CHAPTER 6

Smart City Diplomacy

Abstract One of the key drivers of cities’ international action lies in the commitment of local governments in offering innovative, world-class services to citizens through the introduction of new technologies. Public transportation, energy, health, education, and waste management are only a few of the many sectors in which digital innovation has shown its potential to improve residents’ quality of life and make the city more attractive to foreign capitals, companies, and tourists. Nevertheless, no city (nor nation) can fully implement such transition alone. Besides domestic coordination with other cities and the central government, such a process requires direct involvement of city diplomats. As the chapter will show, there are numerous opportunities to match smart city and city diplomacy, including peer learning between friend cities and within city networks, partnership with foreign firms, and participation in programs and funding mechanisms implemented by international organizations. Moreover, a series of challenges arise from the international dimension of smart city diplomacy, namely in terms of foreign technologies’ impact on residents’ rights and the job market. The chapter will end with some considerations on the role of smart technologies in supporting cities’ response to the COVID-19 pandemic.

Keywords City diplomacy · Fourth industrial revolution · Smart city · Technology · Innovation · Privacy · Big data · Benchmarking · Apps · Sharing economy · COVID-19

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DEFINING THE SMART CITY

Cities across the world have been experiencing the profound impact of the fourth industrial revolution, characterized by digital technologies and leading to the “transformation of entire systems of production, management, and governance” (Schwab 2015). In urban terms, such transformation is generally associated with the concept of smart city.

Despite being a buzzword, the concept of smart city is somehow vague, having spread as a result of a “strong self-congratulatory tendency” (Hollands 2008, 304). In fact, smart city has been used to brand a plurality of different urban approaches and phenomena, generally sharing an approach where “information technology is wielded to address problems old and new” (Townsend 2013, xii). In 2014, as a result of the study of more than 100 definitions of smart city, the International Telecommunication Union (ITU), specialized agency of the United Nations, had defined the smart sustainable city as “an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects” (ITU-T 2014). In line with that approach, the UN system has advocated for the spread of a digital innovation compatible with its general goal of fostering sustainable development across the world. The 2016 New Urban Agenda—a commitment signed by States at the Habitat III conference in Quito, includes an explicit reference in that sense: “We commit ourselves to adopting a smart city approach that makes use of opportunities from digitalization, clean energy and technologies, as well as innovative transport technologies, thus providing options for inhabitants to make more environmentally friendly choices and boost sustainable economic growth and enabling cities to improve their service delivery” (United Nations 2016).

THE IMPACT OF DIGITAL TECHNOLOGIES ON CITIES

As its definitions reveal, incorporating digital technologies into urban life generates a manifold impact, resulting in both benefits and challenges for a plurality of actors. Each comprehensive municipal strategy to deal with such a transition should take into consideration all the involved actors’ perspectives. Beyond the already mentioned level of global international
organizations—involved in the process in their dual goal of supporting the transition through research and standardization, and linking it to the main global agenda—the quite crowded list of actors include:

- Citizens, as the widespread incorporation of digital technologies in everyday urban life is shaping the way people work and interact, both within and across urban communities. The introduction of digital technologies produced a series of positive impacts linked to access to information, enhanced knowledge sharing, and communication capabilities. Moreover, the introduction of web platforms and mobile apps has shown its potential to improve public services, namely public transport, and allow for a more accessible and rapid interaction with the different levels of public administration. Moreover, the numerous benchmarking and dashboards projects to visualize data on city indicators allow citizens and local actors (notably CSOs and the media) to assess the extend of local issues and evaluate the impact of municipal action, potentially enhancing transparency and accountability. In terms of challenges, digital technology might create/strengthen inequality, as access to digital tools differs across populations, with lower levels in marginalized communities and the elderly. Furthermore, the digital transition involves a series of challenges to citizens’ rights, including privacy issues related to personal data collected both with and without the consent of the citizen.

- The impact on city administrations has been equally relevant. By adopting smart technologies, municipalities worldwide aim at collecting information and realize benchmarking on a set of indicators relevant to their action thus identifying criticalities in service delivery (e.g., big data on urban sprawl, traffic, public transport, or electric consumption), share such information to increase transparency and accountability, and obtain the tools (both digital platforms and physical infrastructures) to qualitatively and quantitatively improve their offer of public services, with the overall goal of increasing citizens’ quality of life. This potential impact can be very wide, e.g., enhancing municipal action in the fight to climate change, increasing the city resilience to both human and natural threats, and strengthening participatory decision-making processes. In terms of challenges, municipalities are urged to regulate digital technologies negatively impacting the population and local actors. The negative impacts reported around the world include the rise of renting prices
in tourist cities due to home-renting platforms and the labor rights concerns raised by some food delivery services’ practices. For what pertains to this book’s topic, digital technologies represent not only a tool to enhance relationships with distant partners, but also a core topic of action, and as such it should be integrated into the international strategy (see below).

