

Activate Intelligence to Build Better Smart Cities



Cities Support the Development of Human Civilization and Embody Our Practical Experience

Hamlet

Village

Parish

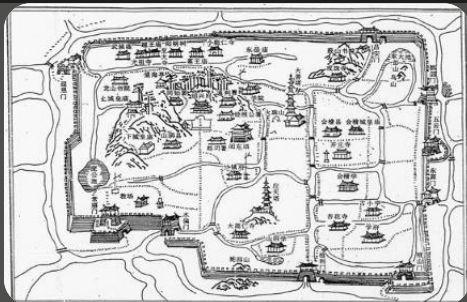
Township

Town

City

Metropolitan area

Agricultural society



“Always situate the capital and urban centers either at the foot of a great mountain or above the bank of a broad river.”

— *On Military Taxes, Guanzi*

Industrial society



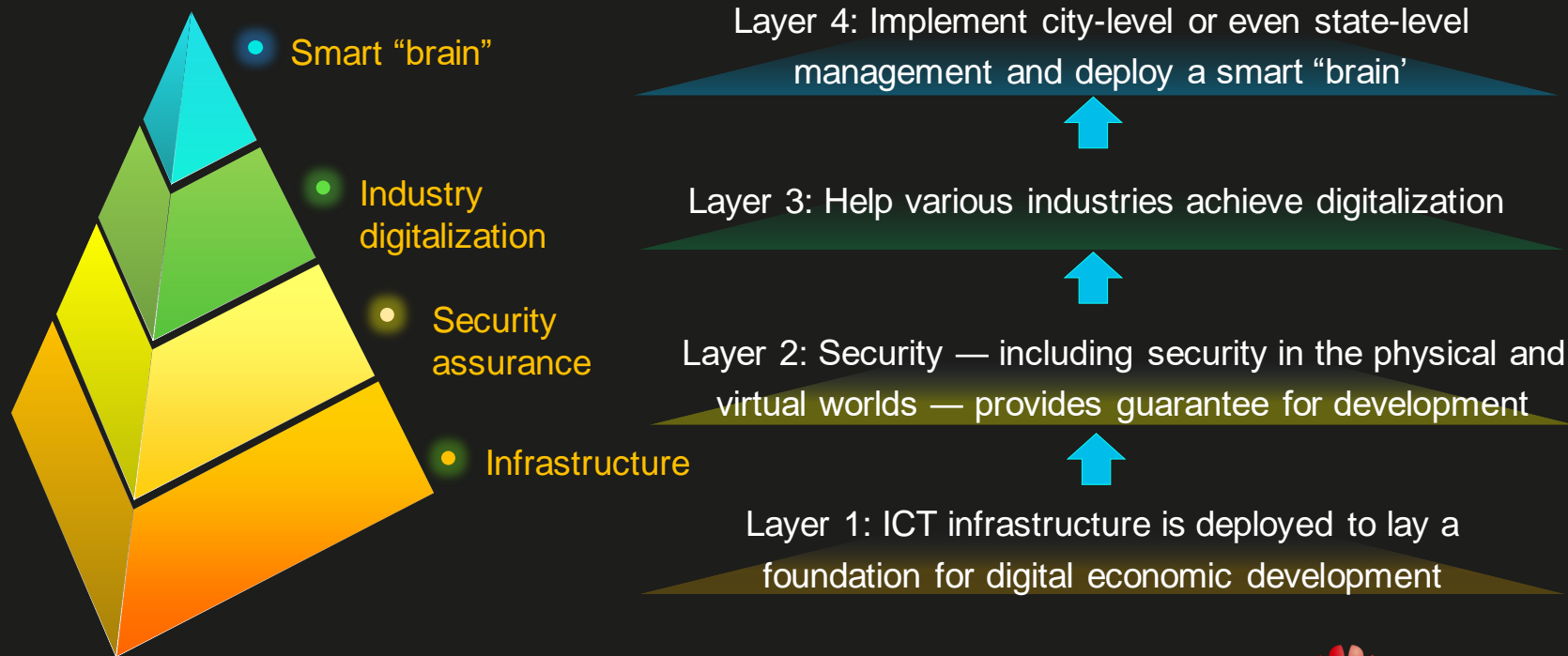
- Garden city: urban and rural integration and combination
- Sponge city: effective urban water management
- Low-carbon city: green and eco-friendly
- Resilient city: self-healing and sustainable development

Intelligent society



The physical world and digital world map to each other. The ubiquitous connections empower urban development.

