

THE SMART CITY PROJECT: SUSTAINABLE CITY UTOPIA OR DYSTOPIAN NIGHTMARE?

*El proyecto de la ciudad inteligente:
¿utopía de ciudad sostenible o pesadilla distópica?*

*O projeto cidade inteligente:
utopia de cidade sustentável ou pesadelo distópico?*

SONIA PAONE¹

Recibido: 18 de diciembre de 2024.

Corregido: 26 de agosto de 2025.

Aceptado: 12 de septiembre de 2025.

Abstract

This article critically examines the discourse of the smart city as a contemporary urban utopia that promises sustainability, inclusion, and technological efficiency. Drawing on a political and sociological analysis, it traces the historical and conceptual genealogy of the smart city, from its technocratic roots in cybernetics to its neoliberal appropriation by global technology corporations. The paper explores how the ideal of "smartness" reshapes urban governance through mechanisms of data extraction, surveillance, and algorithmic control, revealing the tensions between transparency and domination in digital urbanism. The case of India's *Smart Cities Mission* is analyzed to illustrate how the rhetoric of participation and innovation often conceals processes of exclusion, spatial fragmentation, and social inequality. By integrating recent empirical studies on data-driven governance and surveillance capitalism, the article argues that the smart city functions less as a neutral model of sustainable development and more as a field where power, technology, and inequality intersect.

Keywords: Smart city, digital urbanism, surveillance, inequality, governance, neoliberalism, technological utopia, urban fragmentation.

¹ Doctora en Historia y Sociología de la Modernidad, por la Universidad de Pisa, Italia. Profesor Asociado, en el Departamento de Ciencias Políticas de la Universidad de Pisa (Italia). Líneas de investigación: sociología urbana, estudios urbanos y ambientales. Correo electrónico: sonia.paone@unipi.it
ORCID: <https://orcid.org/0000-0002-1201-7833>

Resumen

Este artículo examina críticamente el discurso de la ciudad inteligente como una utopía urbana contemporánea que promete sostenibilidad, inclusión y eficiencia tecnológica. A partir de un análisis político y sociológico, se reconstruye la genealogía histórica y conceptual de la ciudad inteligente, desde sus raíces tecnocráticas en la cibernetica hasta su apropiación neoliberal por parte de las corporaciones tecnológicas globales. El trabajo explora cómo el ideal de la “inteligencia” reconfigura la gobernanza urbana mediante mecanismos de extracción de datos, vigilancia y control algorítmico, revelando las tensiones entre transparencia y dominación en el urbanismo digital. Se analiza el caso de la *Smart Cities Mission* de India para ilustrar cómo la retórica de la participación y la innovación a menudo oculta procesos de exclusión, fragmentación espacial y desigualdad social. Integrando estudios empíricos recientes sobre la gobernanza basada en datos y el capitalismo de la vigilancia, el artículo sostiene que la ciudad inteligente funciona menos como un modelo neutral de desarrollo sostenible y más como un campo donde se entrecruzan poder, tecnología y desigualdad.

Palabras clave: Ciudad inteligente, urbanismo digital, vigilancia, desigualdad, gobernanza, neoliberalismo, utopía tecnológica, fragmentación urbana.

Resumo

Este artigo analisa criticamente o discurso da cidade inteligente como uma utopia urbana contemporânea que promete sustentabilidade, inclusão e eficiência tecnológica. A partir de uma análise política e sociológica, reconstrói-se a genealogia histórica e conceitual da cidade inteligente, desde suas raízes tecnocráticas na cibernetica até sua apropriação neoliberal pelas corporações tecnológicas globais. O texto explora como o ideal de “inteligência” reconfigura a governança urbana por meio de mecanismos de extração de dados, vigilância e controle algorítmico, revelando as tensões entre transparência e dominação no urbanismo digital. O caso da *Smart Cities Mission* da Índia é analisado para ilustrar como a retórica da participação e da inovação frequentemente oculta processos de exclusão, fragmentação espacial e desigualdade social. Integrando estudos empíricos recentes sobre governança orientada por dados e capitalismo de vigilância, o artigo argumenta que a cidade inteligente funciona menos como um modelo neutro de desenvolvimento sustentável e mais como um campo onde poder, tecnologia e desigualdade se cruzam.

Palavras-chave: Cidade inteligente, urbanismo digital, vigilância, desigualdade, governança, neoliberalismo, utopia tecnológica, fragmentação urbana.

