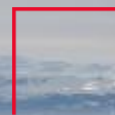


# Smart City Innovation in the Digital Economy Era

Yin Qinghua

Vice President of Telchina Smart Industry Group Co., Ltd.

October 11, 2018

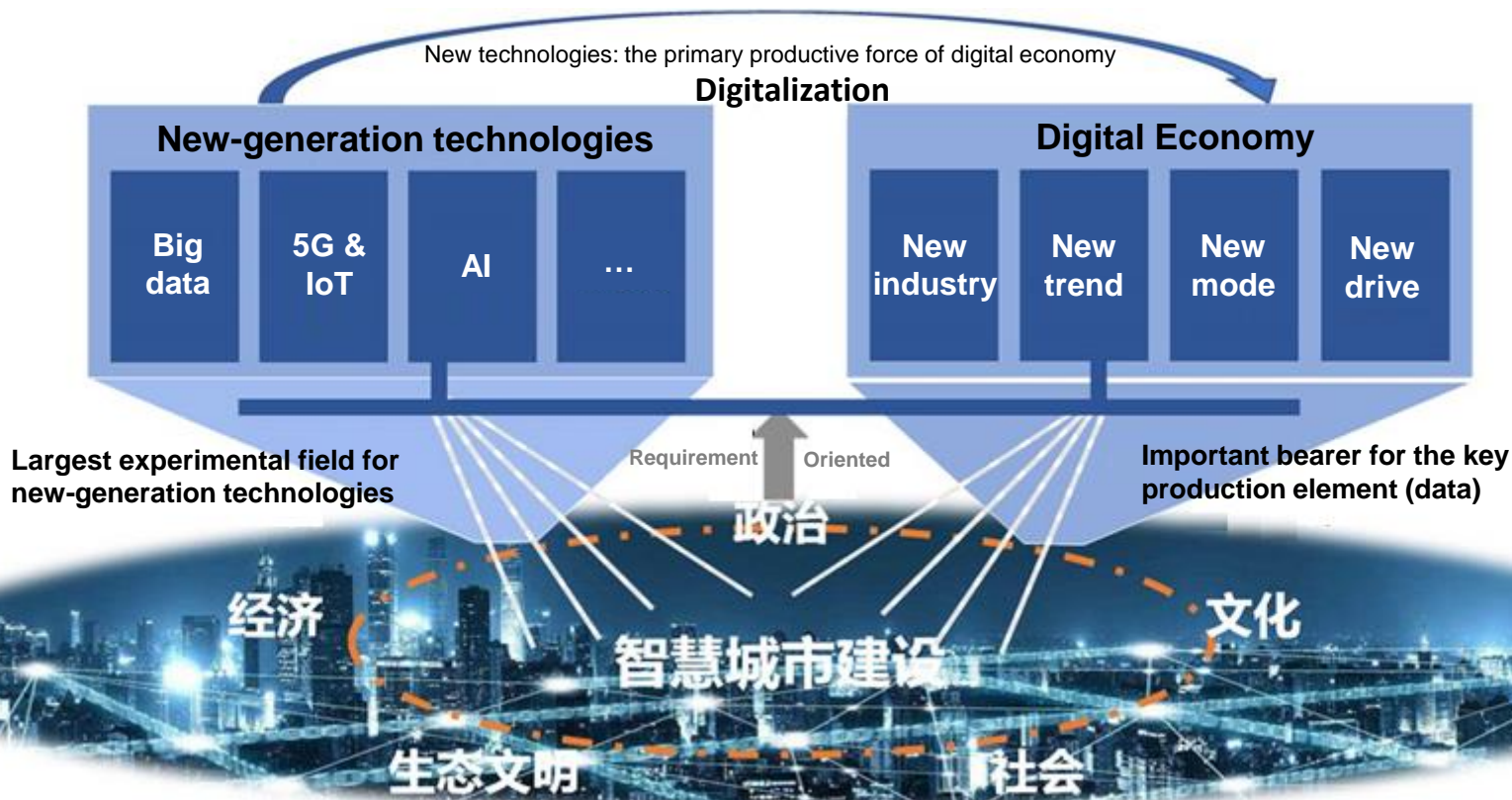


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4. Telchina's Data Convergence Application Practice