Toward Intelligent Society: Maslow Model with Digital Economy Driving Urban Intelligence



Open and Service-Oriented Digital Platform Empowers Smart City Development

Digital Platform

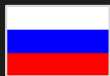


- Stable **integrated infrastructure platform**
- Modular and **service-oriented**
- Aggregate data and achieve **data enablement and algorithm enablement**.
- Open platform supports service applications and performs fast **application enablement**.

Multiple countries are building Smart Cities and need a digital platform



South Africa



Russia



China



Middle East
(GCC)



India



Singapore



Europe

- Discussion/Attention
- Qatar SCP
- India's City Platform
- TMF: City-as-a-Platform Manifesto
- EU platform framework
- Spain standard.

Three Application Features of the Digital Platform

1. Open-source

Open-source collaboration, forming a platform and application ecosystem

Case: FIWARE



2. Data openness

User autonomy: Share the data of each domain for each party to use.

Case: European urban data platform



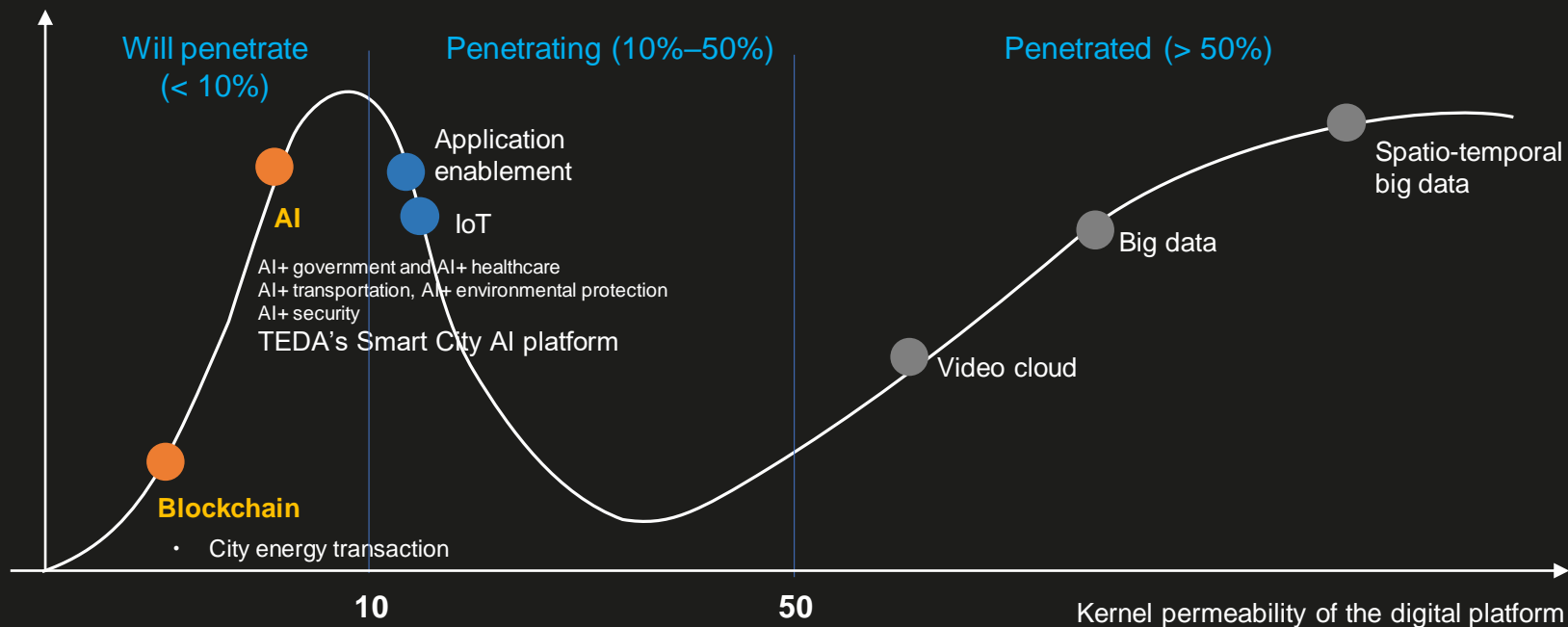
3. Application-driven

Start from core requirements (IoT and IOC) and implement projects based on the platform.

