

A Coruña port area as a sustainable Campus ICT for the UDC

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Abstract:

Background: From the first human settlements, the border between sea and land has been considered both a usage object and a symbolic location. In A Coruña (Spain), city and port appear as two inseparable and interconnected realities. In the 21st century, the transfer of various activities from the inner bay of the city to the outer port brings the opportunity to rethink a significant maritime area of about 6.4 hectares. This paper proposes to evaluate the potential of this port extent for introducing university uses through the application of a series of sustainability parameters.

Materials and Methods: The methodological approach comprises four steps. First, the paper analyses the urbanisation models mostly applied in the renovation strategies of port areas. Second, it defines the case study of A Coruña. Specifically, the quays of Bateria and Calvo Sotelo are analysed. Third, a review of the University archives is developed to identify the campus model proposed by the Universidade da Coruña. Finally, the research defines four sustainability dimensions and associate them with specific characteristics of the port.

Results: The findings illustrate the suitability of the port for hosting the sustainable Campus-ICT of the Universidade da Coruña. This academic use becomes an essential tool to encourage the revitalisation of the main urban-port area of the city.

Conclusion: The value of the paper is to propose an unexplored and novelty approach for the renovation of the port area of A Coruña, identifying its potential for hosting university activities.

Key Word: Campus sustainability; ICT; Higher education; Port area; Urban regeneration.

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I. INTRODUCTION

The notion of sustainability has been considered in environmental policies since the last decade of the 20th century. In 1987, the Brundtland Report establishes one of the most frequently cited definitions of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [1]. Later, Navas (2008) complements this definition by proposing that “both government and business organisations hold a high degree of responsibility in the commitment to sustainable development” [2].

On one side, there is a clear need to integrate sustainability into port areas. On the other side, these areas acquire an extraordinary potential for development thanks to their significant historical and landscape values, as well as to their functional and economic relevance. The relationship between the port and the city has suffered continuous oscillations over time (Hoyle, 1994 and 1997; Barragán, 1995; Navarro, 1998; Meyer, 1999). Today, the transformation of the port area is one of the greatest urban opportunities for maritime metropolis. These interventions began in North America [3] in the 60s and 70s of the 20th century, and move to Europe in the 80's. First to Great Britain [4] and later to the rest of the European countries. However, the specific conditions of each city (e.g. geographical, economic or cultural characteristics) prevent the drawing of general conclusions that could define a global model (Casariego et al., 1999).

In Spain, commercial activities are prioritised over others when remodelling port areas (Pozueta, 1996). There are integral renovations such as those of Santander or Gijón; and partial ones, such as the case of Moll de la Fusta in Barcelona. In the first decade of the 21st century, diverse transformations take place in the ports of Malaga, Algeciras, Valencia, Vigo, Almeria and A Coruña. However, some of these cases have failed due to a decontextualized approach (Alemany, 2006).

During the last decade of the 20th century, the Puerto de A Coruña, the Ayuntamiento de A Coruña, the Demarcación de Costas del Estado and the Dirección General de Carreteras develop a strategic plan for transforming the waterfront of the city, with the exception of those areas corresponding to the port and the most peripheral extremes (As Xubias, O Portiño and Bens). In that moment, different cabotage activities are transferred from the port area of the inner bay to the outer port of Punta Langosteira in the municipality of

Arteixo. This relocation allows to complete one of the unrealised waterfront areas that corresponds to the quays of Batería and Calvo Sotelo. It also favours the appearance of "new" uses that reconsider the relationship between the port and the city.

The agreement signed in 2004 between the Ayuntamiento de A Coruña and the Ministerio de Fomento reflects the commitment to regenerate those abandoned areas (Figure 1) within a maximum period of four years. It also incorporates the requisite of financing the works of the outer port through the sale of the unoccupied lands. With this objective, commercial, tertiary and leisure activities are planned for the quays of Batería and Calvo Sotelo. At the same time, the Plan General de Ordenación Municipal of 2009 considers commercial and residential activities, and green and recreational areas. The privileged location of these spaces has caused several confrontations between public administrations over time. Specially, between the port authorities and the local government. In 2018, this last institution launches an 'ideas competition' for integrating the port area with the city of A Coruña. Despite the relevance of this issue, the call attracts scarce interest among professionals and very few projects are submitted. The solutions offered for the renovation of the port do not respond to the real necessities of the area, which are not properly reflected in the formulation of the competition. Finally, five projects are awarded, although their approaches are greatly conditioned by an unclear program.

