HAMBURG UNITAC

United Nations Innovation Technology Accelerator for Cities

UNITAC Conference Urban Tech for Equity

International Guidelines on People-Centred Smart Cities

Hamburg, Germany | June 18 to 20 2024

Conference report

UNITED NATIONS
OFFICE OF INFORMATION AND
COMMUNICATIONS TECHNOLOGY

UN-HABITAT

hcu HafenCity Universität Hamburg

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1 Conference overview

1.1 About

UNITAC Hamburg organized a hybrid conference from **18th to 20th of June 2024** bringing together academic institutions and practitioners to discuss how data-driven urban technologies can reduce social inequality. In our research and in projects we focus on the question how local residents from marginalized communities (often in informal settlements) engage with technology and we reflect the ambivalence between using “tech for good” and knowing that the same technology can create oppression and surveillance. We are tech developers and optimists, and we want to share knowledge about how partners in other countries and other contexts are implementing urban and regional data projects that support empowerment and equity for local communities.

The conference took place in the context of the “International guidelines on people-centred smart cities” process, which is being coordinated by UN-Habitat and discussed with all UN member states. Our focus is key consideration one in the concept paper: “Ensure the equal participation and appreciation of people, including women and girls, children and youth, persons with disabilities, older persons and people in vulnerable situations, and ensure that digital and other new technologies contribute to reducing spatial, economic, social and digital inequalities, overcoming economic and social development challenges and supporting respect for human rights for inclusive cities.” In line with UNITAC's research focus, the main emphasis of the conference was on **the spatial aspects of inequality.**

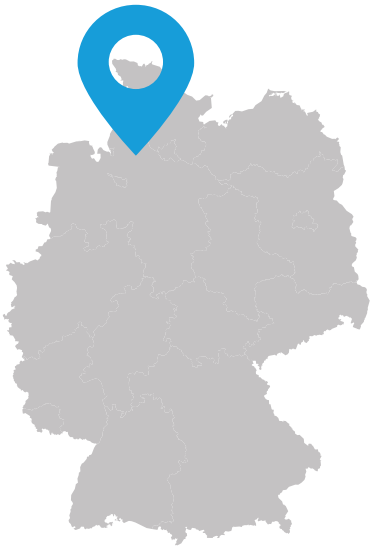
Web: https://unitac.un.org/Initiatives

1.2 Location

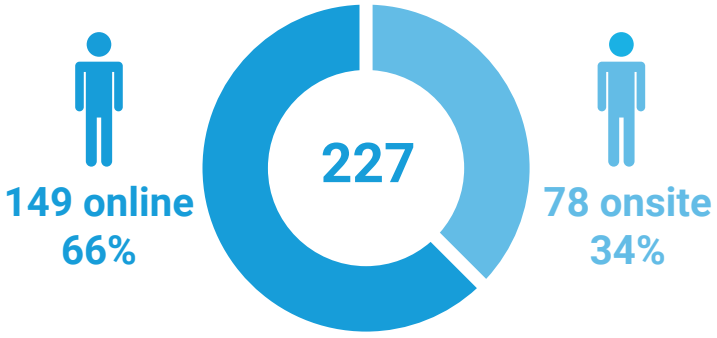
The UNITAC Urban Tech for Equity conference took place at:

the HafenCity University
UNITAC Lab
Hongkongstrasse 8
Hamburg, Germany

as well as online via Microsoft Teams.

