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Digital tools and data for sustainable urban development

UNITAC – United Nations Innovation Technology Accelerator for Cities

AdHoc Working Group on Programmatic, Budgetary and Administrative Matters
DD/MM 2026

United Nations Innovation Technology Accelerator for Cities (UNITAC)

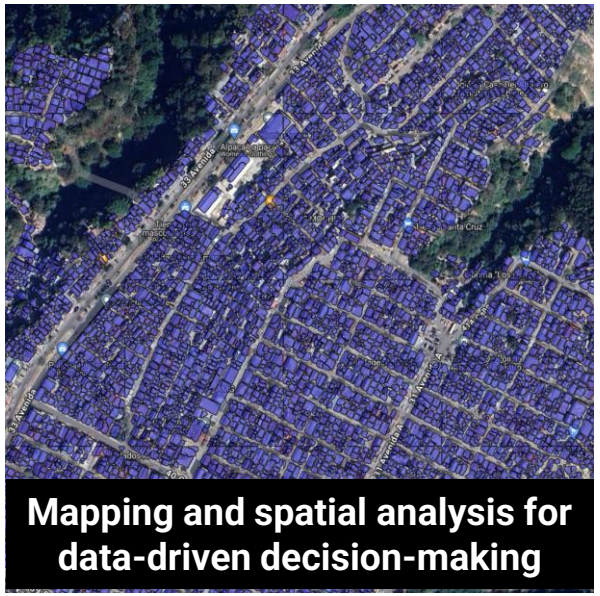
A partnership between

- the United Nations Human Settlements Programme (**UN-Habitat**)
- the United Nations Office for Information and Communication Technology (**OICT**)
- HafenCity University Hamburg (**HCU**)

Based in Hamburg at the HafenCity University next to the City Science Lab


Participatory digital governance


Innovation in urban planning and service delivery


Mapping and spatial analysis for data-driven decision-making


Open, transparent and people-centred approaches

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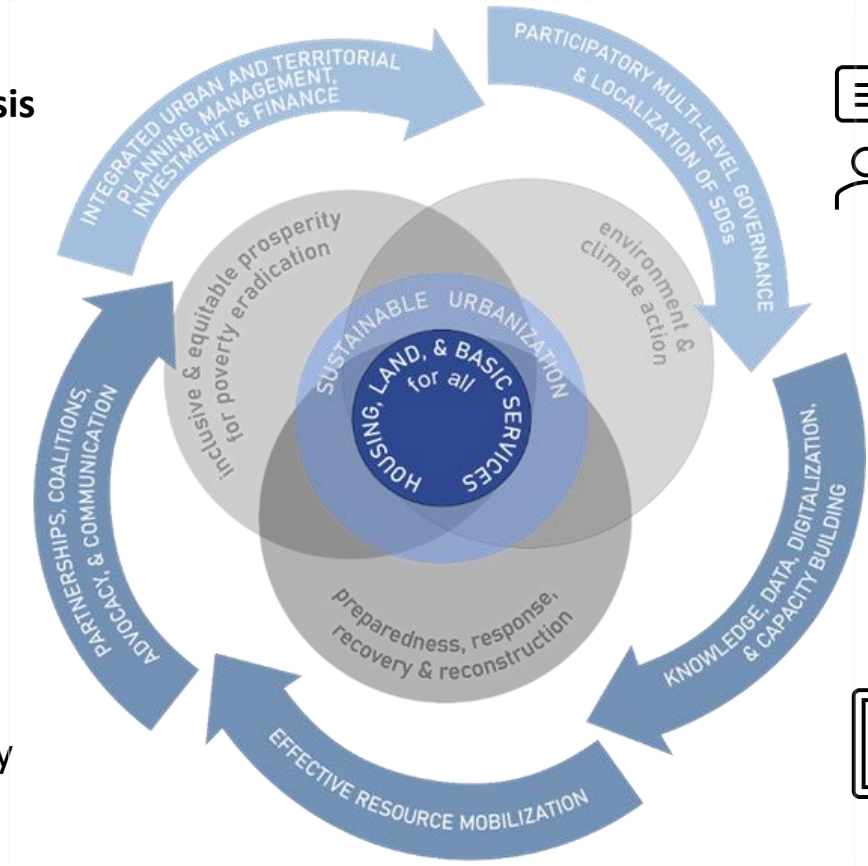
UNITED NATIONS OFFICE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

