

ORIGINAL PAPER Received: 28.11.2022

Accepted: 09.03.2023

## A SMART AGE-FRIENDLY CITY IN THE CONTEXT OF THE SEASONAL MIGRATION OF SENIOR RESIDENTS. THE CASE OF BENIDORM

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#### ABSTRACT

Benidorm is one of the most popular Spanish destinations for seasonal migrants, especially seniors, in the winter season. This article discusses the evolution of age-friendly smart cities in the context of the seasonal migration of the elderly on the example of Benidorm. Benidorm is one of the global leaders in implementing the concept of a smart city and a smart destination (SD) (Coban & Aydın, 2020). The aim of the article was to confront the urban renewal programs implemented in Benidorm with the concept of an age-friendly city according to the definition proposed by the WHO (2007). The concept of an age-friendly city and a smart destination was defined, and the presented results can assist European tourist destinations in targeting their urban renewable policies at seasonal migrants in response to the progressive aging of the population.

**Keywords:** age friendly cities, urban renewal, smart destination (SD), smart city, seasonal migration, Benidorm

#### INTRODUCTION

In the 21st century, two demographic phenomena intensified strongly. The first is the aging of the population, and the second is migration (Marois et al., 2020). Both the number of migrants and people in retirement age is growing. Ptak (2012) states that currently the number of international migrants over 65 in the world is at the level of 27 million, which is almost 13% of all participating in international movements. Local authorities should prepare for the increase in the number of retirees in their municipalities, not only due to the aging of the population, but also due to the possibility of an influx of older people to their municipalities. This influx may apply to permanent but also temporary relocation, e.g. to warm countries from areas with colder climates.

The phenomenon of migration of the elderly is quite complicated due to the fact that the decision to move is influenced by many social, psychological and economic factors, which operate with different intensity and depend on the age, health condition and financial capacity of elderly people. Pensioners are reluctant to migrate, because changing the place of residence requires a lot of effort - especially forced migration, which is associated with the need to provide care for a senior in deteriorating health. However, after all, there is no region in the world from which pensioners would not emigrate and to. In Western Europe and the USA, migration of seniors has been recognized as an important factor in local and regional development. Research conducted there shows that retirees who arrived in given places generate new jobs in the local economy, mainly in

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services provided for retirees and related to health care, finance and entertainment. Many governments have already recognized the benefits of the influx of seniors and facilitate their admission, especially as we now face a massive retirement of the post-war baby boom generation, which accounts for two-thirds of the world's population (Pytel, 2017). According to the report of the United Nations Economic Commission for Europe (2016, July), labor migration is the most common motivation for migration in working age, there are several reasons for older migration, which differ and include: return migration of immigrants to the country of origin, economic migration, return to children or other relatives living abroad and the so-called lifestyle-related migration, often to countries with warmer climates. Nevertheless, it should be remembered that older migrants constitute a heterogeneous group, and therefore all suggested policies must be adapted to the specific national and local context and to the specificity of the subgroups at which they are addressed.

## SEASONAL MIGRATION OF OLDER PEOPLE – CHALLENGES AND OPPORTUNITIES

Many studies show that older people live longer and have better physical health than ever before, which does not necessarily mean that they enjoy a good quality of life and happiness. Problems of isolation, loneliness and depression mean that many elderly people live with low levels of life satisfaction (Allen, 2008). Research has shown that holidays later in life have positive physical, psychological, social and spiritual effects; they provide opportunities for activity, social interaction, self-reflection and self-improvement, thus improving the well-being of seniors (Dolnicar et al., 2012; Hagger & Murray, 2013; Hunter-Jones & Blackburn, 2007; Sanz et al., 2013). Sanz, Ferrandis and Garces (2013) conducted a study on the relationship between participation in tourism and the health, autonomy and social inclusion of older people. The study found a positive relationship between vacation and health and independence, and

that older people who went on vacation had to use less welfare and health systems.

The number of older people in the EU has increased in recent years, while the tourism industry has focused on the market potential of richer and healthier older people, despite the fact that many people are not traveling or unable to travel for various reasons, e.g. lack of transport, poor health, family and caring responsibilities and the lack of travel companions (Steptoe et al., 2015; Anderson & Langmeyer, 1982; Blazey, 1986; Guinn, 1980; McGuire, 1984; Romsa & Blenman, 1989; Shoemaker, 2000; Zimmer et al., 1995). Only 41% of seniors in the EU travel (compared to 55% between the ages of 25 and 44), and seven out of ten seniors only travel within their own country (European Commission, 2015).

A noteworthy phenomenon in the area of mobility of older people is international retirement migration (IRM), which is an essential feature of the changing map of Europe (Williams et al., 1997). Little in-depth research has been done on the IRM. Warnes (1994) used secondary data to show the growing importance of Southern Europe as a place of residence for Northern Europeans in the 1980s. Detailed studies of the IRM processes and their implications for expatriates or host communities have been very sparse. One notable exception is the study by Jurdao and Sánchez (1990) on Mijas (Costa del Sol), an analysis of the cultural and economic consequences of immigration from Northern Europe (including retirees) to one of the most "colonized" municipalities in Spain. Seasonal migrants are a diverse group that may spend different periods of the year in their countries of origin. For example, in Mijas, Jurdao and Sánchez (1990), they found that 44% of the surveyed seasonal migrants among the elderly lived outside Spain more than three months a year. Such seasonal migrants can be 'snowbirds' fleeing northern European winters. Seasonal migrants often become owners of their second homes. Although much research has been done on second home ownership in another country, this issue is relatively poorly understood. Valenzuela (1991) estimates that there are over 500,000 second homes owned by foreign owners on the Costa del Sol and

Costa Blanca, more than half of which are British or German. On the other hand, there is little in-depth research on foreign landlords in Southern Europe. The authors, Steinnes, Hogan (1992) confirmed the hypothesis that seasonal migration of older people may be partly the result of economic benefits achieved in inaccessible housing markets in their home countries. What is more, a stronger correlation regarding seasonal migrations suggests that older people do not want to invest in housing in local markets, but still "spend" profits on seasonal migrations. This behavior is rational if housing is viewed as an investment and expectations of future returns are greater in markets that they cannot afford. An important aspect of seasonal migration of older people is also access to social and medical care in countries to which they migrate seasonally, as McHugh, and Mings (1994) write about it, using the example of urban environments in the United States. The results show that the use of healthcare among seasonal migrants is significant and varies according to citizenship, age, number of winter visits and length of winter stays. The authors argue that the use of healthcare is a symptom of social and emotional attachment to a winter residence that develops and deepens over the years.

