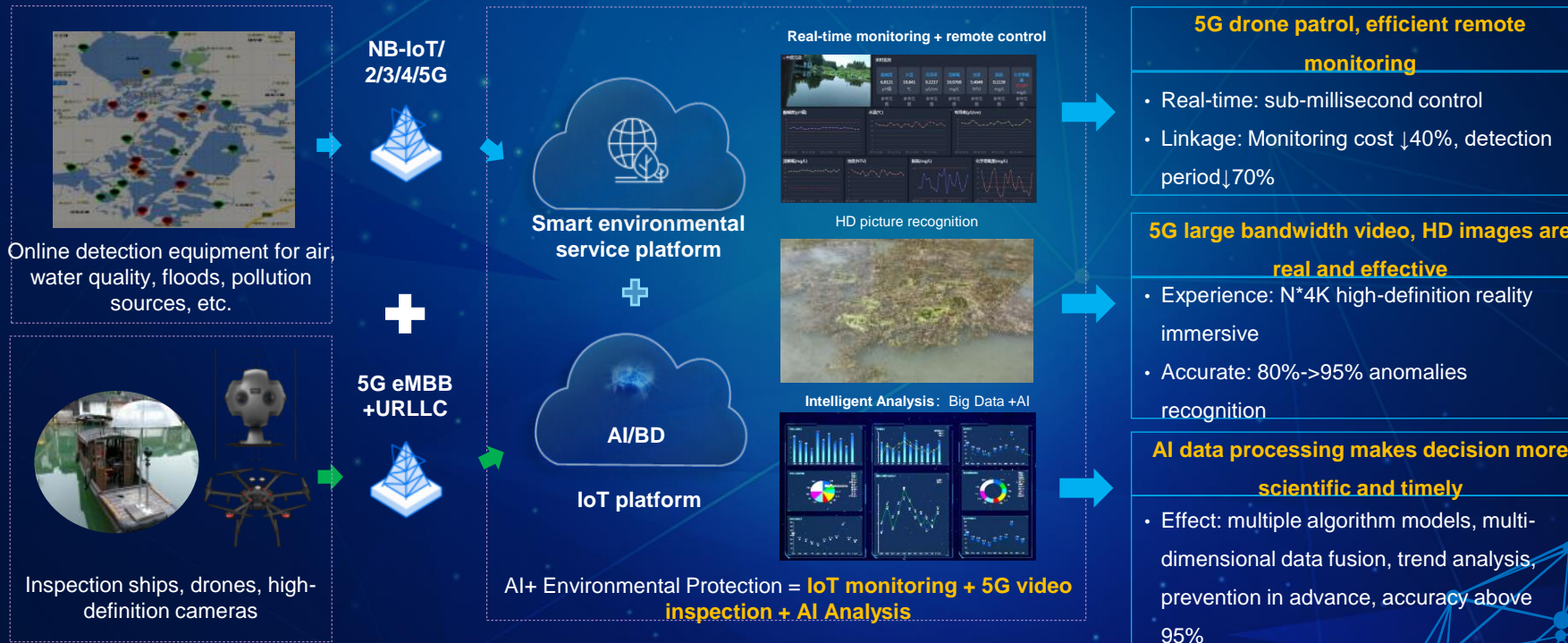
- Use the latest 5G technology to fully cover the administrative and factory areas
- Use AI technology to automate and intelligentize each unit
- ZTE's most intelligent factory and one of the most advanced parks in China's communications manufacturing industry

Technologies:

- **Cloud AGV:** intelligent collaborative scheduling
- **Machine vision:** timely detection of potential safety hazards, device quality inspection, automated assembly line
- **Intelligent analysis:** comprehensive monitoring of assets, energy consumption, environment, etc.
- **Intelligent prediction:** predictive management of quality, contract and logistics

