

Digital cities in emerging and developing countries

Nicole Celikkesen, Advisor
Sector Project Digital Development

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The digital revolution

- Job losses and new qualification requirements.
- Global digital divides: shortage of Internet access, especially for disadvantaged groups.
- Fresh threats to data protection and human rights.
- A steeply rising volume of electronic waste.
- A shortage of basic 'analogue' measures, like providing vocational education and training, promoting accountability and a smart regulation policy.



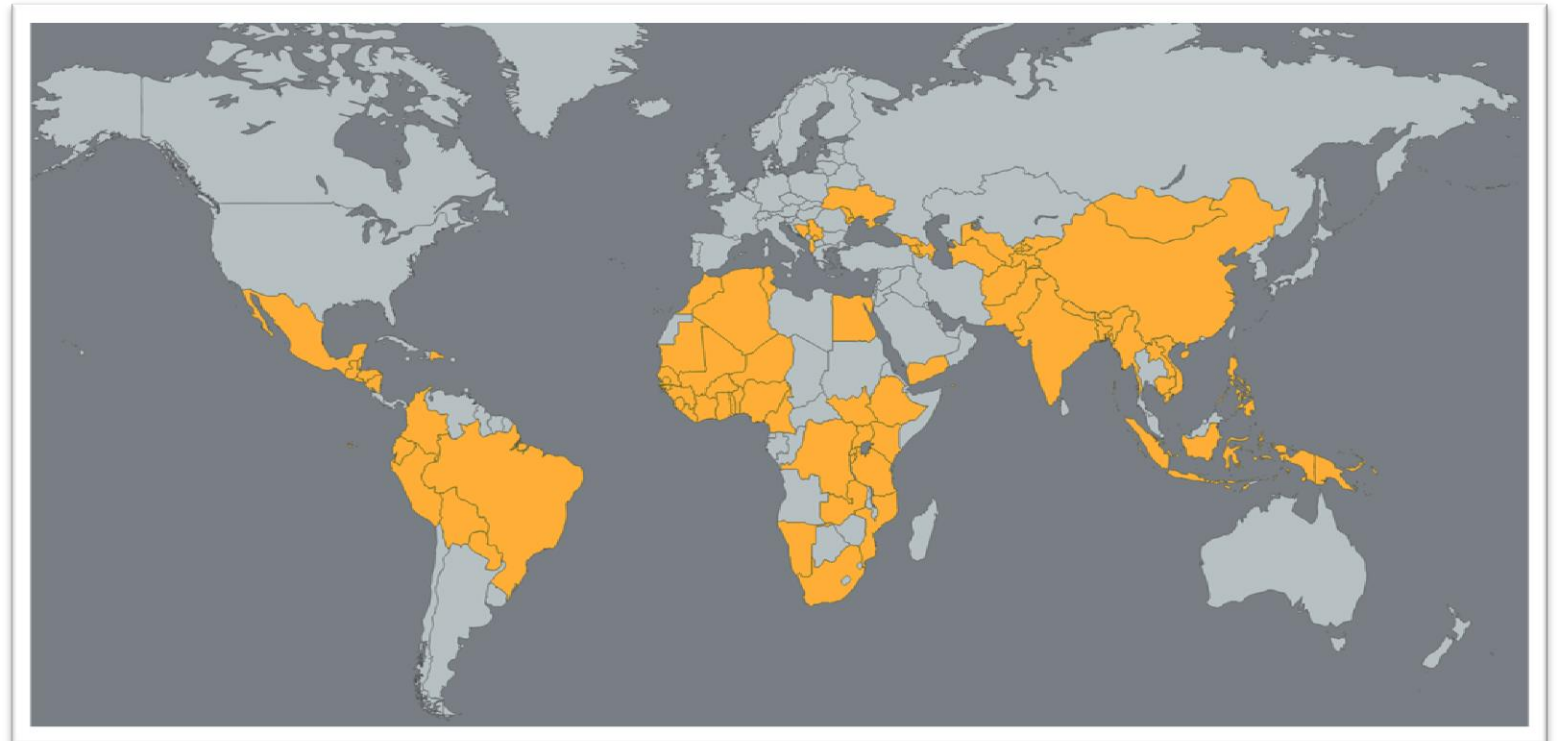
Harnessing the digital revolution for sustainable development

- The BMZ's Digital Agenda constitutes a basis for guiding the implementation of digital projects within the framework of Germany's development policy.
- At the same time, it fleshes out the German government's Digital Agenda.
- The topics addressed include climate, agriculture, education, business and economic development, displacement and migration.