# Smart City Construction Drives Digital Economy Development

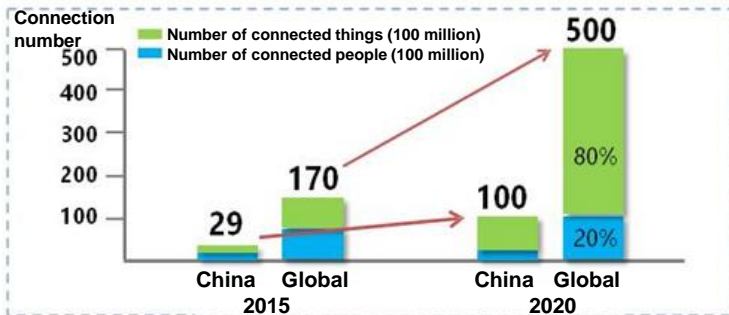
Smart City can drive the convergent development of new-generation information technology and urban economic society and, therefore, is an effective way to promote digital economy and build “digital China”.



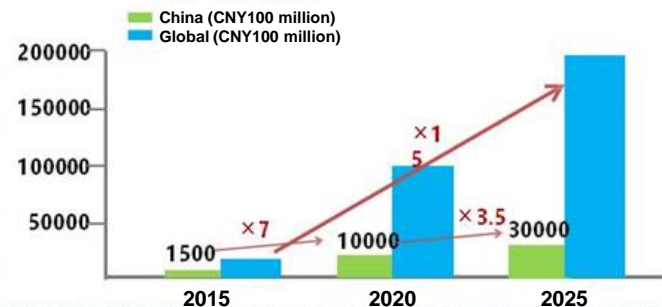
# Big Connection Era: Massive Urban IoT Data Requires Coordination

With the development of 5G and the maturity of Internet technologies, China is transitioning from the mobile Internet era to a fully connected one.

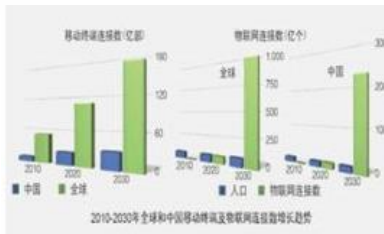
## IoT development amid globalization



## Market scale



## Next few years: key period of IoT development



- By 2030, the number of IoT device connections around the world will be near 100 trillion and the number in China will be more than **2 million**.
- The next few years will be a key period for IoT development. After the 5G soft network slicing technology gets mature, the year of 2020 will see an explosion period of IoT development.

## IoT market: having a promising future



- Traditional business is reaching the saturation level, and IoT is the imperative.
- The market space is predicted to reach US\$1700 trillion.
- The market space in the Asia Pacific Region, North America, and West Europe is large and accounts for 80% of the global market space.

The IoT development now faces high risks. Governments at all levels are developing policies to lead the industry development. Carriers and related companies are making plans, expanding the market, and seeking new revenue growth.

# Identity Authentication: Cornerstone of Smart City Construction

## New construction requirements for a service-oriented government

Accelerate government digital transformation to reshape the government into a digital and transparent one.

## New governance requirements for a network society

Realize digital and network-based society governance, and perform society governance in cyberspace.

国务院关于加快推进。

“互联网+政务服务”工作的指导意见。

国发〔2016〕55号。

### 二、优化再造政务服务。

(一) 规范网上服务事项。各省(区、市)人民政府、国务院各部门要依据法定职能全面梳理行政机关、公共企事业单位直接面向社会公众提供的具体办事服务事项,编制政务服务事项目录,2017年底前通过本级政府门户网站集中公开发布,并实时更新、动态管理。实行政务服务事项编码管理,规范事项名称、条件、材料、流程、时限等,逐步做到“同一事项、同一标准、同一编码”,为实现信息共享和业务协同,提供无差异、均等化政务服务奠定基础。[1]

(二) 优化网上服务流程。优化简化服务事项网上申请、受理、审查、决定、送达等流程,缩短办理时限,降低企业和群众办事成本。凡是能通过网络共享复用的材料,不得要求企业和群众重复提交;凡是能通过网络核验的信息,不得要求其他单位重复提供;凡是能实现网上办理的事项,不得要求必须到现场办理。推进办事材料目录化、标准化、电子化,开展在线填报、在线提交和在线审查,建立网上预审机制,及时推送预审结果,对需要补正的材料一次性告知;积极推动电子证照、电子公文、电子签章等在政务服务中的应用,开展网上验证核对,避免重复提交材料和循环证明。[2]