There are many Mediterranean towns that have attracted millions of Europeans, including the elderly, since the 1960s, mainly because of their climate and lifestyle. The most important region for the migration of seasonal pensioners in Europe is the Costa del Sol. Research conducted by Rodriguez, Fernandez-Mayoralas and Rojo (1998) indicate that the reason for such a high interest in a place is a specific configuration of economic, social and environmental conditions. Its accessibility to northern European countries also plays an important role. This combination of natural and cultural attractions and well-developed infrastructure attracts tourists to the Costa del Sol who, after retirement, come back to settle here permanently. Similar conditions are found on other Mediterranean coasts of Spain, such as Costa Brava, Alicante, Murcia, the Balearic Islands and the Canary Islands. Among others, Paunero (1988), Myklebost (1989), Montiel (1990), Diaz (1991), Serrano (1991).

In the context of the articles in question, seasonal migrations are rather treated as a trend that for many years concerned mainly seniors and seniors from Western Europe who, after retiring, could use their time and money to travel and enjoy life. Migration of older people on the one hand is a contradiction of the concept of "aging in place" and the saying that "old trees do not replant", on the other hand, as emphasized by the authors of the article Migration and older age: Older migrants and migrant careworkers (United Nations Economic Commission for Europe [UNECE], 2016), the elderly are a very diverse social group, with different needs, also related to mobility and changing the place of residence, as well as the vision of spending their retirement age or material status. In previous studies, much attention has been paid to the issues of seasonal migration of older people from the point of view of tourism, including social tourism, where the elderly are one of the recipient groups, and to a lesser extent to aspects of city management. In order to fill the research gap, the aim of this article is to try to confront the 8 components of an age-friendly city (World Health Organization, 2005) with the urban renewal activities of Benidorm in Spain, which during the winter season is visited by seasonal migrants, especially the elderly and is at the forefront of European cities implementing the smart city concept in terms of "smart destinations" (SD), to highlight the important aspects of the urban renewal policy of smart age-friendly destinations.

## AGE-FRIENDLY CITY IN THE CONTEXT OF SMART DESTINATION (SD) – METHOD AND DATA

Currently, both among researchers (van Staalduinen et al., 2018) and local government authorities smart city and age-friendly city concepts are acquiring importance that point to new ways of working, planning, implementing and assessing progress and impacts, which may include traditional approaches for urban renewal and can be a remedy to the challenges that urban centers are currently facing. Two bottom-up initiatives have been launched in Europe for several years to address the challenges of urbanization and aging. European Innovation Partnerships have been created, one for Smart Cities and Communities (EIP SCC) and the other for active and healthy aging (EIPonAHA). EIPonAHA, Action Group D4 Buildings, cities and environments friendly for older people want to connect to EIP SCC in terms of smart cities and communities, which requires the creation of smart environments friendly to aging, embedded in concepts, theory and practice, an example of which may be the research conducted in this article.

EIP SCC defines smart cities as systems of people interacting with flows of energy, materials, services and financing, resulting in sustainable economic development and high quality of life for inhabitants of all ages. Flows and interactions become intelligent through the strategic use of ICT infrastructure and services in a process of transparent urban planning and management that responds to the social and economic needs of society. The objectives of the EIP SCC focus on 3 areas:

- 1. Sustainable urban mobility (multimodality of urban transport, electric vehicles).
- 2. Sustainable neighborhoods and the built-up environment (reduced energy consumption, zero-energy neighborhoods and buildings).
- 3. Integrated infrastructures and processes (data exchange).

As part of EIP SCC activities, it is recommended to pay more attention to the changing population of cities and the involvement of (older) citizens in the development of smart cities and communities. An important aspect is also the inclusion of social and health services in cities in the development of smart age-friendly cities. Involvement in mobility plans could bring great benefits to both social and health services: older people can find the best ways to reach the closest available services. One of the elements of implementing the smart city concept is the development of the tourism function, which then becomes known as smart tourism (smart tourism concept). There is no clear distinction between a smart city and a smart destination (SD). A smart destination can be defined as a destination that adopts

an interactive/participatory management style and aims to improve the quality of life of residents and tourists by using modern technologies to collect, store, exchange and process data.

The concept of Smart Destinations (SD) focuses on the efficient and effective use of resources, a cleaner environment and ultimately sustainable development (Coban & Aydın, 2020). Some authors describe the need of further synergy between the smartness and sustainability, as those two concepts share common elements and could support each other (González-Reverté, 2019; Perles-Ribes & Ivars-Baidal, 2018). Perles-Ribes and Ivars-Baidal (2018) assign the SD elements, obtained with the use of technology, like planning and long-term perspective, monitoring systems, public-private cooperations, customization of tourist services, and more, to the effects of lower consumption of resources, encrease of public commitment, better tourism marketing and more competitivness, which are Sustainable Tourism Destinations assumptions. According to SEGITTUR Smart Destination should "guarantee the sustainable development of the tourist area, accessible to everyone, which facilitates the visitors' interaction with and integration into their surroundings, increases the quality of the experience at the destination, while also improving the quality of life of its residents" (SEGITTUR, 2015). This definition corresponds with the World Tourist Organisation principles of Sustainable Tourism Destinations, which contain among others "social equity and the generation of quality employment; a satisfactory experience for visitors without gender, racial or disability discrimination; the control and local planning of tourism processes and the maintenance of local wellbeing levels" (UNWTO, 2013). Smart Destinations (SD) have gained momentum primarily in tourism research, while spatial issues and their impact on urban renewal of smart destinations is insufficiently researched. The actual implementation of the two main SD objectives, i.e. improving the experience of tourists, in particular the elderly and improving the management of destinations, is within the area of strategic actions, while structural measures in the

area of urban structure analysis remain largely poorly explored. Nolasco-Cirugeda, Martí and Ponce (2020) write about it, analyzing the urban plans of the city of Benidorm over the years, which has turned from a fishing town into a smart tourist destination. Spain is one of the countries where the idea has penetrated to a large extent in both public institutions and business strategies (Femenia-Serra & Ivars-Baidal, 2018; Ivars-Baidal et al., 2017). Smart Destination Policies aim to create better experiences and improve marketing and management processes in cities (destination) from the public point of view (Buhalis & Amaranggana, 2014; Gretzel et al., 2015; Wang et al., 2016).

Smart destinations (SD) should be defined as part of specific, accessible and valuable solutions, focused on the needs of a diverse society, i.e. as "intelligent solutions". Following Ivars-Baidal et al. (2017) intelligent solutions can be understood as technologybased applications and tools that an intelligent target facility can use to achieve its goals of enriching the visitor experience and its own management processes. Based on the holistic perspective provided by the authors: Femenia-Serra, Perles-Ribes and Ivars-Baidal (2019), Gretzel, Reino, Kopera and Koo (2015), Gretzel, Zhong and Koo (2016), Huang, Goo, Nam and Yoo (2017), intelligent solutions used in smart destinations include: public ubiquitous Wi-Fi, big data analysis tools, intelligent dashboards, advanced DMO websites and blogs, QR codes and geotags, beacon technology, virtual and agumented reality, chatbots, social media activities, target applications, drones, etc. The combination of all these technologies builds a "smart city" that can result in a better experience and optimized destination management.

