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Toward People-centred smart cities

International Training Workshop on Smart Cities in Asia and the Pacific

13 May 2025, Kobe City, Japan

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Regional Office for Asia and the Pacific (ROAP)

UN-Habitat

I. The Flagship Programme on People-centred Smart Cities

II. The International Guideline on People-centered Smart Cities

People-Centred Smart Cities Flagship Programme

The flagship programme, launched in 2020, promotes the deployment of technological innovations to realize sustainability, inclusivity, prosperity and human rights in urban development. The goal is to make urban digital transformation work for the benefit of all.

① Global Advocacy

Increased focus and mainstreaming of people-centered, sustainable and inclusive digital transition as a critical policy topic in high level political forums and dialogues.

### ② Capacity Building and Technical Assistance

Enhanced capacity of governments through capacity building and technical assistance at all levels to adopt a people-centred, privacy-enhancing, and rights preserving approach to digital urban transformation.

③ Financing Digital Urban Innovation

Increased investment and financing for people-centred smart cities to accelerate the achievement of the SDGs and NUA.

Project example: Digital tools for cities

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| URBAN RECOVERY SYSTEM | URBAN DATA PORTAL | HOUSING INFO SYSTEM | CAPACITY BUILDING |
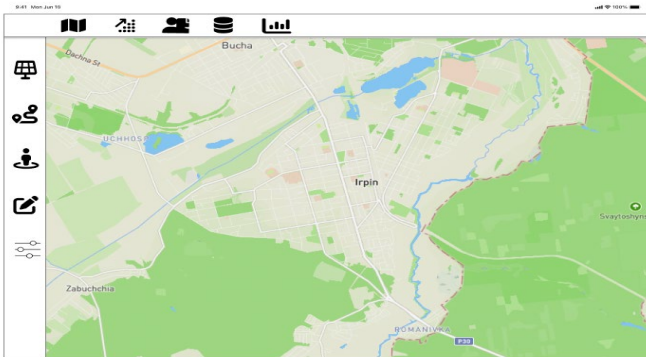
- Urban recovery planning system with several modules of mapping, planning, assessments and visualization to support urban recovery in Ukraine.
- A prototype is being tested.
- Next steps: Integrating functionalities for damage assessments, map recovery projects, etc.

- Currently developing open data platforms for harmonizing data tables, images, and GIS data, with interface to other systems for Namibia & Ukraine
- Facilitating data sharing, harmonization and use of data for evidence-based decision making.
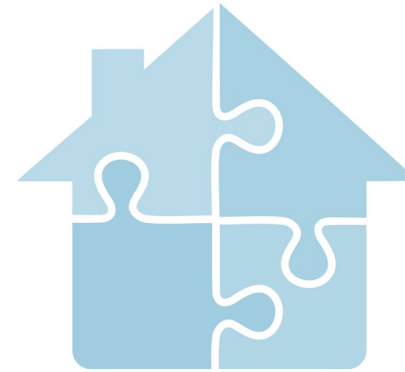
- Currently conceptualizing a National Housing Information System for Namibia, including a module on informal settlements.
- Key functionalities of the system will be decided with the stakeholders in Namibia.
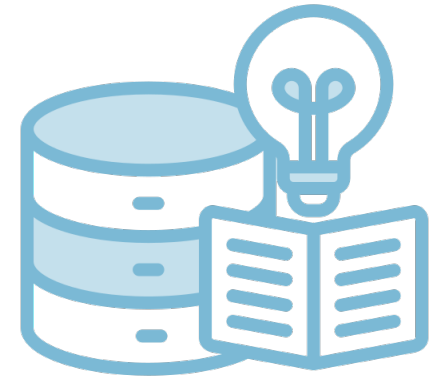
- Digital transformation training for city leaders
- Develop toolkits & guidance on
  - *AI and geo-spatial mapping*
  - *Smart city strategy development*
  - *Urban innovation and technology accelerator*