hcu HafenCity Universität Hamburg

UNITAC project and office locations

Alignment with the Strategic Plan 2026-2029

Digital mapping and spatial analysis
AI-driven mapping and geospatial data analysis for mapping and upgrading informal settlements, optimizing land use plans and modernizing urban plans for sustainable urbanization .



Public participation and data-driven decision making
Tools for community engagement and evidence-based policy making and urban planning, including climate action, poverty reduction and preparations, recovery and reconstruction strategies.

Digital public service delivery
Enhancement and development of digital tools improving delivery and access to essential urban services.

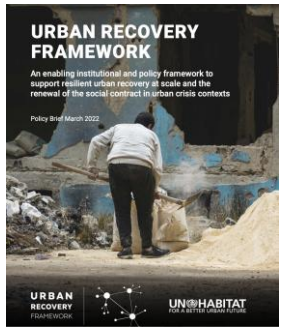
Housing information and Recovery systems
Digital platforms and data-driven approaches for housing policies and post-disaster recovery.

Capacity building and Knowledge development
Training city leaders and public servants and providing urban innovation toolkits.

UNITAC approach

Strategy

Strategies, mission and vision to guide people-centred sustainable development.



Tools

We offer innovative approaches, digital tools, and data platforms.

Capacity

Practical training, knowledge exchange and technical support.

Housing, informal settlements and land

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Adequate housing and informal settlements transformation:

- Fast growing informal settlements
- Gap of data for effective infrastructure development and effective upgrading planning

Building and Establishment Automated Mapper (BEAM):

- AI-based tool that automatically maps building footprints and strucutures from aerial imagery
- Distinguishes between formal and informal structures

Impact Areas:

- Accelerated mapping process and provision of data
- Enhanced urban planning and more equitable allocation of resouces

Predictions in Guatemala

Predictions in Cape Town

Key Outcomes:

eThekwini

- 1,530,546 residential and non-residential building footprints mapped
- Reduced mapping time from months to 72 hours

Central America (8 cities)

- Identified 6,324 informal areas and mapped 550,776 buildings across all cities
- Enabled analysis of the informal settlement morphologies

Cape Town

- Detected and integrated 822,390 additional building footprints into the municipal geographic database

Improving access to basic services

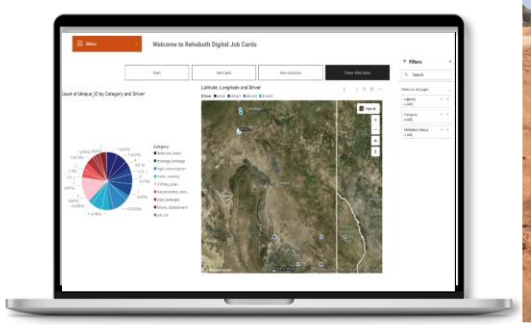
Enhancing water access in Hargeisa

- 63-65% of Hargeisa's residents have no access to piped water infrastructure
- Prevents women and girls from education and economic opportunities

Digital Water app: Connects users in disadvantaged settlements who do not have a piped water connection with certified vendors via mobile-based orders

Impact areas:

- Improving access to affordable and clean water
- The app strengthens affordability while enhancing transparency and quality in the water supply chain



Improving basic urban service delivery in Namibia

- Paper-based record slowed down coordination of basic service provision and emergency response

Digital Job Card:

Digitalizes the process of creating and tracking job cards for different urban services or issues

Impact areas:

- Improving basic service delivery, digital capacities and data driven decision making in local government
- Strengthening preparedness and response