### 三、融合升级平台渠道。

(一) 规范网上政务服务门户建设。各省(区、市)人民政府、国务院有关部门要依托政府门户网站,整合本地区本部门政务服务资源与数据,加快构建权威、便捷的一体化互联网政务服务平台。提供一站式服务,避免重复分散建设;已经单独建设的,应尽快与政府门户网站前端整合。中央政府门户网站是全国政务服务的总门户,各地区各部门网上政务服务平台要主动做好对接,形成统一的服务入口,推进政府部门各业务系统与政务服务平台的互联互通,加强平台间对接联动,统一身份认证,按需共享数据,做到“单点登录、全网通办”,建立健全政务服务平台电子监察系统,实现全部事项全流程动态监督。利用统一的政务服务平台,积极推进平台服务向移动端、自助终端、热线电话等延伸,为企业和群众提供多种便捷的办事渠道。[3]

**Have the government take the lead and enterprises participate.** Connect government management requirements to market development requirements. Establish a development mode that centers on national credible identity management and is driven by credible identity management and services to implement the state credible identity strategy, in order. [1] Eliminate or reduce the leakage or illegal transactions of personal information and fill the gaps in the monitoring section of government agencies.



Article 24 of the *Cybersecurity Law*: The state shall implement the strategy of credible identity in cyberspace, support the research and development of safe and convenient technologies for electronic identity authentication, and promote mutual recognition among different electronic identity authentication technologies.

