

**Eight annual Multi-stakeholder Forum on Science, Technology and Innovation
for the Sustainable Development Goals**

***Thematic Session 3: Think global, act local – people and community led-
innovation and tech infrastructures in cities***

(16:30-18:00 EDT, 3 May 2023)

Background

The field of technology and innovation in cities – often called ‘smart cities’ – has been in development for more than two decades. The term smart city was first coined in the late 1990s to describe cities that use technology and data for urban development. The concept quickly gained traction, and cities around the world began investing in sensors, data analytics, and other technologies to monitor and manage everything from traffic flow to energy consumption. However, many early smart city initiatives were criticized for not addressing privacy and data harvesting concerns or for focusing too heavily on technology, without sufficient consideration for the needs and priorities of residents, respect for human rights, and for the capabilities of local people, workers and communities to participate in infrastructure building and innovation processes. This top-down approach often led to a lack of community engagement, as well as issues related to data privacy and security.

In recent years, there has been a shift towards a more people-centered approach to smart city development, which seeks to prioritize the needs and perspectives of urban residents whilst ensuring environmental sustainability in the design and implementation of technology solutions. This approach recognizes that cities are fundamentally social entities, with distinct cultures, aspirations, needs and capabilities and that therefore, technology alone cannot solve the complex challenges facing urban areas, including rising inequalities, human rights and the pervasiveness of urban environmental stressors. A people-centered smart city approach emphasizes collaboration and co-creation between residents, government, and other stakeholders, with a focus on building trust, transparency, and inclusivity. This approach seeks to empower residents to participate in the design and governance of smart city initiatives, to build collective agency of communities to implement innovations, and to mobilize social dialogue for building a social consensus on the purpose of change and the goals to be achieved.

About the session

The session "Think global, act local – people and community-led innovation and tech infrastructures in cities" at the UN STI Forum is aimed at exploring how cities can leverage technology and innovation to promote sustainable development while also empowering communities to drive change from the ground up. The session will focus on the importance of building tech infrastructures that are responsive to the needs of local communities and foster innovation at the grassroots level, and that are co-designed by these communities. It will explore ways of societal learning and building capabilities of

people and communities needed to identify needs, design innovations, experiment, and apply advanced technologies. The panel will highlight examples of successful community-led initiatives, including through frugal innovation approaches, that have been implemented in cities around the world to promote sustainability, and discuss the challenges and opportunities associated with scaling up these efforts.

Participants will also examine the role of public-private partnerships in supporting community-led innovation, and how governments can create an enabling environment that encourages experimentation and risk-taking. They will also explore the potential of emerging technologies such as the Internet of Things, digital twins, and artificial intelligence to support local innovation and drive sustainable development. Ultimately, the session will emphasize the importance of prioritizing people and communities in the design and implementation of technology and innovation initiatives in cities. By adopting a bottom-up approach, cities can better understand and address the diverse needs and challenges of their residents and foster a culture of innovation and collaboration. Such a people-centred approach needs to make sure that smart city initiatives provide opportunities for the local teams of workers, managers and policy makers to learn, gain new experience and thus build dynamic capabilities. This will drive sustained, inclusive transformative change for all.

Guiding questions

The discussion will be guided by the following questions:

- How can governments and other stakeholders make sure that smart city initiatives become learning opportunities for local workers?
- What is the role of appropriate technologies, frugal innovations and digital technologies in learning and building dynamic capability in local teams?
- What is needed to drive community-led innovations in poor regions of countries?
- How to mobilize and empower poor and marginalized people to engage in the design and governance of innovation processes?
- How can people-centered smart cities influence urban environmental governance?
- What can urban responses achieve given the dominant role of private sector actors and the complex interrelations between urban settings and larger socio-technical systems?
- How can local frugal innovation in cities (e.g. cooling/heating systems, food systems, fashion) support behavioral changes for sustainable development in urban populations?

Supporting documents/publications

- [UNEP \(2021\). Smart, Sustainable and Resilient cities: the Power of Nature-based Solutions. Nairobi, Kenya.](#)
- [UNEP \(2022\). Financing nature-based solutions for smart, sustainable and resilient cities](#)
- [UNEP \(2023\): The State of Finance for Nature in Cities 2023: Time to Assess – Summary for Local Policymakers](#)
- [Granados, Prabhu \(2022\). Making the Affordable Aspirational: Increasing the Adoption of Frugal Innovations at the Base of the Pyramid. Stanford Social Innovation Review](#)
- [Noronha, Stone, Baptista \(2023\). Exploring “aspirational consumption” to drive systemic lifestyle changes](#)

- Nübler, I., Ernst, C. (2013). [Creating Productive Capacities, Employment and Capabilities for Development: The Case of Infrastructure Investment](#). In: Islam, I., Kucera, D. (eds) Beyond Macroeconomic Stability. Advances in Labour Studies. Palgrave Macmillan, London
- Nübler, I. (2023 forthcoming), Harnessing science, technology and innovation for sustainable development: A human-centered perspective , Working Paper, ILO Geneva
- Nübler, I., (2018) New Technologies, Innovation, and the Future of Jobs; In: Eva Paus, 2018 Confronting Dystopia: The new Technological Revolution and the Future of Work, Cornell University Press.

The following *science-policy briefs* have been prepared by TFM stakeholders on emerging science and technologies (will also be made available here: <https://sdgs.un.org/tfm/STIForum2023>):

- Taimur Mazhar Sheikh et al, Concrete, CO2, and catalysis: merging industry and research goals for sustainable development, University of Wah, Pakistan
- Jayesh Chennupati, Addressing the Urban Poverty Crisis through Refugee Camps, University of Virginia, United States
- Kelsey Stoddard et al., Stress-testing the resilience of critical infrastructure, CREDERE Associates, United States
- Naureen Naeem et al., Challenges and opportunities of integration of community-based Nutrition services in Punjab, Pakistan, Lahore Garrison University, Pakistan
- Sandra Piesik et al., Enables for Transformative Change to Sustain People and Nature Centred World, 3 ideas, the Netherlands
- Felipe Teixeira Dias et al., Cities and covid-19: challenges and strategies based on the Brazilian case, Universidade Estadual de Montes Claros, Brazil