HAMBURG
UNITAC

Knowledge products
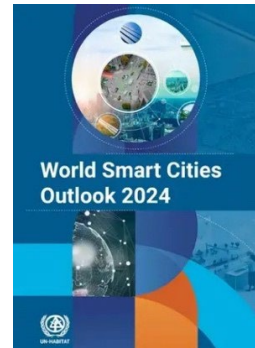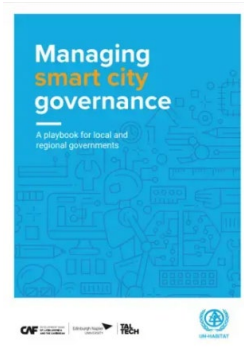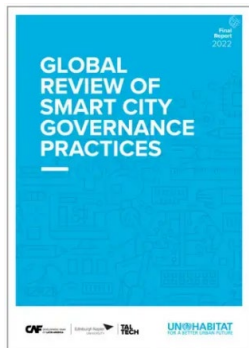
Smart city governance practices & frameworks (2022-2024)
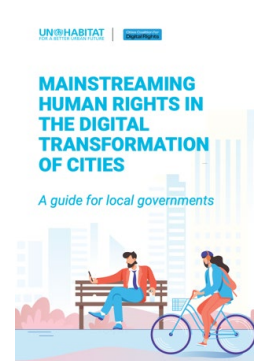
Human rights & digital technologies

People-centred smart cities playbooks (2022-2023)
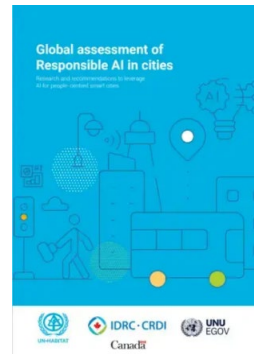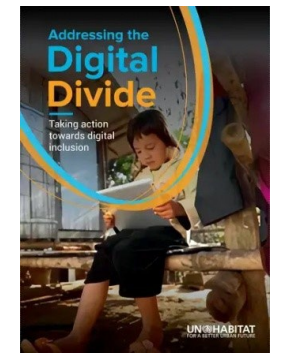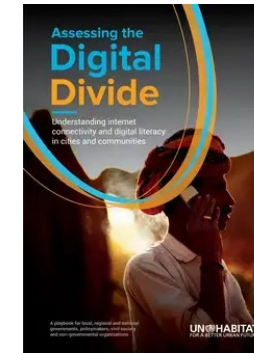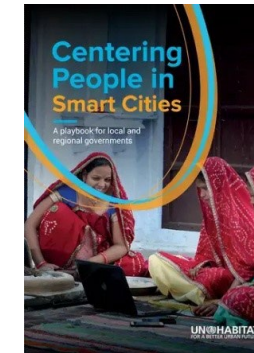
Artificial Intelligence & Cities

Challenge-driven innovation

I.   The Flagship Programme on People-centred Smart Cities

II. The International Guideline on People-centered Smart Cities

The international guidelines − The resolution
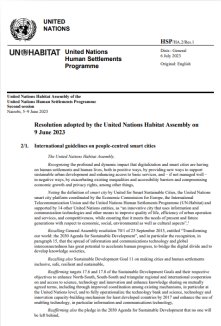
With Resolution 2/1 in July 2023, 193 Member States requested UN-Habitat to develop **international guidelines on people-centred smart cities**,

1) as **a non-binding framework** for developing national and local smart city regulations, plans and strategies,

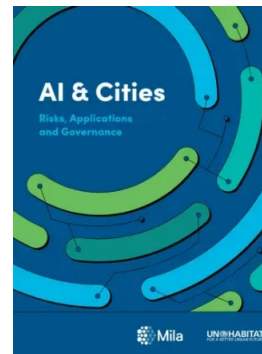2) which will ensure that digital urban infrastructure and data contribute to making cities sustainable, inclusive , prosperous and **respectful of human rights**.