In contrast with the proposals of the competition, this paper proposes an alternative strategy that remains unexplored. Diverse academic authorities of the Universidade da Coruña (UDC) have publicly and repeatedly expressed the need for a specialised space to complete the educational offer of the institution. There is a real demand to consider the development of a university campus associated to Information and Communications Technologies (ICTs). Consequently, this paper makes a novel contribution by evaluating the implementation of university activities in the port area of A Coruña. The research identifies the attributes required by the quays of Batería and Calvo Sotelo for hosting the sustainable Campus-ICT of the UDC.



Figure no1:

Area of study (red line) in relation to the urban framework (Plan General de Ordenación Municipal, 2009).

II. METHODOLOGICAL APPROACH

The methodological approach of this paper allows to identify the potential of port areas for hosting university uses. It comprises four steps. First, the paper analyses the urbanisation models mostly applied in the renovation strategies of port areas, both at national and international levels. Second, it defines the case study of A Coruña (Spain). Specifically, the quays of Batería and Calvo Sotelo are analysed. Their evolution over time is evaluated through the comparison of historical and present cartographies. Third, the University archives

areviewed for identifying the campus model that the UDC proposes within the urban framework. Finally, the research establishes a set of sustainability dimensions and associates them with specific characteristics of the port area. These dimensions follow the criteria established in diverse studies and guides on university campuses.

III. BACKGROUND

(i). Port enclave

Originally, the port and the city of A Coruña are integrated (Acinas, 1998). Between the 13th and the 16th centuries the beach of El Parrote is extended towards the inner part of the bay, occupying the protected sands of the isthmus. This inner bay is initially dedicated to both fishing activities and trade of goods.

The port area that this paper analyses is located at the centre point of the arch formed today by the squares of María Pita and La Palloza, structuring the inner beach of the bay in two zones. The area appears in the first cartographies of the light century as a rocky promontory (Figure 2). Francisco Montaigú de la Perille, Director of the Cuerpo de Ingenieros Militares de Galicia, also represents it as a natural element in a series of projects developed between 1723 and 1726. In his last project of 1726, the place is geometrically formalised through a semi-bastion that presents a defensive character and sets the origin of the now-named Muelle de Batería (Soraluze, 1985). This proposal combines the defence and growth of the city with the development of the port. Other proposals of the 18th century [5] address separately the transformation of these two areas.