1. Introduction: Have cities always been “stupid”?

The concept of a smart city is now widespread in urban agendas and institutional policy debate. There is no unambiguous definition of what a smart city is and what its characteristics should be (Albino, Berardi and D'Angelico, 2015). Certainly, this expression tries to read the complex relationships that have been created in recent decades between cities and information and telecommunication technologies. In fact, it is now evident the level of

penetration of information technology in urban spaces, the unprecedented possibility of collection, exchange of data and information, production of traces, and the ability to observe individual and collective behavior. So much so that some authors use the locution *digital skin* to refer to a kind of envelope enveloping the material structures of cities and formed from the multiple media interactions generated within the urban system, among other things posing a whole series of new questions for city governance (Rabari and Storper, 2015). But given this framework more specifically, the idea of a *smart city* asserts itself from the opportunities for optimizing urban life offered by new technologies. The California Institute for Smart Communities was among the first research centers to consider how cities could be designed to perform better through the use of information technology (Alawadhi *et al.*, 2002).

The progressive view of the impact of technology on the future of cities and society is not new. For instance, as Wolfgang Schivelbusch (1986) reminds us in *The Railway Journey*, the Saint-Simonians welcomed the construction of the railroad as a technical guarantor of democracy, mutual understanding among peoples, peace, and progress. They believed that rail travel could bring people closer together spatially and socially by enabling them to simultaneously participate in an industrial process (Schivelbusch, 1988).

At the same time, the history of the city itself reflects continuous efforts to increase efficiency. Consider, for instance, the impact of public lighting (Schivelbusch, 1995) or the introduction of the telephone (Hugill, 1999). In attempting to reconstruct a genealogy of the smart city, Antoine Picon (2013) identifies two distinct projects. The first emphasizes technocratic aspects, rooted in the cybernetics research of the 1950s and 1960s, where the study of complex cause-effect relationships and feedback mechanisms led to scenarios of anticipation and control. The second, by contrast, highlights the opportunities afforded by new technologies for citizens to reinvent the city through spontaneous practices of sharing, exchange, participation, and self-design, revisiting Henri Lefebvre's (1968) concept of the city as a collective work.

The term "smart city" began to circulate in the late 1990s and early 2000s, partly due to a series of international meetings organized by private, public, and nonprofit institutions. These gatherings established parameters for defining city intelligence and created rankings of cities that adhered to these parameters or implemented related policies. One notable example

is the Intelligent Community Forum, a nonprofit organization that promotes the use of information and communication technologies (ICT) in communities to enhance their quality of life. Since 2002, the forum has been recognizing the most innovative ideas and publishing an annual top-ten list of the smartest communities (*Intelligent Community Forum*)

An initial attempt to systematize the concept of the smart city within the political-institutional sphere can be traced back to the 2007 study *Smart Cities: Ranking of European Medium-Sized Cities* (Giffinger *et al.*, 2007). This study identifies six key characteristics –or perhaps more accurately, six dimensions– of smartness in the context of European urban development policies.

Smart Categories Overview

Category	Key Features
Smart Economy	Spirit of innovation; Productivity; Labor market flexibility
Smart Governance	Transparency in government action; Participation in decision-making
Smart Mobility	Sustainable mobility; Accessibility
Smart Environment	Management of natural resources; Environmental protection
Smart Living	Quality of life: health, education, social cohesion, culture
Smart People	Human and social capital: cosmopolitanism, diversity, creativity

In this attempt at systematization, the concept of the smart city essentially encompasses a wide range of discursive practices and theoretical frameworks (such as creative city, sustainable city, inclusive city) that have been utilized and disseminated over the past decades in urban debates, emphasizing the optimization opportunities offered by technologies to enhance the overall city experience. Antoine Picon argues that, in the different visions of the smart city that have gradually emerged in the urban debate, the issue of optimization is polarized between those who emphasize the functional aspects –thus focusing on improving the efficiency of infrastructure and urban services– and those who instead highlight the possibilities of

exchange and knowledge, promoting the idea of intelligence that emphasizes inclusion and improving quality of life through greater citizen participation (Picon, 2013). This polarization reflects the ambivalence of the smart city matrix, which, as mentioned, oscillates between technocratic utopia and emancipatory utopia.

Other authors attempt to understand the concrete impact of new technologies on urban dynamics by distinguishing between three optimization regimes: the functional one of city government, the individual one of the connected citizens, and a horizontal one based on peer-to-peer. The first regime refers to the idea of a smart city as an integrated system for regulating flows (transportation, energy, waste, etcétera), coordinated by local authorities to allow for better resource management and greater sustainability. Individual optimization stems from the possibilities of improving daily life in cities due to the ability to connect and retrieve data and information. The third regime highlights the ways of reciprocity and sharing that can be fostered through the exchange of knowledge, inspired by experiences like Wikipedia and Creative Commons. These different regimes of optimization create a composite scenario by bringing forth various city models—such as those focused on citizen services, the collaborative one of civic tech and crowdfunding experiences, and even platform capitalism, where matching operators (such as Uber or Airbnb) have transformed elements of reciprocity into real market-managed services (Ménard, 2017).

