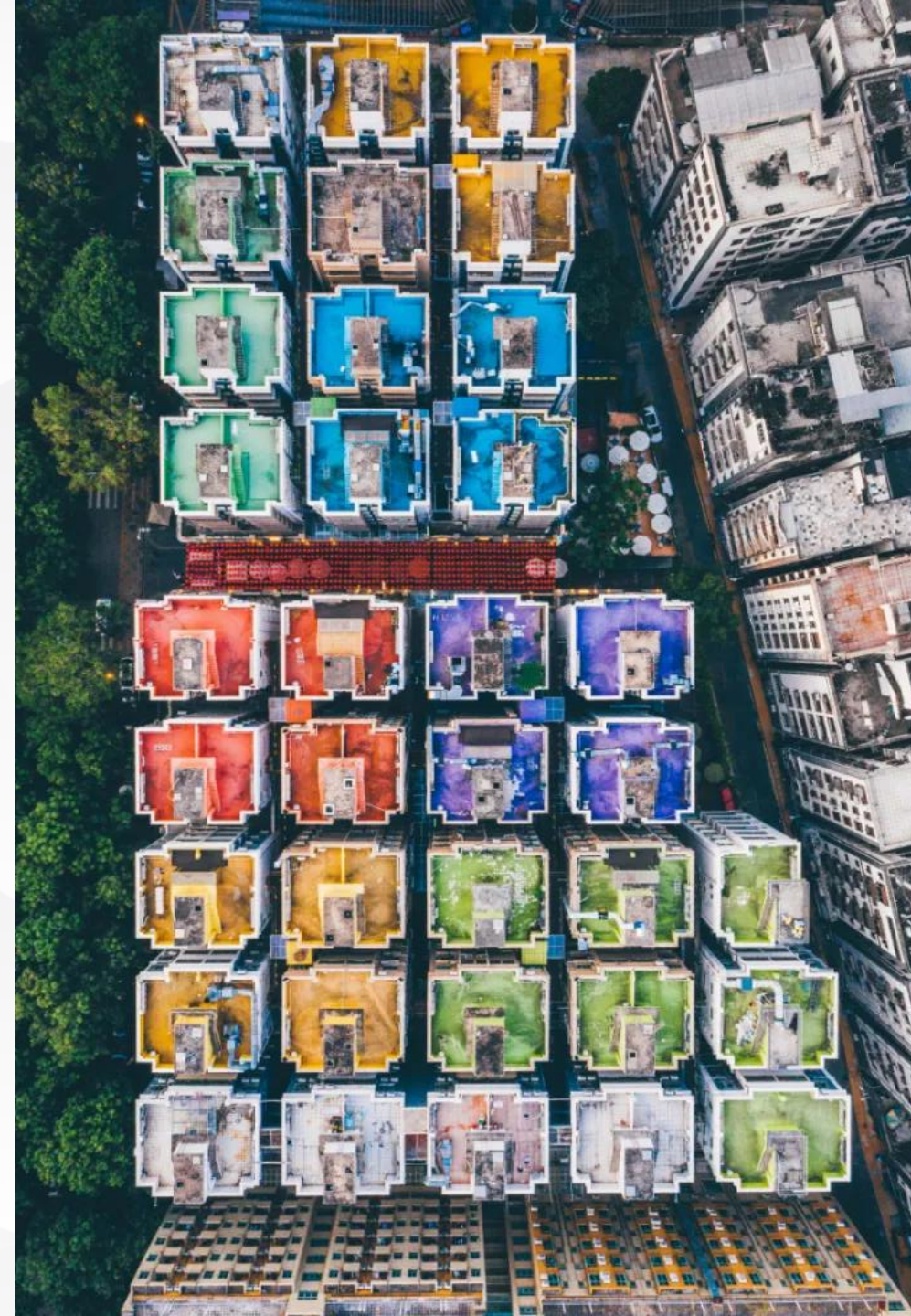


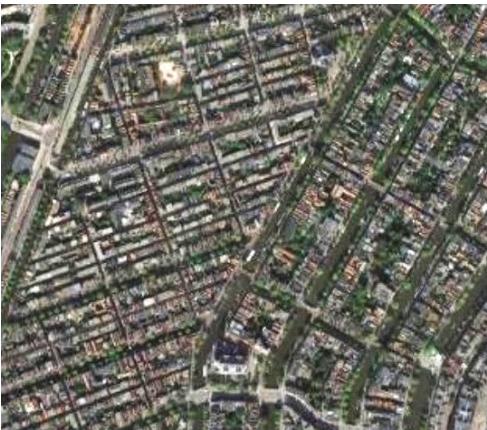
# Sustainable Urban Renewal in China

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**Associate-Senior Research Fellow**  
**Director of Green Eco City Division**  
**China Eco City Academy (CECA)**

4 November, 2021  
Zoom-in China Online Training Series (1): Urbanization  
International Urban and Regional Cooperation (IURC)