Older people should have access to information about infrastructure in order to be motivated to spend time in their neighborhood and to reduce the risk of isolation. Many people already have wearable devices, such as smart watches, to help monitor and manage their health and physical activity. These personal devices can also be used to better connect older people with public data about urban environments. For example, an elderly-friendly Smart City "layer" can be linked to a smart watch to locate amenities such as public restrooms, fountains, and shaded seating along exercise routes, etc.

The concept of age-friendly cities was introduced as a program by the World Health Organization (2007) in response to contemporary demographic changes, including the aging of the population. According to WHO, age-friendly environments promote the health and well-being and participation of older people. They are accessible, fair, inclusive and supportive. They promote health, prevent or delay disease and motor deterioration. They provide people-centered services and support to help them recover or compensate for motor loss so that people can continue to do the things that are important to them. The goal of agefriendly environments is the health and well-being of all, regardless of age, gender, cultural or ethnic origin, wealth or health. As part of the concept, 8 areas important from the point of view of defining an agefriendly city were enumerated, including:

- 1. transport (mobility);
- 2. public spaces and buildings;
- 3. housing development;
- 4. social and medical care;
- 5. location and accessibility of services;
- 6. communication and use of modern technologies;
- participation in social life and multi-generational integration through joint use of urban space;
- 8. social participation.

This concept is discussed in many scientific articles (Plouffe & Kalache, 2010; Buffel et al., 2012; Green, 2013), while the intersection of age-friendly and smart cities has been gaining importance in recent years in the publications of many authors (Klimczuk & Tomczyk, 2016; Loredana et al., 2020). There are no scientific studies in the literature that would investigate the age-friendly city approach according to WHO (2007) in the context of smart destinations, taking into account the seasonal migration of older people. Taking these research gaps into account, the aim of this article is to discover what the concept of an age-friendly city in smart destinations - smart cities in the context of seasonal migration of older people - is about. To achieve this goal, the Spanish city of Benidorm, known as the "Mecca of seniors",

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and one of the best performing cities implementing the concept of Smart Destinations (SD), was adopted as the relevant case study. Benidorm is recognized as the first national urban center to have a tourist information system. The aim of this article is also to draw attention to the aspect of a smart city defined not only through the prism of modern technologies, but as an age-friendly city in terms of access to basic services, public spaces and buildings designed in accordance with the principles of universal design, sense of comfort, legibility of the structure, urban spaces, etc.

The research in this article was conducted under the grant from October 1, 2019 until August 31, 2021 based on a literature analysis, urban analysis with the use of available googlemaps, *in situ* research (5-day visit to Benidorm from November 8 – November 14, 2019 – before COVID-19 pandemy), including photo inventory and interviews with representatives of the city office and tourist information in the city of Benidorm, who indicated important issues for the development of research within the framework of the article.

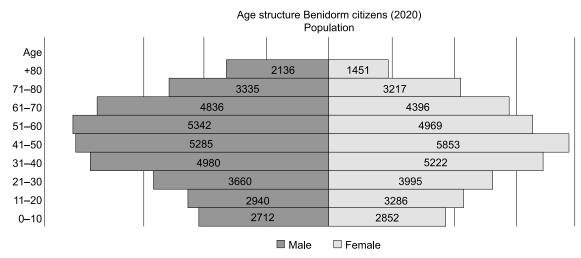
The obtained results are important for research on ways of renewing cities with tourism potential, but also directing their renewal policy to seasonal migrants among the elderly. One of such methods may be the use of the concept of smart destinations – SD. Due to its novelty and originality, SD may constitute a new research area from the perspective of a spatial planner, town planner and architect, but also an inspiration for the city authorities, organizations and the business sector as a method of public-private cooperation in city management in the context of its renewal.

## SMART AGE FRIENDLY CITY ON THE CASE OF BENIDORM

Benidorm is a 38.51 km<sup>2</sup> holiday resort located in the province of Alicante, on the south-eastern Mediterranean coast of Spain in the Costa Blanca region, with an exceptionally mild climate. It is inhabited by 70,450 inhabitants (2020), and their number has been systematically increasing in recent years, with a slight decrease between 2014–2017. The evolution of Benidorm's population has been increasing since its inception, and in 2013 it peaked at 73,768 inhabitants. The city was founded in the 1960s as the main international and national seaside resort and is characterized by intensive land use (skyscrapers), long stays and increased occupancy throughout the year in hotels. Moreover, it is the fourth place in Spain in terms of all-year hotel stays after Barcelona, Madrid and San Bartolomé de Tirajana (National Statistics Institute [INE], 2017).

Benidorm has attracted the attention of scholars due to its success, with a clear focus on the competitiveness of Claver-Cortés, Molina-Azorín, and Pereira-Moliner (2007), degree of innovation (Perles-Ribes et al., 2015), evolution of urban plan over the years and focus on urban renewal targeting seasonal migrants, in particular the elderly (Ivars-Baidal et al., 2013; Soares et al., 2015). In recent years, Benidorm has attracted the attention of the media and politics as it has become "the first intelligent certified tourist destination" in the world.

In the literature Benidorm is mainly written about in terms of tourism (Sánchez-Galiano et al., 2017; Ivars-Baidal et al., 2014), how Benidorm evolved from a village into a world-famous city of skyscrapers, economic considerations are described, as well as the environmental problems of the city are discussed. Benidorm's resources are described, including more than five kilometers of beaches and 2,800 hours of sunshine per year, the fact that Benidorm has become the prime destination for organized (package) holidays (Nogues-Pedregal, 2012). Benidorm has a policy of urban renewal aimed at continuous efforts to adapt the city to the needs of its occupants, and to make it smart with regard to the greater comfort of groups with special needs, including elderly and disabled people. This is important not only for seniors visiting Benidorm, but also for the elderly and their daily needs. Currently, a group of residents over the age of 65 who constitute 20% of the entire city's population (Fig. 1), and demographic forecasts predict that this social group will constitute an increasing part of the entire Spanish society in the coming years.



**Fig. 1.** Analysis of age structure of Benidorm inhabitants in 2020 *Source:* own study based on the National Statistics Institute [INE].