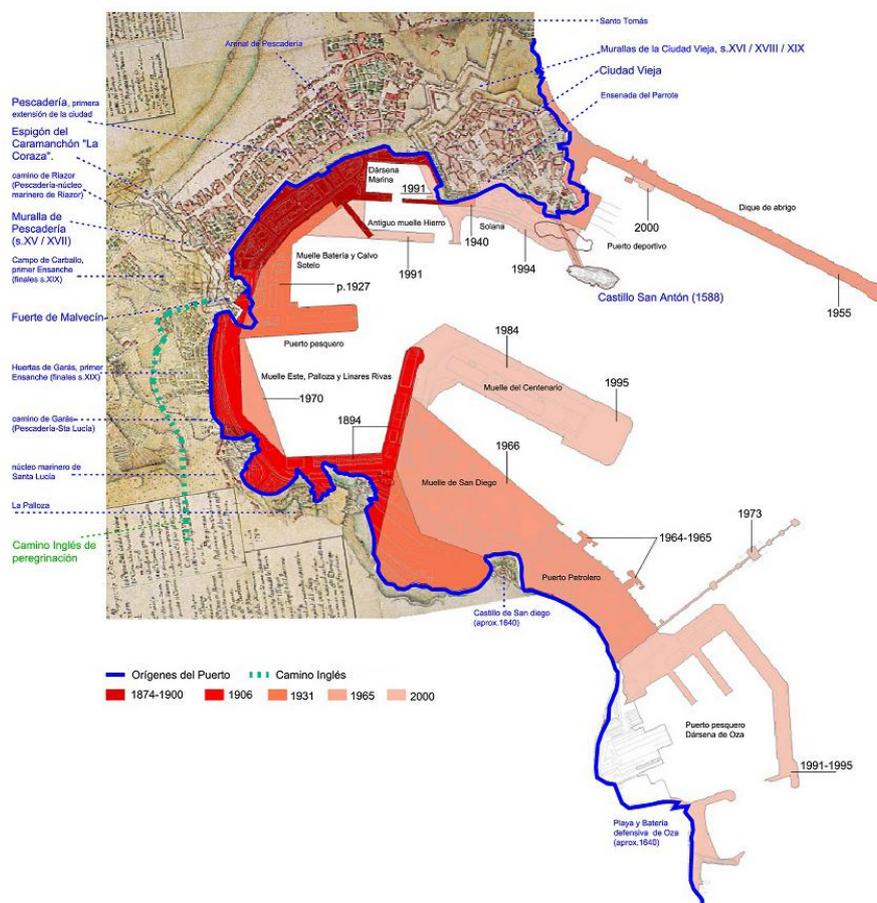


Figure no2:
Port area of A Coruña (Plan Director de Reordenación) over the plan projected by Miguel Marín in 1755. Photomontage.

The segregation of the port from the city is formalised in the mid-19th century through the establishment of an administrative area with its own rules. Despite this, in 1860 the port is in a significant state of neglect. Goods have to be transported by carts and men along the sandy area in an unseemly atmosphere for a capital and a port of the relevance of A Coruña (Uribe, 1866; Vila, 1909). The Muelle de Batería de Salvas, or El Malvecín (Reiriz, 1999), is considered an essential reference in the two projects proposed to tackle the deteriorating situation. In 1857, the engineer José Bellón develops a first project in which the Muelle de

Batería de Salvas acts as a starting point and hosts the building for the Parque de Ingenieros Militares. In 1860, the also engineer Celedonio de Uribe proposes a second strategy. Here, the Muelle de Batería de Salvas becomes the final point of a scheme that begins in the Baluarte del Parrote.

The Muelle de Batería de Salvas consolidates its central role in the three preliminary plans of the global expansion of the port, carried out in 1884, 1887 and 1891 by Eduardo Vila, engineer and Director of the port of A Coruña. All these plans include two quays that configure the Dársena de La Palloza, which is currently located between the Muelle del Este and the Muelle de Calvo Sotelo (or Muelle de Transatlánticos). The first quay is built during the first decade of the 20th century; while the second one have to wait until 1923 to be projected by the engineer Emilio Pan de Soraluce; until 1936 to be finished (Vigo Trasancos, 2014); and until the decade of the forties to receive the railway line and the first buildings.

In 1946, a growing demand for accommodating different activities in the port area leads to the Proyecto General de las Obras y Mejoras del Puerto. The construction of the Dique de Abrigo is proposed among other interventions [6]. With this project, the port area specialises its zones and introduces certain activities incompatible with the access of citizens. The dissociation between the city and the port is reinforced when the fencing of the maritime area takes place. From this moment on, the Muelle de Calvo Sotelo is focused on the loading and unloading of solid bulks, while the Muelle de Batería is reserved for the mooring of tourist vessels. These tourist activities are hindered in the following decades by the increase in the draught of the vessels, which become progressively larger. As a result, the Muelle de Batería is also dedicated to the trade of goods.

At present, the quays of Batería and Calvo Sotelo (Figure 3) occupy a land area of 6.40 hectares. The two are organised by a series of areas for storage of goods and their corresponding circulation spaces (Autoridad Portuaria de A Coruña, 2018). The Muelle de Batería has an area of 2.40 hectares. It includes a warehouse, an outdoor storage area for iron and steel products, and a series of deposits and silos, some of them considerably deteriorated. The circulation spaces take almost fifty percent of the total surface of the quay. The Muelle de Calvo Sotelo completes the port area with 4.00 hectares. A small construction from the fifties is located at its cross end, containing a tide-gauge. This quay disposes two warehouses [7], an outdoor storage area and various deposits and silos for solid and liquid bulks. Between the silos, there is a small old pavilion where the offices of the Autoridad Portuaria are located. As in the Muelle de Batería, the circulation spaces occupy almost fifty percent of the total surface.