Historic downtown,  
Amsterdam



Chinatown,  
Singapore



Pingjiang Historic downtown,  
Suzhou



Shuiwei Village,  
Shenzhen



Puxi downtown,  
Shanghai







**VS.**

**Density difference**

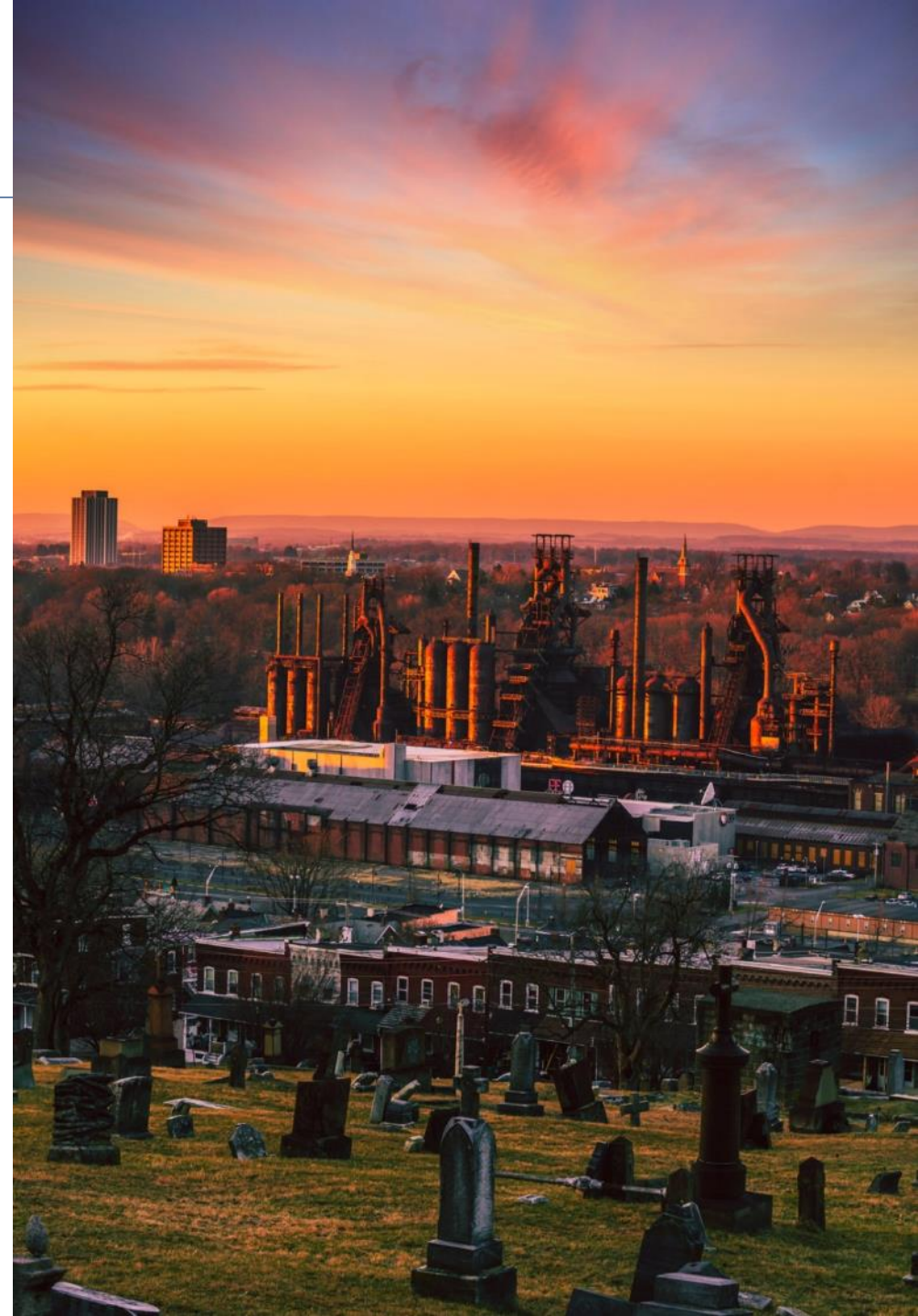






**VS.**

**Historical value  
difference**







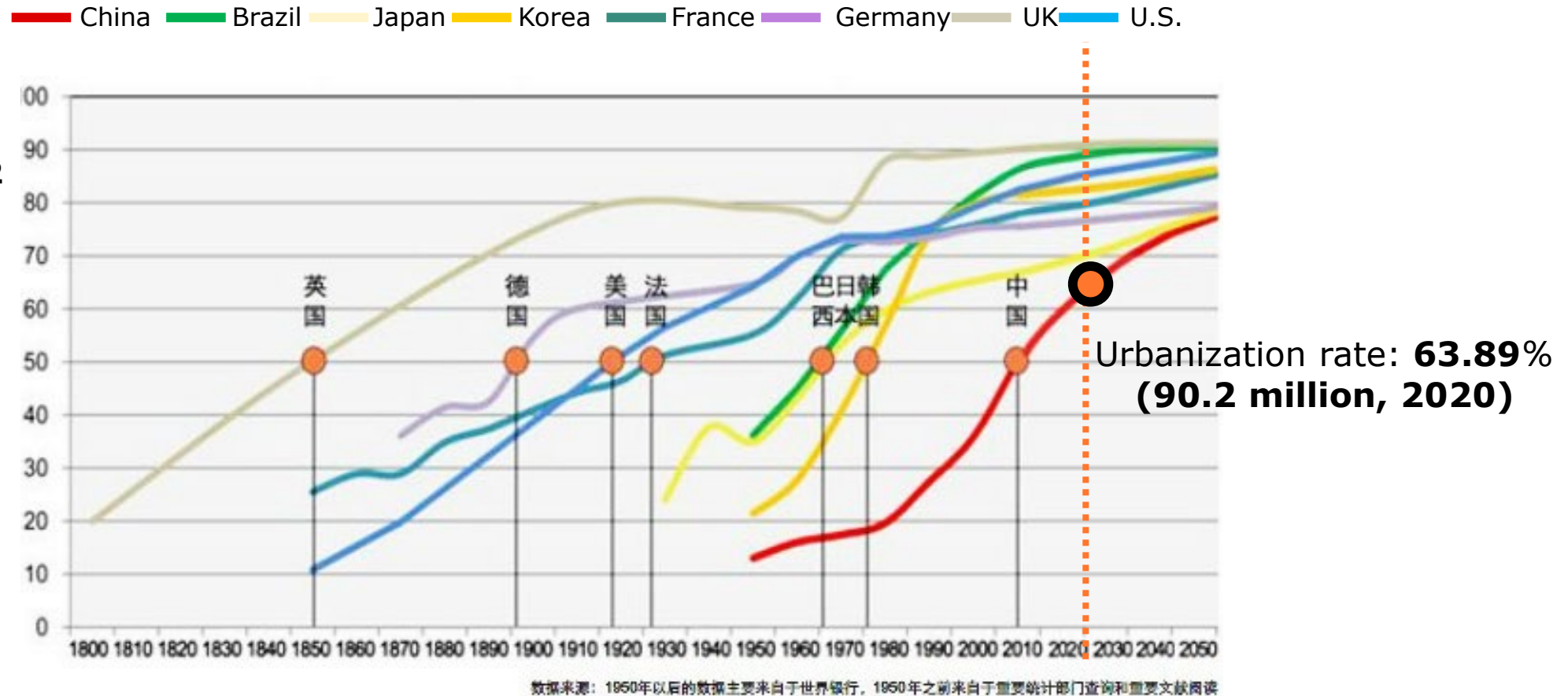
**VS.**

**Urbanization stage &  
speed difference**



# Years when the urbanization rate of main countries reached 50%

- **UK: 1851**
- **Germany: 1892**
- **U.S.: 1918**
- **France: 1931**
- **Japan: 1953**
- **Brazil: 1964**
- **Korea: 1977**
- **China: 2011**

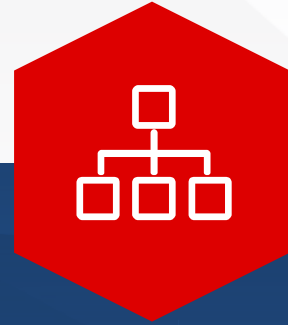


Urbanization phase difference (Wu,Z. 2013)