- The city can usually benefit from the national government’s cooperation and coordination, which might support the city evolution as part of its economic development strategies. Many countries across the world have produced their national strategies—e.g., Spain’s Plan Nacional de Ciudades Inteligentes, India’s Smart Cities Mission, Canada’s Smart Cities Challenge, or Rwanda’s Smart City Masterplan. These plans are often implemented in the framework of international cooperation, just like cities do. Central governments create frameworks for the exchange of best practices in guiding and enhancing the digital transition; it is not infrequent for developing countries to access subvention and technical support from other countries, international organizations, or international development banks. Similarly to cities, states have to take into consideration a balance between international competition and cooperation with their foreign counterparts (see below), as well as the ownership of the data collected—an issue that is currently causing harsh political frictions between the United States and China (Barnes 2020). Moreover, central governments face unprecedented challenges linked to the use of digital technologies by criminal organizations, like drug cartels in Mexico.

- Local, national, and international private companies are competing as technical suppliers and advisors to the public sector. All of them are attracted by the bold investments that many local and central governments around the world are making to enhance digital transition in urban areas. The digital market has shown a tendency for the “winner takes all” dynamic, with the emergence of giant companies such as Cisco, Google, Siemens or Huawei, expanding their remit to the expenses of smaller local businesses. Overall, digital technologies and telecommunication infrastructures, together with the deregulation of financial markets easing investments abroad, have had a twofold impact on cities’ economies. On one side, they contributed to the dispersal of the production chain, both within and outside national boundaries, in search for lower labor and land occupancy
costs. On the other side, as Sassen pointed out, by the 2000s, evidence showed a centralization of most advanced economic sectors has been taking place in cities. Digital technologies allowed many cities to become truly global in Saskia Sassen’s threefold definition “(1) command points in the organization of the world economy; (2) key locations and marketplaces for the leading industries of the current period - finance and specialized services for firms; and (3) major sites of production for these industries, including the production of innovations in these industries” (Sassen 2012, 7).

- Regional international organizations have been supporting cooperation between their member states and their cities, mainly in the framework of shared strategies, such as the African Union-endorsed Smart Africa Manifesto, or the EU-supported European Innovation Partnership on Smart Cities and Communities. Moreover, the EU stands out for its support in testing innovative solutions to sustainable development through its Urban Innovative Actions (UIA) initiative\(^1\), and its funding to city partnerships aimed at adopting best practices in digital transition (Urbact program, see below).

**A Transversal Strategy**

In the framework of activities where smart technologies’ introduction represents the main goal, city diplomats are usually asked to pursue two different types of goals:

1. Establishing and managing international partnerships aimed at knowledge transfer and the creation of pilot projects;
2. Smart city international branding, in cooperation with the economic development department/agency, in order to attract investments, companies, and talents.

This raises the challenge for city diplomats to find a balance between the cooperative nature of the first goal and the competitive one of the

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\(^1\) Open to cities with a population of at least 50,000 residents, Urban Innovative Actions co-finances 80% of the project’s activities, for a total of up to €5 million. The initiative, implemented through the European Regional Development Fund, had a €372 million budget for 2014–2020 (European Regional Development Fund 2020).
second, e.g., by complementing bilateral and multilateral partnerships with common city branding strategies.

City diplomats should also take the opportunity to foster any positive integration of smart city diplomacy into other sectors of municipal action. The connection appears particularly strong in the framework of the city’s social and economic development: just like city diplomacy, the city’s mastery of digital technologies represents not only a goal but also an enabler of social and economic development. Strong connections also exist with the culture and creative sector, in both its local and international components. This link is found in activities such as enhancing cultural branding through monuments’ and museums’ digitalization, the creation of platforms to promote local artists (see conclusion of chapter 8), or international projects introducing new practices and technologies for creative professionals (e.g., 3D printers in fablabs).

In facilitating such a transversal integration, the municipality should take into due consideration the final impact of these technologies in terms of services, opportunities, and rights. International relations departments should therefore place an extra effort in their need to connect the smart city’s international and local dimensions through public information and engagement campaigns related to the ongoing international smart city initiatives. This will allow projects to provide benefits for the broadest numbers of residents and local actors, responding to their wishes, values, and expectations, and possibly reducing local inequalities. Accordingly, interactions should include a focus on concerns such as foreign ownership and management of personal data.