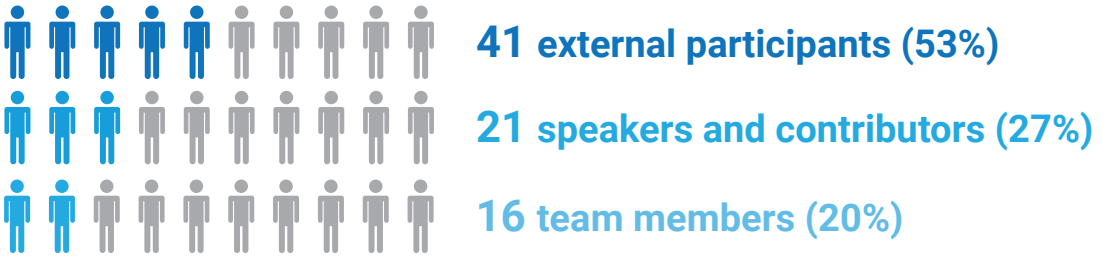


1.3 Number of participants



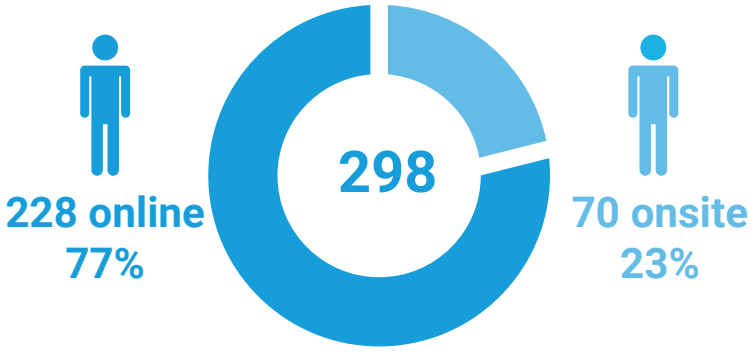
1.4 Onsite participants

The 78 onsite participants comprised of 41 external participants, 21 international speakers/contributors and 16 team members.

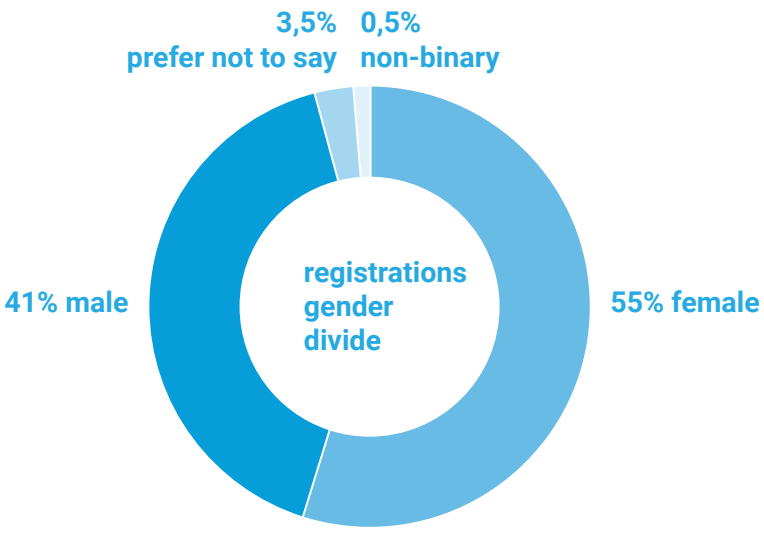


1.5 Registrations

298 people registered for the conference via the online registration form, 70 for in person and 228 for online participation. The no show rate was 24%.



The gender divide among the people who registered for the conference was fairly balanced.



1.6 Contributors and Critical Friends

The conference was supported by contributions from Gesa Ziemer, UNITAC, Milou Jansen, UN-Habitat and Luca Mora, Edinburgh Napier University as well as the following Critical Friends:

- Pontus Westerberg, Teaching Public Service in the Digital Age
- Hilke Berger, HafenCity University
- Alexander Jachnow, Namibia University of Science and Technology

The role of the Critical Friends was to guide the discussion by providing thoughtful commentary, encouraging participation, and offering insights to keep the conversation moving forward.

Milou Jansen
UN-Habitat

Gesa Ziemer
UNITAC

Alexander Jachnow
Namibia University of Science and Technology

Luca Mora
Edinburgh Napier University

Hilke Berger
HafenCity University

Pontus Westerberg
Teaching Public Service in the Digital Age

1.7 Panel composition

Nationalities represented (speakers, panelists, critical friends and contributors)

Europe				
Germany	●	●	●	
Italy	●			
Netherlands	●			
Sweden	●			
UK	●			
Middle East and Africa				
Egypt	●			
Kenya	●	●		
Rwanda	●			
South Africa	●	●		
Americas				
Argentina	●			
Brazil	●	●		
USA	●	●	●	
Asia				
India	●	●		

Countries of residence (speakers, panelists, critical friends and contributors)