Case: Singapore Smart Nation Sensor Platform and Spain City Platform

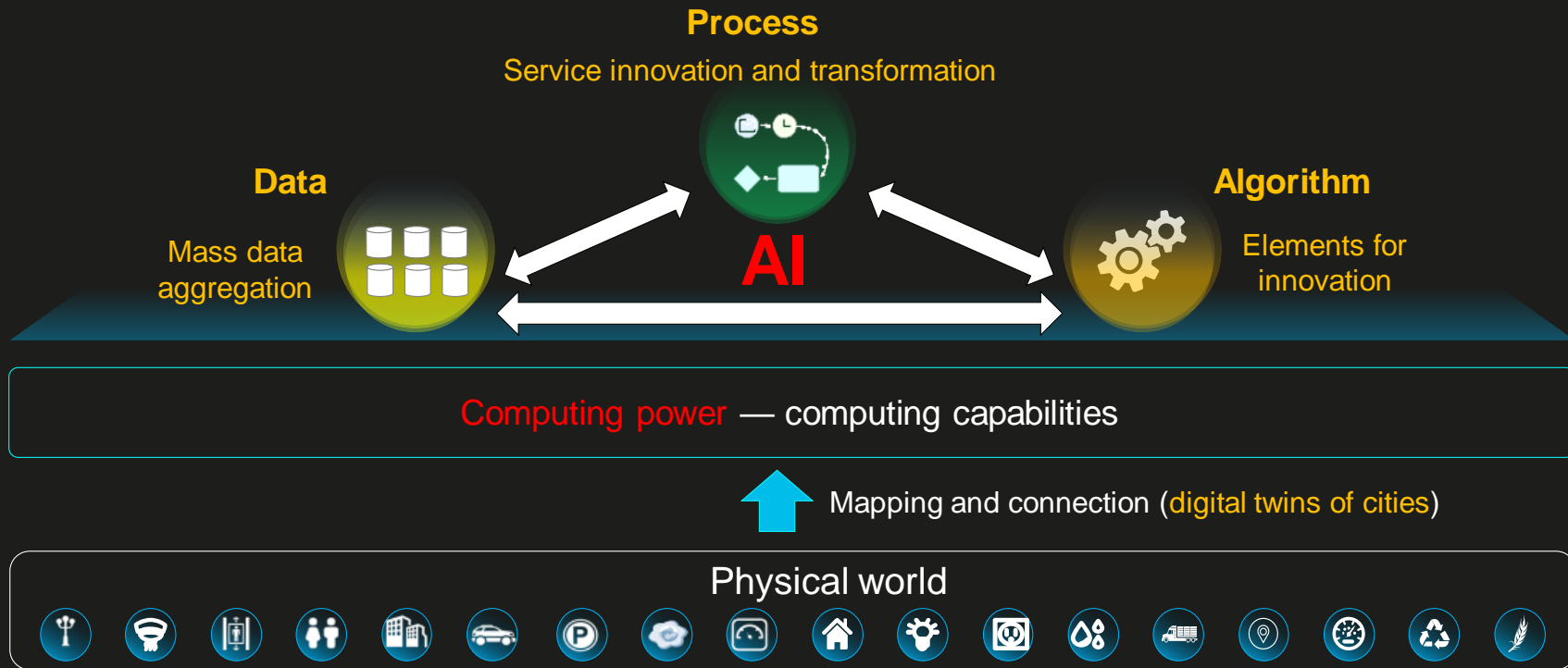
AI Is the Next Core Technology That Will Be Used on a Large Scale on the Digital Platform

Once new universal and basic technologies are applied to various industries, they will be aggregated to the digital platform.