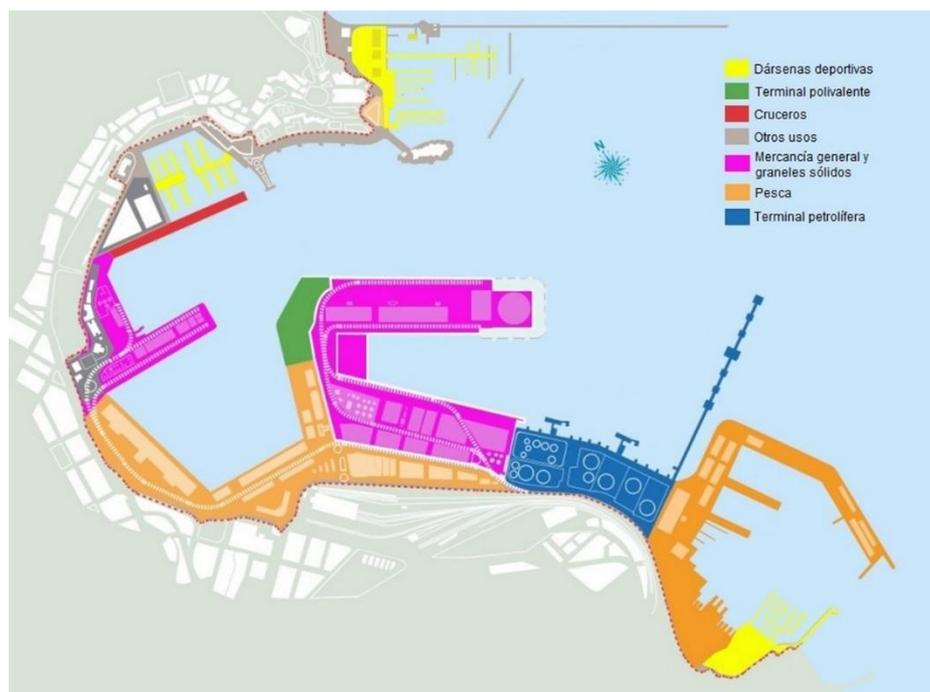


Figure no3:

Activities developed at the port area of A Coruña (Autoridad Portuaria, Memoria anual 2017).

In addition to the previous areas (Figure 4), the following are located in their surroundings: the Muelle de Transatlánticos and the Dársena de la Marina, the Muelle de Linares Rivas, or Garás, and the quay next to the Jardines de Méndez Núñez or to the Relleno. This last one is formalised through a linear strip and hosts a series of singular buildings.



Figure no4:

Aerial view of the quays of Bateria and Calvo Sotelo. Author: Janet González Valdés, 2017.

The Muelle de Transatlánticos is located in the north area of the port. The Autoridad Portuaria led its renovation strategy for consolidating the Dársena de la Marina as a touristic resource. This transformation included a coordinated sequence of operations that lasted approximately a decade. In 2005, a conference hall (Palexco) and a shopping mall were built in the area. In 2011, a new cruise terminal with a draft of eleven meters was inaugurated. Finally, in 2015, a pedestrian area of five hectares was created. This last intervention involved burying the traffic and building a large-capacity underground parking area.

In the south, the Muelle de Linares Rivas became a reference for fishing activities. A fish market of 415 meters in length and 30.000 m² of usable area was constructed to replace the Lonjadel Gran Sol [8], which was located at the Muelle de La Palloza. The building was inaugurated in 2004 to satisfy the community's requirements regarding the conservation of fish and seafood, and the computerisation of auctions. A complex program [9] provides continuity to the traditional voices and passwords used in the old market.

The third quay hosts a series of facilities [10] arranged in a winding row, with its main facades oriented to Avenida do Porto. The buildings of Portos de Galicia and Jefatura Superior de Policía present significant built-volumes, with four and six floors respectively. The buildings of Dependencia Regional de Aduanas, Ministerio de Defensa, and Delegación de Gobierno are formalised in the manner of singular urban villas, built in the mid-20th century with an eclectic language. Furthermore, there are two buildings associated to the port activities. On one side, a volume that hosts the electrical transformers; and, on the other side, a building that hosts the cafeteria-restaurant. This last building, currently in disuse, is of little interest except for its moderate volume. In any case, all these are isolated constructions that offer the necessary permeability for pedestrians to enjoy directly the water.

(ii). The campuses of the UDC in the urban framework

The territorial organisation of the UDC seems to be approaching to a “non-hierarchical model, often based on specific vocations of the particular centres; and also based on intense, complementary and synergistic interactions” (Camagni, 1998) [11]. This scheme of non-subordinated collaboration is implemented in a regional network of small and medium-sized cities, and implies the cooperation between universities, and public and private sectors, to structure specialised university areas (Vargas et al, 2019).