The guideline

1) Functioning as **a globally accepted normative instrument**

2) Emphasizing that **technology serves not as an end, but as a tool** for serving the needs of people and communities.

The international guidelines − The objectives

1) Aim to support national, regional and local governments, as well as relevant stakeholders, in leveraging **digital technology for a better quality of life** in cities and human settlements, while mitigating the associated risks to achieve global visions of sustainable urban development…

2) Aim to promote a people-centered smart cities approach…to ensure that innovation and digital technologies are used to help cities and human settlements in order to achieve **the SDGs and the New Urban Agenda**.

The international guidelines – The objectives

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The specific objectives are

1) Promote **a common understanding** and global application of a people-centred smart city approach

2) Provide **a universal framework with core principles and enablers** for a people centered smart approach for adequate housing and sustainable urban development

3) Advance a people-centered smart city approach to accelerate the implementation **of the Global Digital Compact at the local level**…

4) Foster **global cooperation and knowledge sharing**, connecting global visions with local implementation

The advisory body – the Expert Working Group

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- **31 Global Experts appointed by Member States to** advise UN-Habitat, representing **25 countries**

- **Ambassadors of the guidelines** in their networks and **primary advisory body**

- Sharing their best practices and providing normative and practical guidance in areas such as urban development, smart cities, technology, digital governance, community participation, human rights, sustainability, recovery and reconstruction.

An inclusive consultation process

800+

stakeholders
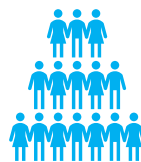
7 ad-hoc consultations hosted by partners to address existing gaps and validate the ongoing work in practice.
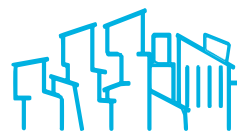
7 stakeholder consultations to zoom in on principles, roles and actions of different actors to enable a people-centred approach.

3 regional consultations across all 5 global regions, clustered by timezone to align with different local contexts and include regional priorities and recommendations

1 Open Online Consultation for external stakeholders to contribute to the drafting process directly

13 advocacy events to promote the guidelines and engage with practitioners in the field

Timeline of the guidelines

TIMELINE	2024											2025				
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

GUIDELINES DRAFTING

Draft Outline

5 draft iterations

6th draft shared with MS

In-session document

CONSULTATION PROCESS

ONLINE CONSULTATION

EGM1
17-18 April

EGM2
26-27 September

EGM3
22-23 January

REGIONAL AND STAKEHOLDER CONSULTATIONS

UNHA2
consideration & possible approval

DATA AND RESEARCH

WSCO kick-off

Collection of data, best practices, interviews, inputs from EWG and review board

Publication of the World Smart Cities Outlook at WUF12

The Word Smart Cities Outlook

UN-Habitat collaborated with the Napier Edinburgh University to provide evidence to inform the guidelines. The report, launched at WUF12, offers robust **empirical findings** and **global knowledge** on smart city trends, challenges, and opportunities, including **regional variations.** The report:
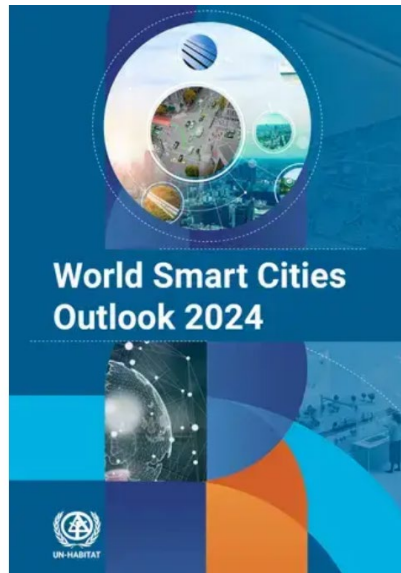
1 assesses the **current state of people-centred smart city developments** across cities and countries globally **and insights for future developments**

2 evaluates the **impact of smart city technologies and strategies** on sustainability, resilience, equity, social inclusion, accessibility, security, and quality of life in urban area

3 offers **recommendations** to foster people-centred smart city development that enables global community building, standardization, and benchmarking.

