Innovative cities for E-governments. Artificial intelligence initiatives in the public sector and the conflicts with privacy

Cidades inovadoras para governos eletrônicos. Iniciativas de inteligência artificial no setor público e conflitos com privacidade

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Abstract: Local governments across the world are in the middle of technological and economic developments that come together in the catch-all label of smart cities or innovative cities. In a smart city, ICT-infused infrastructures enable the extensive monitoring and steering of city maintenance, mobility, air and water quality, energy usage, among others. The effect of growing population and the challenges regarding urbanization and environmental sustainability have led the European Union to adopt different policies and initiatives to promote this new city model. Nevertheless, such processes use and produce

Resumo: Os governos locais em todo o mundo estão no meio de desenvolvimentos tecnológicos e econômicos que se reúnem no rótulo abrangente de cidades inteligentes ou cidades inovadoras. Numa cidade inteligente, as infraestruturas com base nas TIC permitem a monitorização e gestão extensiva da manutenção da cidade, mobilidade, qualidade do ar e da água, utilização de energia, entre outros. O efeito do crescimento populacional e os desafios da urbanização e da sustentabilidade ambiental levaram a União Europeia a adotar diferentes políticas e iniciativas para promover este novo modelo de cidade. No entanto,

massive amounts of data, which could affect people's privacy. Countries like Spain have begun to invest in smart cities and Artificial Intelligence projects to improve efficiency in the public sector. However, the use of artificial intelligence can generate several problems such as opacity, legal uncertainty, or breaches of personal data protection. Therefore, the goal of this article is to identify the main legal challenges for public administrations derived from the development of innovative cities and the use of AI regarding to privacy.

Keywords: E-government – Data protection – Public Administration – Privacy – Innovative cities – Artificial Intelligence.

esses processos usam e produzem grandes quantidades de dados, o que pode afetar a privacidade das pessoas. Países como a Espanha começaram a investir em cidades inteligentes e projetos de Inteligência Artificial para melhorar a eficiência do setor público. No entanto, o uso de inteligência artificial pode gerar vários problemas, como opacidade, incerteza jurídica ou violação da proteção de dados pessoais. Portanto, o objetivo deste artigo é identificar os principais desafios jurídicos para as administrações públicas decorrentes do desenvolvimento de cidades inovadoras e do uso de IA no que diz respeito à privacidade.

Palavras-chave: E-governo – Proteção de dados – Administração pública – Privacidade – Cidades inovadoras – Inteligência artificial.

I. Introduction

More[1] than half the world's population resides in urban areas since cities continue attracting and increasing people in search of a job and to improve quality of life. It is estimated that by 2050 two thirds of the world's population will live in cities, consuming more than seventy percent of energy and increasing the demand for services and the pressure on resources in an alarming way. This expansion of population numbers is accompanied by a range of challenges related to sustainability, security, public service management or even privacy[2].

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2. According to the latest reports from the European Union on its page "Eurostat. Statistics explained" updated in 2021 on urbanization expectations at European level: https://ec.europa.eu/eurostat/statistics-explained/index.php/Statistics_on_European_cities#Population.

For this reason, it has been tried to combine technological advances to eradicate the problems that plague the cities of the 21st century, innovative cities or Smart cities have emerged. Smart cities use ICTs to improve the quality of citizens life, also in the public sphere. In this sense, the public administration must-have tools such as electronic administration, or intelligent public services, will allow it to perform massive data processing and improve the efficiency of its functions.

However, despite the opportunities presented by this new city model, numerous challenges make it difficult to implement these innovative cities. Initially, there is no legal concept of smart cities, so the previous literature that refers to various definitions of the smart city should be reviewed, such as one that uses technological innovation to offer a more habitable environment to people[3]. But, this system of smart cities has numerous implications, such as an optimization of the circulation of the vehicles or the urban rethinking according to the current needs of society. All this requires a public-private collaboration for the implementation of a simplified and digitized management model that allows transparent governance and citizen participation, as well as the interoperability of data and information[4].

From the Spanish perspective, the "*Plan Nacional de Ciudades Inteligentes del Gobierno*" defines this model as a city that applies ICT to improve the quality of life and accessibility of its citizens and ensures social, economic, and environmental development. In smart cities, many services are provided without being able to adhere to the notion of public service or that of a service of general interest to have to include any activity related to public administration[5]. The evolution of innovative cities is related to urban digital infrastructure, specifically with the ability to automate the collection, storage, retrieval, and processing of volumes of data. This phenomenon must be approached from multiple branches of knowledge, reflecting the need for a dialogue between technology and law, especially concerning transparency and access to public information regarding data protection.[6]

3. TOWNSEND, Anthony. *Smart Cities*: Big Data, Civic Hackers, and the Quest for a New Utopía. Londres-Nueva York: Norton & Company, 2013.