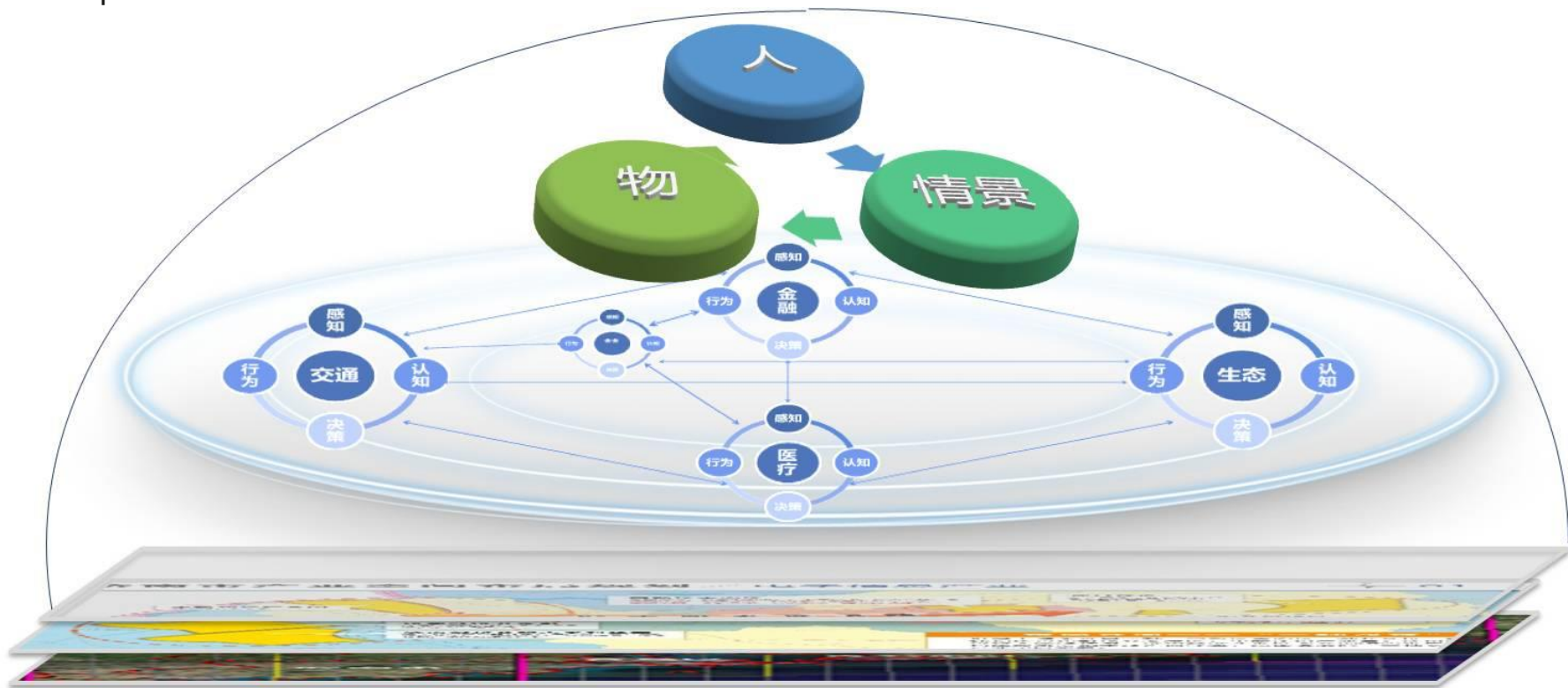


[1] Jiang Dongxing, Hou Jianning, Han Fei, & Tang Ming. *Thoughts on the Internet Credible Identity System: from Identity Management to Identity Service Information Security and Communications Privacy*. 2018 (05).



# Data Convergence Application: Smart City Development Trend

A city is an organic and complex “life system.” Smart City construction needs to be coordinated as “fragmentation” application construction restricts the development of Smart Cities — systematic integration is imperative.

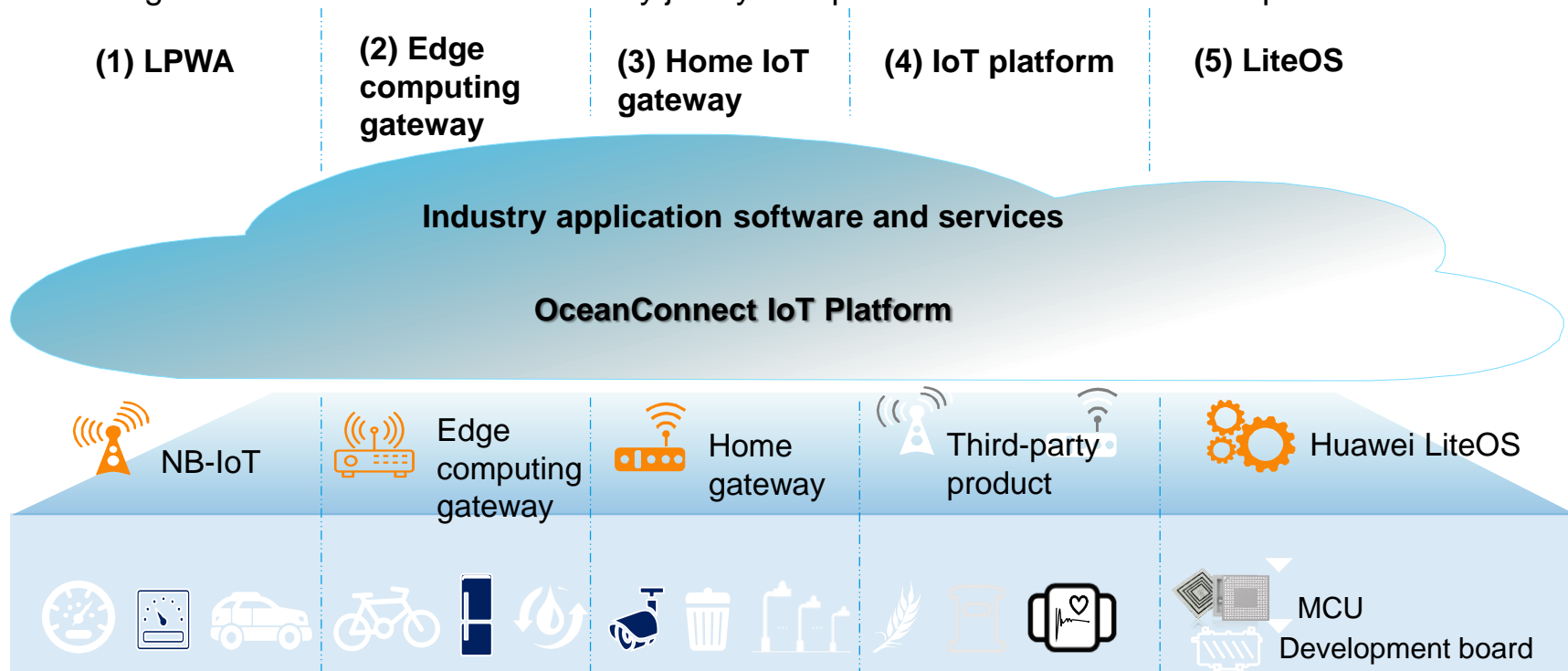


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# Huawei IoT Connection Management Platform

Enable digital transformation of the industry jointly with partners in five technical cooperation scenarios.