Within the Galician university system, the UDC was founded in 1989. From a territorial point of view, it is organised in two campuses: A Coruña and Ferrol. On one side, A Coruña includes six discontinuous areas which are functionally segregated: A Maestranza, Riazor, Elviña-Zapateira, Oza, Bastiagueiro, and Oleiros. On the other side, Ferrol is structured in two areas, also physically separated: Esteiro and Serantes. All these areas are situated in heterogeneous locations, differ in their surfaces and uses, and offer a dissimilar morphological composition [12].

In the case of A Coruña, A Maestranza and Riaza are located in the consolidated urban area; Elviña-Zapateira and Oza, in peripheral urban areas; and Bastiagueiro and Oleiros, in zones of extensive growth, in the adjacent municipality of Oleiros. The surface of the six areas is significantly different. Elviña-Zapateira is the largest one, with 51 hectares; while A Maestranza is the smallest, with 0.5 hectares. Furthermore, the variety of uses reaffirm the specialised activities that take place in each of the campus. A Maestranza is characterised for its administrative and representative uses; Riaza, for its nautical education centre and cultural buildings; Elviña-Zapateira, for its technical schools, faculties and research centres; Oza, for its facilities related to health sciences; Bastiagueiro, for its sport facilities; and Oleiros, for its heritage character. Above all, the six areas coexist despite their heterogeneous nature, and conform a closed universe that make it difficult for students to develop other activities beyond the academic ones.

The physical implementation of the university campus should reflect its dynamic character through continuity and flexibility. More than a specialised area embedded in the city, it needs to be thought as part of the form and functioning of the urban structure, playing a key role in its reorganisation. Within this context, the introduction of a “new” university campus should not only consider the city as a location, but also a privileged framework of reflection. The city itself becomes a relevant educational resource encouraged by the campus.

By introducing a “new” use, the regeneration of the port area must take into account not only the architectural configuration, but also a wide variety of complex challenges related to the fields of planning, organisation, political management, institutional competencies, economy, financing, legality and ecology. All these aspects highlight the need to consider sustainability as a transversal dimension to address the implementation of the campus (Mader, 2013).

IV. THE SUSTAINABILITY OF A UNIVERSITY USE IN THE QUAYS OF BATERÍA AND CALVO SOTELO

The strategy of introducing a Campus-ICT in the port area is supported by the recognition of two situations: one local (the port as a physical support) and other territorial (the campuses of the UDC). As a consequence, it has to be addressed through a set of parameters that identify the port area, together with another set associated with the university. This study explores the social dimension of the academic institution, which is reflected in the so-called third mission: the transfer to society. The transfer of knowledge resides not just in its teaching and research activities, but also in its ability to become a reference of environmental sustainability (Bergquist et al, 2019).

(i). *Historical dimension: identity*

"Waterfronts, too, can also be made to act much more like seams than they ordinary do today" (Jacobs, 2011). Around 1960, the urban planning, theorist and socio-political activist, Jane Jacobs, introduces the idea of incorporating port facilities as strategic points for urban suture. At the beginning of the 21st century, this idea remains active.

Historically, the port of A Coruña has been an essential factor for the economic and population growth of the city. Apart from economic and technical attributes, two socio-cultural aspects reflect its potential (Grindlay, 2008). First, the central location of the port in the city, which facilitates the access of citizens to the maritime area. Second, the intrinsic capacity of this area to combine the development of new facilities with the recovery of historic-patrimonial buildings for public use.

In accordance with Uriarte (2007), “it is essential to encourage the permanence of the most singular and significant testimonies of the port spirit in each locality, reinforcing its maritime idiosyncrasy” [13]. The conservation and transformation of the port buildings of the golden age suppose an exclusive opportunity to integrate past, present and future from an architectural and constructive perspective. Alemany (2006) suggests that the key is “to keep the port in the city and revitalise its abandon and underused areas without losing its character. It is necessary to preserve the identity and the heritage, as well as to take advantage of those development opportunities that only port cities allow” [14]. This idea is considered crucial by the Asociación Internacional de Ciudades y Puertos (2006) for the sustainable development of port cities. This report, among other objectives, proposes the need of “respect the identity of the place”, “establish new principles for the city/port cohabitation”, and “manage the different rhythms of port and urban lives”. Despite their current disuse, the infrastructures and buildings of the port are a relevant testimony of the maritime and urban history of A Coruña.