Beyond the different meanings, one constant accompanies the promotion of smartness in urban agendas: the promise of a sustainable, prosperous, and inclusive future through the integration of physical, digital, and human systems (BSI, 2014).

The Sustainable Development Goals of the United Nations' Agenda 2030 assign ambitious targets to cities for reducing environmental impacts, energy and natural resource consumption, implementing accessible transportation systems, and building capacity for sustainable, inclusive, and participatory settlement planning (United Nations, 2015). The success of urban policies from a smart city perspective can be explained through this complex framework.

However, beyond the promises of inclusiveness and prosperity, there are several dark spots and potential pitfalls (Greenfield, 2013) that accompany the smart city discourse. The article attempts to thematize some ambiguities in the smartness narrative: the issue of surveillance, primarily analyzed with reference to the technological version of the smart city (i.e., the one

promoted by the major players in the digital economy), and the relationship between the smart city and urban fragmentation.

The aim of this article is to critically examine the smart city paradigm by exploring its promises and contradictions. Specifically, it seeks to (1) trace the genealogy of the idea of smartness in urban planning; (2) analyze how technological utopianism translates into new forms of surveillance and control; and (3) investigate the relationship between smart city projects and the reproduction of socio-spatial inequalities. Through this analytical framework, the article discusses whether the smart city should be understood as a sustainable urban utopia or a dystopian mechanism of governance.

Methodologically, the article adopts a critical and analytical approach grounded in urban political theory. It combines a conceptual review of the literature with illustrative case studies –such as IBM's Smarter City Challenge and the Indian Smart Cities Mission– to highlight how technological narratives materialize in practice. These cases were selected because they exemplify two dominant trajectories of the smart city discourse: corporate-led technological innovation and state-driven development planning.

2. Technological utopia and urban space

The concept of the smart city extends beyond the political-institutional and scientific-academic debates. In the context of the digital economy, a series of reflections have developed on the possibility of utilizing new technologies to address urban problems, intervene in redevelopment projects, or directly in planning, inspired by the success of technopolises such as Silicon Valley (Eveno, 2018). On the technology front, global investments in creating cities that enhance data generation, collection, and centralization using new technologies have grown significantly in recent decades (Privacy International, 2017).

In 2017, Sidewalk Labs, a subsidiary of Google, purchased 350 hectares of land on the Ontario shore in Toronto with the aim of creating, in agreement with the Canadian government, a smart neighborhood called Quayside. This ambitious project seeks to enhance quality of life and environmental sustainability. The transportation system will be based on sustainable mobility, reducing the need for private car use through pedestrian and bicycle paths and the deployment of self-driving vehicles. Buildings will adhere to

the highest energy efficiency standards, and a thermal grid will provide heating, hot, and cold water without the use of fossil fuels. Citizens will be able to request services through a personal account. The entire system will be supported by digital data collection and sharing infrastructure, with logistical management not only of transportation but also of all buildings entrusted to computerization (Fussel, 2018).

Since 2010, IBM has created the Smarter City Challenges program, through which it advises cities on issues involving traffic, energy, safety, and the environment. More than 300 cities, chosen from over 600 that applied, have been selected and provided with advice worth more than \$68 million. Essentially, a team of engineers spends three weeks traveling to the selected city, working alongside city administrators to analyze the issues on which advice was requested. At the end of this period, the consultants draw up recommendations and a roadmap.

IBM's consulting practices typically focus on creating systems for data collection, analysis, and centralization. In many cases, this support has facilitated the establishment of monitoring and profiling hubs.

In Rio de Janeiro, for example, thanks to the *Smarter Cities Challenges* program, the *Rio Operations Center* was created, a control room in which city administrators and employees have access to images collected through a capillary network of cameras and maps that are generated from a series of data collected through not only images but also a series of sensors. Consulting often involves the creation of systems for the collection, analysis, and centralization of data; not surprisingly, in many contexts, IBM's support has facilitated the creation of data monitoring and profiling hubs. In Rio de Janeiro, for example, through the Smarter Cities Challenges program, the Rio Operations Center was established—a control room where city administrators and employees have access to images collected via a network of cameras and maps generated from a series of data collected through not only images but also a range of sensors.

Although the problems IBM addresses are complex, its solutions often rely on an uncritical belief in the intrinsic reliability and neutrality of data. (Privacy International, 2017).

From the collected data, IBM builds models that can also help predict future behaviors. Not surprisingly, the company also claims to utilize Watson's cognitive analytics functions, which are based on the stimulus-response behavioral model (<https://www-03.ibm.com>).