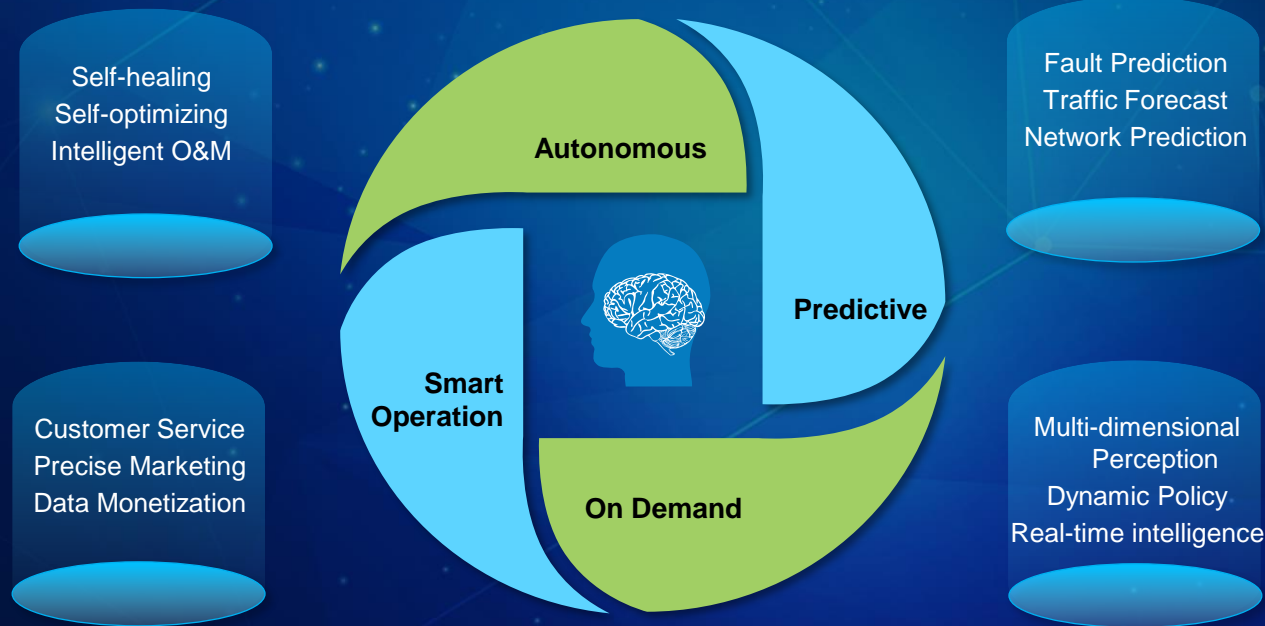


AI for Environmental Protection



AI + environmental protection, enabling the digital transformation of the environmental protection industry, and helping the environmental monitoring system to achieve three-dimensional monitoring, intelligent analysis, and refined control.

Network Requires More Intelligence



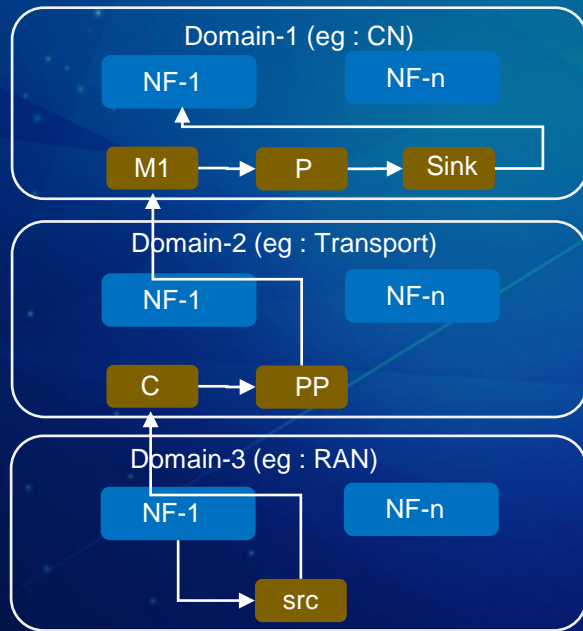
Network requires the introduction of AI in order to achieve automated and intelligent operations.

Standard : ML in 5G Architecture(Pipeline)

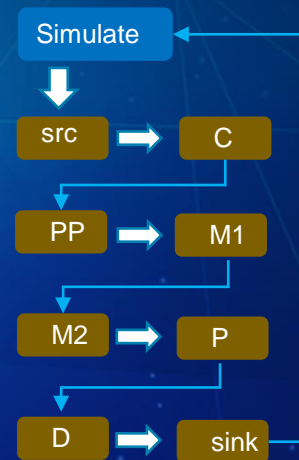
High level building blocks of mng



High level logical architecture of pipeline



High level logical architecture of closed loop



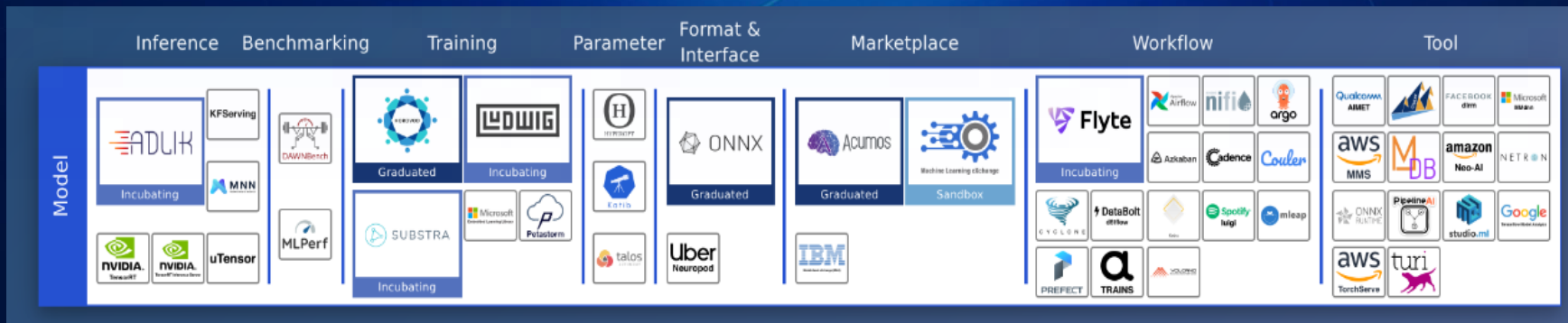
Note : Source from ITU-T FG-ML5G

Open Source : Toolkit for AI Model (Adlik)