**Challenges  
in Chinese Cities**



**Strategies &  
Actions**



**Niches for IURC  
Cooperation**

**1**

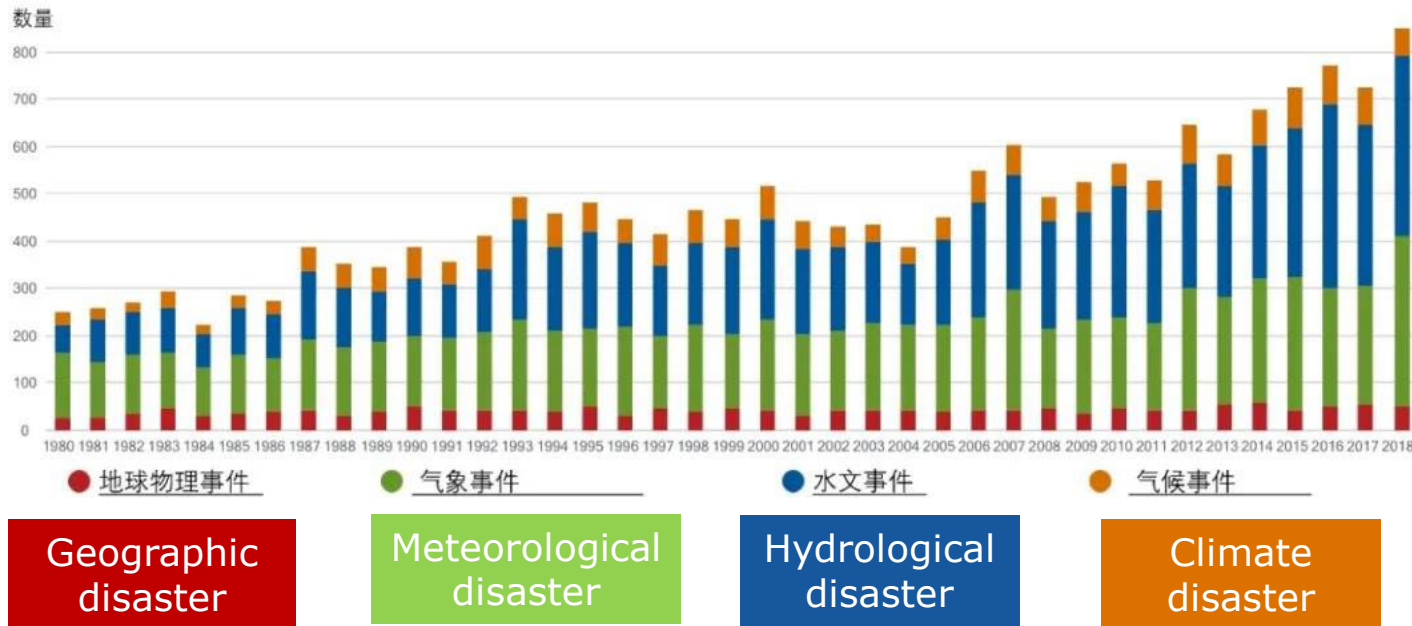
# **Challenges in Chinese Cities**



# What Challenges are Chinese Cities facing?

## Challenge-1: Frequent climate disasters

- Universal disasters: "Black Swan", extreme weather



### Global disasters in 1980-2018

(Source: <https://natcatservice.munichre.com>)



### 20 July 2021, Zhengzhou

- Max. rainfall 201.9mm/h during 16:00-17:00 (\*average rainfall per year: 641mm)



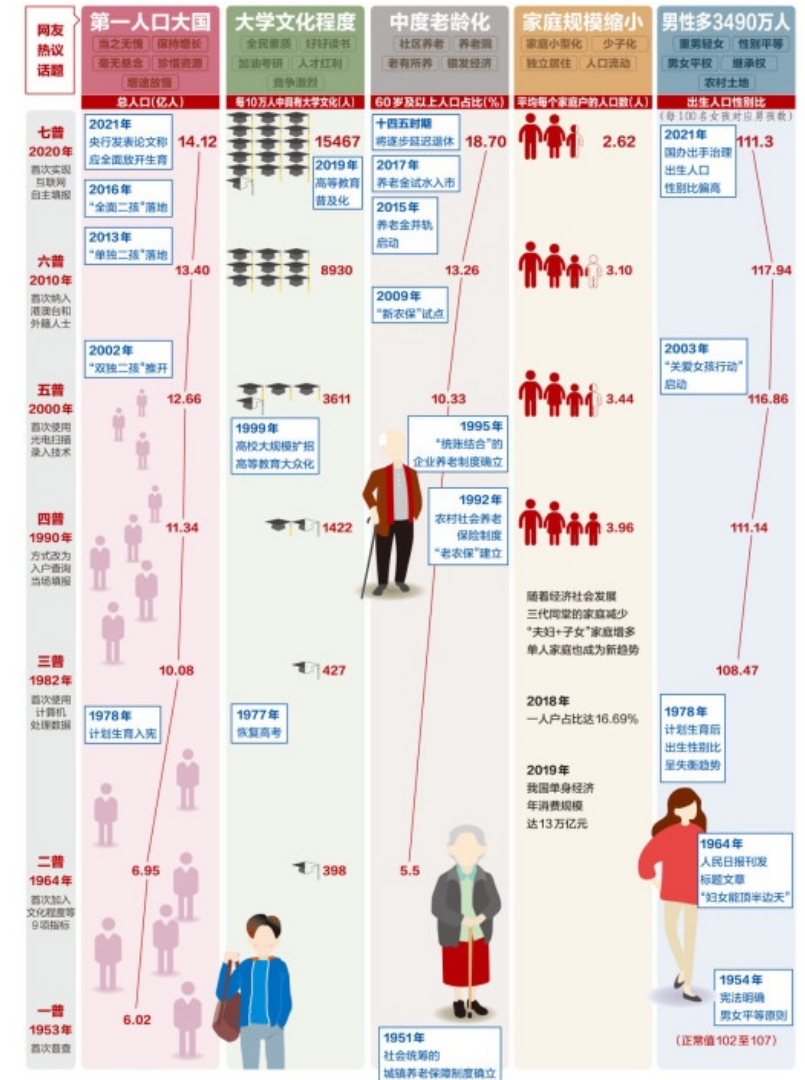
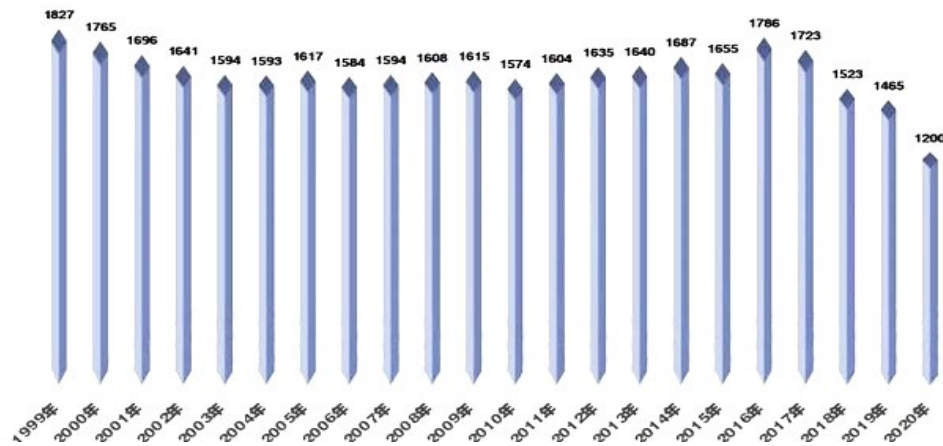
# What Challenges are Chinese Cities facing?