As recent empirical research shows, such corporate-driven experiments are not neutral. They frequently consolidate private control over urban data and governance processes (Cardullo & Kitchin, 2019; Kitchin, 2020).

3. Surveillance and visibility in transparent city

The success among administrators as well as among urban planners of the technological version of the smart city, such as IBM's solutions or smart neighborhoods designed by the giants of the digital economy, is because the smart city is often presented as a depoliticized concept. It promotes a neoliberal economic policy that favors market and technological solutions in city governance, expanding the dominance of the economic sphere into the social sphere and further commodifying urban lifestyles (Schuilenburg and Peeters, 2018).

At the same time, the entry of private individuals into city design is fully in line with the entrepreneurial turn in urban policies, where, in a context of declining public investment, the decision-making arena has expanded to include private investment to ensure greater competitiveness of cities on international scenarios (Harvey, 1989).

Behind the *magnifiche sorti e progressive* (magnificent promises) of the technological utopia of the smart city, therefore, lie several ambiguities: the pervasiveness of the market in urban management and planning, a fideistic vision in technology, a hyper simplification of urban problems, and above all an increasingly pervasive and capillary possibility of control and surveillance of individuals. The Rio Operations Center and other Smart City Labs in which the giants of the digital economy are involved take on the features of Big Brother 4.0, just as many doubts surround projects like Quayside concerning the issue of privacy. That is, the utopia of the smart city could transform into the dystopia of the perfectly policed city.

As recent studies have shown (Cardullo & Kitchin, 2019; Kitchin, 2020), the ideal of "smartness" increasingly coincides with an infrastructure of surveillance and behavioral prediction that normalizes continuous data extraction. The smart city, once imagined as a site of transparency and civic empowerment, risks becoming a laboratory of algorithmic governance and social sorting.

And in this sense, this version of the smart city can be understood in the context of the debate on the utopia of surveillance. As is well known, it is to

the utilitarian philosopher Jeremy Bentham that we trace the first theorization of the principle of inspection. In a series of letters published beginning in 1786, the English philosopher argued that surveillance is a form of power since it can influence the behavior of individuals. He therefore proposed the use of a series of architectural devices that ensure full visibility. Bentham prepared the design of a model prison, articulated around the function of continuous surveillance: the panopticon (Bentham, 1983). This is a space in which multiple subjects can be observed simultaneously from a single central point.

Bentham's theorizing first fed the nineteenth-century penitentiary utopia, when the prison replaced corporal punishment and surveillance became a tool through which to foster the disciplining of bodies. However, it is Bentham himself who intuits the pliability of the device by arguing that it can be used in any situation where the control of a group of subjects is necessary. Following these considerations, Michel Foucault would point out how the panopticon, from the nineteenth century, becomes a useful ideology to redesign the spaces of the city, subordinating them to a primary function-control. It represents a generalizable model of operation, a way of defining power relations in the daily lives of people, a mechanism that can be used whenever there is a need to manage a multiplicity of individuals with very specific tasks or behaviors to enforce (Foucault, 1976, pp. 223-224).

Visibility is strongly anchored in discipline, in controlling the soul to change behavior and motivations. Following Foucault's reflections in the 1970s, the debate on panopticism infuses the critique of city organization. The concept of the panoptic city is used to analyze the unfolding of disciplining forms that were inherent in the city by shaping its form and ways of life. First, in planning: this was the period when urban production was based on a rational scheme that analyzed functions (living, working, circulating, and recreating the spirit) and standardized needs (Le Corbusier, 1943). The principle of zoning by functional areas, which guided the development of cities, and the construction of housing based on the obsessive repetition of the same housing module, fragmented the city and segregated individuals by atomizing them. The hierarchy that reproduced this way of thinking about the urban was seen as the realization of a perfectly controlled and controllable city.

At the same time, the term 'panoptic city' posed a critique of the institutions of social control, which had created worlds of surveillance and discipline around deviance, disease, and more generally social danger. That is, the panoptic city was one of total institutions, of those closed worlds governed

by rational schemes and constant control, exerting an encompassing power on individuals capable of affecting the structuring of the self (Goffman, 1961).

Through the concept of the panoptic city, it was intended to highlight how disciplinary society had a specific configuration of spaces, in which hierarchy was a fundamental element and the power of the gaze was used in function of the normalization of behavior, the suppression of everything that was liminal and anomalous, or simply different. However, as Foucault himself argued, the concept of disciplinary society entered a crisis in the 1970s, as evidenced by the long and arduous process of deinstitutionalization. This process saw, for example, the closure of psychiatric hospitals in Italy and the initiation of a series of reforms in the institutions of social control. Yet, the decline of disciplinary society does not entail the demise of surveillance utopia. The crisis of social protection systems, the precarization of labor relations, soaring unemployment rates, and the growth of inequalities that have characterized Western societies since the 1980s result in a paradox: an increasingly pronounced emphasis on a concept of security focused on the protection of the body and commodities, in a context of a strong crisis of the certainty of rights.

