

4 Smart sports in smart cities

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Urban habitants' lifestyles have rapidly evolved through the emerging technologies, the digitalization of the economy, and new consumption patterns, means of modern transportation. Sport is an integral part of a healthy lifestyle and this fact is considered for smart cities development. Smart cities are related to sports and recreation areas in many direct and indirect aspects (Atali, 2018). There are many cases when cities successfully activate development through sport as cities are facing complex challenges in attaining constant development within the context of sports and healthy lifestyles (Blasi et al., 2022). Smart cities' sports infrastructure encompasses facilities, systems, goods, and services that enable the sports and healthy lifestyle leisure. They use data and technology to engage people to do sports, promote sports culture and physical activity, organize sports events of various scales, create efficiencies, optimize resources, improve sustainability, create economic development, and enhance the quality of life for people in the city.

This chapter focuses on the three main categories of actors: (1) Sports environment user, a citizen practicing the physical activity and using sports facilities, (2) Team player or athlete, who practices as part of a club, amateur or professional (3) Sports Fan, Spectator or/and follower, a person who is interested in sports content consumption (live or mediatory watching). The chapter supports the development of strategies that connect sport and cities. It provides a theoretical basis to learn and analyze the interrelation of sports and the concept of smart cities, followed by real examples. It discloses the current state of technologies, infrastructure, and culture of sports in modern smart cities, defining the main constructs. The chapter also explores the role of sports in smart cities. It discloses how sports may affect on smart city and how urban development fosters the sports industry. By distinguishing different types of sports, urban infrastructure and their nature and purposes, it provides a comprehensive review of the nature, features, and dimensions

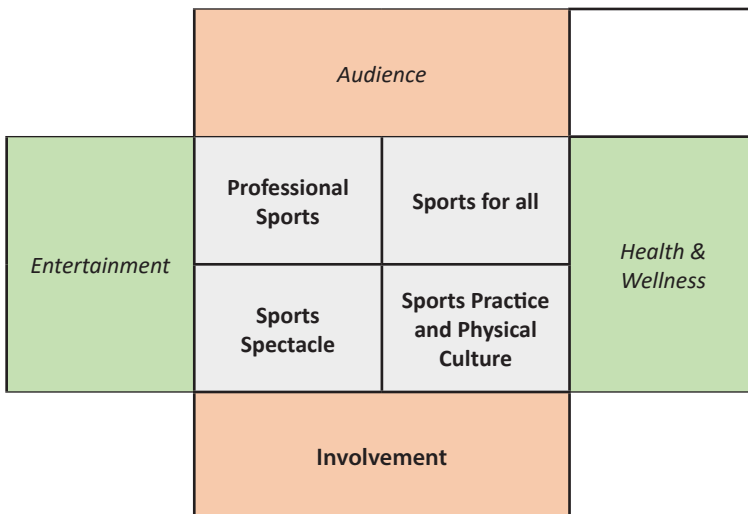
of sports in the smart city framework. It also addresses development issues and trends in sports in terms of urban maintenance and development and recognizes the importance of new technologies' wide dissemination and their effect on the sports industry. Urban sports are a marketing tool influencing city and country brand image. Exploring the obstacles and opportunities for sports infrastructure deployment can define future directions for smart cities.

Sports development and integration in urban life

The concept of the smart city is at the forefront of innovation in urban development and is an increasingly popular topic for urban planners internationally (Nilssen, 2019). Social innovation relates to two aspects of the smart city literature: (1) quality of life in the smart city and (2) leisure in the smart city. While technological advancement is at the core of innovation, not all new technology constitutes social innovation (Tjønnedal & Nilssen, 2019). The global trend is to use cultural sports and entertainment facilities for urban development initiatives (Barghchi et al., 2010).

Contemporary sports culture embraces different fields, directions, and organizations, shaping a complex structure (Rainoldi et al, 2022). At first, we distinguish sports practice (doing sports) and sports as entertainment (sports spectacle and related activities). Second, in terms of smart city projects, management and development, we see the point in contrasting professional sports (Campbell, 1999) and sports for all (Pancic & Mitic, 2016). Figure 4. 1 let us identify key constructs of the 'sports in smart city' concept.

Figure 4.1: Key 'sports in smart city' constructs



Sports are developing continuously in the framework of smart cities, involving all the audiences and embracing entertainment and public health purposes. Sport can be considered as an urban development tool as urban development is activated through sports. Developing a sports as a process of making a city 'smarter' in the majority of cases includes the development of sports infrastructure and culture as a part of a 'smart' lifestyle for inhabitants (Baroncelli & Ruberti, 2022). Smart cities' development also makes sports smarter through integration of infrastructure, including Sport public spaces and sports venues, to an ecosystem with future perspectives (Tomino & Perić, 2022). By promoting sports, cities care about inhabitants, attract guests and investments and reveal genuine potential. Sport is promoted as an activity by creating public spaces in the city. By organizing events in iconic places, cities are showcasing their attractiveness even beyond sport, boosting tourism and economy, and developing the city (or even country) image (Djamballah et al., 2015; Hautbois et al., 2020; Perić et al, 2022). Becker and Wicken (CAUTHE Conference, 2013) noticed that *"sport participation has an inherent travel component"*. However, Banyai and Potwarka (2011) argue that the Olympic image does not have a substantial impact, and the rate of revisits to the destination is low. Accordingly, Law et al. (2014) conclude that a sporting mega-event *"does not provide a substantial benefit without effective marketing strategies"* in a city ('place') on all the stages of this event.

As an example, The Riudecanyes lake is located in the Province of Tarragona, Catalonia region, Spain. Its surroundings have both cultural and landscape components, which seems to be a perfect environment for sport and recreational activities. The project 'Riudecanyes Adventure' is focused on the creation of new sports natural park and ran from January 2014 to July 2015. The location is very close to the Costa Dorada, a popular tourist area. In Riudecanyes there is a green and mountainous landscape, in the pre-coastal mountain chain. The project was led and managed by the Riudecanyes Adventure Association, a local not-for-profit organization composed of the Municipality of Riudecanyes, the Municipality of Duesaigües, and the community of Regantes del Pantano de Riudecanyes and the Sports Council of Baix Camp, the Municipality of Argentera also joined the Association. This project is a good example of how sport can play an important and even crucial role in local development and infrastructure building. European Commission report emphasizes that this project *"has shown very promising results in terms of the number of users and environmental impacts. It promotes the use of the reservoir and its surroundings, by organizing sports activities and promoting awareness and respect for the environment"* (European Commission, 2016).