Huawei's solutions

Partners' products







## 设备在线情况

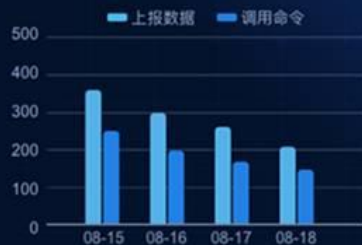
- 总数 0896118
- 在线 0896014
- 异常 034

设备在线率  
99.98%

## 设备类型及占比



## 应用API调用



• API调用

568

• 在线率

99.98%

应用接入数 08232



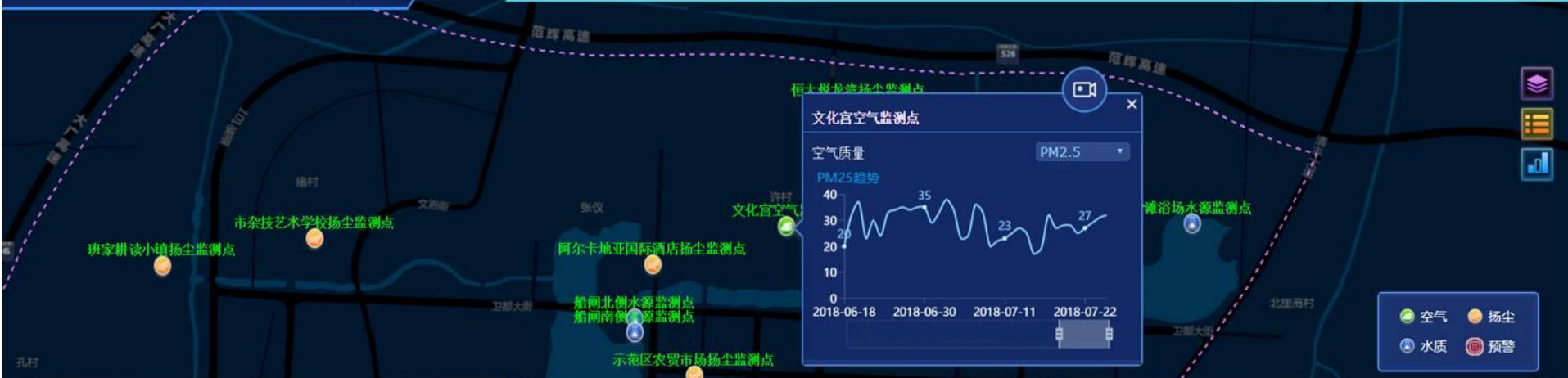
2018-07-26 05:20:30

## 在线应用

1	济南单灯节能控制应用	52154
2	无锡单灯节能控制应用	51947
3	拉萨智慧水务应用	41540
4	鹰潭智慧照明应用	33914
5	昌乐智慧城市应用	24662

## 消息推送统计

安全告警	通讯告警	规则触发
541	68	184
安全告警 大同井盖应用出现非授权用户频繁访问鉴权接口...	通讯告警 鹰潭智慧照明应用设备[1703994400001]掉线...	规则触发 济南照明监控应用单灯控制器[1839010001]...
3分钟前 >	20分钟前 >	20分钟前 >
安全告警 大同井盖应用出现非授权用户频繁访问鉴权接口...	通讯告警 鹰潭智慧照明应用设备[1703994400001]掉线...	规则触发 拉萨智慧水务应用, 液位告警规则触发, 设备[...
3分钟前 >	20分钟前 >	1小时前 >



濮阳市空气监测站空气质量情况 数据更新时间: 2018-07-25 (实时更新)



水质监测 数据更新时间: 2018-07-25 16:47:00



工地扬尘监测 数据更新时间: 2018-07-25 (实时更新)

工地监测站	PM2.5 (ug/m³)	PM10 (ug/m³)	噪声 (db)	温度 (°C)	湿度 (%)	状态	视频
大数据智慧生态园扬尘监测点	27	66	54	31.1	62	正常	查看
阿尔卡地亚国际酒店扬尘监测点	23	65	54	32.4	68	正常	查看
恒大悦龙湾扬尘监测点	30	58	59	31.1	66	正常	查看
示范区农贸市场扬尘监测点	29	66	59	32.5	60	正常	查看
班家耕读小镇扬尘监测点	33	67	58	32.4	59	正常	查看
东湖一品扬尘监测点	28	67	60	31.4	71	正常	查看
市杂技艺术学校扬尘监测点	26	61	55	30.3	62	正常	查看



# Telchina's Smart Infrastructure On-Site Sensors and Industry Applications

On-Site  
Sensors



## Street lamp lighting data

- Lighting rate and fault rate of street lamps
- Real-time power of street lamps
- Energy consumption of urban lighting
- ...