The power of the gaze is no longer functional to the discipline of bodies but becomes a central element of security devices. Surveillance becomes the heart of a system of social control based on actuarial models. The actuarial model assigns a risk potential to certain social categories, such as the homeless, drug addicts, and immigrants, and the recognition of a potential risk leads to strategies being put in place to preemptively neutralize these categories (De Giorgi, 2000). The utopia of the overexposed and transparent city also regains vigor because, in the security society, it is now possible, thanks to new technologies, to control and profile the behaviors of subjects in space in an increasingly pervasive way. Authors such as Mike Davis (Davis, 1990; 1999b) highlighted the importance that security systems would have in structuring the postmodern city.

The growth of conflict and inequality, which characterized cities in the late 1980s, was not managed through inclusive policies but through restructuring operations that favored the control and distancing of the poorest and most vulnerable populations. Indeed, it is not only in U.S. cities, from which Davis's work originated, that security devices have spread, filling cities with increasingly sophisticated surveillance technologies. London, for example, is the European city with the most cameras, numbering around 500,000. The logic of surveillance has also permeated prevention policies;

social prevention strategies that aim to understand the causes of distress and prevent them with supportive interventions have been replaced by situational prevention policies that use specific design elements or renovations (such as video surveillance, improved lighting, and physical barriers) to prevent illegal activities. Additionally, community prevention empowers residents by having them directly participate in the surveillance and policing of neighborhoods, creating a form of large-scale panoptic surveillance where everyone is encouraged to observe and report.

Today's urban environments are saturated with sensors, cameras, and digital infrastructures that collect information continuously without the need for explicit punishment or moral correction (De Giorgi, 2000). The logic of control has become more diffuse, less visible, and embedded within everyday devices, platforms, and apps.

In this regard, empirical studies on "surveillance capitalism" (Zuboff, 2019) and data-driven governance (Kitchin, 2020) highlight that the pervasive visibility produced by smart infrastructures transforms citizens into both observers and observed, merging participation with control.

Although we can take to extremes, as a whole dystopian literature has done several transparency and visibility guaranteed by the technological utopia of the smart city, imagining an authoritarian turn and the delineation of a new power arising from the awareness of being constantly observed and thus being subjected to what Bentham himself called the feeling of an invisible omniscience, it is first and foremost the model of the security society that offers us a number of insights for politicizing the concept of the smart city.

It is the idea of the possibilities of preventing certain dangerous situations and encouraging certain virtuous behaviors that makes room in city design for smart solutions, in a context where the intrusion of eye technologies has become a constant in urban life. It is no coincidence that the market for smart solutions aimed at promoting a safe city is growing. These are technologies that serve what is called predictive policing. The California-based start-up Predpol is the most celebrated in this area. It markets a predictive analytics platform, available through an app, that can disseminate in real time the risks of a crime occurring with an accuracy of about two hundred meters (Benbouzid, 2019).

It is on the calculation of risk that technological intelligence tries to play its game in city design, whether it is for traffic management, hurricane forecasting, improving a service rendered to citizens, or, as we have seen,

crime control. In disciplinary society, it was the state that held the monopoly of control, while in the security society there has been an exponential increase in the private sector of surveillance. So, the idea of a big brother watching in the name of a central power has been supplanted by a reality in which many little brothers watch for private purposes (Heilmann, 2007), even in cases such as IBM's sensors and Google's data collection systems.”

The pervasiveness of data collection technologies and the multiplication of actors collecting data for a wide variety of purposes has meant that surveillance has become a structural aspect of society and the final frontier of capitalism, as Shoshana Zuboff (2019) tries to demonstrate in her recent work on surveillance capitalism. In this sense, the debate about the so-called surveillance society and new visibility regimes is also useful in better understanding some of the ambiguities of smartness. Didier Bigo (2006), for example, has used the expression ban-opticon to emphasize how surveillance systems, unlike what happened in disciplinary society, are used to ban and exclude undesirable minorities, making them invisible. This refers to the management of migration flows and their inhibition through systems of control, detention, and containment. Some smart solutions thus contribute to making society more exclusionary rather than what they promise, and new hierarchies can be drawn through data collection systems. So while visibility and transparency become elements increasingly associated with the mantra of city intelligence and the happiness of its inhabitants, the relationship between the observer and the observed becomes increasingly opaque. In Bentham's panopticon, the end (the disciplining of bodies) was clear, and the inspector was unique; today, the ends of control are obscure and potentially infinite the devices and means to achieve it. In the wake of surveillance studies, we can make a final point by taking up the dialogue between Zygmunt Bauman and David Lyon (2014) in their book 'Sixth Power'. There is indeed a huge difference between the visibility that characterized the disciplinary society and the visibility that is also emerging thanks to the smart city, and that is that the constant visibility of our lives in private and public spaces is not so much and only the effect of an external imposition, as it was in the enclosed spaces of the architectures of control, as much as it is the result of a series of processes whereby we feel the constant need to seize every opportunity for visibility, networking personal information of all kinds, filling our homes with sensors and our smartphones with applications that monitor our actions while voluntarily contributing ourselves to the self-construction of our own *little big panopticon*.