AI Drives Smart City Development with Data, Algorithms, and Processes

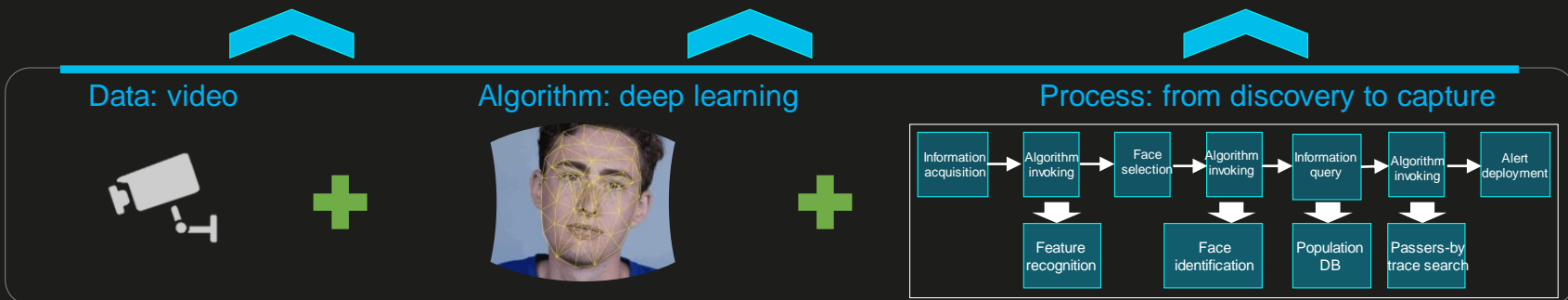
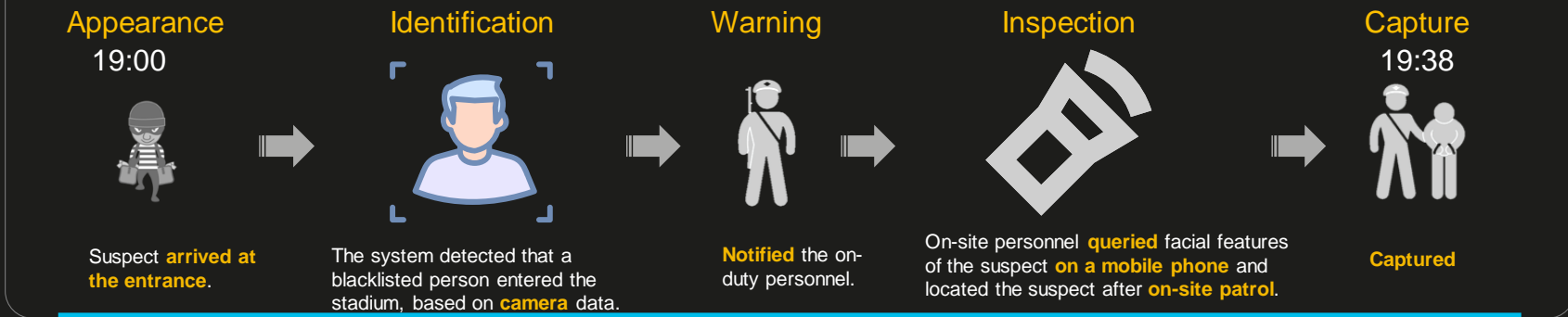
Data, algorithms, and processes will become the core elements in urban digital smart operations.



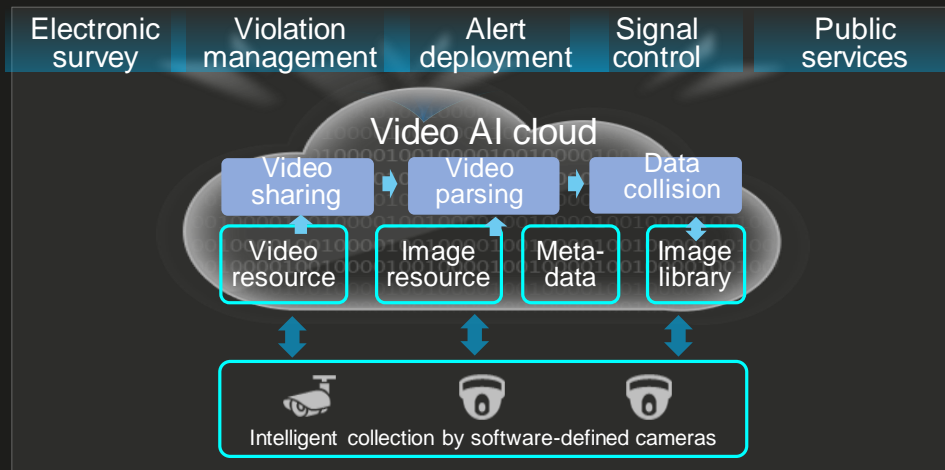
Data, Algorithms, and Processes Drive AI Evolution

One suspect was identified and then captured while attending a Jacky Cheung concert.

On the night of April 7, Jacky Cheung held a concert at Nanchang International Sports Center, which accommodates 60,000 spectators.



Video AI for a Traffic Management System That Can “Think”



Lishui Smart cloud police platform

- City that obeys zebra-crossing rules in China
- Morning and evening peak hours: **10% times saved**

Shenzhen Urban traffic brain

- AI violation **detection accuracy: 95%**
- Processing 10 million images/day, efficiency **10 times ↑**

Beijing Traffic light tuning

- Average vehicle speed on the main route: **15% ↑**
- Branch delay time: **10%–20% ↓**