## Challenge-2: Low fertility rate + aging society + smaller family

- According to the **7<sup>th</sup> National Population Census**: only 12 million was born in 2020, **total fertility rate is 1.3**
- **Average population growth rate is only 0.53%** and is keeping declining;
- Entering **aging society**, and proportion of 15-59 drops 6.79%
- Average population per household falls to 2.62, which indicates the **breakdown of 3-persons' family pattern**

The Number of Births in China, 1999-2020, unit:10,000 births

1999-2020年我国新生人口数 (单位: 万)



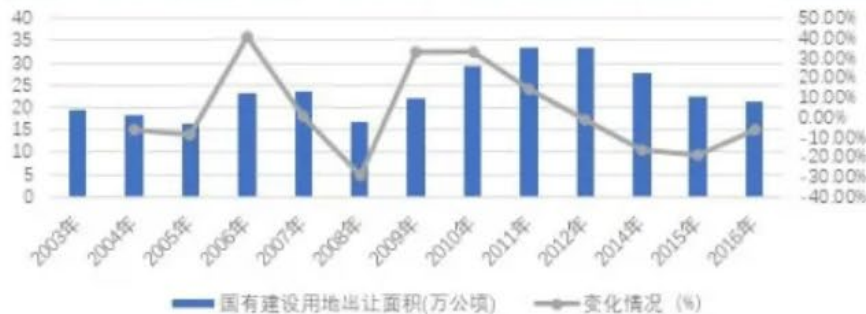


# What Challenges are Chinese Cities facing?

## Challenge-3: Slow-down urbanization rate

### Urbanization Transformation and Change

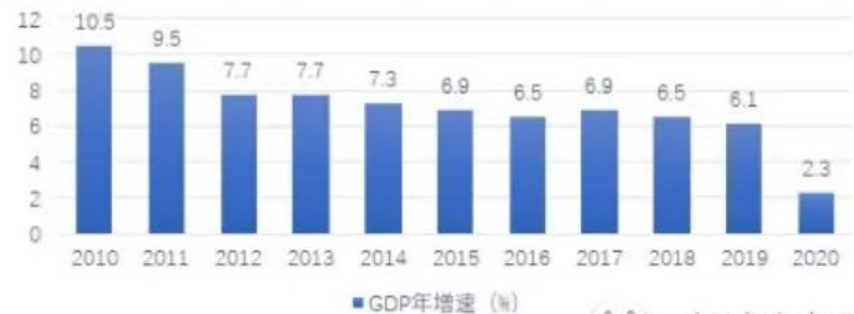
- 中国城镇化增长速度趋缓，从高速进入中速阶段，倒逼城市发展的规模和内容转型。城镇化从过去三十多年高速发展阶段（年均1-1.5%）**进入中低速（年均0.6-0.8%）发展时期。**
- 城市病突出，未来10-15年提高城镇化质量是当务之急。
- 土地资源紧约束，国有建设用地出让逐年下降。



2003-2016年国有建设用地出让面积  
(数据来源：国家统计局，课题组自绘)

### Economic Transformation and Upgrading

- 2010年以来，中国经济从高速增长进入中高速时期，宏观上要求城市发展的方式进行转型。
- 2010-2019年GDP增长率从10.5%回落至6.1%（2020年疫情影响2.3%），**客观上从过去注重发展速度，注重经济规模逐渐转入注重发展质量，注重产业结构合理的调整时期。**



近10年我国GDP增速  
(数据来源：国家统计局，课题组自绘)



# How to Understand **Urban Renewal** in Chinese Cities?

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## From growth-oriented to quality-oriented

For the first time, "**urban renewal action**" is included in the "**Proposal for the 14<sup>th</sup> Five-Year Plan of National Economic and Social Development and the Vision 2035**". This is no longer an industry hotspot or an academic concept, but a **comprehensive approach to national development and the direction of urbanization**, forcing on the transformation of traditional urban planning and management.

- **An inevitable requirement to adapt to the new situation of urban development and promote high-quality urban development**
- **An important path to firmly implement the strategy of expanding domestic demand and building a new development pattern**
- **A major initiative to promote the solution of distinct problems and shortcomings in urban development and to enhance the people's sense of well-being and security**

# How to Understand **Urban Renewal** in Chinese Cities?

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## 8 - “Optimize the spatial layout of the Nation’s land, promote coordinated regional development and new urbanization”

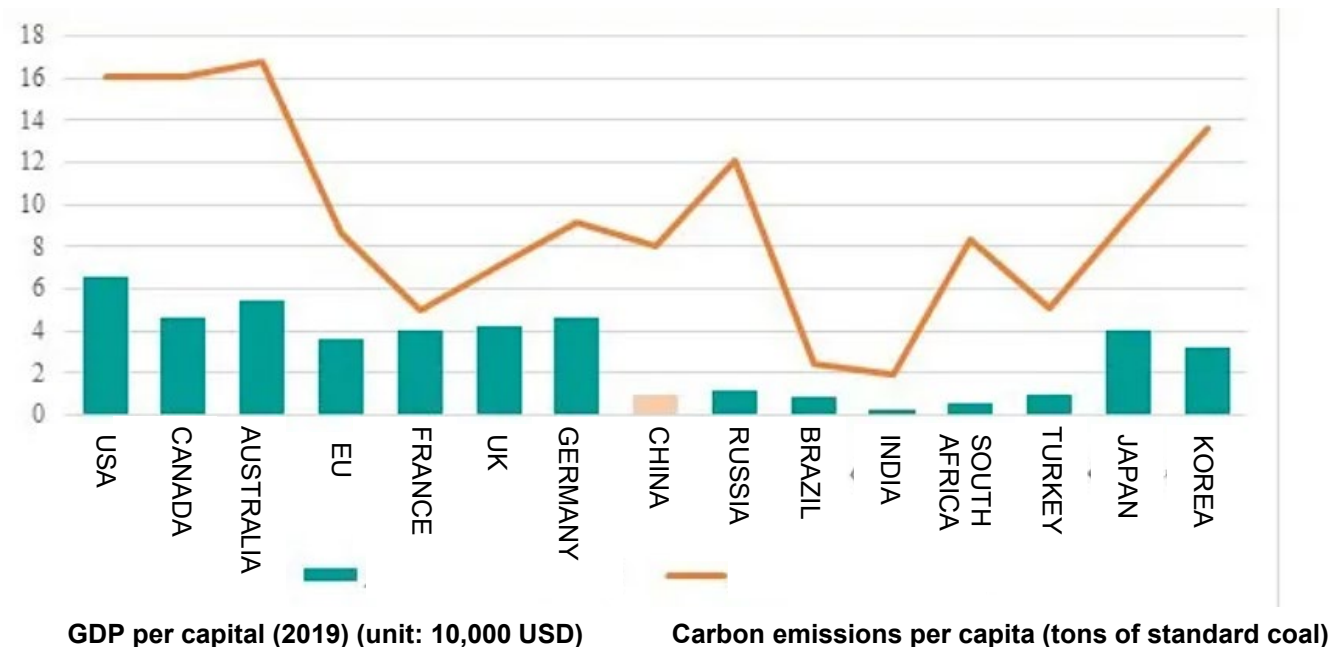
- **Promote a new type of urbanization focus on people.**
- Implement **urban renewal actions**, promote urban ecological restoration and functional improvement projects, coordinate urban planning, construction & management, determine rational urban scale, population density, & spatial structure, as well as promote the coordinated development of large, medium and small cities and towns.
- Strengthen the **protection of history and culture**, shape the urban landscape, strengthen the renovation of old urban areas and community construction, enhance urban flood control and drainage capacity, and build sponge cities & resilient cities.
- **Improve the urban governance and strengthen risk prevention and control** in megacities.
- Optimize the partition of administrative districts. Let **central cities and city clusters lead** to construct modern urban area. Promote the construction of a twin-city economic circle in the Chengdu-Chongqing region. Promote the urbanization with **county/towns as important carriers**.