4. Smart city and territorial inequalities

An additional element that deserves consideration relates to the promises of inclusiveness and horizontality that are an integral part of the smart city model. As has already happened in the case of the spread of other successful concepts such as, for example, the creative city, the smart city utopia proposes standard solutions while ignoring the complexity of urban systems and even the extreme fragmentation that characterizes cities today. The historic milestone of a planet in which most of the world's population lives in cities has been achieved thanks to the staggering growth in urbanization rates that has characterized Latin America, Asia, and ultimately Africa in recent decades. But the urbanization of these continents has occurred in the context of a strong weakening of the link between urbanization and economic growth, which has characterized the history of the city (Veron, 2008). So, cities in these contexts are presented as giant containers of marginality and social exclusion. At the same time, globalization has profoundly changed the face of cities even in countries of the global north. Many authors who have analyzed the impact of globalization on cities see the latter as the explanatory paradigm for a process of dualization of the social and spatial structure of large cities, in which a kind of binary opposition between rich and poor, between beneficiaries and victims of the explosion of financialization and the advance of the advanced tertiary sector has arisen (Sassen, 1997; Castells and Borja, 2002). Smart solutions clash with the extreme fragmentation that increasingly characterizes urban space, and smartness risks becoming the engine of unequal development, a further element of division and crystallization of differences especially in the context of countries where extraordinarily strong inequalities are at the urban level and cities are highly polarized. To concretely illustrate how the rhetoric of smartness interacts with existing patterns of inequality, the following section examines the Smart Cities Mission in India — a paradigmatic example of how the promise of inclusion and sustainability can coexist with practices of exclusion and uneven development.

This is what, for example, is happening in India with the Smart Cities Mission program launched in 2015 by Prime Minister Narendra Modi (<http://smartcities.gov.in>). The goal of the program is to promote sustainable and inclusive cities that offer basic infrastructure and good quality of life, a clean and sustainable environment through the application of smart solutions. From these principles, 100 smart cities will be implemented by 2024. The

main elements of basic infrastructure are utilities (water and electricity), a mostly public transportation system, an efficient health and education system, energy efficiency, and proper waste disposal. The government has used a competitive method to select cities to become smart, and currently, 98 cities have been designated.

The program has attracted much criticism, and here we take up some that are present in the report compiled by the Housing Land Rights Network (2017). First, the entire premise of the program, which is to select 100 cities out of more than 4,000 that make up India's landmass, is questioned. This appears discriminatory given that inadequate housing, lack of basic services, and social inequality afflict all Indian cities equally. So, creating a competition that privileges only a few of them lays the groundwork for a non-harmonious development of the nation, as well as fostering the widening gap between rural and urban areas.

As pointed out by several studies, including those of the Housing and Land Rights Network (2017) and Mora *et al.* (2017), the Smart Cities Mission illustrates how the rhetoric of innovation and inclusiveness may obscure processes of socio-spatial segregation. The program's competitive model privileges a few cities while leaving most urban and peri-urban areas behind.

It is highlighted how the Smart Cities Mission has a gender-neutral approach in a context such as the one in which violence against women and their exclusion from the public sphere are proclaimed in the workings of urban realities (Housing Land Rights Network, 2017). Furthermore, human rights violations often accompany the implementation of infrastructure projects, especially through the forced eviction of poorer communities. Turning then to the issues that most concern technology, the report points out how technological solutions are presented as horizontal, accessible and solving a whole range of problems, without considering the actual capacity that the Indian system has to withstand their impact, given that, for example, electricity supply is limited, irregular and insufficient. Great attention is being paid to the issue of surveillance: many concerns relate to privacy and the misuse that may be made of the data collected. As administrators will increasingly rely on collected data to make decisions, this could mean that technocratic governance could gradually replace the traditional democratic process of participation. With a number of consequences: policies could discriminate against certain groups on the basis of the data collected, and people who do not have access to technologies and cannot provide their

opinion through platforms or social media, the only conduit between citizens and those who govern the land in a technocratic system, could be excluded from the decision-making process (Housing Land Rights Network, 2017).