Digital portfolio

The BMZ's current **digital portfolio** includes around **390 projects** in **79 countries**.





5 strategic objectives of the Digital Agenda

1. Harnessing digital innovation for greater effectiveness
2. Reinforcing democratic processes
3. Helping forcibly displaced persons
4. Creating future-proof jobs
5. Safeguarding human rights and ensuring participation





1. Harnessing digital innovation for greater effectiveness

Our priorities are in the following sectors:

- ICT infrastructure
- Education and training, including vocational education and training.
- Good governance and modernisation of the state.
- Health
- Nutrition, rural development and agriculture
- Climate and energy
- Sustainable economic development and financial system development.





2. Reinforcing democratic processes

We also use ICTs to:

- Gather and evaluate data to make development cooperation more transparent.
- Disseminate information about our programmes





3. Helping forcibly displaced persons

Opportunities offered by ICTs:

- Improved living conditions for migrants and refugees.
- Better integration of migrants and refugees into host communities.
- Harnessing the potential of the IT sector to create jobs in countries of origin.





4. Creating future-proof jobs

We are promoting:

- Employment and innovation in our partner countries by advising and mentoring start-ups and entrepreneurs, from the drawing board to market readiness.
- Cooperation with German, European and local digital business communities.





5. Safeguarding human rights and ensuring participation

We champion:

- The defence and promotion of fundamental human rights, like the rights to privacy and freedom of expression.
- Systematic data protection on the Internet.
- Adherence to high technical and ethical standards in our own projects.
- A free and fair Internet to ensure an open, global knowledge society.





Digital initiatives of the BMZ

- **Tech-Entrepreneurship Initiative Make-IT**

The Make-IT Alliance is a joint initiative of the BMZ, companies, associations and social enterprises.



- **Trendradar 2030**

The Trendradar 2030, published by betterplace lab, examines digital trends relating to developing and emerging countries.



- **World Poverty Clock**

Example of how the BMZ uses large quantities of data and digital analytic methods to understand how poverty will develop in various countries between now and 2030.





Smart Cities: Definition and potential

Smart City - What is it?

- “Smart City” does not mean “cramming” a city with the most expensive and intelligent infrastructure possible.
- The basic idea is networking.
- Technology is the means to an end.

Potential of Smart Cities

1. Through smart city approach = renew processes, optimize and design efficiently
2. Technological prerequisites for economic implementation usually given:
 - Mobile networks
 - Open source
 - Hardware and Sensoric



Smart Cities in emerging and developing countries

- Changing energy consumption patterns.
- Water and sanitation needs.
- Solid waste management.
- Air pollutants sources.
- Food production and consumption dynamics.
- Logistics of transporting goods (f.e. agricultural products into the city).
- Mobility of human beings.
- Health and education.
- Crime
- Increasingly complex administrative challenges.
- Avoiding a growing divide between rural and urban communities.



Smart ideas to create smart cities

How can urban development processes be made more comprehensible, predictable and interactive?

GIZ, Massachusetts Institute of Technology (**MIT**), CityScienceLab of the HafenCity University (**HCU**) provides an answer:

CityScope

An interactive workstation to visualize urban data and create development scenarios, jointly among local practitioners and citizens.