# Process of development of the City of Benidorm

From the 1950s onwards, domestic tourism in Spain spurred the creation of the first tourist settlement in Benidorm, on the seafront along Levante Beach. The first master plan, from 1956, was intended to create a double city: the original urban area for the local population; and a new town, which would be designed according to the Howards' garden city model in terms of low density of buildings. This new urban development was to be erected along two beaches, Levante and Poniente, to promote a healthy lifestyle, offering bustling public spaces, wide road axes with plenty of parking spaces and tree-lined avenues (Martí Ciriquián & Oliva Meyer, 2002). Benidorm, known worldwide as the "Mediterranean Manhattan", has largely guided the development of its urban structure towards an attractive and productive tourist city. While the city has not always been considered a successful model in terms of sustainable development, Benidorm's city plans are considered very effective for the development of urban tourism.

The 1956 Benidorm master plan, which was in effect for 34 years, achieved such a high level of detail that no additional planning tools were needed to facilitate the great urban expansion in 1967–1973. The strategic criteria applied to the intensive land

The experiences of Benidorm form a worthwhile spectacle (Iribas, 2000). Relevant scholars from various fields such as Henri Lefebvre, J.G. Ballard or Mario Gaviria considered Benidorm a peculiar urban phenomenon (Ballard, 2013; Gaviria, 1977; Lefebvre, 1974; Lefebvre, 2014; Mazón et al., 2012; Maas et al., 2000). Benidorm has been recognized as an urban laboratory for contemporary research from the perspectives of such areas as tourism development and competitiveness (Claver-Cortés et al., 2007; Ivars-Baidal et al., 2013); recreational architecture (Martí Ciriquián & Oliva Meyer, 2002; Martínez-Medina, 2016); sociology (Mantecón, 2008; Mazón et al., 2012; Obrador, 2012); and informal cities (Mesa del Castillo, 2015; Oliver, 2015). The diversified implementation of new tourism products has widened the visitor profile in recent years, including foreigners who

occupation on the coastal fringes favored the creation of a compact urban center. Although the seascapes were devastated by the striking urban image of the skyscrapers along the coast, the inland landscape has been preserved so far. The modification of the land use criteria in the 1990s marked a complete change, resulting in less sustainable development in the hinterland with the creation of vast areas with a variety of recreational and accommodation infrastructure and low-density residential areas, similar to the existing ones.

chose Benidorm for their second home (Arnstberg & Ergstrom, 2007; Domínguez Martínez et al., 2016). The renewal of the available recreational infrastructure has enabled Benidorm to compete in very different tourism markets with positive results (Clavé et al., 2011; García Sánchez & López Siles, 2015; Ivars-Baidal et al., 2013). For example, investments in the construction of amusement parks, golf courses and the construction of new four- and five-star hotels have significantly improved the quality of short-term holiday accommodation.

Despite recognizing Benidorm as a sustainable example of urban development in the context of a tourist town on the Mediterranean coast (Arnaiz Burne & César Arnaiz, 2017; Mazón, 2010), Benidorm's urban plan has been criticized in recent decades. This is mainly due to the contrast between the skyscrapers, emerging from afar as a massive barrier, and the natural coastal landscapes. Nevertheless, lively, diverse and friendly spaces have been created between the buildings, and from the strict structure of the city, one can enjoy beautiful views of the sea from the upper floors of the buildings, thanks to the vertical construction. In fact, Benidorm has the highest per capita rate of skyscrapers in Spain, indicating the high density of the city (Skyscraper Source Media Inc., 2018) and positively influencing the sustainable development of cities (Tan & Lu, 2019). The results of the research from 2020 (Nolasco-Cirugeda et al., 2020) suggest that the city's land management strategy (vertical building), the design of diverse public spaces, and the diverse leisure and accommodation offer have a beneficial effect on the optimization of the city's resources, creating a successful tourist destination.

The question arises whether, in view of this sustainable urban model and a successful tourist destination – Benidorm can be considered an agefriendly city and what the elements of a smart city based on the features of smart destinations are?

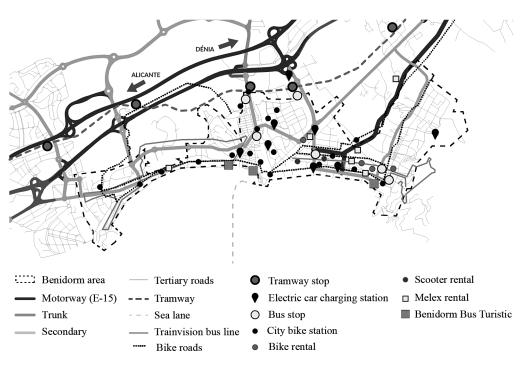
Eight areas of an age-friendly city based on the WHO program (2007) are analyzed below: 1) transport (mobility), 2) public spaces and buildings, 3) housing development, 4) social and medical care, 5) location and availability of services, 6) communication and use

of modern technologies, 7) participation in social life and multigenerational integration through the joint use of urban space, 8) social participation, within which attention was paid in particular to activities and solutions resulting from shaping an aging-friendly smart city based on the elements mentioned by European Innovation Partnership for Smart Cities and Communities (EIP SCC), i.e. mobility (multimodality in transport, electric vehicles), built environment (energy reduction, buildings and zero energy districts), integrated infrastructure (data exchange).

### 1) transport and mobility

The city of Benidorm is well connected by the E-15 motorway, which allows you to reach the surrounding cities (Alicante, Denia). In Benidorm itself, a policy of reducing car traffic and ecological solutions is promoted through the use of electric cars. There are 10 electric car chargers in the city. Most of the streets are pedestrianized. Due to the high density of high-rise buildings, the urban plan gives the structure of the city the features of a compact city, which results in reaching on foot the basic functions in the city. All sidewalks and pedestrian crossings have lowered curbs and are made of surfaces that minimize the risk of falling (non-slip, without pronounced contrasts).

There are many bus stops in the city, covering all inhabited zones (Fig. 2). There is a wide selection of transport tickets depending on the needs, from a single or season ticket to tourist cards - for specific groups (including seniors and people with disabilities) for which lower prices were envisaged. Basic bus stops are located at distances of 750 m or 1 km (distances reachable for an elderly person in 11/15 min on foot), however, Benidorm offers many transport companies (e.g. Benidorm Bus Turistic) organizing tours of the city and the surrounding area. This makes it possible for the elderly to travel in a comfortable and uncomplicated way. In addition to buses, the city offers a tram and a city bike which has many stations around the city center, also in further parts, mainly around the beach. In the city there is a city bike rental, including electric bikes (Bicidorm system), which is promoted by the city authorities as an efficient and health-friendly



**Fig. 2**. Analysis of the Benidorm transport network *Source:* own study.

means of transport. Using it is also ensured by a welldeveloped 11 km network of bicycle paths throughout the city. There are 6 places in Benidorm where you can rent an electric wheelchair, especially in the southeastern part of Benidorm. Trolleys ensure safe and efficient movement on bicycle paths, they have a basket that allows one to transport, for example, shopping. Electric wheelchairs in the city are used especially by the elderly and people with disabilities.