Data: video

Intelligent collection and real-time traffic statistics

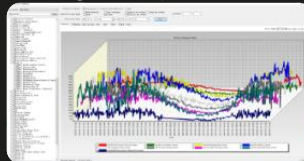


Algorithm: deep learning

Real-time analysis and in-depth analysis of person and vehicle behavior

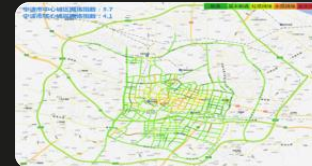


Data mining for real-time management policies



Process: from discovery to processing

Global synergy and traffic management optimization



Focus on Business to Initiate Urban Digital Transformation

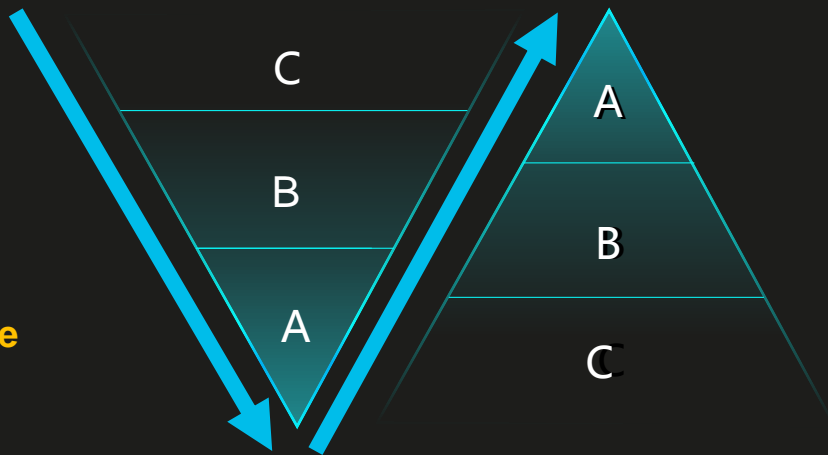
Driven by the V model (Digital Transformation)

CBA: Focuses on customer business to benefit residents and promote economic development.

Customer

Business

Architecture



AI

ABC: Technologies drive business development.

Big data

Cloud

People-oriented: from business requirements to urban intelligence

Chengyang: Convert Saline-Alkali Land into Arable Land

Saline-alkali land,
100 million hectares in China



Arable land,
120 million hectares in China



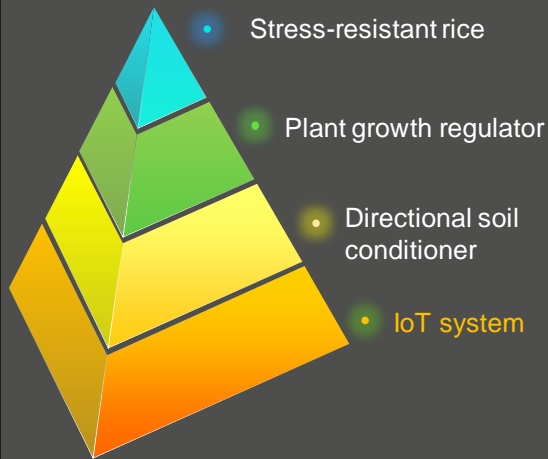
Obtain **6.6 million hectares** of
arable land from **15 million
hectares** of saline-alkali land?

“Seawater rice”
(Saline-alkali tolerant rice)

Treat **6.6 million hectares**
of saline-alkali land.
Obtain **30 billion kilograms**
of rice.
Feed **80 million** people.

Agriculture + Intelligence: Digital Land and Intelligent Process Create a Food Miracle

Four-dimensional improvement
method



Based on the land salinity and alkalinity, the four key elements are flexibly combined to provide customized solutions.