Europe				
Belgium	●			
Germany	●	●	●	
Netherlands	●	●		
Scotland	●			
Spain	●	●		
Switzerland	●	●		
UK	●	●		
Middle East and Africa				
Egypt	●			
Kenya	●	●		
South Africa	●			
Americas				
Argentina	●			
Brazil	●			
USA	●			
Asia				
India	●			

2 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- **Introduce and Address Key Notions:** The guidelines should introduce the idea of notions and address important concepts such as situatedness, placemaking, mutual adaptation, and the localization of technology.
- **Focus Beyond Access to Empowerment:** The guidelines should extend beyond merely providing access to technology, aiming instead to truly empower people in meaningful and transformative ways.
- **Broaden our definition of technology:** Technology is more than just digital tools. It encompasses all the systems and processes that influence our lives, including social and political structures.
- **Building trust is essential:** For technology to be used for good, we need to build trust and strong relationships with the communities it impacts.
- **Standardize data privacy:** Implementation of mandatory guidelines on people-centred smart cities, with a particular emphasis on data privacy protection.
- **Balancing Power:** Recognize the dual nature of technology: empowerment and surveillance. Advocate for robust legal frameworks to ensure technology serves the community, not controls it.
- **Redefining Success:** Move beyond just big-picture outcomes. Celebrate micro-successes that foster community engagement and build trust in the long run.
- **Building Trust Takes Time:** Rushing into co-creation is counterproductive. Invest time in building genuine trust with the community before collaborating on tech solutions.
- **Local ownership:** Emphasize the right of each city to define its own vision of a smart city, while also encouraging citizen participation in this process.
- Smart city is not new cities but it´s new ways of using local knowledge to the existing cities.
- **Foster Community Creativity:** The guidelines should actively promote creativity within communities, encouraging the development of innovative, locally driven solutions to urban challenges.
- **Prioritize Simplicity:** Simplicity is key. The guidelines should be clear, easy to understand, and relatable to ensure they are widely adopted and effectively implemented.
- **Articulate Value and Manage Expectations:** Clearly outline the value, opportunities, and risks associated with smart technologies. This transparency is crucial for ensuring local ownership and managing community expectations.
- **Complement National and Local Processes:** Emphasize the importance of aligning smart city initiatives with existing national and local processes and provide guidance on strategies for this alignment to ensure cohesion and effectiveness.
- **Recognize Smart and Creative Solutions:** Acknowledge the smart and creative solutions that emerge within local communities, particularly in the absence of state provision, while maintaining a critical stance on the challenges associated with informality.
- **Challenge the Neutrality of Technology:** Recognize that Smart technology is neither neutral nor innocent and can be employed in different ways by various stakeholders. The guidelines should advocate for a thoughtful, context-sensitive approach to technology deployment.
- **Encourage Collective Urban Experiences:** While smart technology Smart technology does not only result in autonomy of individuals (e.g., through smartphones, ridesharing, delivery services), it should also be leveraged to foster spaces for collective experiences and shared urban life, contributing to a common urban experience.

3 Keynotes

3.1 Keynote 1: Ayona Datta, University College London

Pathways to digital democracy: a feminist toolkit from the digital urban margins

This keynote explores bottom-up approaches to people-centred smart cities through collaboration, co-production and co-authorship with young women and marginal communities living in India's urban peripheries. Based on years of action research, I present a feminist toolkit for developing pathways to digital democracy that would address SDGs #5 and #11 – Gender Equality and Sustainable cities and communities. This toolkit is a loose collection of technologies, instruments and guidelines to create new forms of decentralised and networked co-optations of smart cities from below. I present the feminist toolkit as a pathway to producing four pillars of digital democracy – democratic governance, participatory citizenship, digital diversity and right to information. Through the toolkit, I map a pathway for those dispossessed of the public sphere of the city and the digital realm alike, to claim, inhabit and thrive in both urban and digital spaces.