In this sense, the Indian experience reveals how the promise of participation is frequently replaced by technocratic governance, where decision-making becomes dependent on data availability and digital access (Cardullo & Kitchin, 2019).

In essence, what their promoters often ignore is that smart solutions do not fit into a vacuum, and so rather than being a solution, the smart city risks being yet another problem, an even more sophisticated way of creating barriers between those who already have and those who have nothing and increasing the social and territorial divides it purports to break down.

This case confirms that smart city policies, when implemented without addressing structural inequalities, risk reinforcing rather than reducing socio-spatial disparities — thus aligning more closely with a dystopian rather than a utopian vision of urban modernity.

Further empirical studies corroborate this pattern. Mora *et al.* (2017) demonstrate that many smart city initiatives reproduce existing social hierarchies, while Cardullo and Kitchin (2019) emphasize how participation mechanisms often privilege already empowered groups. These insights reinforce the argument that smartness, without contextual sensitivity, risks becoming another instrument of urban exclusion.

In essence, lights and shadows accompany the now planetary success of smart solutions for managing city problems, planning, or redevelopment. Opacity with respect to control possibilities and the lack of promise of horizontality, as we have seen in the Indian case, are just two of the many controversial aspects. However, smart cities also move on other tracks.

There are experiences that show that cities can be smart without necessarily resorting to the sophisticated solutions proposed by the giants of the digital economy but using low-tech technologies in ingenious ways. One example is that of the urban cable cars that have been used in urban transportation in Medellín, Colombia, and that have significantly improved the quality of life of the inhabitants of the poorest neighborhoods, encouraging their mobility (D'Angelo, 2017).

Another example is the experience of fablabs that have been multiplying in Africa over the past decade. Fablabs are spaces for IT innovation and technological democratization in which open-source software and materials are made available to fabricate objects and carry out projects. These

initiatives tend to propose useful solutions to the needs of one of the poorest and least connected continents, favoring do-it-yourself and low-tech technologies.

In the fablabs, people try to build a sustainable and frugal city as opposed to the mega smart city projects, which are also spreading fast in Africa raising similar questions to Modi's project in India. Such bottom-up planning contrasts the technicist utopia of the smart city, present in many urban planning projects, with a counter-narrative that of the *ingenious city* (Choplin and Lozivit, 2020). This concept suggests how there is a need for reflection on the importance of technology for social inclusion and for the challenges to which cities are called, especially in contexts of strong urban fragmentation, but away from the rhetoric of an abstract and fideistic idea of smartness that instead risks producing sophisticated closed and exclusive digital communities, contributing to the crystallization of urban inequalities.

References

Alawadhi S, Aldama-Nalda A, Chourabi H., Gil-Garcia J.R., Leung S., Mellouli S., Nam T., Pardo T.A., Scholl H.J., Walker S. 2012. Building Understanding of Smart City Initiatives. In Scholl H.J., Janssen M., Wimmer M.A., Moe C.E., Flak L.S. (eds), *Electronic Government. EGOV 2012. Lecture Notes in Computer Science*, vol. 7443. Berlin: Springer. doi: 10.1007/978-3-642-33489-4_4.

Albino V., Berardi U., D'Angelico R. 2015. Smart cities: Definitions, Dimensions, Performance, and Initiatives. *Journal of Urban Technology*, 22: 3. doi: 10.1080/10630732.2014.942092.

Bauman Z. 1999. *In Search of Politics*. London: Polity.

Bauman Z., Lyon D. 2009. *Liquid Surveillance: a conversation*. London: Polity.

Benbouzid B. 2019. La police prédictive: technologie gestionnaire du gouvernement. In Courmont A., Le Galès P., sous la direction de, *Gouverner la ville numérique*. Paris: Puf.

Bentham J. 1791. *Panopticon, or the Inspection House*.

Bigo D. 2006. Security, Exception, Ban and Surveillance. In Lyon D.,ed., *Theorizing Surveillance. The panopticon and beyond*. London: Willan Publishing.

BSI. 2014. *Smart cities framework guide to establishing strategies for smart cities and communities*. PAS 181, London: British Standards Institution.

Cardullo, P., & Kitchin, R. 2019. *Being a 'citizen' in the smart city: Up and down the scaffold of smart citizen participation*. *GeoJournal*, 84(1), 1-13.

Castel R. 2011. *La sicurezza sociale. Cosa significa essere protetti*. Torino: Einaudi.

Castells M., Borja J. 2002. *La città globale. Sviluppo e contraddizioni della città del terzo millennio*. Novara: De Agostini.