World Smart Cities Outlook 2024

How

1. Primary and secondary data and over 50 case studies collected of people-centred smart city implementation

2. Analysis of key drivers to anticipate expected **future trends**

3. Continuous **coordination** between the WSCO team and the IG-PCSC drafting process

The Findings

Strategic Agendas

1) **46% of countries have NOT issued a nationwide smart city plans.**

2) **31% of municipalities did NOT have either a vision statement or a strategic plan specific to smart city development.**

3) **More than 60% of cities have NOT adopted their own AI use strategy.**

4) **63% of cities do NOT have a monitoring process for smart city projects.**

Policies and Regulations

1) **29% of countries have NOT adopted cybersecurity laws while 23% of municipal governments face challenges enforcing cybersecurity laws.**

2) **58 countries lack any data protection laws while 35% of municipalities report difficulties enforcing data protection within smart city initiatives.**

3) **63% of municipalities identify a lack of technological standards as a significant barrier to smart city development.**

4) **75% of municipalities find it difficult to comply with digital human rights regulations.**

The Findings

Public sector capacity and leadership

1) 44% of municipalities have NOT set up *dedicated smart city units*.

2) 88% of municipalities report that *skill gap* is a constraint to smart city development. 46% of municipalities deemed their *human resources* as suboptimal.

3) 40% of municipalities believe that smart city units do not have sufficient *financial resources*.

4) 52% of municipalities find *reluctance to change* a constraint to smart city development.

Collaborative ecosystem

1) Only 20% of municipalities find *citizens* active or very active in smart city development.

2) 51% of municipalities find it difficult to engage *local communities*, especially in Asia (61%).

3) Municipalities reports 66% (local) and 62% (non-local) of *private companies* are engaged in smart city projects. 58% of municipalities believe that *public procurement processes* are a major challenge to private sector engagement.

4) *Universities and Research centers* are indicated as active or very active partners by 71% of cities globally, but lower in Asia (45%).

The Findings

Urban Digital Infrastructures

1) **Security**: *Risks of cyberattacks on critical infrastructures*

2) **Privacy**: *Privacy issues due to increased surveillance*

3) **Environmental**: *energy consumption, e-waste, and short lifecycles.*

4) **Data Interoperability**: *84% of municipalities lack integrated dashboards. Only 57% use open data platforms (44% in Asia).*

Digital Divide

1) **Regional divide**: *4G was available to 90% of global population while in the LDCs, the coverage was 56% in 2023.*

2) **Urban-rural divide**: *82% of city population use internet while only 46% of rural population do so.*

3) **Gender divide**: *65% of woman use the internet while 70% of male do so. The gender gap was even broader in low-income countries (20% of female and 34 of male).*

4) **Vulnerable groups**: *older people and less affluent households are less likely to possess digital skills due to their lower levels of education.*

The Guidelines characteristics

FOUR THEMATIC PILLARS
AND FOUR ENABLING PILLARS

1. **UNIVERSALLY APPLICABLE**: designed to be adaptable across different governance structures, countries development levels and urban contexts

2. **COLLABORATIVE**: recognizing that digital transformation requires cross-sectoral and multi-stakeholder cooperation, they are interlinked.

3. **ACTIONABLE:** provide implementable yet adaptable to diverse needs recommendations to be translated into urban strategies and measurable outcomes.

4. **INCLUSIVE & EQUITABLE** – Placing people at the center of digital transformation by ensuring equal access, ethical technology use, and sustainability for all urban residents.

