Cities fit for the digital age

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INTRODUCTION

* urban technologies and innovative solution can help address urban challenges and improve the quality of life of citizens

* they represent new opportunities for cities in terms of growth and sustainability: data and urban analytics are essential for planning, development and governance.

* technology and innovation are key enablers in cities, can actively empower citizens and inform urban planning
literature overview

* many different definitions (smart, intelligent, wired, digital cities)

* dichotomy hard domains - soft domains

* reinforce current spatial disparities and introduce new ones
a more holistic approach

“Cities that are smart only with respect to their economy are not smart at all if they disregard the social conditions of their citizenry [...] technology could be used to empower citizens by adapting those technologies to their needs rather than adapting their lives to technological exigencies (Batty et al. 2012)”
the European approach

* **HUMAN-CENTRIC** approach to urban technologies

* based on 3 components
  * environment and sustainability
  * (citizen) participation
  * privacy and transparency

* cities play a critical role in reaching EU priorities

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CURRENT TRENDS

#01 AI and data analytics

#02 focus on mobility, climate, energy, sustainability

#03 individual projects in big cities
# 01 AI and data analytics

* Internet of Things (IoT)

* Dashboard and Data portals

* Digital Twins

LOCAL DIGITAL TWIN

virtual representation of the city’s physical assets, processes and systems, connected to data related to them and the surrounding environment
# 01 AI and data analytics
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Innovative business models
Agile freight storage and distribution
Low emission delivery vehicles
Smart data-driven logistics solutions

LOCAL DIGITAL TWIN - LEAD

Madrid
The Hague
Lyon
Porto
Budapest
Oslo
# 02 focus on climate and sustainability

* mobility, climate, energy, sustainability

  example: 100 Climate Neutral and Smart Cities by 2030

* optimisation and performance of urban systems (following the most traditional approach for smart cities)

* less funding for soft domains (social inclusion, policy innovation)
# 03 big cities and individual projects

* mainly on capital and big cities

* individual projects targeting individual problems (innovation districts)

* projects exist in silos (no interoperability)
KEY ISSUES

#01 evaluation and measurement of success

#02 reproduce and scale up successful cases

#03 data privacy, representation, inequality
# 01 measuring success

* ‘deliver on what they promised’

* no agreed methods and metrics

* LORDI [https://www.espon.eu/DIGISER](https://www.espon.eu/DIGISER)

local and regional digital indicators
### 02 reproducibility and scaling up

* from test-beds and individual projects to > the entire city (*expansion*)
  > other cities (*replication*)

* this process **must include** small and medium cities

* limitations related to > financial / political issues
  > lack of open data and interoperable standards
  > lack of digital competencies
# 03 privacy and inequality

* data privacy and transparency

* bias on how AI algorithms and models are trained

* data and representation
“Sensor] deployment is indicative of investment priorities, and therefore which people and places are represented and legitimised by smart city efforts […] signals a de-prioritisation in terms of investment and is indicative of a lack of representation and visibility in decision-making about the (smart) city (Robinson and Franklin, 2020)"
THE WAY FORWARD

#01 support small and medium cities

#02 data sharing and re-use, standard and metrics

#03 address the digital divide
# 01 support small and medium cities

* financially with dedicated funding and opportunities (example: EU programmes like the Intelligent Cities Challenge)

* human resources (dedicated support, know-how, develop competencies)

* change of paradigm: not only cities but territories (see recent report for the French territory: https://tinyurl.com/4ty2stsa)
# 02 data sharing, standards

* interoperability standards
  (https://tinyurl.com/4bp3fw3b)

* data/innovation officers working horizontally across city departments
# 03 close the digital divide

* technology and data adoption

* data literacy

* awareness of opportunities and risk

success is not simply related to a specific technology but about people adopting and using such technology
Thank you

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