Like in other dimensions of city diplomacy, a clear and vocal leadership by the mayors is needed for both said public information and engagement purposes, as well as for enhancing multilevel cooperation with national (and regional, if present) government, in a joint effort to enhance the city competitiveness on the international stage.

Evidently, such a broad scope of smart city technologies urges cities to integrate them as both a topic and a tool in the general city diplomacy strategy presented in chapter 1.
INTERNATIONAL CITY PARTNERSHIPS FOR DIGITAL TRANSITION

If digital innovation first emerged in Global North cities, the rapid and global spread of the internet, mobile phones, ground sensors, and satellite technologies is providing cities, citizens, and local actors in low-and middle-income countries with similar opportunities to take advantage of this trend (Monroe 2017). Nevertheless, even if a large volume of data is increasingly available to these cities, its analytics, including the tools to visualize it clearly and build benchmarking, might be more challenging to acquire. In fact, cities’ intent to use innovation to enhance their international competitiveness has not prevented them from engaging in collaborative efforts with their peers, mainly for knowledge transfer and co-creation of pilot projects. For example, in 2012 a cooperation was launched between the South African Local Government Association (SALGA) and Centre for Municipal Research and Advice (CMRA), a sister company of VNG International, the International Co-operation Agency of the Association of Netherlands Municipalities. The project led to the launch of the Municipal Barometer (www.municipalbarometer.co.za), an online portal allowing municipalities and citizens to access an extensive set of local-level data, such as demographic trends, economic and environmental indicators, and information on municipal finance. The platform is inspired by a similar tool in the Netherlands (www.waarstaatjegemeente.nl) (Kaliati et al. 2017).

Alongside such a North-South dimension, smart city diplomacy often features a strong regional one. Notable examples of regional coalitions include the Nordic Smart Cities Network (2018, based in Copenhagen, see Box 6.1), the six ongoing (July 2020) European Urbact networks on digital transition, or the ASToN project in Africa (2019, based in Paris—see Box 6.2). Multipurpose regional networks such as Mercociudades (Latin America) and CityNet (Asia-Pacific) have been running specific capacity building activities on smart city transition and management. Eurocities cooperated with six of its members in Sharing Cities (2016–2020), a €28 M project, mainly financed by the European Union’s Horizon 2020 program, aiming at introducing replicable smart technologies to enhance the local sharing economy (Sharing Cities 2016). Finally, these networks might cooperate in projects aimed at assessing the impact of digital resources in cities—e.g., the Urban Network for the
innovation in municipal management initiative, implemented by Mercociudades and the Inter-American Development Bank between 2015 and 2016 (Mercociudades 2016).

In global terms, cities have been cooperating on smart technologies in several ways, namely in the framework of global partnerships, such as the World Smart Sustainable Cities Organization (WeGO, created in 2010 and based in Seoul). Main global city networks addressing climate issues have shown to share the UN vision connecting technologies to sustainable development. C40 highlights the opportunity for cities to address their carbon reduction goals by close partnerships with the private sector, and supports its members in introducing data management to assess their climate action (Empowering Cities with Data program). ICLEI, together with Cities Alliance, 100 Resilient Cities (predecessor of the Resilient Cities Network) and UN-Habitat, has been active in fostering data-driven climate measures in cities to enhance their resilience, namely face to climate hazards. The broadest partnership in the field is the G20 Global Smart Cities Alliance on Technology Governance, launched at the June 2019 G20 Summit in Osaka, Japan by 15 city networks, including UCLG, ICLEI, and WeGo. The Alliance, managed by the World Economic Forum, has the main task of defining global norms and policy standards “to help accelerate best practices, mitigate potential risks, and foster greater openness and public trust” (World Economic Forum 2019; G20 Global Smart Cities Alliance 2020).