3.2 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- Technology is not a silver bullet; it needs to be understood within societal and political contexts. If policy and regulation are not robust, technology can be used for harmful purposes—there is a need for checks and balances.
- Ensure that the guidelines are translated into binding regulations, policies, and rules at the national level.
- Focus on and develop frugal, low-cost technologies used by marginal communities rather than imposing high-tech smart city solutions from above.
- The local/federal state needs to become more transparent and accountable in enabling the pathways to digital democracy.
- The Digital Democracy Pathways Methodology is measurable and actionable at a local scale. Developed by Professor Datta, it can ensure that when the guidelines are implemented, they lead to real digital empowerment of communities.
- There are four pillars of digital democracy which can be measured and established through this pathway: 1. Democratic governance (state), 2. Digital diversity (technology and infrastructure), 3. Participatory citizenship (citizens), and 4. Right to information (laws and regulations).
- Re-focus: Focus on the tools that will produce knowledge from the grassroots.
- Re-enable: Enable spaces and pathways through which citizens can tell their stories in their own words, on their own terms.
- Re-imagine: Reimagine the smart city as a democratic space for freedom, choice, and agency.
- Grassroot activities must be connected to official government structures to create impact and not only stay in the community.

3.3 Keynote 2: Nancy Odendaal, University of Cape Town

Cultivating a sense of place through inclusive smart strategies

The 'smart city' is often promoted as a technology-driven solution to complex urban issues. While commentators are increasingly critical of techno-optimistic narratives, the political imagination is dominated by claims that technical solutions can be uniformly applied to intractable problems. This presentation gives an alternative view, exploring how 'home-grown' digital disruption, driven and initiated by local actors, upends the mainstream corporate narrative. More pertinently, the emphasis is on the importance of augmented place-making as a means to enabling inclusive smart urbanism.

3.4 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- Stating the obvious is more important than ever.
- The importance of context is still overlooked, as well as cultural interpretations.
- Qualitative data is to be included into urban technology and combined with quantitative data.
- Instead of looking for something new, see and acknowledge what people are already doing.
- Important practices already exist.
- People-led, not tech-led.
- Agency: Digital platforms have become a banal part of everyday urban life, and their impacts are significant. Examples include disrupting the stage system, SafeBoarders, governance of the corporate environment, and Bebabeba, a cooperative against Uber.
- Scale: The death of distance—space and distance do not matter. There is a need for more granular engagement with local contexts. Context is crucial. For example, an African app for Africans relates to scaling up, considering how the app is received, tech-savvy abilities to adopt the app, and the use of credit cards and mobile money (e.g., M-Pesa).
- Hybridity: Situatedness, heterogeneity, and the relationships between algorithms, people, and place manifest in unpredictable and generative ways.
- Smart African urbanism: A mix of old and new technologies are entangled with lifestyles and l ivelihoods. They are never just technologies; they are incorporated into urban practices and are hybrid. What shapes cities are not the technologies per se, but the interface between technology and users.
- The guidelines should include how 'home-grown' digital disruption, driven and initiated by local actors, upends the mainstream corporate narrative. They should highlight the importance of aug mented place-making as a means of enabling inclusive smart urbanism.

3.5 Keynote 3: David Nemer, University of Virginia

Lessons from favelas: embracing mundane technologies for a more humane city

Brazilian favelas are marginalized settlements typically located on hillsides or city outskirts. The way residents engage with technology in their daily lives provides crucial insights into inclusivity and community engagement for humane cities. Their stories reveal the structural violence of the information age, but also how they consciously resist and appropriate digital technologies to navigate both digital and nondigital sources of oppression—and, at times, to flourish. To analyze these stories, I developed a decolonial framework called Mundane Technology. This framework examines how the oppressed appropriate everyday technologies—such as selfies and keyboards—to alleviate sources of oppression. By rejecting simplistic techno-optimistic beliefs and focusing on Mundane Technologies, we can start thinking about designing and implementing humane city initiatives that truly include and empower marginalized communities, ensuring technology serves as a tool for equity and social justice.