Thus, the singularity of the port area (*genius loci*) becomes an opportunity to provide new uses to unoccupied industrial structures. The transformation of the facilities of the quays of Bateria and Calvo Sotelo for university activities related to ICT would allow them to recover their urban prominence. This leads to prioritise public uses and provides the place with a collective identity as a consequence of the appropriation of the space. This change offers the opportunity to face some unresolved challenges in the structuration of the city: the re-use

of historic districts, the re-organisation of traffic and local transport, or the re-location of diverse services and functions in the urban fabric.

(ii). Cultural dimension: recognisability and complementarity

The industrial heritage of singular typological value represents a resource to avoid the consumption of new areas. It becomes a support for reconfiguring the city of A Coruña and acts as an identification element for citizens with the port. The reuse of the industrial patrimony is essential for enhancing the relationship between the port and the city. Peña (2012) defines it as “an opportunity for providing new uses to areas and buildings when their original uses become obsolete. Some of them are catalogued, and others are not. But these lasts also take part in the city. They are areas and buildings that once provided sparkle to the city and are still in good condition today. However, when they fall into disuse, their initial activity should be replaced by another” [15].

Public administrations are often not very sensitive to heritage conservation. In A Coruña, these entities establish an unequal level of protection for the diverse elements located in the quays of Bateria and Calvo Sotelo. The Port Authority and the municipal institution assign a high level of protection to the tide-gauge of the fifties; and to the silos of CementosdelCantábrico, a set of cylindrical volumes of great significance in the port skyline. However, this preservationist attitude does not extend to the rest of the buildings located in the quays and their immediate surroundings. While the Port Authority considers the preservation of other three pieces: Aduanas, Ministerio de Defensa [16] and the Delegación de Gobierno; the municipal planning only considers it in the last one. These discrepancies compromise the intervention of revaluing the existing buildings from a historical perspective.

On rare occasions, the recovery of historical buildings for public uses on the maritime-terrestrial border incorporates research and technology activities (Boubacha et al., 1997), despite being compatible with others known as “soft” ones (e.g. passengers or cruise terminals, marinas and fishing harbours) (Fernández Pérez, 1999). According to Martín (2009), there are diverse social strategies that can introduce favourable effects in port areas through guarantying the accessibility of citizens to the waterfront. Strategies such as the implementation of bicycle lanes, the design of promenades or squares, or the promotion of sport, tourist, services and commercial activities. Furthermore, the control of both industrial and service activities favours the coexistence and the contact of the port with the city, and harmonises the double vocation of these maritime areas: commercial and civic. All of them are complementary activities that ensure the adequate use of the port area when they are introduced in a balanced manner.

(iii). Environmental dimension: accessibility and mobility

Muñoz (2006) proposes two strategies for facing the tendency of standardising port zones. The first strategy focuses on contextualisation and proposes “a transformation based on the physical but above all social and cultural characteristics of the local context” [17]. The second strategy suggests slowness as a mechanism that prevents the rapid rotation of activities and users, defining living spaces with different possibilities of use.

Interventions in the disused port area should be based on the principles of a compact and ecological city. In this city, new technologies contribute to create spaces of high environmental quality that interconnect natural corridors and innovative activities. New technologies also allow to manage relevant amounts of information on accessibility and urban mobility through diverse solutions based on big data, artificial intelligence, the internet of things and augmented reality. In A Coruña, the peninsular geography and the unplanned bus network –without a specific bus lane– cause a dense and swinging traffic between the city and its metropolitan area. In addition, the combination of a street-level parking area based on a rotating model with a huge underground parking area at the urban core generates an excessive traffic on Avenida do Porto. The Avenida do Porto is the coastal axis of penetration into the historical centre of the city and is partially interred. As Samperi (1986) recognises in a similar case, both quays of Bateria and Calvo are isolated from their urban surrounding by this Avenida. Therefore, if there is an intention to enhance the accessibility of the citizens to the maritime area, it is convenient to define the role played by the axis. Is it possible to extend the interred section? How would it affect the relationship between the city and the port? How much would improve the quality of these representative urban areas itself? And what would be its impact on the daily life of citizens?