## Well-cover status data

- Well-cover position
- Displacement and tilt
- Loss
- ...

## On-road parking data

- Location and occupancy
- Parking space occupancy rate
- Charging status
- ...

## Water-supply pipeline data

- Water quality and pressure distribution
- Real-time traffic status
- User water meter data
- ...

## City drainage data

- Liquid level of drain wells
- Pipeline network traffic data
- Inlet/Outlet water quality
- ...

## Heat-supply pipeline network data

- Household meter data
- Room temperature data
- Traffic, pressure, and temperature
- ...

## Gas supply network data

- Pipeline network traffic and pressure
- Leakage detection data
- Gas meter data
- ...

## Firefighting facility data

- Facility location
- Collision information
- Traffic information
- ...

## Urban flood control supervision

- River water level
- Pipe water level
- Rainfall/Traffic data
- ...

## City supervision data

- Trash box position
- Vehicle status data
- Site device and environment data
- ...

Industry  
Applications

# Typical Case of Urban Infrastructure IoT: Telchina Helps Jinan Build a New Smart City

济南

大型城市新型智慧城市项目群示范



## Digital municipal administration

Huaxia Construction Science and Technology Award, Demonstration Engineering of Ministry of Housing and Urban-Rural Development, Shandong Provincial Science and Technology Progress Award, and Science and Technology Progress Award granted by the China Association for Geographic Information Society

## Digital water supply

Third Prize in the Science and Technology Progress Award granted by the China Association for Geographic Information Society

## Urban flood control

Exemplary Solution of Computer Information System Integration

## Sponge city

National leading monitoring and warning platform

## Digital water drainage

Silver Award for Excellent Engineering in Geographic Information Industry

## Smart lighting

China's largest single-lamp control energy-saving project

## Integrated utility tunnel

Science and Technology Demonstration Project of the Ministry of Housing and Urban-Rural Development

## Smart parking

New mode of urban on-road parking management

## Smart worksite

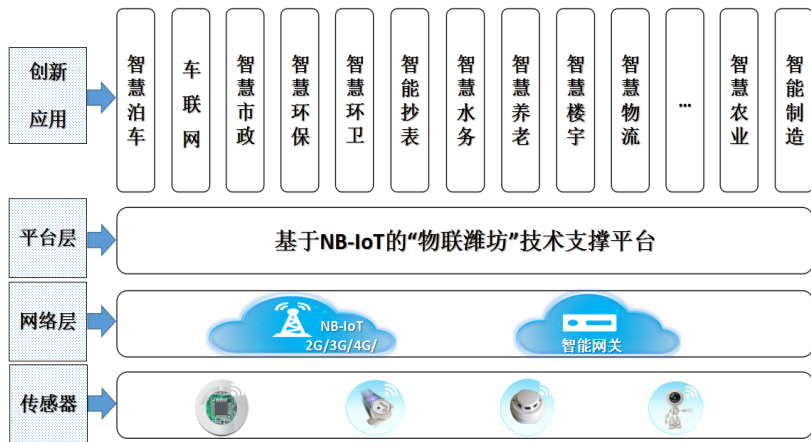
Monitoring applications of all worksites in the Zhangqiu District



# Telchina Actively Participates in Construction of Weifang IoT

“物联潍坊”总体设计框架图

(一张网、一个平台、N类应用)



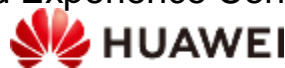
In November 2016, Telchina participated in the establishment of the Huawei-Weifang IoT Industry Alliance to build an IoT industry ecosystem. The first Weifang IoT batch was oriented toward 12 projects, including smart parking, smart municipal administration, and smart water.



Huawei-Weifang IoT Industry Alliance



Huawei-Telchina Joint Lab and Experience Center





# New IoT Technologies Demonstration Applications: Telchina Helps Yingtan Build an NB-IoT Showcase City

Actively carry out NB-IoT demonstration applications, participate in the construction of IoT labs and experience centers, and promote industry localization, to help Yingtan build a new smart and NB-IoT demonstration city.