3.6 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- Despite of being exposed to the structural violence of the information age, favela residents use technology in community centers and daily life: for which a sense of community is central
- Favela residents do not simply reject technology; they resist and appropriate it.
- Their interactions with digital technologies help them navigate and sometimes overcome various forms of oppression.
- The intention of ensuring the social inclusion of all urban dwellers does not translate into providing the same kind of technology to everyone, everywhere, but the recognition of diversity and the agency of all users. The less central these users are located, the more they have to adopt mainstream technology for their own needs.
- We think that everything is working autonomously, but in fact we have people behind making things work, so that people can call it 'smart'. Resilience and breakdown is their everyday life, the city relies on them so much.
- Promoting dignified life in favela, replicating state's place/role in wealthier area is not going to work in favela. We want a model of self-sustaining, collaboration with the state to provide for the minimum is the way to go.
- Make sure in the principle 'the right to repair', and not criminalise 'act of repair', this will enable people to have less dependency on big tech companies, and have more control of the surroundings
- Despite being exposed to the structural violence of the information age, favela residents use technology in community centers and daily life, where a sense of community is central.
- Favela residents do not simply reject technology; they resist and appropriate it.
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- Ensuring the social inclusion of all urban dwellers does not mean providing the same kind of technology to everyone, everywhere, but recognizing diversity and the agency of all users. The less centrally located these users are, the more they must adopt mainstream technology for their own needs.
- We think that everything is working autonomously, but in fact, there are people behind making things work so that people can call it 'smart'. Resilience and breakdown are part of their everyday life, and the city relies on them significantly.
- Promoting a dignified life in the favela by replicating the state's role in wealthier areas will not work in the favela. We want a model of self-sustaining collaboration with the state to provide for the minimum needs.
- Ensure the principle of 'the right to repair' and do not criminalize the 'act of repair.' This will enable people to be less dependent on big tech companies and have more control over their surroundings.
- The state should provide basic services and a minimum of stability.

4 Panels

4.1 Podium 1: Collaborating

We focus on the practice of collaboration rather than using the term participation. This involves the question of how digital applications can enable activities on an equal footing, in which power imbalances are minimized and all partners can contribute equally. Local knowledge and local interests are essential for this and the right skills for creating project constellations for a collaborative working environment. It is crucial to collaborate with opponents to curate an open dialog and might come to a compromise instead of only staying in your own bubble. How do we collaborate to make active co-creation happen?

Speakers: Ruth Nelson, Delft University of Technology
Dênis Pacheco, Gerando Falcões
Yael Borofsky, ETH Zurich

Moderator: Sophie Naue, UNITAC

Panelist
Ruth Nelson
Delft University of Technology

Panelist
Dênis Pacheco
Gerando Falcões

Panelist
Yael Borofsky
ETH Zurich

Moderator
Sophie Naue
UNITAC

4.2 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- Co-creation must be **more than a tick-box exercise** in urban projects.
- The **localization of technology is key.** Technology is often generalized but adapting it to the context is crucial for utilizing tech for a more Just City.
- A very important element of collaboration is the **willingness to give up control** and to look for o pportunities to turn over control.
- There is a need to create opportunities for people to **learn and allow them to take over responsibility and control**. It is essential that the project design allows changes along the way.
- There is a need to better understand citizens' interest and motivation to learn and understand technology. Creating opportunities for people to learn and take over control is key.
- **Co-creation takes time;** timelines need to be rethought accordingly.
- **People need time to co-create,** and it's very difficult to maintain the engagement of the community for a long period.
- Digitalization has the potential to **bring dignity to vulnerable groups.** Residents taking ownership of simple, easy-to-use digital technologies.
- Digital tools are important, but the **reflection of participants and understanding how people are using the tools,** and understanding their reality with the help of the digital app is even more important.
- There is a need to define accountability measures.
- It's important to give data back to the community.
- Involving community members in data collection is not enough; you must **ensure concert benefits.** And there are many **internal dynamics** that need to be acknowledged and understood.
- The community should have **control over the implementation process,** beyond just having their voices heard.

4.3 Podium 2: Representing

All projects are based on data collection. We are well aware of the phenomenon of "missing data", which means that data for a particular analysis is not available at all or the data that is available is not representative. Non-existent data can lead to a fundamental "epistemic injustice" - the title of the book by philosopher Miranda Fricker - which critically highlights disadvantaged groups as "hermeneutically marginalized". How can we collect missing data and how can we integrate them into a broader data ecosystem of a city or region without this being a disadvantage for the local community?