# How to understand **urban renewal** in Chinese cities?

## From high-carbon expansion to low-carbon compact (re)development

- **City, as the key battlefield to decarbonization**
- According to IPCC, carbon emission from building sector contribute 1/3 of overall emission in China, 20% of which is during the operational phase and 18% is during the construction phase

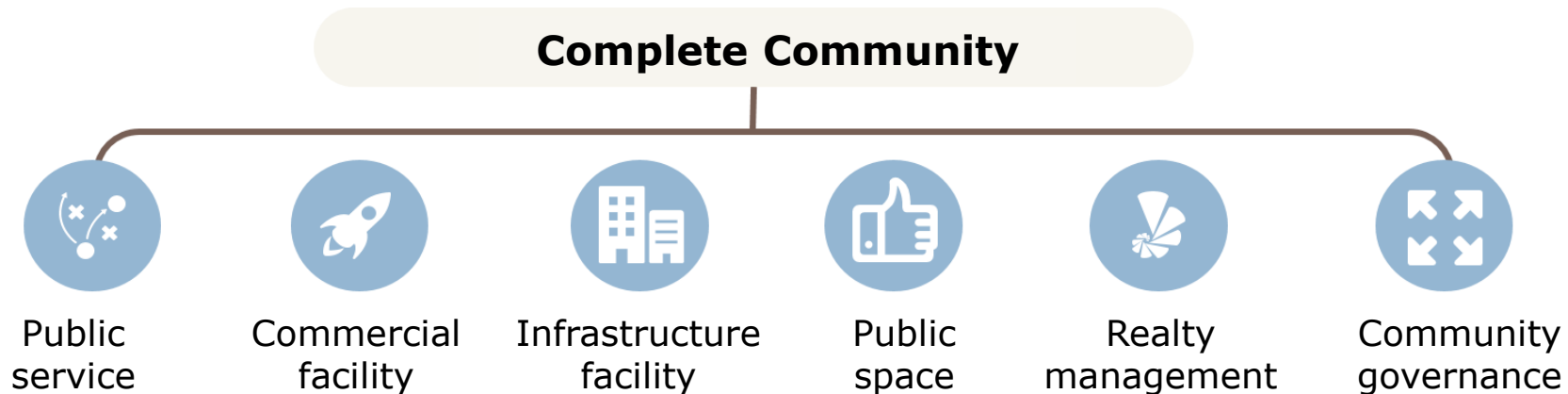
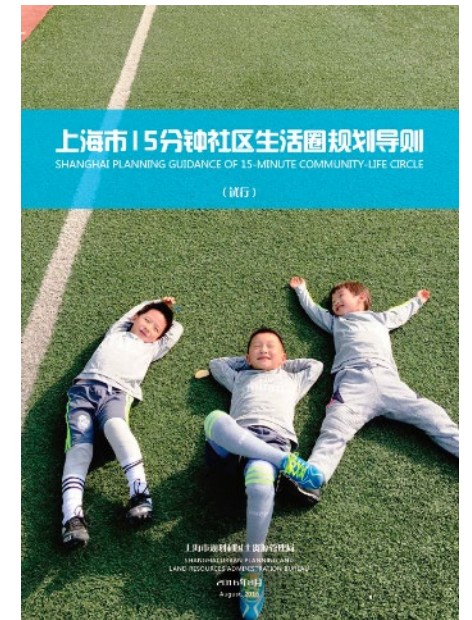
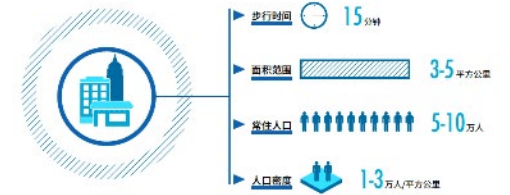


GDP per capita of major countries; Carbon emissions per capita (Year 2019) source: World Bank

# How to understand **urban renewal** in Chinese cities?

## From physical planning to spatial governance

- In 2020, "**Complete Community**": The Ministry of Housing and Urban-Rural Development, together with 12 departments, issued the "Opinions on the Action of Amending Shortcomings in the Construction of Urban Residential Communities".
- 2021 · **Technical Guidelines for Community Living Area: "5 - 10 - 15 min' living area"**





# How to understand **urban renewal** in Chinese cities?

## From physical planning to spatial governance



1 未来邻里场景  
Future neighborhood scene



2 未来教育场景  
Future education scene



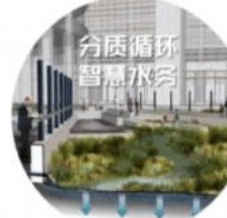
3 未来健康场景  
Future health care scene



4 未来创业场景  
Future business scenarios



5 未来交通场景  
Future traffic scenarios



6 未来低碳场景  
Low carbon scenarios in the future



7 未来建筑场景  
Future architectural scene



8 未来服务场景  
Future service scenarios



9 未来治理场景  
Future governance scenarios



9 scenarios of 'Future Community' Initiative  
in Zhejiang Province

# 2

## **Strategies & Actions**

- **Strategies on National Level**
- **Actions on Municipal Level**



## 30.60: Carbon Peaking and Neutrality Objectives

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- Paradigm change towards **Ecological Civilization**
- “**Two-Mountain concept**” : Lucid waters and lush mountains are invaluable assets”

‘China, as the world’s largest developing nation, has committed itself to **peaking carbon emissions before 2030 and attaining carbon neutrality by 2060.**’

President XI Jinping, 2019

## Strategies on National Level: **Overall**

- 24<sup>th</sup> Oct, **Complete and Accurate Implementation of Carbon Peak and Neutrality Objectives**
- 26<sup>th</sup> Oct, **Action Plan for Carbon Dioxide Peaking Before 2030**
- 27<sup>th</sup> Oct, **Responding to Climate Change: China's Policies and Actions (2021)**
- 28<sup>th</sup> Oct, **China's Achievements, New Goals and New Measures for Nationally Determined Contributions + China's Mid-Century Long-Term Low Greenhouse Gas Emission Development Strategy**

**Just**

**OCTOBER 2021**

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# Strategies on National Level

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## Complete and Accurate Implementation of Carbon Peak and Neutrality Objectives

—Considered as the keystone of “1+N” policy framework

- **Establishing a control system of total carbon dioxide emission is the core of carbon peaking and neutralization**
- **Mandatory information disclosure is the top priority.** The control system of total carbon dioxide emission is a comprehensive system, which not only includes the figures of the total carbon dioxide emissions, but more importantly, predict emissions under different scenarios, based on mandatory information disclosure, and combined with the needs of China's economic and social development.
- **Market mechanism is the key engine to reach carbon neutrality: the government and the market are the two wheels to drive the coordination**
- **Key emission industries are an important starting point for carbon peaking and carbon neutralization.** Accelerate the formation of an industrial structure, production mode, lifestyle and spatial layout that conserve resources and protect the environment.