Port accessibility is considered a priority as it promotes the interaction of the city and the citizenship with the sea. Possibly, this accessibility refers to consider pedestrians before cars, while guaranteeing their comfort and safety. It is also about considering public transportation services before private options; and about offering intermodal alternatives such as bicycles, scooters, electric motorbikes, autonomous vehicles or drones (Paradowska, 2019). Overall, there is a need to transform the current mobility model and encourage a more sustainable one, able to improve the quality of life of the citizens.

(iv). Social dimension: the third mission of the university

The architectural regeneration of the port buildings involves the consideration of three strategic lines: the functional, the cultural and the symbolic. The functional line proposes to adapt the solid volumes to specific needs, but considering flexibility. The cultural line requires the adaptation to the physical environment. The organisational model of the University must dialogue with the urban framework. Finally, the symbolic line takes into account the architectural perspective.

In the processes of recovering the city and introducing innovation in the development of urban policies, some relevant aspects need to be addressed. First, there is a need to consider the singularity of the University, which is often regarded just in terms of usable area. Second, it is necessary to take into account the difficulties of transforming existing buildings that are conditioned by their particular typological characteristics. Third, the location of the academic areas cannot be thought separately from the whole urban network. Thus, it is necessary to consider accessibility, possible future expansions and the need of complementary services. A synergy generated by “the impulse shared between the port and the city about specific projects on the waterfront that supposes the culmination of a process of agreement that almost always leads to good results” (Alemany, 2005) [18]. Lastly, the potential impacts of the intervention on the surrounding areas must be planned and prudently managed.

In the formalization of these new modalities of cooperation, the encouragement of a dynamic symbiosis between universities and medium-scale cities is undeniable. Even those cities with a complex and strong economic base cannot do without the benefits of the implementation of a higher education institution. In this context, universities have to promote academic strategies beyond the traditional fields of teaching and research. These academic institutions precise to explore a third line of action with a focus on social welfare and urban economic development (Molas-Gallart, 2005).

The University with its Campus-ICT could guarantee the implementation of collective facilities for the entire city that promote an urban requalification where public spaces acquire a fundamental role. It is not about introducing uncommon or extraordinary uses. Thus, areas such as sport facilities, parks, libraries, auditoriums or exhibition halls, could contribute to the expansion of the urban services system, as well as to the improvement of other resources.

V. CONCLUSIONS

The parameters applied to the quays of Batería and Calvo Sotelo establish the qualities that confirm their suitability for hosting research and higher education activities. These activities become tools for encouraging the regeneration of the main urban-port area of A Coruña.

The first of the qualities refers to the uniqueness of the maritime enclave. The successive layers deposited over time give the port area its own and identifiable character, which is enhanced by the introduction of the university use. Therefore, the architecture of knowledge is based on an essential premise: its conception is not the simple creation of an object, but a process that generates a living space with which citizenship can be identified.

The second quality, the recognisable nature of the place, alludes to the heritage value of the buildings located in the port area. All these constructions (e.g. industrial buildings, high level blocks or manor houses) define the image of the place, and should be regenerated in line with their new functional contents in a utilitarian sense, but also representative and symbolic.

The third quality refers to the potential of the area to accommodate complementary uses, and suggests the need of rigorously planning the port. The regeneration strategy must confer a global order to the sectorisation that currently characterises the maritime area. The university uses proposed for the quays of Batería and Calvo Sotelo must complement the fishing and tourist activities, which respectively take place in the quays of Linares Rivas and A Palloza, and of Trasatlánticos.

Finally, the last quality acquires significance in the context of urban mobility, and focuses on the access of pedestrians to the port area. The central position of the port in the lower part of the city encourages the use of alternative personal-mobility modes. This favours the use of the area by the citizens at different times and for different purposes.

In parallel with these qualities, the activities referred to the transfer of knowledge and technology are a resource of great relevance. The university area is not limited by physical restrictions, but is defined by the relationships with the territorial and social agents. An induced symbiosis that becomes the engine of the economic and social growth. In this way, just as the city has to be completed with an environmentally and socially sustainable development, the quays of Batería and Calvo Sotelo become areas of opportunity for implementing the Campus-ICT of the UDC.

As a future line of research, our methodological approach can be replicated to evaluate other port areas that need to be regenerated. These future studies should consider the introduction of activities able to reinforce the connection between the port and the urban area.