The Guidelines characteristics

FOUR THEMATIC PILLARS
AND FOUR ENABLING PILLARS

For each pillar, the specified are:

1) **Principles**

2) **Actions**

   a) **National governments**

   b) **Local and regional governments**

   c) **Relevant stakeholders**

   (*e.g.* **private sector, academic, civil society**)

The Four Thematic Pillars

1) *Shared Prosperity*

2) *Sustainability, Resilience and Crisis Response*

3) *Community Participation and Collaboration*

4) *Digital Human Rights, Equity and Inclusion*

Shared Prosperity

1) **Principles (6)**

ex. Digital technologies are leveraged for increased efficiency across all sectors of the economy…for sustainable development.

2) **Actions: National governments (6)**

ex. Create long-term financial framework for the sustainability and scalability of smart city solutions

3) **Actions: Local and regional governments (11)**

ex. Connect economic growth with territorial policies by integrating smart city strategies that promote equitable spatial development.

4) **Actions: Relevant stakeholders (5)**

ex. Connect technology and data-driven assessments to evaluate the impact of digital technology on urban economies…

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The Four Thematic Pillars

1) **Shared Prosperity**

2) *Sustainability, Resilience and Crisis Response*

3) **Community Participation and Collaboration**

4) **Digital Human Rights, Equity and Inclusion**

Sustainability, Resilience and Crisis Response

1) **Principles (5)**

ex. Digital technologies and data-driven solutions ensure environmental sustainability and resilient urban development….

2) **Actions: National governments (11)**

ex. Promote the use of data and digital technologies to mitigate climate change impacts and GHG emissions…

3) **Actions: Local and regional governments (6)**

ex. Use digital platform for urban disaster prevention, mitigation and preparedness a well as for…recovery and reconstruction…

4) **Actions: Relevant stakeholders (7)**

ex. Promote capacity development and skills enhancement to design and manage environmentally responsible technologies.

The Four Thematic Pillars

1) **Shared Prosperity**

2) **Sustainability, Resilience and Crisis Response**

3) **Community Participation and Collaboration**

4) **Digital Human Rights, Equity and Inclusion**

Community participation and Collaboration

1) Principles (5)

ex. People and communities are actively involved in identifying challenges, setting…goals, and co-designing smart city solutions.

2) Actions: National governments (3)

ex. Mainstream community participation and collaboration in national urban policies and digital and smart city strategies…

3) Actions: Local and regional governments (7)

ex. Develop participatory platforms and tools for smart city initiatives with accessible features format responding to different needs and abilities…

4) Actions: Relevant stakeholders (8)

ex. Empower people and communities to access and use urban data to address urban challenges and be involved through co-creation initiatives.

The Four Thematic Pillars

1) **Shared Prosperity**

2) **Sustainability, Resilience and Crisis Response**

3) **Community Participation and Collaboration**

4) *Digital Human Rights, Equity and Inclusion*

Digital Human Rights, Equity and Inclusion

1) Principles (5)

ex. Legislation is needed to guide smart city development by protecting individuals against violations and abuse of the right to privacy…

2) Actions: National governments (9)

ex. Embed human rights principles…into all digital technology regulations, policies and processes, including privacy and data protection…

3) Actions: Local and regional governments (7)

ex. Assess the digital divide through local surveys and data analysis…to ensure equitable involvement…

4) Actions: Relevant stakeholders (5)

ex. Promote an open and safe online environment that empowers users…

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The Four Enabling Pillars

1) *Governance and Regulations*

2) **Digital Public Infrastructure, Data and Smart City Services**

3) **Digital Literacy and Skills Development**

4) **Budgeting and Financing**

Governance and Regulations

1) Principles (4)

ex. Institutional coordination mechanism are established to align national and local urban and digital strategies, plans and investments…

2) Actions: National governments (8)

ex. Develop dedicated data governance policies and strategies that…oversees data sharing, data use and data infrastructure…

3) Actions: Local and regional governments (7)

ex. Develop Smart City and Data Strategies to guide technology adoption, data governance and privacy protection.