# Strategies on National Level

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## Action Plan for Carbon Dioxide Peaking Before 2030

### Carbon peaking actions in urban and rural development

- Promote urban and rural green transition
- Accelerate building efficiency improvement
- Restructure of energy consumption in building stock
- Promote low-carbon transformation in town and village development



## Strategies on National Level: **Urbanization in particular**

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- July, 2020, **Guidelines for Regeneration of Old Residence Community in City and County**
- July 2021 (issued), **Guidelines on Green Development in Urban and Rural Areas**
- Aug 2021, **Strengthening Historical Heritage Protection and Inheritance in Urbanization**
- Aug 2021, **Instructions of Preventing Massive Demolishment-and-Rebuilding in Urban Renewal**





# Strategies on National Level

## Guidelines on Green Development in Urban & Rural Area, July 2021

### 1. Overall Objectives

- 2025: The green development system and policy system of urban and rural construction are basically completed.
- 2035: Comprehensive green development of urban and rural construction and rapid improvement on carbon emission reduction level

### 2. Promote the integrated development of urban and rural construction

### 3. Transform the development mode of urban and rural construction

### 4. Innovative working methods

中共中央办公厅 国务院办公厅  
关于推动城乡建设绿色发展的意见



**总体目标**

**2025年**

- 城乡建设绿色发展体制机制和政策体系基本建立
- 建设方式绿色转型成效显著，碳减排扎实推进，城市整体性、系统性、生长性增强
- “城市病”问题缓解，城乡生态环境质量整体改善
- 城乡发展质量和资源环境承载能力明显提升，综合治理能力显著提高，绿色生活方式普遍推广

**2035年**

- 城乡建设全面实现绿色发展，碳减排水平快速提升
- 城市和乡村品质全面提升，人居环境更加美好
- 城乡建设领域治理体系和治理能力基本实现现代化
- 美丽中国建设目标基本实现



**02 推进城乡建设一体化发展**

**促进区域和城市群绿色发展**

- 建立健全区域和城市群绿色发展协调机制，充分发挥各城市比较优势
- 统筹生产、生活、生态空间
- 统筹区域、城市群和都市圈内大中小城市住房建设
- 改善区域生态环境
- 推进区域重大基础设施和公共服务设施共建共享

**建设人与自然和谐共生的美丽城市**

- 建立分层次、分区域协调管控机制，合理确定开发建设密度和强度
- 推动多中心、组团式发展
- 大力推进城市节水
- 实施海绵城市建设
- 实施城市生态修复工程，保护城市山体自然风貌，修复江河、湖泊、湿地，加强城市公园和绿地建设
- 实施城市功能完善工程，加强婴幼儿照护机构、幼儿园、中小学校、医疗卫生机构、养老服务机构、儿童福利机构、未成年人救助保护机构、社区足球场等设施建设
- 建立健全推进城市生态修复、功能完善工程标准规范和工作体系
- 推动绿色城市、森林城市、“无废城市”建设，深入开展绿色社区创建行动
- 推进以县城为重要载体的城镇化建设

**打造绿色生态宜居的美丽乡村**

- 建立乡村建设评价机制
- 提高农房设计和建造水平
- 保护塑造乡村风貌
- 统筹布局县城、中心镇、行政村基础设施和公共服务设施
- 提高镇村设施建设水平
- 立足资源优势打造各具特色的农业全产业链，推动农村一二三产业融合发展

**03 转变城乡建设发展方式**

**建设高品质绿色建筑**

- 实施建筑领域碳达峰、碳中和行动
- 规范绿色建筑的设计、施工、运行、管理，鼓励建设绿色农房
- 推进既有建筑绿色化改造
- 开展绿色建筑、节约型机关、绿色学校、绿色医院创建行动
- 加强财政、金融、规划、建设等政策支持，推动高品质绿色建筑规模化发展，大力推进广辐射、低能耗、近零碳排放建筑，发展零碳建筑
- 实施绿色建筑统一标识制度
- 建立城市建筑用水、用电、用气、用热等数据共享机制
- 大力推动可再生能源应用

**提高城乡基础设施体系化水平**

- 建立健全基础设施建管制度
- 推进城乡基础设施补短板 and 更新改造专项行动以及体系化建设
- 加强公交优先、绿色出行的城市街区建设
- 加强交通噪声管控
- 加强城市高层建筑、大型商业综合体等重点场所消防安全管理，推进城乡应急避难场所建设
- 持续推动城镇污水治理提质增效
- 因地制宜加快连接港口管网建设
- 统筹推进煤改电、煤改气及集中供热替代等

**加强城乡历史文化保护传承**

- 建立完善城乡历史文化保护传承体系
- 开展历史文化资源普查
- 建立历史文化名城、名镇、名村及传统村落保护制度
- 完善项目审批、财政支持、社会参与等制度机制
- 建立保护项目维护修缮机制，保护和培养传统工匠队伍，传承传统建筑绿色营造方式

**实施工程建设全过程绿色建造**

- 开展绿色建造示范工程创建行动
- 大力发展装配式建筑
- 完善绿色建材产品认证制度
- 加强建筑材料循环利用
- 推动传统建筑业转型升级
- 加快推进工程造价改革
- 改革建筑劳务用工制度

**推动形成绿色生活方式**

- 推广节能环保节水用品，推动太阳能、再生水等应用，减少一次性消费品和包装材料消耗
- 倡导绿色装修，鼓励选用绿色建材、家具、家电
- 持续推进垃圾分类和减量化、资源化
- 加强危险废物、医疗废物收集处理
- 科学制定城市慢行系统规划
- 深入开展绿色出行创建行动，鼓励公众选择公共交通、自行车和步行等出行方式



**04 创新工作方法**

**统筹城乡规划建设管理**

- 坚持总体国家安全观，以城乡建设绿色发展为目标，加强顶层设计和规划，编制相关规划



**创新城乡建设管控和引导机制**

- 完善城乡规划、建设、管理制度，确保一张蓝图实施不走样、不变形

**建立城市体检评估制度**

- 建立健全“一年一体检、五年一评估”的城市体检评估制度
- 制定城市体检评估标准
- 城市政府作为城市体检评估工作主体，要定期开展体检评估
- 加强对相关规划实施的监督

**加大科技创新力度**

- 完善以市场为导向的城乡建设绿色技术创新体系，培育一批绿色低碳技术创新企业，充分发挥创新平台支撑作用

**创新平台**



- 加强国家科技计划研究
- 建立科技项目成果库和公开制度
- 建设国际化工程建设标准体系

**推动城市智慧化建设**

- 建立完善智慧城市建设和政策法规
- 开展城市信息模型平台建设
- 搭建城市运行管理服务平台
- 完善工程建设项目审批管理系统
- 搭建智慧物业管理服务平台

**推动美好环境共建共治共享**

- 建立党组织统一领导、政府依法履责、各类组织积极协同、群众广泛参与、自治、法治、德治相结合的基层治理体系
- 下沉公共服务和社会管理资源
- 构建社区生活圈，广泛发动组织群众参与城乡社区治理，共同建设美好家园





# Strategies on National Level

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## Instructions of Preventing Massive Demolishment-and-Rebuilding in Urban Renewal, Aug 2021

Shift from the real estate's development model toward governance model

- **Restriction on massive demolition** (demolishment area < 20%)
- **Restriction on massive re-building** (demolishment / new building > 2 )
- **Restriction on massive re-location** (close settlement > 50% )

## Actions on Municipal Levels: “Mini-Hutong” Art project in Beijing

- **Urban Acupuncture**
- One piece of **art project** in Beijing Design Week 2013
- “Mini-Hutong” & “Mini-Courtyard” as a series of architectural experiment