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Notes

- [1]. "El desarrollo que satisfaga las necesidades del presente sin comprometer la capacidad de las futuras generaciones para satisfacer las propias" (WCED, 1987: 23).
- [2]. "Tanto las organizaciones gubernamentales como las organizaciones empresariales tienen un alto grado de responsabilidad en la apuesta por el desarrollo sostenible" (Navas, 2008: 7).
- [3]. Cities such as Baltimore, Boston, San Francisco, New York, Seattle and Savannah mainly occupy their port areas with tertiary uses.
- [4]. London initiates the regeneration strategy of its port area in 1981 (London Docklands).
- [5]. Some of these projects are the ones developed by Miguel Marín in 1755; the one formulated by Miguel de la Puente in 1788; or the ones carried out by Giannini in 1789 and 1792. All of them are exclusively focused in the port infrastructure.
- [6]. The construction of the Dique de Abrigo lasts practically two decades, from the end of 1948 to the end of 1965.
- [7]. One of the warehouses, with a capacity of 15,000 m³, is partially dedicated to the storage of fruits. It belongs to the Autoridad Portuaria de A Coruña.
- [8]. In 1960, the engineers Eduardo García de Dios and Félix CalderónGaztelu project the Lonjadel Gran Sol. Despite its current state of neglect, the building offers a recognisable image characterised by the wavy shape of its roof, which is solved with a series of fine concrete vaults.
- [9]. The 30.000 m² of usable area host one fish preparation area, eight exhibition rooms of 1.000 m² each, fifty premises for exporters of 140 m² each, one refrigerating room, one silo for 25t of ice, two fish sale rooms of 240 m² each, one storage area of 180 m², two rooms for waste management and water depuration, and eight loading platforms for trucks. Additionally, this area hosts one space for sales, one computer centre (online sales), one cafeteria-restaurant, a series of changing rooms, and a parking area with capacity for 33 trucks, 66 vans and 165 cars.
- [10]. This area hosts public organisations, such as Portos de Galicia attached to the Consellería del Mar de la Xunta de Galicia, Jefatura Superior de Policía, Dependencia Regional de Aduanas e Impuestos Especiales de Galicia, Ministerio de Defensa and the Delegación de Gobierno; and auxiliary facilities of the port activities, such as a cafeteria-restaurant and a room for electrical transformers.
- [11]. "Que no es jerárquico, a menudo basado en 'vocaciones' específicas de los centros particulares y basado también en intensas interacciones complementarias y sinérgicas" (Camagni, 1998: 37).
- [12]. A disposition that seems to follow the model of economic and social progress linked to the Industrial Revolution. Knowledge is broken down into a multitude of new sciences that require fragmented and specialised spaces. Faculties, schools, libraries and research centres require differentiated locations for achieving scientific fullness. At that time, the question about the integration or segregation of these academic spaces arises; both among them and in their relationship with the city.
- [13]. "Es preciso insistir en la permanencia de los testimonios más singulares y significativos en cada localidad del espíritu portuario que refuercen la idiosincrasia marítima de sus orillas" (Uriarte, 2007: 57).
- [14]. "Mantener el puerto en la ciudad, revitalizando las áreas abandonadas o subutilizadas, pero sin perder su carácter, para conservar la identidad, el patrimonio y aprovechar una oportunidad de desarrollo que sólo las ciudades portuarias permiten" (Alemany, 2006: 25).

- [15]. “El hecho de dar nuevas funciones a espacios y edificios, cuando la finalidad y el uso que los hicieron nacer se vuelven obsoletos. Algunos están catalogados y otros no, pero sin estarlo, también forman parte del conjunto construido de la ciudad. Son edificios y espacios que en su día aportaron imagen a la ciudad y que en la actualidad aún están en buen estado; sin embargo, al caer en desuso, su actividad inicial debe sustituirse por otra” (Peña, 2012: 16).
- [16]. The construction was built in the fifties and, since 2017, is occupied by the Oficina de gobierno local of the Ministerio de Defensa. Previously, it hosted the Comandancia Naval de Marina.
- [17]. En primer lugar, la de la contextualización, que “configura el proceso de transformación a partir de las características físicas, pero sobre todo sociales y culturales del contexto local” (Muñoz, 2006: 42).
- [18]. Una sinergia que generada por “el impulso compartido por el puerto y la ciudad de los planes y proyectos concretos sobre el frente marítimo es la culminación de un proceso de acuerdo que casi siempre lleva a buenos resultados” (Alemany, 2005: 2).

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