Speakers: Ollie Ballinger, University College London
Mailén Garcia, DataGénero
Laura Mugeha, Code for Africa
Moderator: Livia Schaeffer Nonose, UNITAC

Panelist
Ollie Ballinger
University College London

Panelist
Mailén Garcia
DataGénero

Panelist
Laura Mugeha
Code for Africa

Moderator
Livia Schaeffer Nonose
UNITAC

4.4 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- Technology must **provide evidence for decision making**, not conduct decision making
- Guidelines hold the potential to provide a basis for a **mission and vision for data management** and data governance that benefits people.
- We have to be **mindful of the limitations of data.** Data is often visualized and interpreted after being aggregated, which is not always representative of reality.
- Disaggregated data contributes to **closing the digital gender divide** but must be managed well to avoid single out individuals.
- Using data as evidence requires mechanism for external audit and accountability.
- **Maps** are mental representations of the world; they **do not represent absolute truth.**
- In reference to satellite data, we should look in the sky but **not forget to look from the ground.**
- Data should be as **open as possible,** but as **close as necessary.**
- Upstream investments in education and training to ensure that technical solutions are not being imposed from the top down or by outside consultants
- Grassroot innovation should be aligned well with formal planning processes (Tandem?)

4.5 Podium 3: Implementing

As part of the transformative research that we represent, we address specific social inequities and aim to support a positive, sustainable change. We try to achieve "actionable knowledge" that generates a practical effect and is understood as an intervention in real-world conditions, i.e. that goes far beyond prototyping. What needs to be considered in the implementation phase of urban tech projects?

Speakers: Alexis Gatoni Sebarenzi, University of Rwanda
Siddarth Hande, Kabadiwalla Connect
Sage Cammers-Goodwin, University of Twente
Moderator: Michael Hathorn, UNITAC

Panelist
Alexis Gatoni Sebarenzi
University of Rwanda

Panelist
Siddarth Hande
Kabadiwalla Connect

Panelist
Sage Cammers-Goodwin
University of Twente

Moderator
Michael Hathorn
UNITAC

4.6 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- The future (of Smart Cities) is not for the future but for the present, for now.
- People are people not data
- A contextual value proposition – not everything needs to be digitized. Start with the problem, not the technology
- Informallity is bigger than informal settlement (e.g. informal waste business sector)
- There is a huge gap between aspirations and reality in reference to Smart Cities. So don't repeate the empty mantra of "the future".
- Center people by giving them control: Involve communities in decision-making processes and empower them to shape solutions.
- Recognize and value diverse forms of knowledge: Include lived experiences and local expertise, not just technical knowledge.
- Iterate and adapt: Consider different contexts and be willing to adjust approaches based on feedback and results.
- Integrate informal sectors: Acknowledge and support informal workers and systems, particularly in waste management and recycling.

- Prioritize equity and accessibility: Ensure solutions benefit all, especially marginalized communities, rather than just the privileged majority.
- Respect data privacy alongside working for transparency: Be clear about data usage, keep data within its intended spaces, and consider which data should be open or closed.
- Redefine “smartness” beyond technology: Include smart policy, social work, sustainability, and creativity in the concept of smart cities.
- Focus on sustainability and community needs: Prioritize self-sustaining growth, community spaces, and local businesses over large commercial developments.

4.7 Podium 4: Maintaining

One of the important principles of transformative research and projects is cooperation with local stakeholders as well as the uptake and maintenance of technologies and activities. We seek to create trust, ownership, and responsibility also by discussing the limits of our data collections and tools. How can ownership and responsibility be created so that local institutions and stakeholders continue to use technologies in the long term, adapt them to their evolving needs, and develop new ones?

Speakers: Anindita Sarkar, University of Bonn, University of Delhi
Omar Nagati, CLUSTER
Dennis Mwaniki, UN-Habitat
Moderator: Lisa Reudenbach, UNITAC

Panelist
Anindita Sarkar
University of Bonn,
University of Delhi

Panelist
Omar Nagati
CLUSTER

Panelist
Dennis Mwaniki
UN-Habitat

Moderator
Lisa Reudenbach
UNITAC

4.8 Key takeaways and considerations for the International Guidelines on People-Centred Smart Cities

- To achieve real transformation, we need to ensure the long-term uptake and maintenance of our innovations. Especially technology solutions risk to fail if they cannot be maintained sustainably and continue to **unleash benefits in real life for their users.**
- Some strategies for maintenance were addressed during the conference, such as taking time and effort to work with communities, using frugal or mundane technologies and considering the hybrid nature of technologies.
- Are technologies smart or people? Technology is run by people. Trusting the technology vs trusting the managers. **Hybrid nature of technology:** people appropriate technologies and adapt them to their needs.
- For creating ownership and responsibility you need **transparency, time, political will for community participation, representation and control, creation of trust** through transparent communication
- Need for **capacity to access technology** (economic) and digital skills (social and cultural)
- **Localization of technology** as per context and use is key for maintaining results