“Mini-Hutong” at Rd. Yang-mei-zhu-xie-Jie



“Mini-Courtyard” at Cha-er Hutong





# Actions on Municipal Levels: **Beijing Steel Plant Park Redevelopment**

- Led by government, stimulated by **mega-event: 2022 Winter Olympic (office & venue)**
- **C40 “Climate Positive” program**
  - Zero-carbon emission
  - Zero-waste
  - Industrial heritage
  - Climate adaptation (LID)



Organizing Committee for 2022 Olympic Winter Games



Ski jumping venue



Whole site



# Actions on Municipal Levels: Revitalization in Tian-zi-fang, Shanghai



- 1 传统民居  
Traditional folk house
- 2 现代主义  
Modernism
- 3 古典主义  
Classicism



- 4 折衷主义  
Ecclecticism



# Actions on Municipal Levels: **Xiamen Tsan-tshù-uann**

- **Bottom-up regeneration, self-organized community building**
- **Mixed architecture style** with Qing-Dynasty, Southern-Asian & oversea-Chinese
- **The most artistic-style fishing village** in China
- 2013, government's intervention in infrastructure
- Establishment of **community self-governance system** and build community consciousness;  
**Establishment of the Creative Society, the Owners' Association and the Community Public Council**



## Actions on Municipal Levels: **Shuiwei Village Apartment in Shenzhen**

- Cooperation between government, enterprise and villagers
- First social housing project, which is regenerated from village houses in Shenzhen
- Win-win for all stakeholders

<b>Government</b>	public support and municipal facilities	The district government invests in the comprehensive improvement of supporting facilities such as piped gas, water and drainage networks and power supply systems
<b>Enterprise</b>	Renovation Project and its Operation	SHENYI Group leases <b>29 villagers' buildings</b> to the village joint-stock company and rents them to the <b>district government</b> after renovation, and the district government leases them to <b>industrial talents</b> in the district at preferential rents
<b>Village Joint Venture</b>	grassroots coordination and cooperation	

- The 1st and 2nd floors of the building will be transformed into a "one-two" ground floor commercial, which will be rented and operated by the village joint-stock company, and then returned profit to the owners.
- The commercial tenants will be introduced and the residents will be provided with catering, entertainment, leisure and other service facilities.
- Above the 3rd floor is used as guaranteed housing for talents and rental apartments





# Actions on Municipal Levels: “Property City” in Hengqin, Zhuhai

Property City” in Hengqin, Zhuhai: Hengqin New Area is the first "property city" in China, which treats urban public space and public resources as a "big property" and invites high-level property operators to **participate in urban village transformation/urban renewal**. After more than two years of exploration and practice, the model is gradually becoming mature and has been successfully replicated in Xiongan New Area, Guangzhou, Shenzhen, Chengdu, Wuhan, Qingdao, Xiamen and other places in China.

## Property Management Enterprise Zhuhai Grand Hengqin City Public Resources Management Co.

Jointly set up by Zhuhai Grand Hengqin Investment Company Limited and Vanke Property Development Co.

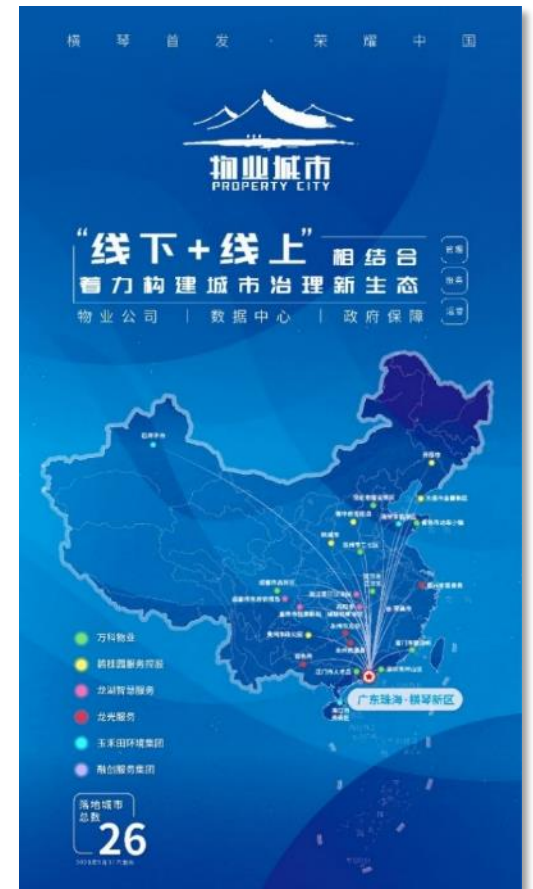
### Efficient operation of urban public space

#### Offline Professional Property Management

Through professional operation, the mechanization rate of municipal management and maintenance in Hengqin has increased to 75%, and the "unmanned demonstration section" has been built; the sewage outfalls on the whole island have been numbered; return clean water to the people. Apply intelligent parking management system to integrate parking resources in key areas; set up "Orange Mediation Studio