Climate resilience and crisis response

Supporting urban recovery planning

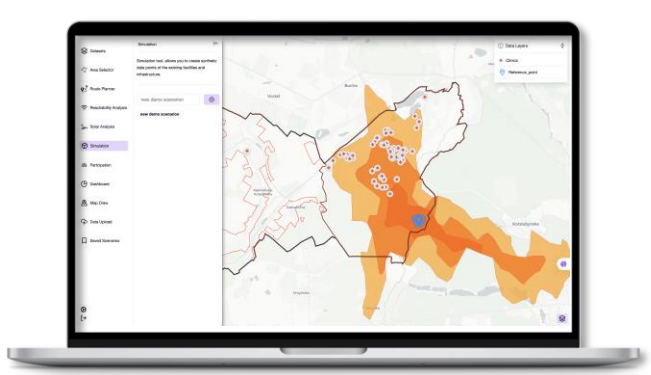
- Visualizing damaged infrastructure and rebuilding destroyed housing stock
- Climate-smart solutions amd climate-related spatial analysis to build back better
- Spatial analysis and participatory planning complementing recovery plans

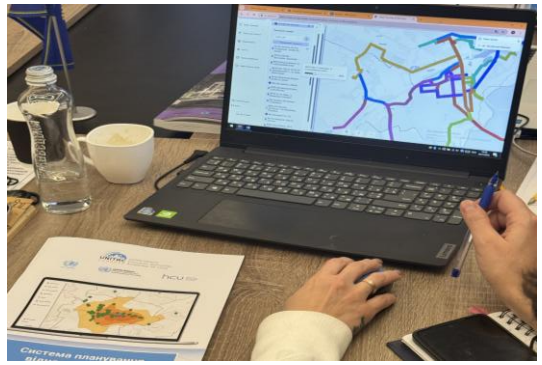
Urban Recovery Planning System (URPS - Ukraine):

Platform to visualize and analyze datasets across various sectors, assessing damage, climate vulnerability and deficit in infrastructure provision. Users explore scenario planning, and participatory prioritization of reconstruction projects.

Impact areas:

- Inclusive, smart and resilient urban recovery
- Strengthened local digital capacity
- Agile, data-driven crisis response
- Collaborative innovation for climate-resilient planning





Urban Recovery Planning System and user tests in Makariv hromada, Ukraine

Participatory processes and inclusive governance

Inclusive, transparent and multilevel governance

- Multi-stakeholder approach that realizes sustainability, inclusivity, prosperity and human rights for the benefit of all.

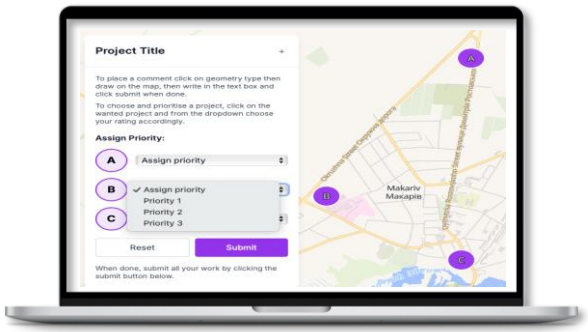
AOVI, real-time digital participation and GioMap 2.0:

- Consultation tool for inclusive agenda setting, ideas generation, strengthening dialogue and participatory digital governance
- Location-based feedback for spatial analysis and integrated urban planning
- Modular approach complementing other tools and innovation processes

Impact areas:

- Participatory recovery planning in crisis-affected areas
- Community-driven climate resilience initiatives
- Inclusive and transparent policymaking

AOVI and workshops in Brazil



GioMap 2.0

UNITAC priority areas for 2026-2028

1 Mapping, spatial analysis, data analytics, and visualization

Promoting adequate housing and in particular, the SDG 11.1 target of “adequate, safe and affordable housing and basic services and upgrade slums”

- Scale tools, including BEAM
- Exploring the intersection of machine learning and remotely sensed imagery for urban development
- Combining these mapping outputs with bottom-up data collection

2 Data-enabled urban resilience and recovery

Leveraging data, spatial analysis, and digital tools to build resilience, particularly in crisis-affected regions