#### 2) public spaces and buildings

In Benidorm, the area of public space accounts for 27% of the urban seed center (Table 1). Regulations approved in zoning plans favored the creation of external land on plots (61% of built-up area), which are often privately managed. These spaces are often used by the private community (63.45% of the land in plots) and contribute to recreation and enjoyment of the urban environment, for example as hotel facilities or housing complexes. Only 16.80% of the land is devoted to private open spaces as part of a secondary low-density residential plot.

Many places in Benidorm can be reached on foot due to the short distances between the functions (Fig. 3). Thanks to the marked isolines of the central zone, many areas of the city can be reached within 5 minutes' walk, which is important especially for the mobility of elderly people)

Tall buildings take up relatively little territory, and the ones holding a large number of residential premises make the city compact with easy access to public spaces at the same time. There are no height restrictions on buildings in Benidorm, which guarantees a high level of urban compactness; low occupancy of buildings on the plots. There are also regulations regarding the preservation of sea views. On the ground floors of buildings, there are usually services and recreational spaces that can extend functional and spatial programs and related outdoor activities. Newly designed buildings promote ecological solutions in the form of using renewable sources, which make up about 25%, and are also designed in accordance with the principles of universal design.

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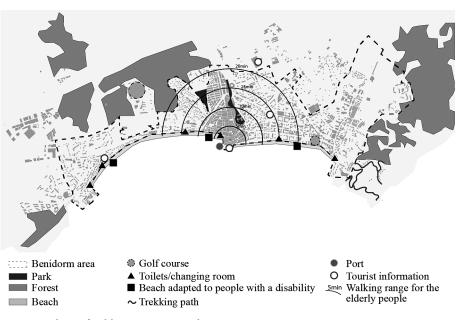
Table 1. Analysis of components of an age-friendly city according to WHO traditional approach (Age Friendly Cities) and sma	rt
approach (Smart Age-Friendly Cities)	

Components of an age-friendly city according to WHO	Age-Friendly Cities (AFC)	Smart Age-Friendly Cities (SAFC)
1	2	3
transport and mobility	<ul> <li>streets closed to car traffic;</li> <li>basic functions in the city can be reached on foot;</li> <li>elimination of architectural barriers;</li> <li>developed network and access to public transport stops;</li> <li>multimodality (public transport, bikes, electric carts);</li> </ul>	<ul> <li>surveilance in the field of municipal resources management, including traffic control, cameras monitoring the traffic light network;</li> <li>promotion and use of electric cars by residents;</li> </ul>
public spaces and buildings	<ul> <li>buildings and urban spaces designed according to universal design standards;</li> <li>a large number of privately managed outdoor spaces;</li> <li>easy access to public spaces by building upwards, occupying a small amount of space by buildings;</li> <li>Rules for the preservation of sea views;</li> <li>Building ground floors for recreational services and functions related to outdoor activity spaces;</li> <li>Inclusion of accessible beaches for people with disabilities as part of the urban environment equipped with adequate and accessible infrastructure;</li> <li>Landmarks in the city;</li> </ul>	<ul> <li>newly designed buildings promote ecological solutions in the form of using renewable sources;</li> <li>public wifi zone;</li> <li>information boards in public spaces with the option of Braille reading, as well as with the use of a QR code;</li> <li>a network of beacons in strategic points of the city, for better interaction and communication with city users (the ability to collect data in real time and identify the needs of public space users);</li> </ul>
residential development	<ul> <li>residential buildings usually have gardens and open spaces for public and private use;</li> <li>many places to rest in the vicinity of residential buildings (avenues, squares);</li> <li>hotels and accommodation, tailored to the needs of people with disabilities;</li> <li>building high-rise buildings enables better illumination of apartments with daylight and provision of sea views;</li> </ul>	<ul> <li>newly designed buildings promote ecological solutions in the form of using renewable sources;</li> </ul>
social and medical care	<ul> <li>private health care, many spas and wellness centers, in particular dedicated to the elderly and people with disabilities;</li> </ul>	– free home telecare service;
location and availability of services	<ul> <li>diverse service offer, located in different parts of the city, also with access to the sea;</li> <li>many shopping arcades, services work like a large open-air "shopping mall";</li> <li>providing access to services for people with special needs, e.g. by creating woonerfs, as well as an extensive network of bicycle and pedestrian paths, thanks to which people using, for example, wheelchairs, electric carts or prams have free access;</li> </ul>	<ul> <li>Audioplaya service ensuring autonomy, safety and the possibility of bathing for visually impaired and blind people;</li> <li>introduction of proximity sensors in various industries;</li> <li>introduction of beacons for data delivery (offline) in strategic points of the city – where information about culture, nature, sports, events and recreation is displayed;</li> <li>using modern technologies to support orientation in the field;</li> </ul>

cont. Table 1

1	2	3
communication and use of modern technologies	– creating clear, simple understandable messages;	<ul> <li>establishment of the Technical Office for Innovation and Intelligent Development</li> <li>the creation of the 'Visit Benidorm' platform as a public-private partnership responsible for the marketing and management of the destination;</li> <li>technology in the city understood as a means and not an end capable of transforming the entire functioning of the city;</li> <li>careful planning of investments in the city, paying attention to the risk of technology obsolescence, legal constraints and planning difficulties in the long term;</li> </ul>
participation in social life and multi-generational integration through the joint use of urban space	– a wide range of cultural and sports events;	<ul> <li>combination of intelligence and marketing tools to obtain optimal knowledge about the needs of city users;</li> </ul>
social participation	<ul> <li>inclusion of residents in shaping the city;</li> <li>Establishment of the Citizen Participation Council;</li> <li>participatory budget;</li> <li>functioning Neighborhood Councils;</li> </ul>	<ul> <li>creation of the "Portal Citizen</li> <li>Participation" platform as a tool for the interaction of residents with the city authorities, as well as an information channel;</li> </ul>

#### Source: own study.



**Fig. 3.** Analysis of public spaces in Benidorm *Source:* own study.

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Outdoor spaces greatly influence the perception and enjoyment of a city, and are key places for the success of solar, sand and nautical tourism models. In particular, Benidorm's coastal attractions along Levante and Poniente beaches have been recognized in the literature as projects of exceptional quality for the public space (Ferrater, 2005). An important element in shaping the public spaces in Benidorm is the inclusion of beaches as part of the urban environment with high-quality seaside promenades, 5 km in total, which contain many restaurants, cafes and bars. The numerous beaches adjacent to them offer many services and the rental of recreational equipment. The Benidorm for All strategy provides accessible beaches for people with disabilities, which, thanks to the appropriate urban infrastructure and the necessary human resources, enable people with disabilities to access both sandy beaches and the sea. The beaches are equipped with wooden platforms, toilets, help points, and exercise areas for the elderly. The equipment of the available beach includes: an access ramp adapted to move around in electric vehicles or wheelchairs, but also for families with prams; 1 footbridge that connects to the access ramp leading to the sea; 1 cupboard adapted to people with disabilities; 1 toilet adapted for disabled people; spaces providing shade; 3 amphibious chairs for adults and 1 child; 3 sets of water walking balls of various sizes; rescuers as support staff; in the bathroom (depending

on the season) – buoys limiting the bathing area; WIFI zone.