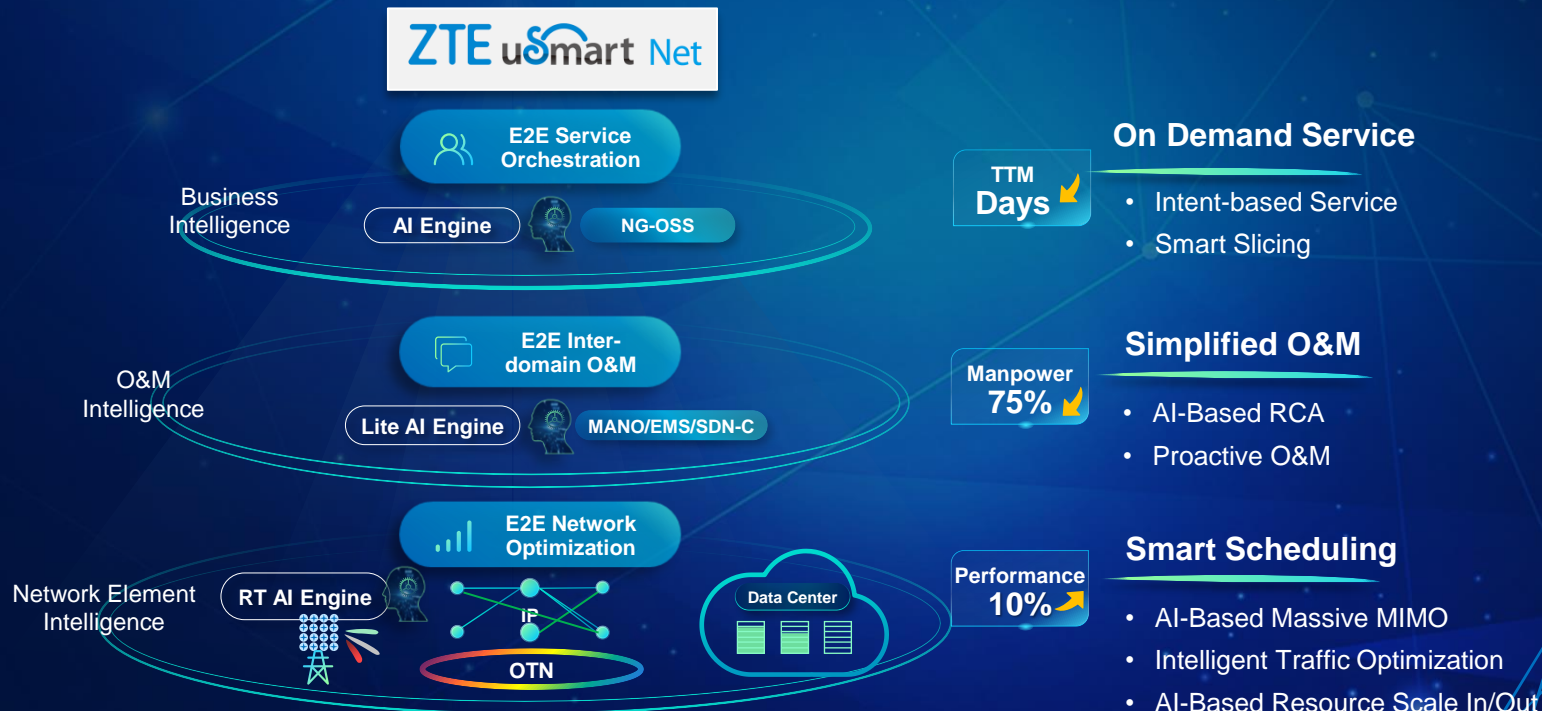
Adlik, a toolkit for accelerating deep learning inference on specific hardware.

- Support several kinds of hardwares.
- Collaborate with existing inference solutions with unified entrance.

An open source project of **LF AI & Data** and code hosted on GitHub.
<https://adlik.ai/>
<https://github.com/Adlik>



Self-evolution Network





Future

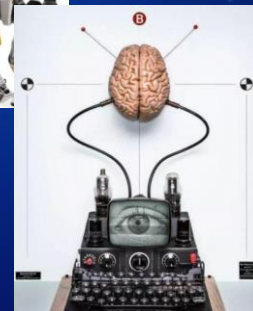
Framing the future of AI

Incredible Invisible unprecedented



Boston Dynamics
Changing your idea of
what robots can do

EXPLORE



Future Scope of AI

- Robots will keep us safer from disaster.
- We all will become cyborgs.
- AI will turn us into super human.
- Very smart computers may solve our problems, even change in the climate.
- AI will give us more time to be creative.
- Sad part is, robots will take away most of our jobs.

AI, everything and everywhere

ZTE中兴

Thank You!