First batch of settled enterprises



World's first large-scale commercial smart lamp project based on NB-IoT (Xinjiang New Area, Yingtan)



China's first smart parking demonstration project based on NB-IoT (Mount Longhu, Yingtan)



Improve NB-IoT international standards

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# Promote Innovative Products and Solutions Based on the eID Digital Identity Technology System

At the Shandong eID digital identity applications launch conference, the Third Research Institute of the Ministry of Public Security, Weifang Smart City Construction Office, Weifang Public Security Bureau, and Telchina established a joint lab for eID digital identity security application technologies. By relying on the Internet digital identity authentication service (Weifang) platform, the four parties will jointly promote innovative products and solutions based on the eID digital identity technology system.



# Telchina's Internet-Based, Unified, Real-Name Authentication Service Platform Practice

Provide new digital means for government management and public services to effectively improve the comprehensive capability of social governance and the public service level, so as to build a knowable and perceptible Smart City.

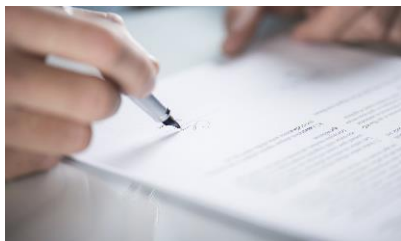
## Unique identity QR code



Seamless interconnection  
with service domains



**Real-name authentication +  
Zero labor for business  
services**



**Real-name authentication +  
Small loans on the Internet**

**Real-name authentication +  
Video ratings for everyone**



**Real-name authentication  
+ Citizen card**



**Weifang Internet-Based, Unified, Real-Name Authentication Service Platform Project  
(Shandong Public Security Science and Technology Progress Award)**

## Real-name authentication process

港澳签证速递

基本信息

您的常住户口所在地

潍坊 昌乐县

往来港澳通行证号码

往来港澳通行证有效期至

2017-05-09

出生日期

1985-06-15

姓名

手机号码

邮寄地址

收件人

邮寄地址

邮政编码

提交



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# Telchina's Data Convergence Application Exploration: Comprehensive Monitoring of Urban Operations



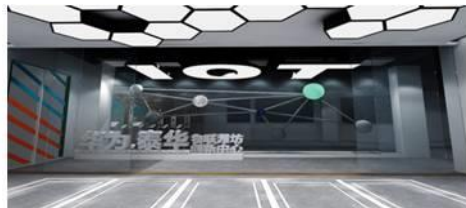
# Telchina's Data Convergence Application Exploration: One Map of the Industrial Economy

Conduct big data analysis of macro patterns of different industries in the same region and core industry layouts in different regions to support timely and accurate understanding of the industry status, trends, and planning. Build a One Map-based industry big data base and drill data in a cross-industry and vertical manner. By doing so, enable all-domain big data analysis of the industrial economy. Perform scientific decision analysis and forecasts in a comprehensive and multi-dimensional application scenario.



# Conduct Comprehensive Strategic Cooperation with Huawei in the New Smart City Field

- Ecosystem partner
- Gold partner of multiple products
- Preferred solution partner
- Huawei Cloud certified partner





# Introduction to Telchina Smart Industry Group Co., Ltd.

Devoted to the Smart City field, Telchina serves as the vice chair of the China Smart City Industry Alliance and takes the lead or participates in the establishment of alliances in multiple countries and provinces.



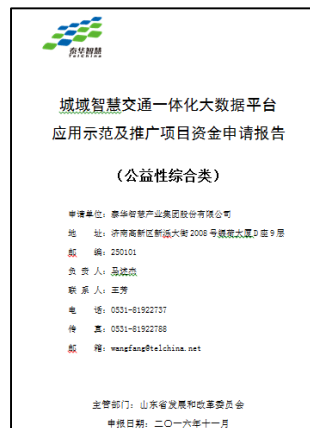
## Industry Organizations

- China Strategic Alliance of Smart City Industrial Technology Innovation (Vice Chair)
- Smart City Development Alliance (Director)
- Enterprise Joint Team of China Smarter City Development Research Center (Deputy Leader)
- Digital Urban Administration Group of Chinese Society for Urban Studies (Deputy Leader)
- China Association of Building Energy Efficiency (Executive Director)
- Energy Efficiency Group of Chinese Society for Urban Studies (Deputy Leader)
- IoT Group of Chinese Society for Urban Studies (Deputy Leader)
- Urban Road Lighting Committee of China Municipal Engineering Association (Director)
- China Association for Geographical Information Society (Director)