The ease and legibility of moving around the city results from many landmarks in the city (in the form of monuments, elements of street furniture and highrise buildings). Public spaces are designed as accessible not only physically, devoid of spatial barriers (Fig. 4) accessible to all pavement or pavement for people with visual impairment, but also in terms of information boards with the possibility of reading Braille or using a QR code that allows you to obtain information on a specific topic using a smartphone. An important integration space in the city is also the city market and the antiques market, located by the national road and the campsite.

It is worth adding that the city has a special microclimate, characterized by mild air temperatures throughout the year. In Benidorm, private green spaces are promoted that contribute to the perception of Benidorm as an environmentally friendly city. The most important natural places within green areas include:

Aiguera Park, also known as the "green lungs" of Benidorm, is a long neoclassical park that separates the old part of the city from the new. There are two amphitheatres in it, which are used to organize cultural shows, especially in the summer. The park ends in a yard prepared for fairs celebrated at various events;



**Fig. 4.** Pedestrian walkway accessible for all users *Source:* author's photograph.

- Mediterranean Sea Balcony a vantage point, situated on the remains of the castle walls;
- Serra Gelada Nature Park trails (also for amateurs) along the cliffs;
- Mountain Chains of Bernia and Piug Campana offering a view from the city and walking trails.
- residential development (accommodation offer + activities)

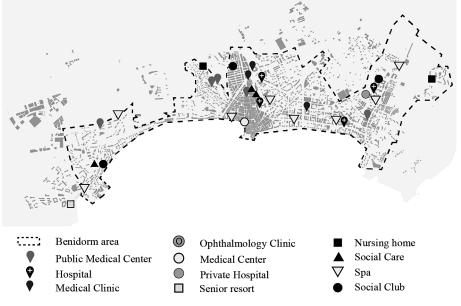
The residential buildings in Benidorm are mainly located in high-rise buildings. Each building is usually equipped with gardens, free spaces for public or private use. In the immediate vicinity, there are many places to rest in the form of alleys, squares, and basic services.

In Benidorm, a tourist resort, an important element of the development is the accommodation offer in the form of hotels and places for seasonal accommodation. The assessment of the number and type of accommodation varies from secondary houses in different types of buildings to a variety of short-term accommodation facilities. In particular, the largest hotel accommodation offer is mainly in the historic center and in the two main tourist areas: in the Levante Beach area, evenly spread along the coastline and main road axis, Mediterraneo avenue; and Poniente Beach, located in close proximity to the historic center. Although the predominant types are two-, three- and four-star hotels exist, there are several five-star inland hotels that offer other accommodation facilities, which is attractive to tourists with greater purchasing power. As part of the hotel offer, there are many marked hotels available and adapted to the needs of people with disabilities.

#### 4) social and medical care

There are 4 hospitals in Benidorm, including: Benidorm Clinical Hospital, which offers private health care of a team with over 25 years of experience in the field of: prevention, hospitalization and home care, and the IMED Levante Hospital (private healthcare). There are also many spas and wellness centers offering services for patients suffering from rheumatism, asthma, osteoporosis, stress and anxiety. Social and medical services are evenly distributed in the city and combine several types of services together (Fig. 5).

In addition, Benidorm City Council offers a free home telecare service which is provided indirectly through the Red Cross. The aim of this service is to promote a better quality of life for beneficiaries who



**Fig. 5.** Analysis of social and medical care services in Benidorm *Source:* own study.

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are disadvantaged due to their age because they live in a situation of social isolation or because of a disability or health problems, increasing their autonomy and making it easier for them to stay at home for as long as possible. The telecare service is dedicated to those registered in Benidorm who are at risk and vulnerable, are over 70 years old or 18 years old and have a recognized or total or severe disability. Applicants must live alone or with people of similar age or characteristics. As for the economic criteria, the annual gross income of a person or unit of housing must not exceed 2.5 times. Thanks to this service, one can receive specialist support 24 hours a day, 365 days a year in case of an emergency, but also loneliness or isolation, which became very visible during the COVID-19 pandemic. In order to regulate the service, regulations have been developed, which establish the operation of telecare, as well as the requirements that must be met by the beneficiaries, how and where to conduct the application process, etc. Users receive a terminal by means of which they can immediately contact the staff of the entity responsible for contact with the user. This included key care services that allow a team of authorized professionals to access one's home in the event of a fall or emergency, speeding up care and minimizing possible injuries. Importantly, the home telecare service is compatible with others that are provided by the same Department under the home care programs, "Menjar a Casa" or "Major a Casa", as well as with other public and private resources that allow beneficiaries to stay their place of residence as long as possible.

The Municipality of Benidorm has created a "Care Laboratory" to position itself in the segment of senior tourism focused on healthy ageing. The "Care Laboratory" aims to monitor activities, as well as study the profiles and needs of users in order to gradually modify activities and events, both in terms of content and timing. The creation of a "Care Laboratory" is one of the activities included in the "Benidorm Vision 360" project. as part of the strategy of attracting and positioning in this tourist segment "outlined activities, activities and even health-promoting events will focus on periods of low and medium season". The city is aware that current senior tourists, or those who will be so in a few years, have new motivations when choosing a holiday destination and in many cases different from those that this profile had a long time ago. In particular, recent research confirms an increase in the number of elderly tourists interested in physical and mental well-being who also try to stay active and maintain healthy lifestyle habits while on vacation. In the face of this market trend, the city is aware of anticipating demand that responds to new needs related to lifestyle, preferences, health, cultural and linguistic diversity of the senior group, positioning itself as a place conducive to healthy tourism, and especially active aging. The goal is not only to increase the healthy offer, which is to contribute to increased senior tourism, but also to build awareness, educate and develop the healthy lifestyle segment also among younger people.