4) Actions: Relevant stakeholders (4)

ex. Develop and deploy transparent, unbiased AI algorithms to ensure fairness, accountability and trust…

The Four Enabling Pillars

1) **Governance and Regulations**

2) *Digital Public Infrastructure, Data and Smart City Services*

3) **Digital Literacy and Skills Development**

4) **Budgeting and Financing**

Digital Public Infrastructure, Data and Smart City Services

1) **Principles (5)**

ex. Smart city services are designed to be universally accessible…while being…interoperable, scalable and adaptable to evolving urban needs.

2) **Actions: National governments (8)**

ex. Invest in digital infrastructures…as key drivers of inclusive digital transformation and innovation…

3) **Actions: Local and regional governments (11)**

ex. Enhance skills and knowledge of local public officials on digital data management and implementing processes…

4) **Actions: Relevant stakeholders (11)**

ex. Contribute to research on user needs assessment as well as on the use of emerging technologies and digital public infrastructure applications.

ITAT

The Four Enabling Pillars

1) **Governance and Regulations**

2) **Digital Public Infrastructure, Data and Smart City Services**

3) *Digital Literacy and Skills Development*

4) **Budgeting and Financing**

Digital Literacy and Skills Enhancement

1) **Principles (5)**

ex. Digital literacy efforts should ensure that everyone…has access to basic digital skills to fully access…basic services in urban life.

2) **Actions: National governments (5)**

ex. Integrate digital skills training and curricula into education systems and public programs, tailoring them to specific groups…

3) **Actions: Local and regional governments (7)**

ex. Offer basic digital skills training for residents…particularly in low-income neighborhoods and for those in vulnerable situations.

4) **Actions: Relevant stakeholders (7)**

ex. Deliver educational programs, training and learning initiatives for the general public and public officials.

The Four Enabling Pillars

1) **Governance and Regulations**

2) **Digital Public Infrastructure, Data and Smart City Services**

3) **Digital Literacy and Skills Development**

4) *Budgeting and Financing*

Budgeting and Financing

1) **Principles (5)**

ex. Smart city initiatives require comprehensive, long-term funding programs and financing models…

2) **Actions: National governments (7)**

ex. Establish regulations and policies for public procurement of digital technologies…conducting human rights due diligence.

3) **Actions: Local and regional governments (6)**

ex. Create financial frameworks to support local community an dcivil society-led digital infrastructure projects…

4) **Actions: Relevant stakeholders (6)**

ex. Support public-private partnerships by …providing technological expertise and ensuring compliance with privacy…

Expected impact

Enhanced **knowledge, skills and policymaking** in people-centred smart city development

The Global Digital Compact is localized through practical guidance and tools to implement it at the city levels

Cities globally adopt the principles and put people at the centre of sustainable digital urban development, reducing the **digital divide** across countries, regions and cities.

Global multi-stakeholder coalition to advocate for - and collaborate on - people-centred smart cities, sharing solutions and knowledge

Potential initiatives in Asia Pacific

POLICY/NORMATIVE

Integrating the **normative principles** of the International Guidelines in **regional or local smart city strategies**, plans etc. Development of ad hoc policy and regulations on data privacy, cybersecurity and others

CAPACITY BUILDING

Support **knowledge creation & upskilling** towards general public and local public administrations, including mayors on digitalization and smart cities

KNOWLEDGE EXCHANGE

Framework & toolkit for cities to replicate and scale up existing digital solutions and approaches, as part of a global network of smart cities stakeholders

REGIONAL THEMATIC HUB

A regional hub providing **financial and technical support** to cities focusing on inclusive smart city solutions that strengthen digital access, public services, and urban resilience to respond to climate change

What

How

Tailored approach based on regional specific challenges/priorities, capacity and needs identified through data collection, participatory processes and design thinking approaches.

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A better quality of life for all in an urbanizing world

Thank you very much for your kind attention.