## Provincial Industry Organizations

- Shandong Strategic Alliance of Smart City Industrial Technology Innovation (Chair)
- Shandong Smart City Industry Alliance (Vice Chair)

# Introduction to Telchina Smart Industry Group Co., Ltd.



## Top-level design

## New Smart City evaluation

Beijing Future Science Park/Mentougou; Xi'an-Xianyang Culture and Sports Functional Areas; Laoshan/Mingcun Town, Pingdu/Sino-German Ecopark, Qingdao, Shandong; Changle/Xiashan, Weifang, Shandong; Laiwu, Shandong; Datong, Shanxi; Yingtan/Guixi/Dexing, Jiangxi; Puyang, Henan; Xiji, Ningxia; Neiqiu, Hebei...

Ji'nan/Qingdao/Rizhao/Laiwu, Shandong; Datong, Shanxi; Nanning, Guangxi; Changde, Hu'nan; Yingtan, Jiangxi...

# Introduction to Telchina Smart Industry Group Co., Ltd.



## Urban infrastructure

- Municipal facility
- Underground space
- Water ecosystem
- Public lighting



## Comprehensive city governance

- Grid + City management
- One Map + Industry support



## Urban public safety

- Smart policing
- Video and image cloud big data



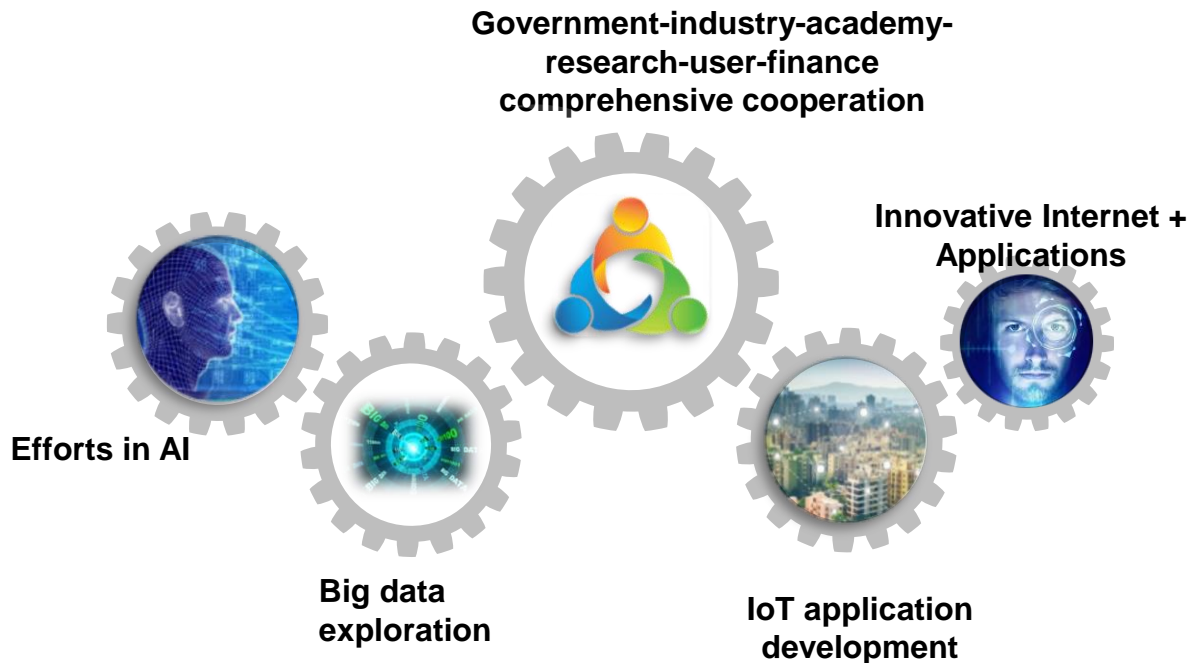
## Smart transportation


- Metro-area transportation
- Smart parking



# Openness, Sharing, and Win-Win: Building New Smart Cities

Continuously assume responsibilities and obligations of new Smart City construction and development; whole-heartedly serve the sustainable and healthy development of new Smart Cities based in the ecological niche.





## 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

# Thank you.

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.

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