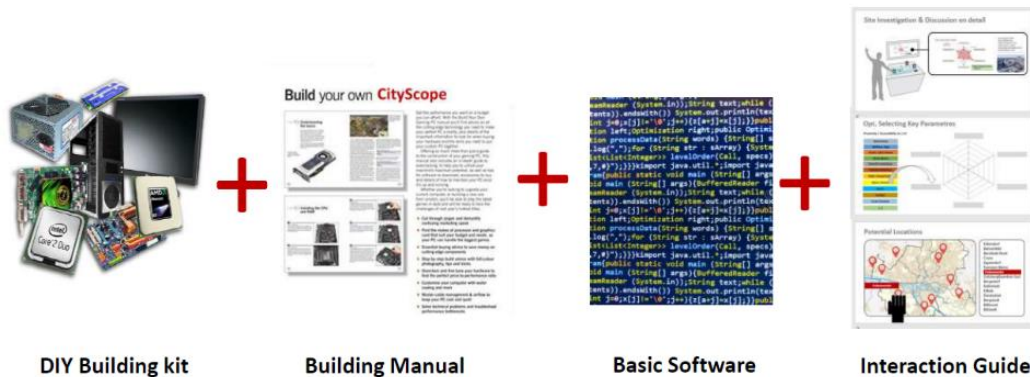


CityScope

- Already applied successfully in the field.
- Tested in GIZ projects.
- HCU and GIZ develop an open-source/-tech version of CityScope.

Basic requirements of interested projects / programmes:

- Basic level of IT infrastructure
- Basic sets of data
- Software / open source capacities





Digitalisation in the Palestinian Local Governance Sector

Ramallah

Collaboration with the Local Governance Reform Programme (LGRP) and GIZ Palestine.

Developing a geographic information system portal (GeoMOLG). Registered users can...

- ... share resources
- ... eliminate duplications
- ... make data more transparently available e.g. for improved planning processes

Procurement of IT infrastructure for municipalities and village councils

Baladiyat.ps

- Local governance information portal
- Contacts, general information and news
- Developed with support from GIZ





Smart Africa

Smart Africa Manifesto, endorsed by the African Union (AU) in January 2014

- To put ICT at the center of national socio-economic development agenda
- To improve access to ICT especially Broadband
- To improve accountability, efficiency and openness through ICT
- To put the Private Sector First
- To leverage ICT to promote sustainable development



The Smart Africa Manifesto

*Endorsed by Heads of State and Government in Kigali on 29th
October 2013*



Inside Africa

Cities but also rural communities are facing enormous challenges:

- high growth rate
- dynamics of urbanization are challenging the continent

Global “standard trends” of urbanization and de-population of rural areas does not apply in African:

While cities grow, populations grows also in rural areas.

Source: “African Economic Outlook 2016” by AfDB



Sustainable energy as enabler for a Smart City

Focus on urban areas is too narrow but it should also be around Smart Communities.

Both dimensions require:

- Efficient solutions for more ecologically.
- Economically and socially sustainable community systems.

Building smart and sustainable cities through ICT enhances the ability to be responsive to emerging needs, and to improve decision-making about resource allocation and service delivery.

The EU Commission highlights the development challenge in their “Digital4Development” under the priority: “Digital technologies as an enabler”



EU development challenges

Challenges, opportunities and constraints to think about:

- What are the specific challenges of urbanization?
- Which technological solutions for smart cities do have potential? Which do already exist?
- What kind of opportunities do you see to contribute to build sustainable smart cities & communities?
- Where should partners focus on first (e.g. partner structures and activities)?
- Which financing and business models are relevant to develop smart sustainable city programs?
- How and which policies and regulations can enhance or limit smart cities?
- How can smart-cities development enhance inclusion, participation, non-discrimination, accountability and rule of law rather than dilute it?



Approaches for a Smart City

- Governance
- Education
- Transportation and Mobility
- Energy and Buildings
- Public Safety and Emergency Response
- Citizen Services
- Water and Waste Management
- Air & Noise Monitoring
- Healthcare and Public Health Management
- Economic Development
- Urban Planning and Design
- Research and Development



“Our struggle for global sustainability will be won or lost in cities.” Ban Ki-moon