- The question of **governance of technology** is key. Who gets to decide how it is managed, who owns it, where will it be located, do citizens have the potential and choice to carve out their own solutions?
- Deep dive into the community to identify the multiple stakeholders, their competing interests and power relations. **Complementing quantitative data** through digital technology with in-person interviews to address qualitative aspects (mixed methods approach!)
- Creating local ownership through **clarity of the purpose of technology:** What is technology? **What can it do and NOT do?** For whom? What is the value add in understanding and enhancing urban living? How different/ relevant is it?
- Technology has a scale factor (spatial & temporal), so does its trust, ownership and use
- Sustained **local partnerships for maintaining technology use:** Based on a shared vision and trust, separation of roles, clear governance and data/information sharing mechanism, openness, complementarity, ownership of products. Stability of local institutions and considerations for "transition" of use/adoption
- **Need for continued capacity development** and enhancement: For true ownership and responsibility, users should be continuously enabled to understand, use, adapt/transition and contribute to technologies. Technology application should be contextually unbiased, so should capacity enhancement on its application
- To ensure that maintenance will work it should be embedded in already **existing structures.**

4.9 Reflections on capacity-building

The resolution on the International Guidelines on People-Centred Smart Cities, requests the Executive Director of UN-Habitat to further support Member States and relevant stakeholders in promoting a people-centred smart cities approach, including to build the appropriate capacity and skills for people-centred smart cities. For this to happen, it is important to consider what are the right investments and what competencies can support local and national decision-makers to drive investments and technology solutions centered on people.

Speaker: Pontus Westerberg, Executive, Teaching Public Service in the Digital Age

- Local governments are making massive investments in IT capacity, but the question is if these are the right type of investments.
- It's crucial to assess and consider what are the foundational digital skills that can empower decision-makers and city leaders to effectively utilize technology.
- City managers, who are responsible for the day-to-day decisions related to digital technologies, may lack an in-depth understanding of digital and data.

Eight core competencies can be considered for capacity building and training:

1. Value the experience of service users, and can collaborate with specialists to understand user needs, then design, test, and adopt effective solutions.
2. Anticipate and mitigate the privacy, security and ethical risks that are inherent to governing in a digital era.
3. Understand the need to blend traditional public service skills with modern, digital skills, and can effectively work within and lead multidisciplinary teams.
4. Understand the importance of iteration and rapid feedback loops, and can create a working environment that can continuously learn and improve outcomes.
5. Can identify the opportunities to improve government operations, service delivery or policy making, and can overcome structural and institutional obstacles to change.
6. Can use a range of techniques and tools to make government more open, collaborative and accountable.
7. Understand how to use data to inform decisions, design and run services, and create public value inside and outside government.
8. Understand the current and evolving affordances of digital technologies and can assess how they can be used to improve public outcomes.

4.10 Closing reflections

The last panel of the UNITAC Conference shared the discussion items that were most insightful to them and provided a summary of crucial considerations for the International Guidelines on People-Centred Smart Cities.

Speakers: Lennard Kehl, GIZ
Luca Mora, Edinburgh Napier University
Gesa Ziemer, UNITAC

Moderator: Milou Jansen, UN-Habitat

The international guidelines will maximize impact by:

- Provide clear guidance for national policies on developing people-centred smart cities.
- Clearly identify the stakeholders who need to be involved and outline how to establish effective collaboration and participation.
- Provide clear guidance on the role of cities in this process.
- Ensure that capacity-building efforts help city leaders communicate effectively across various sectors. This includes speaking the language of the private sector, developers, and community groups.
- Ensure inclusivity and accountability in smart city development.
- Aim to close the gender gap and foster just transitions as core objectives of smart cities.
- Focus the guidelines on the urgent need to develop ad-hoc assessment tools to measure progress in smart city development.

4 Impressions

Photos: Janine Kohls HafenCity University Communication

Photos: Eva Stowasser, UNITAC

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UNITAC
United Nations Innovation Technology Accelerator for Cities

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