4. SOBRINO GARCÍA, Itziar. Desafíos y limitaciones en la contratación pública: el impacto de la protección de datos tras los últimos cambios legislativos. *Revista General de Derecho Administrativo*, v.56, pág. 1-34, 2021.

5. CERRILLO I MARTÍNEZ, Agustí. Los servicios de la ciudad inteligente, ponencia presentada en el *XV Congreso Asociación Española de Profesores de Derecho Administrativo (AEPDA), La ciudad del siglo XXI: transformaciones y retos*, 2020.

6. PIÑAR MAÑAS, José Luis. Sociedad, innovación y privacidad. *ICE: Revista de economías*, v. 897, pág. 67-76, 2017.

GALLARDO CAMACHO, Jorge (Orgs.) Comunicación especializada: historia y realidad actual. Madrid: McGraw-Hill, 2020, p. 503-518.

SORIANO ARNÁNZ, Alba. Decisiones Automatizadas y Discriminación: Aproximación y Propuestas Generales. *Revista General de Derecho Administrativo*, v. 56, pág.1-30, 2021.

SUÁREZ OJEDA, Magdalena. Smart cities: un nuevo reto para el derecho público. En: PIÑAR MAÑAS, José Luis (Org.) *Smart Cities. Derecho y Técnica para una ciudad más habitable*. Madrid: Reus, 2017, p. 73-92.

TOWNSEND, Anthony. *Smart Cities*: Big Data, Civic Hackers, and the Quest for a New Utopía. Londres-Nueva York: Norton & Company, 2013.

VALCÁRCEL FERNÁNDEZ, Patricia; The relevance of promoting collaborative and joint cross border procurement for buying innovative solutions. En: RACCA, Gabriela; YUKINS, Christopher (Orgs.) *Joint public procurement and innovation. Lessons across borders*. Brussels: Bruylant 2019, p. 133-169.

VALCÁRCEL FERNÁNDEZ, Patricia. Works and service concession contracts: the way to foost PPP in Spain. En: BOGDANOWICZ, Piotr; CARANTA, Roberto; TELLES, Pedro (Orgs.) *EPLG Series PPP´s and concessions*, Edward Elgar Publishing, 2020, p. 168-188.

VALCÁRCEL FERNÁNDEZ, Patricia. Transparency in public procurement in the Spanish legal system. En HALONEN, Kirsi-Maria CARANTA, Roberto; SÁNCHEZ GRAELLS, Albert (Orgs.) Transparency in EU procurements: disclosure within public procurement and during contract execution. Cheltenham: Edward Elgar, 2019, p. 272-294.

VALERO TORRIJOS, Julián. Ciudades inteligentes y datos abiertos: implicaciones jurídicas para la protección de los datos de carácter personal. *Instituzioni del Federalismo,* v.4, pág. 1025-1047, 2015.

VALERO TORRIJOS, Julián. El acceso y la reutilización de la información del sector público desde la perspectiva de la reforma de la administración electrónica. En: MARTÍN DELGADO, Isaac (Org.) *La reforma de la Administración electrónica: Una oportunidad para la innovación desde el Derecho*, Madrid: Dykinson, 2017, p. 443-458.

VALERO TORRIJOS, Julián. Las garantías jurídicas de la inteligencia artificial en la actividad administrativa desde la perspectiva de la buena administración. *Revista catalana de dret públic*, v. 58, pág. 82-96, 2019.

VALERO TORRIJOS, Julián. The legal guarantees of Artificial Inteligence in Administrative Activity: Reflections and Constributions from the Viewpoint of Spanish Administrative Law and Good Administration Requirements. *European Review of Digital Administration & Law*, v. 1, pág. 55-61, 2020.

VAN ZOONEN, Liesbet., Privacy concerns in smart cities. *Government Information Quarterly*, v. 33, pág. 472-480, 2016.

VELASCO RICO, Clara Isabel. La ciudad inteligente: entre la transparencia y el control. *Revista General de Derecho Administrativo*, v. 50, 2019.

VILLAREJO GALENDE, Helena. Smart cities: una apuesta de la Unión Europea para mejorar los servicios públicos urbanos. *Revista de Estudios Europeos*, v. 66, pág. 25-51, 2015.

VODA, Ana Iolanda; RADU, Laura-Diana. How can artificial intelligence respond to Smart cities challenges? En: VISVIZI, A; LYTRAS, M.D (Orgs.). *Smart Cities, Issues and Challenges*. Elsevier, 2019, p.199-216.

WACHTER, Sandra; MITTELSTADT, Brent. A Right to Reasonable Inferences: Re-Thinking Data Protection Law in the Age of Big Data and AI. *Columbia Business Law Review*, v. 2, 2019.

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