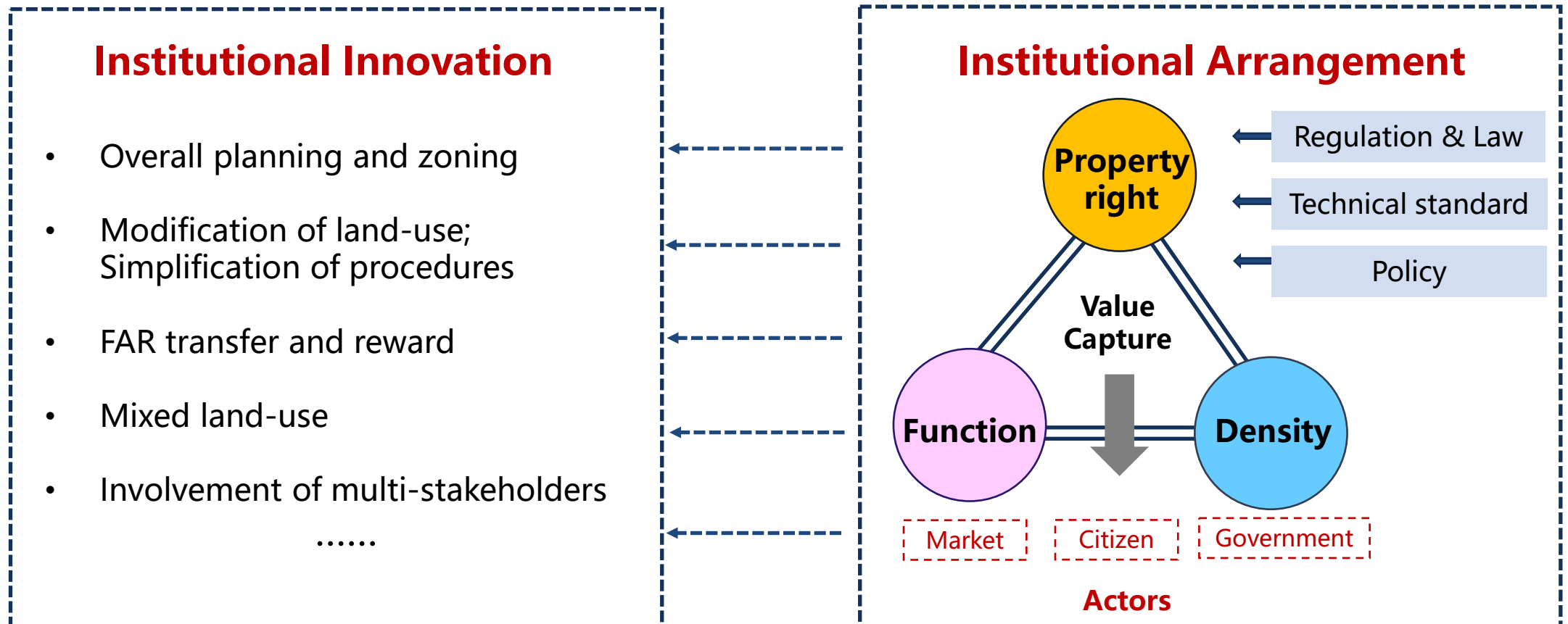
#### Online APP

"Property City" APP has become the "online position" of social governance in Hengqin. A "new ecosystem" of social governance involving government departments, property companies, volunteers, businesses and citizens is gradually taking shape in Hengqin.



# Actions on Municipal Levels: **Summary**

- 3 key elements: change of **property right, function and density**
- **Gentrification?** Yes, but still welcomed as long as the residents 1) relocate to original/close location ; 2 ) share the rising captured land value ; or 3) big improvement of household conditions.



# 3

## Niches in IURC cooperation?

- **By activity**
- **By Sector**



# What are the niches in IURC cooperation? **By sector**

Urban/Region Cooperation

Mitigation & Adaptation

Climate Cooperation

## Green Financing

- Carbon Trading
- Green bond, insurance, etc.
- Public carbon credit system

### Green Building

- Full-Life-Circle emission monitoring
- 光储直柔 (PEDF)

### Clean Energy

- Energy storage technology
- Hydrogen energy

### Green Transport

- Clean energy vehicles
- Driverless vehicles

### Water Management

- Nature-based Solutions (NbS)

### Ecological System

- GEP
- Nature-based Solutions (NbS)
- Biodiversity
- Ecological Restoration

### Circular Economy

- 'City Mining': Household Waste Management
- Smart manufacturing

## Smart Urban Infrastructure

- Smart governance on community level, city level, national level

# What are the niches in IURC cooperation? **By activity**

**Less ODA (Official Development Assistance) as developing country**



**More bilateral dialogue and cooperation**

## Policy Dialogue

- Strong interest on **'How'** - Institutional transplantation & institutional innovation (eg: policy, public participation)

## Piloting

- Joint planning (eg: Sino-German cooperation CSUS+dena)
- Pilot project and loan

## Technology Application

- Joint research
- Joint venture
- Patent Assignment

## Standardization Cooperation

- Joint research and application



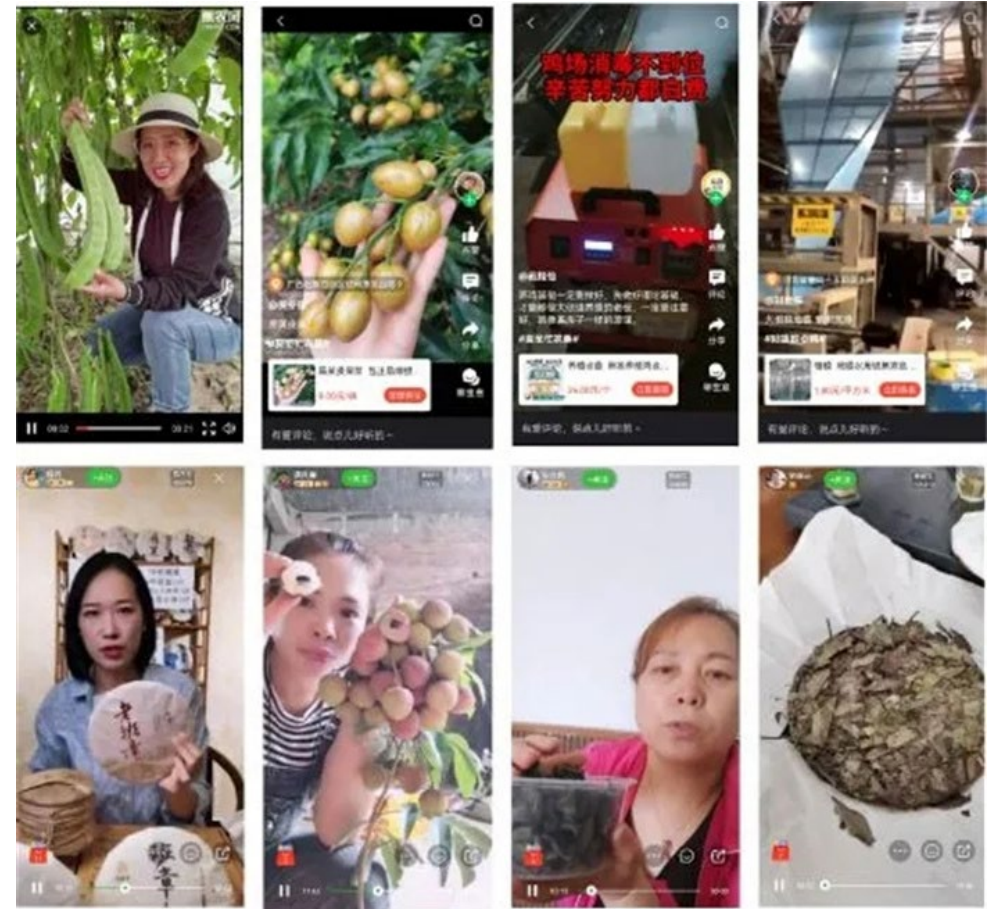
# Some Remarks...

- **COVID-19's impact:** less face-to-face communication, more virtual interactions (eg: e-study tour through Vlog; selling agricultural products through TIKTOK)
- **Stay OPTIMISTIC !**

**聚焦考察亮点**  
INSPECTION HIGHLIGHTS

中糖国际带您走进行业标杆企业、顶尖大学、海外组织与机构等，以搭建中外企业合作发展的桥梁。

	<p><b>德国工业4.0云考察培训</b></p> <p>通过专家的深度解析，领悟工业4.0的精髓，了解德国工业从精密制造到智能制造的延续密码；</p>		<p><b>实景观看德国企业直播</b></p> <p>实景观看德国企业直播，了解德国工业4.0为企业经营理念及供应链带来的影响及智能工厂与智能生产对技术的要求；</p>
	<p><b>德国工业4.0专家研究学者课堂直播</b></p> <p>企业家学员之间相互交流品牌经营智慧，复盘掌握理性延伸品牌核心价值的关键，获取各自企业成长的丰富营养。</p>		<p><b>德国西门子公司</b></p> <p>西门子股份公司是一家业务涉及自动化技术、工业控制和驱动技术等跨国公司，由维尔纳·冯·西门子建立于1847年，总部位于德国慕尼黑和柏林，其业务集中在工业、能源、医疗、基础设施与城市业务等领域。</p>



# THANKS!

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