Service
Process

Algorithm

Data
collection

30%

Less
water

40%

Less
fertilizer

20%

More
revenue

Precise
fertilization

Soil quality
monitoring

Precise
pesticide

Disease and
pest control

Automatic
yield test

Data modeling

Topic classification

Deep learning



Sensor



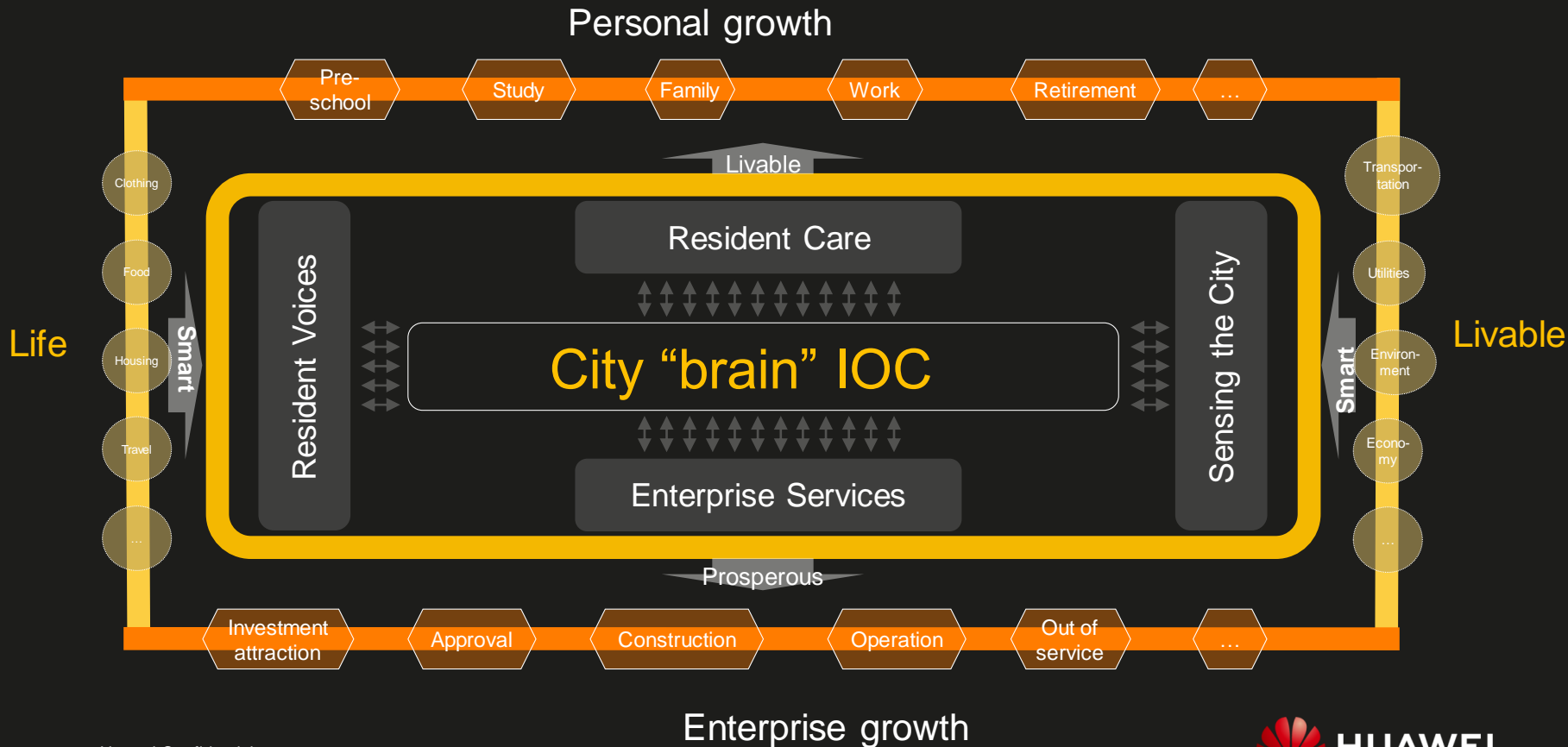
eLTE network



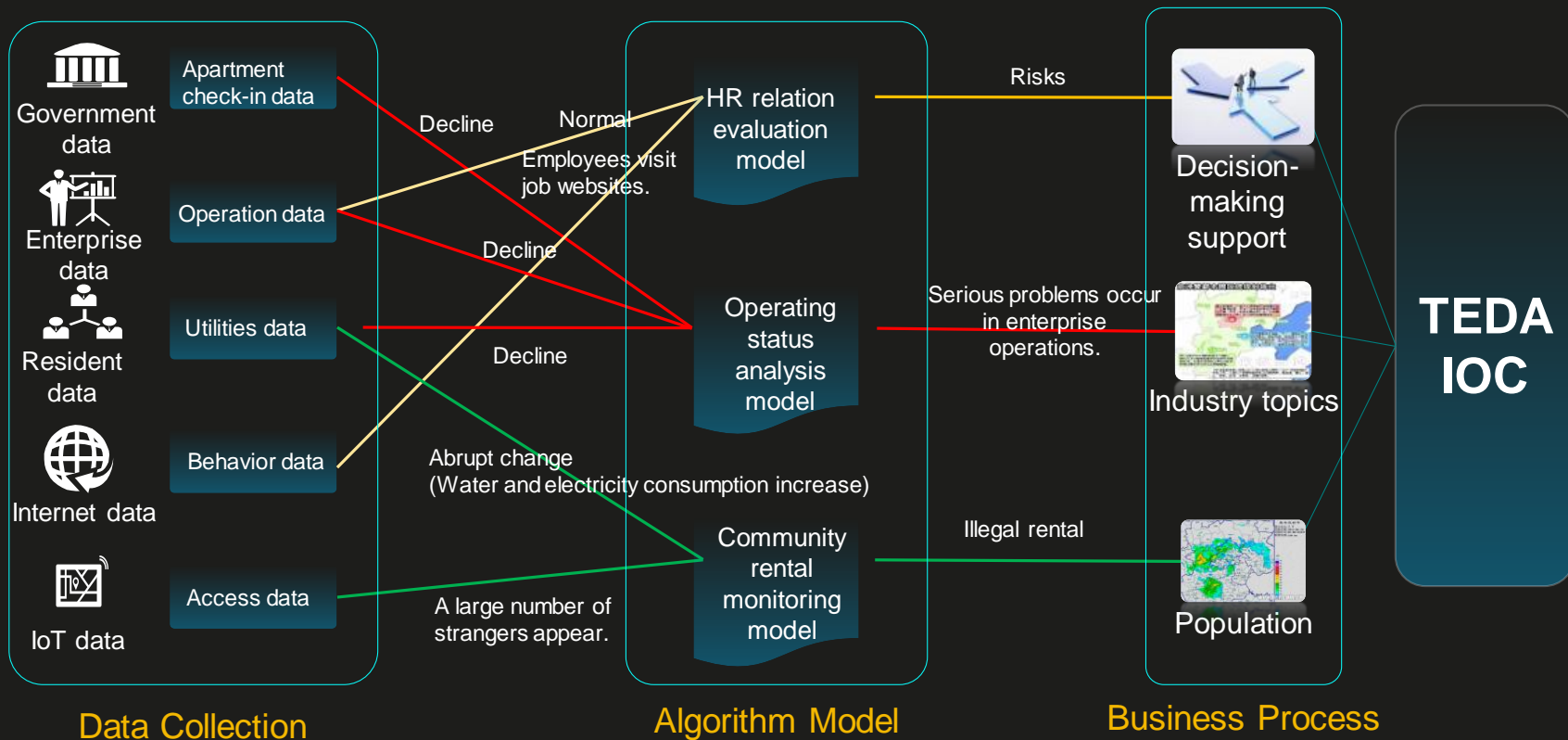
Cloud platform

Promotion in Dubai: The rice was tested in January. Its yield exceeded the global average of **4.539 tons per hectare**.