Future Evolution

Many cities have enhanced their response to the COVID-19 pandemic through smart technologies (OECD 2020; AIMF 2020). The extent of such practice depended on the availability of digital tools and capabilities by municipalities and their legal framework. As an example, while Paris accessed anonymous data on how many residents left the city to avoid spending there the lockdown (Untersinger 2020), Singapore, Seoul, and Hong Kong put in place contact-tracing mechanisms hardly compatible with most Western legislations (Beech 2020). As cities are designing their recovery strategies, many of them showing strengthened commitment in enhancing the quality of life of their residents, namely through a bolder approach to sustainable development, both in its social, environmental, and cultural components. This has called to a resurgence of the sustainable smart city concept, updated to include a bolder human-centered
component. It is likely that the spread of smart working procedures in firms across the world will asymmetrically impact cities in the long run. First commentaries on the topic consider a possible spread of digital technologies in intermediary and small cities—namely through the creation of public Wi-Fi system and co-working spaces—as a number of residents living in large cities would be willing to move in greener areas, as long as they do not have to commute every day to their downtown office. Meanwhile, largest cities are adopting an approach based on proximity. This strategy, revamped by smart city expert Carlos Moreno (Whittle 2020) under the name of the 15-minute city, implies that all core activities, including working, buying groceries, going to school or going to the hospital, are available in a 15-minutes radius from home either by walking or cycling. As a result, smart cities seem to move the focus from groundbreaking innovation to wellbeing, discreetly supporting a more sustainable and enjoyable urban life. The expansion of city diplomacy partnerships incorporating such an approach is to be expected.

Box 6.1: The Nordic Smart City Network

Smart city research and implementation represent a priority for many cities in Nordic countries (Denmark, Sweden, Norway, Finland, and Iceland). Even though these cities’ expertise in such a field was globally recognized, there was no platform to support their interactions until recently. Nevertheless, these cities used to meet at international smart city events, where they could discuss and share best practices. At the 2017 Smart City Expo World Congress in Barcelona, fourteen of these cities decided to structure their cooperation. Hence, to promote “the advancement of Nordic-wide innovation and smart city solutions,” the Nordic Smart City Network was launched, benefiting from the financial support of Nordic Innovation, an institution of the Nordic Council of Ministers.

The network’s first project, “Nordic Urban Living Labs” (2018–2020), has led to the creation of a web platform to foster cooperation and communication, the organization of series of workshop for knowledge transfer, and the introduction of five thematic projects (one per country involved, each featuring a lead city and several follower cities) exploring the contribution of smart technologies in the fields of shared mobility, living lab methods, waste collection, collect of people flow data, and wayfinding.
The network, enlarged to include 21 member cities, launched in Spring 2020 the “Nordic Healthy Cities” project, planned to run until April 2022 and aimed at testing innovative practices to tackle health challenges in urban areas through four thematic projects: Reduction in pollution, Healthy liveable neighbourhoods, Crowdsensed Data to Support Healthy Liveable Cities, and Health Data—each featuring a lead city and four participating cities.

Sources City of Copenhagen (2020) and Spiegelberg Stelzer (2020).

Box 6.2: The Rise of Smart Cities in Africa

Across the African continent, the digital economy is blossoming. Although a series of structural problems limit the spread of digital technologies in many urban centers across the continent (i.e., lack of access to broadband, computer literacy, or electricity shortages), the entrepreneurial spirit of its inhabitants, coupled with the nature of digital industries allowing international cooperation and granting almost immediate global success to inspired solutions, has led many African companies to success—with a positive impact in terms of jobs and growth and a concentration of digital technologies in a number of African cities. This appears to be an accelerating process, subverting the once prevailing opinion that all national economies would have to experience the same evolutionary path. Moreover, this trend has allowed cities in Africa to impact, at least in part, the traditional economic dependencies to the Global North, thanks to rising domestic markets and South-South trade and partnerships.

This phenomenon has found in city diplomacy a tool to enhance the global positioning of the city as rising innovation hubs, including Accra, Lagos, Lusaka, Monrovia, and Nairobi.

In terms of multilateral initiatives, since September 2019 12 African cities are currently involved in the ASToN project, an initiative supported by the French Development Agency (AFD), managed by the French National Urban Renovation Agency (ANRU) and inspired by URBACT methodology. Through peer learning and the involvement of experts and local stakeholders, the project aims at enhancing the use of digital technologies to answer participating cities’ challenges. The outbreak of
COVID-19 led the ASToN management to include a focus on the ongoing health threat in both its immediate and long-term components.

One of the main challenges ASToN and similar international initiatives are addressing consists in the fact that the development of the digital sector does not necessarily imply advantages are shared. Inequalities between social classes—and between urban and rural dwellers—can indeed be reinforced by an unmanaged digital transition. For real, sustainable positive change, investments in the fields of education, including lifelong education and digital infrastructures, are needed to allow a broader share of society to benefit from this digital revolution.

Sources Benner (2014), Lazar (2020), and ASToN Network (2020).

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