Choplin A., Lozivit M. 2020. Le fablabs en Afrique: l'innovation numérique au service d'un ville durable. *Métropolitiques*. Text available at: <https://metropolitiques.eu/IMG/pdf/met-choplin-lozivit.pdf>.

D'Angelo L. 2017. Medellín, de la ville ingénieuse à la ville compétitive. *Urbanisme*, 207: 59.

Davis M. 1990. *Quartz cities. Excavating the future in Los Angeles*. London: Verso.

Davis M. 1999b. *Geographies of fear. Los Angeles: the collective imagination of disaster*. London: Vintage.

De Giorgi A. 2000. *Zero Tolleranza*. Roma: Derive Approdi.

Eveno E. 2018. La Ville intelligente: objet au coeur de nombreuses controverses. *Notebooks Communication, technologies, pouvoir*, 96: 29. doi: 10.4000/quaderni.1174.

Foucault M. 1976. *Sorvegliare e punire: la nascita della prigione*, Torino: Einaudi.

Fussel S. 2018. The city of the future is a data collection machine. *International*, December 9. Text available at: <https://www.internazionale.it/news/sidney-fussell/2018/12/09/quayside-toronto-smart-city>.

Giffinger R., Fertner C., Kramar H., Kalasek R., Pichler-Milanovic N., Meijers E. 2007. *Smart cities: Ranking of European Medium-Sized Cities*. Text available at: http://www.smart-cities.eu/download/smart_cities_final_report.pdf.

Goffman E. 1961. *Asylums*.

Greenfield A. 2013. *Against Smart Cities*. London: Verso.

Harvey D. 1989. From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism. *Geografiska Annaler: Series B, Human Geography*, 71, 1: 3. doi: 10.1080/04353684.1989.11879583.

Heilmann E. 2007. Surveiller (à distance) et prévenir. Vers une nouvelle économie de la visibilité. *Questions de Communications*, 11: 303. doi: 10.4000/questionsdecommunication.7361.

Housing and Land Rights Network. 2017. *India's Smart Cities Mission: Smart for Whom? Cities for Whom?* Text available at: https://www.hlrn.org.in/documents/Smart_Cities_Report_2017.pdf.

Hugill P. 1999. *Global communications Since 1844: geopolitics and technology*. Baltimore: JHU Press.

Kitchin, R. 2020. *Data Lives: How Data Are Made and Shape Our World*. Bristol: Bristol University Press.

Le Corbusier Ch-É. 1943. *La Charte d'Athènes*. Boulogne-sur-Seine: Éditions de l'Architecture d'Aujourd'hui.

Lefebvre H. 1968. *Le droit à la ville*. Paris: Anthropos.

Ménard F. 2017. Penser la ville intelligente. *Urbanisme*, 207: 32.

Mora, L., Bolici, R., & Deakin, M. (2017). *The first two decades of smart-city research: A bibliometric analysis*. *Journal of Urban Technology*, 24(1), 3-27.

Picon A. 2013. *Smart Cities. Théorie et critique d'un idéal auto-réalisateur*. Paris: Editions B2.

Privacy International. 2017. *Smart Cities: Utopian Vision, Dystopian Reality*. Text available at: <https://privacyinternational.org/sites/default/files/2017-12/Smart%20Cities-Utopian%20Vision%2C%20Dystopian%20Reality.pdf> (13/02/2020).

Rabari C., Storper M. 2015. The Digital Skin of Cities: Urban Theory and Research in the Age of the Sensored and Metered City, Ubiquitous Computing and Big Data. *Cambridge Journal of Regions, Economy and Society*, 1: 27. doi: 10.1093/cjres/rsu021.

Sassen S. 1992. *Cities in a world economy*. London: Sage.

Schivelbusch W. 1986. *The Railway Journey*. Berkeley: Berkeley University Press.

Schivelbusch W. 1995. *Disenchanted night: the industrialization of light in the nineteenth century*. Berkeley: University of California Press.

Schuilenburg M., Peeters R. 2018. Smart cities and the architecture of security: pastoral power and the scripted design of public space. *City, architecture, territory*, 5: 5. doi:10.1186/s40410-018-0090-8.

United Nations (2008). *World Urbanization Prospects: The 2007 Revision Population Database*. Text available at: <https://www.un.org/en/development/desa/population/events/pdf/expert/13/Heilig.pdf>

United Nations. 2015. *Transforming our World: The 2030 Agenda for Sustainable Development*. Text available at: <https://sustainabledevelopment.un.org/post2015/transformingourworld>

Veron J. 2008. *L'urbanizzazione del mondo*. Bologna: Il Mulino.

Zuboff S. 2019. *The Age of Surveillance Capitalism*. Public Affairs, New York.