Activate Intelligence in TEDA: Empowering Innovation



AI: Serve Enterprises and Citizens and Build a Better City



Huawei Builds a Digital Platform to Achieve Urban Intelligence with Partners

City O&M management

Smart brain

IOC

Smart application

Ecosystem cooperation

City management

Public services

Industry development

Digital platform

AI core

Coordination of five
resources

Industry enablement

Industry enablement: Data service + Business service + Development service

AI

IoT

Big data

GIS map

Video cloud

ICP

Infrastructure

Everything connected

Everything sensing

Wired network

Wireless network

Cloud data center



Sensor



Mobile terminal



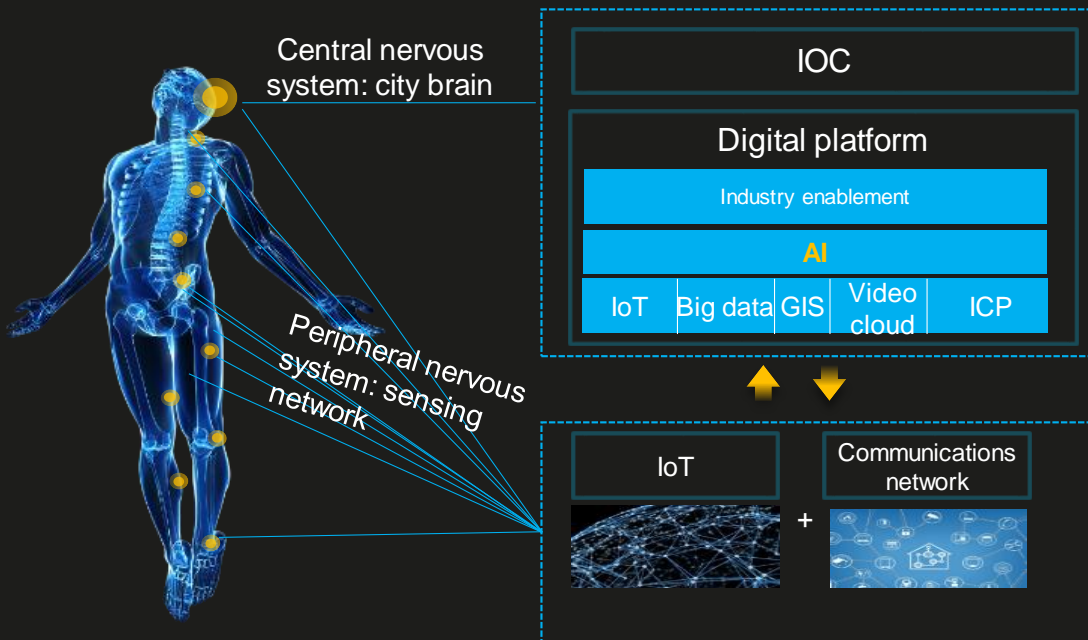
Intelligent camera

Chip

Embedded OS

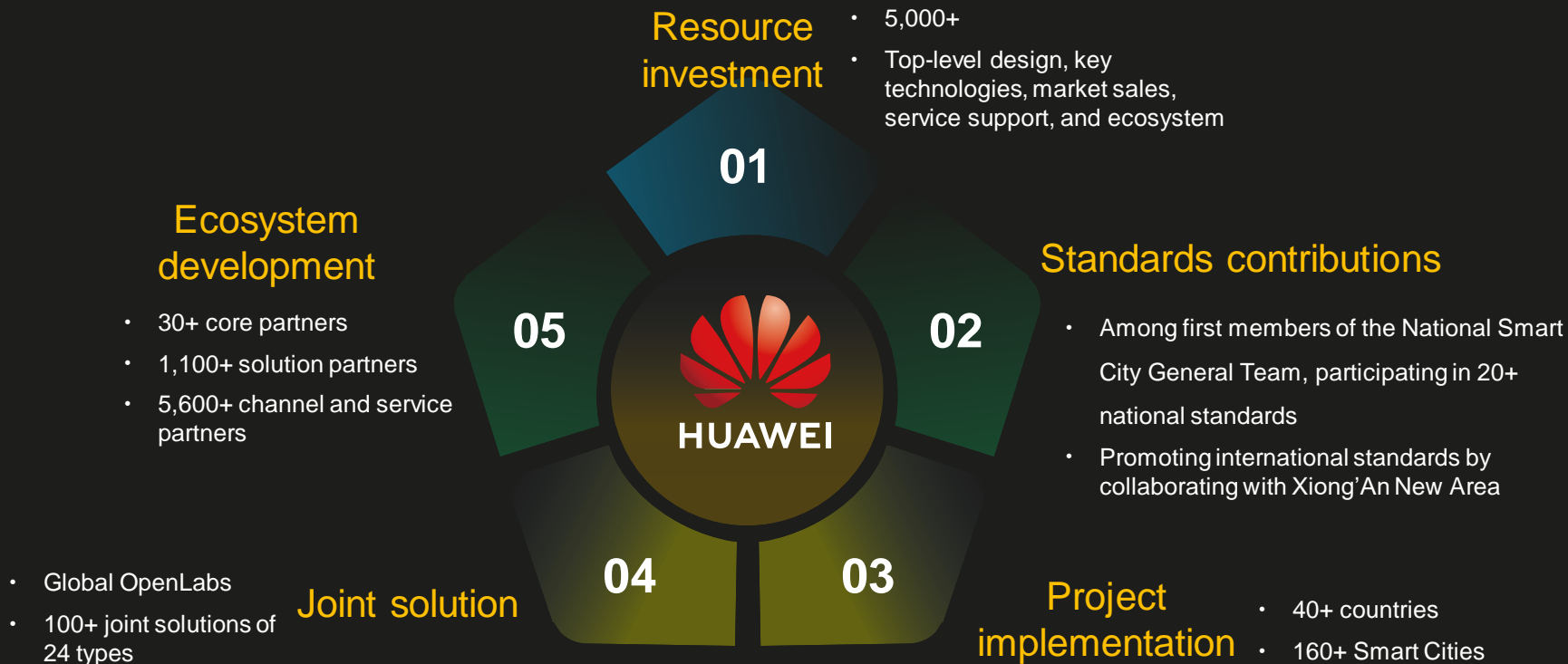
Huawei's Value Positioning: Build Digital Twins for Cities and Create an AI-Based City System

A robust networking system needs city intelligence for full-process management: front-end sensing, data transmission, **AI-based decision-making**, and actions.



- The digital platform and IOC constitute **the AI “central nervous system,”** supporting city operation monitoring and analysis, emergency linkage, and decision-making support.
- The IoT and city communications network form a “peripheral nervous system,” enabling all-scenario automatic data collection and transmission and building **digital twins for cities.**

As a Smart City Practitioner, Huawei Leads New Smart City Construction



Our Vision and Mission

Bring digital to

愿景和使命

把数字世界带入每个人、每个家庭、每个组织，
构建万物互联的智能世界

Bring digital to every person, home and organization
for a fully connected, intelligent world.