Benidorm has a privileged climate to offer outdoor activities all year round, as well as public spaces that are suitable or even designed for this practice, including beaches, but also green and recreational areas such as l'Aigüera, Foietes or Séquia Mare parks, or the area of Serra Gelada and El Moralet Natural Park, where work has already begun to improve the quality of these urban spaces. Benidorm also has over 100 km of cycle paths, many pedestrian zones, as well as sports facilities.

In its quest to be a healthy tourist city, Benidorm also uses public-private partnerships, active tourism companies, health and well-being-oriented accommodation and sports centres. Benidorm has great potential to be a contemporary, attractive and healthy and ageing-friendly tourist destination, thanks to its exceptional weather conditions, with complementary and recreational offers, with appropriate spaces for the development of economic activities and with tools for research and tourist intelligence in to diversify markets and products.

#### 5) location and availability of services

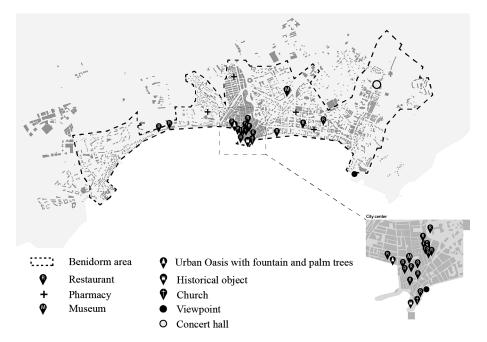
Benidorm has over 2,000 stores spread across all neighborhoods that operate as a large outdoor or seafront shopping mall. In summer, many facilities are open throughout the week (also on Sundays),

and opening hours are extended to meet the needs of residents and tourists. There are franchises of famous textile, cosmetic and gift brands, shoe and clothing stores, jewelers, opticians, sports and decorative stores, bookstores and toy stores. Thanks to its structure, Benidorm makes it possible to provide an appropriate number of basic services within a small range to people with special needs.

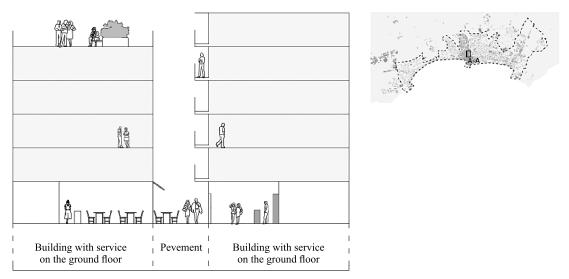
The greatest concentration and rich variety of economic activities are found in the historic center (around 45–50 enterprises per hectare, with 14–16 different types per hectare); and lower values are in the Levante Beach area (15 to 40 enterprises per hectare with 4 to 12 different types per hectare). Figure 6 shows which services and where they are located. The offer of services includes, among others, pharmacies, museums, and a church, however, restaurants dominate here. One of the main streets in the structure of Benidorm is the Carrer de la Palma street, rich in catering offer. It is free from car traffic, thus creating a woonerf, which makes the atmosphere intimate, and restaurants can run gardens without disturbing the traffic, ensuring freedom and safety for pedestrians and users of catering establishments (Fig. 7). In other tourist areas, the amount and variety of economic activities is small. The ground floors in the buildings are used as services, shops, and catering establishmenys. Access to services is ensured thanks to the fact that the city is equipped with bicycle paths, pavements accessible to all, and access to the beach along the ramp by the promenade. Communication is efficient, tailored for each user moving around the city (Fig. 8).

6) communication and the use of modern technologies

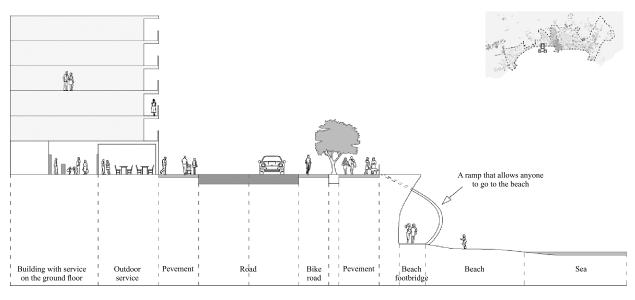
In Benidrom, there is the platform "Visit Benidorm", a public-private partnership responsible for the marketing and management of the destination from a public point of view, and it lobbies for the competitiveness of Benidorm and the protection of the interests of all its members. Benidorm uses intelligent solutions for various purposes, including in the field of intelligent management and marketing of destinations. As part of communication, including orientation in the field, conventional information and communication technologies were used, but also more advanced ones, such as intelligent services and tools:



**Fig. 6.** Analysis of location of services and economic activity in Benidorm *Source*: own study.



**Fig. 7.** Section A-A. Sections of selected street in Benidorm, 3-6 storey buildings *Source:* own study.



**Fig. 8.** Section B-B. Sections of selected street in Benidorm, 5–6 storey buildings *Source:* own study.

public Wi-Fi, traffic lights, applications, solutions using social media, etc. The rules that guide the city in the implementation of these solutions are "close cooperation with private companies" (mainly startups), "limited expenses for each solution", "design based on current needs" and the need to obtain data from each solution Technology is clearly understood by project leaders as a means, not an end, capable of transforming the entire functioning of the city in order to be competitive (Benidorm City Council, 2018).

In Benidorm, the Technical Office for Innovation and Smart Development uses many methods to renew the city using modern technologies, including:

 real-time monitoring of city resources management data such as traffic control, surveillance cameras,

traffic light network and public building cleaning service. Also of interest is an intelligent water management system, controlled from the Dinapsis laboratory, which allows one to verify water quality, improve the adaptability of water supply in terms of demand, and create network renewal plans that ensure efficient use;

- free Wi-Fi is available on the Poniente and Levante beach promenades and in the Old Town. It can be accessed in public places, allowing tourists to connect to the internet and make it easier to get around the city, and post travel photos and videos on social media;
- proximity sensors that are used in a variety of industries, from retail to shopping malls, events, airports, stadiums, and in hospitality and tourism, among others. They can provide information to travel sites, generate new revenue opportunites for local entrepreneurs and help to distribute hiking trails. One of the activities to improve understanding, accessibility and orientation in space is the interpretation panel located on el Paseo de Poniente, a la altura del manantial de Les Fontanelles, which also provide information to blind people;
- a network of beacons, which have been placed at "strategic points" in the urban and natural environment of Benidorm, which display information about culture, nature, beaches, history, sports, events and recreation.
- 7) participation in social life and multi-generational integration through joint use of urban space

The Department of Culture in Benidorm organizes many events throughout the year, aimed at different age groups, including: Skyline Benidorm – various types of exhibitions and vernissages: paintings, sculptures, photography, local community festivals, weekends with regional festivities. The city also offers a variety of sports spaces: outdoor gyms, 3 golf courses, water sports, tennis courts, squash etc., There are also organized excursions on electric scooters, dances for seniors, Club Hipico Benidorm: horse riding shows, also rides and courses, antiques fairs, amusement parks for active people, casino. City users with different needs can find a rich offer personalized to their preferences and requirements. Benidorm offers also an educational program for elderly. The José Llorca Linares Social Center in Benidorm organizes twice in tobacco the educational project "Experience Rooms" launched in 1999 as part of the UMH Comprehensive Program for the Elderly, the aim of which is to meet the educational needs and promote culture and improve the quality of life of people over 55 years of age, through an educational program led by university professors. The project is coordinated by the Social Welfare Department. The only entry requirement is age 55 and no prior studies are required. The academic year consists of seven subjects of 15 hours each and ends with a series of supplementary seminars on topics related to the natural environment, sociology, history, chemistry, criminology, political economy and law.