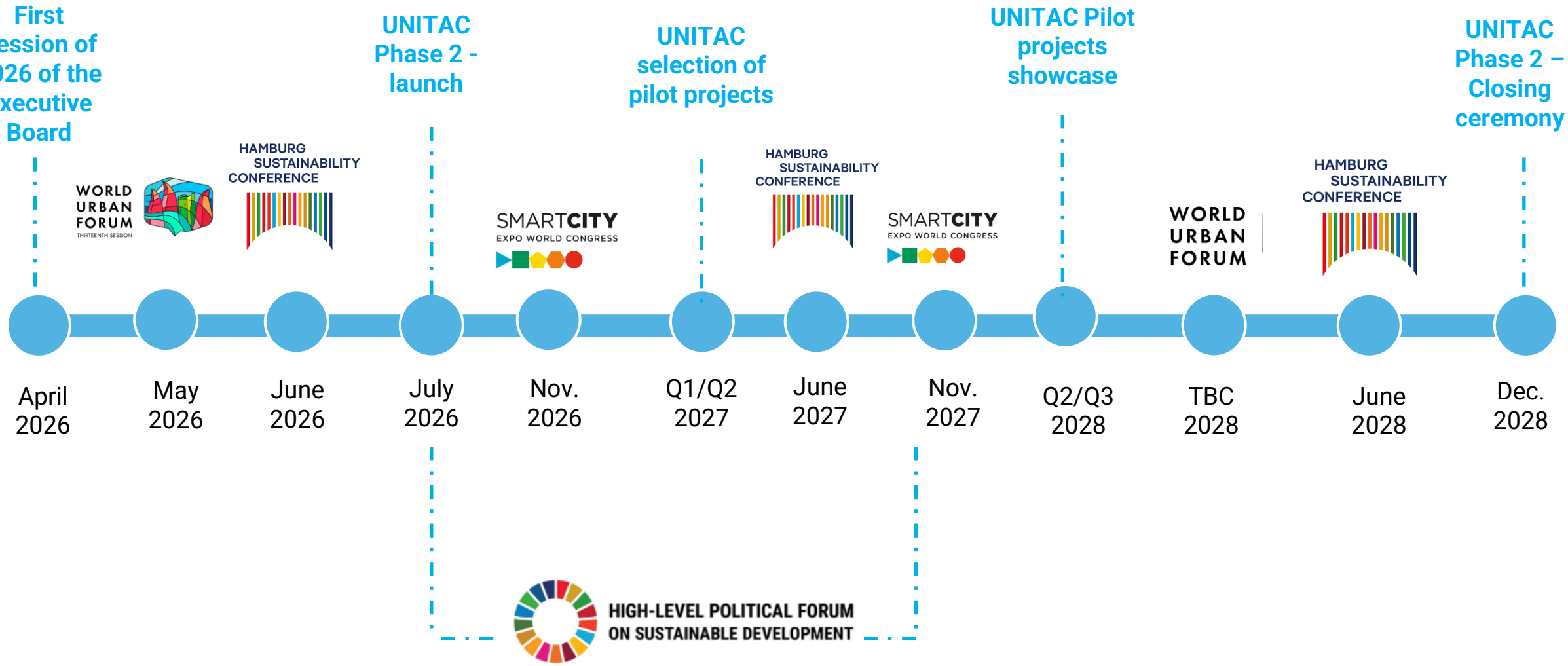
- Adaptation and scaling of recovery-oriented tools (e.g URPS) to other post-crisis contexts
- Housing projects simulation and modelling for resilient infrastructure, including in conflict-affected areas
- AI-powered damage detection
- Renewable energy analysis and risk assessment to accelerate deployment of alternative energy sources

3 Open, transparent, and participatory data governance

Empowering diverse stakeholders to engage in urban dialogues and decision-making.

- Rolling out the UNITAC participatory tools, including AOVI and GioMap 2.0 for real-time and geospatial digital participation
- Engage communities, especially youth, women and girls, in urban data governance
- Explore innovative approaches to participatory community mapping

UNITAC roadmap and key milestones



Thank you!

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IMPLEMENTING THE NEW URBAN AGENDA

11 SUSTAINABLE CITIES AND COMMUNITIES