#### 8) social participation

The inclusion of the people of Benidorm in the participatory process is visible in shaping the city, especially in terms of making it more accessible. In 2021, the Benidorm Citizen Participation Council adopted the 5th Benidorm Participatory Budget, which gives citizens a say in deciding which projects or activities should take place in the city. Among the activities carried out in the last five years are, for example, the renovation of the access ramp to Levante Beach in the area of Torrejó Square, the construction of a pedestrian walkway linking the Ells Tolls district with the Palau d'esports, the implementation of traffic lights for the blind, a playground for children and many activities to make the city's neighborhoods more accessible. In addition, in Benidorm, the City Council launched the platform called "Portal Citizen Participation" as a new tool "to increase interaction with citizens, facilitating their participation through feedback and proposals as well as specific consultations". The platform also serves as an information channel between the City Council and its residents, providing a variety of interesting city information, such as official announcements, transparency, proposals and ongoing processes, thematically grouped news, agenda, utilities, and websites of various City Hall and Administration departments. There are also Neighborhood Councils in Benidorm, which

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are subsidized by the mayor of Benidorm's Civic Participation, obtaining funds for social needs, including also resulting from the COVID-19 crisis.

## DISCUSSION: WHAT DOES THE CONCEPT OF SMART AGE-FRIENDLY CITIES MEAN AND WHAT COMPONENTS ARE IMPORTANT IN THE URBAN RENEWAL?

Research by Sanz, Ferrandis and Garces (2013) shows that there are strong links between the participation of older people in tourism and their health, independence and social integration, which also translates into reduced social and medical care costs. The number of elderly people in cities is increasing, not only as aging inhabitants, but also as seasonal migrants, which is particularly true for Western Europeans (the reason may be better quality of life for less money) (UNECE, 2016). This trend influences the implementation of renewal policies by cities, especially tourist destinations such as the city of Benidorm, directing its urban renewal policy towards the needs of seasonal migrants being older people. The article focuses on verifying whether the city considered a "Mecca for seniors" takes actions aimed at the concept of an age-friendly city (WHO) as part of 8 elements that were also confronted with the areas important from the point of view of building the concept of a smart city according to the European Innovation Partnership for Smart Cities and Communities (EIP SCC). Such a view on the subject shows the perspective of future development of aging cities which will have to respond to many problems and challenges using modern technologies, and paying attention to aspects that so far have not been paid attention to.

While there are, of course, certain standards that determine the development of smart cities, in practice there is no single smart city model. In the case of Benidorm, the first designs using modern technology are related to tourism, but it should be remembered that technology allows the inclusion of other sectors as well, which could be an example of further research in this field. In order to summarize the research, the table below analyzes 8 components of an age-friendly city, extracting from them the aspects that determine being an age-friendly city (WHO) in the traditional sense (AFC) and in the "smart" approach (SAFC) based on smart city areas formulated by EIP SCC.

As part of the above collective analysis (Table 1), in all 8 components it is possible to find actions and solutions that allow the city to run for the title of a smart city according to the European Innovation Partnership for Smart Cities and Communities (EIP SCC), which defines a smart city in relation to 3 areas: mobility (multimodality of transport, electric vehicles) – transport and mobility (WHO), built environment (reduction of energy consumption, buildings and zero energy districts) – public spaces and buildings (WHO), integrated infrastructure (data exchange) – communication and use of modern technology (WHO).

## CONCLUSIONS: PRACTICAL DEVELOPMENT AND POLICY RECOMMENDATIONS

Although Benidorm is an example of a tourist city with a certain specificity and approach to its renewal, the presented research results are so universal that their implementation in relation to the policies of city renewal with a similar specificity seems to be possible.

The research showed how Benidorm, from a fishing village, became one of the main destinations for the elderly, especially from Western European countries. Benidorm is visited in particular by generations of older people, but also by other vulnerable groups such as people with disabilities or parents with young children. Many of them have purchased real estate, the so-called "second home", and come to Benidorm for the entire season, e.g. fall and winter. An important element attracting the above-mentioned social groups is the climate, access to public spaces, including beaches, a high-quality seaside promenade, a diverse offer of services, service functions on the ground floor, which contribute to the extension of outdoor activities, social and medical care

(McHugh & Mings, 1994), as well as mainly high-rise residential buildings due to the lack of restrictions on the height of the buildings, hence many apartments have windows facing the sea, giving the possibility of contact with the surroundings without leaving the place of residence. Assuming that the buildings are equipped with elevators, from the point of view of the needs of older people, they provide the possibility of better daylight illumination of the rooms, which is extremely important for people staying in apartments for a long time, and a better view of the city (in the case of Benidorm, many buildings have windows facing the sea), this additionally increases the area of the immediate vicinity of the building for public spaces serving the integration of residents, which by some researchers has been considered an effective land management strategy in the city (Ciriquián et al., 2018), yet criticized by certain others (Arnaiz Burne & César Arnaiz, 2017; Mazón, 2010).

What is noteworthy is the variety of accommodation and service activities in Benidorm accessible to people with special needs, offering a wide range of recreational products, which not only increases the city's competitiveness, but also increases its ability to attract different user profiles (Crouch, 2011). Benidorm is an example of a city that comprehensively pursues its urban renewal policy and can be an example for other tourist destinations in terms of what aspects one should pay attention to in urban renewal activities to make the city age-friendly in an intelligent way.

The present research focuses on the perspective of older people as seasonal migrants, using the city of Benidorm for a specific period of the year (season), although it would be interesting to conduct research in relation to Benidorm residents, because they are also recipients of the changes introduced alongside the incoming users. The research carried out in the article constitutes a new contribution of knowledge to the analysis of the spatial structure of the city, so far not analyzed through the prism of an age-friendly city from the perspective of an urban planner/architect. This research may also be the basis for their wider use in further research (social, spatial, cultural) conducted by other scientists.

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