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Large scale urban projects implemented on waterfronts in Budapest & Vienna

Case studies of GraphiSoft Park in Budapest & Donauinsel in Vienna

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- Keywords: waterfront, large scale Urban Development Projects (UDPs), revitalization.

- Abstract

By tracing the historical role of urban waterfronts in the development of cities, it is apparent that waterfronts change in response to demands for new users. The adaptations to new functional requirements over time have resulted in a recurring cycle of waterfront development. The current rediscovery of waterfront sites as potential opportunities for economic development and public enjoyment represents the continuation of this pattern of ruse.[1]

In this abstract we would like to deal with the large scale urban projects implemented on waterfronts comparing between the case of Budapest (Graphisoft Park) and the case of Vienna (Donauinsel), and how each of Austria and Hungary dealt with the waterfront to revitalize the - so called - neglected part of the city with such new large scale projects. As the Graphisoft Park area was a brown field area, and the Donauinsel area was the place where the flooded water engages. Also, trying to point out how such kind of projects help to develop the waterfront façade creating new urban spaces (even public or private) with new uses to the city, how are such locations connected with the city center to facilitate the process of development and reaching more concrete results in the shortest period.

- Summary

In the research, I would like firstly to start with an introduction to define the three main concepts that are the main axes that the research will evolve around, large scale projects, waterfronts and revitalization, as these three concepts will pave the road to what will be mentioned later as the research main second point. Secondly, the research will introduce the two case studies of the Donauinsel in Vienna and the Graphisoft Park in Budapest not as a comparison more than two large scale projects on waterfronts with different purposes and strategies. Meanwhile, illustrating and analyzing four main perspectives, which played an important role to form each case, the urban planning/ function, social, economical, and environmental perspectives. Thirdly, the final conclusion and outcomes from the research, concluding to what extent both projects succeeded or not to achieve

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[1] http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/stmlj15&div=33&id=&page=

main goals as also the research may lack some points which may be mistakenly forgotten or skipped as a time wise.

1- Introduction

Here, the research will tackle the three main concepts of large scale urban projects, waterfronts and revitalization projects.

a- Large scale urban projects

As over the last fifteen years the local authorities have strongly relied on the planning and implementation of large scale urban development projects (UDPs) such as museums, waterfronts, exhibition halls and parks, business centers and international landmark events, as part of an effort to re-enforce the competitive positions of their metropolitan economies in a context of rapidly changing local, national, and global competitive conditions.[2]

b- Urban Waterfronts

Simply, waterfront is the area of a city (such as a harbor or dockyard) alongside a body of water[3], while the urban waterfronts become the focus of many current issues created by the often conflicting pressures of population and commerce. As patterns of commerce have changed, the nature and use of urban waterfronts have changed. At one time, the commercial life of coastal cities depended almost exclusively on the activities of their ports, but as land and air transport of goods and people developed the attention of city planners and the private sector turned increasingly inland[4]. Therefore, waterfronts gained more importance and care from the urban point of view to be used for recreational and leisure purposes (as the case of Vienna) or even for economical purposes (as the case of Budapest) and as a part of the national large scale urban development projects.

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[2] Spaces of Neoliberalism, urban restructuring in North America & Western Europe, Erik Swyngedouw, Frank Moulaert and Arantxa Rodriguez, part 3, chapter 9, page 195 & 196.
[3] http://wordnetweb.princeton.edu/perl/webwn?s=waterfront
[4] http://books.google.com/books?id=tzYrAAAAYAAJ&pg=PA9&dq=waterfronts&hl=en&ei=li2CTP6vE5 DQjAfM4KGRCA&sa=X&oi=book_result&ct=result&resnum=5&ved=0CDcQ6AEwBA#v=onepage&q= waterfronts&f=false; page 3.

c- Revitalization projects

Revitalization is defined as "The renewal and improvement of older commercial and residential areas through any of a series of actions or programs that encourage and facilitate private and public investment"[5], and also as "city planners have redesigned their central cities to make them more amenable to people moving in, especially higher income residents"[6]. Shortly, revitalization projects are, all the projects which give new life, activity and success to the city changing it from the inactive state to active state.

Meanwhile, revitalizing the waterfronts land and buildings is the reuse of vacant or underutilized industrial lands, as the primary industrial areas adjacent to the harbor, a number of parcels of land have become vacant or are currently underutilized. So far, those lands were a good motivation for planners to meet public and private needs also to be as a solution for further developments.[7]

2- Case studies

A) Donauinsel (Danube Island)

The Donauinsel is a long, narrow island, in central Vienna, Austria, between the Danube River and the parallel excavated channel Neue Donau "New Danube". The island is 21.1 km in length, but is only 70–210 meters in width. The New Danube waterway is practically an elongated (swimming) lake, technically a diluvium bed.[8]

While, the main purpose of the island however is to be part of "Vienna's highly sophisticated flood protection system". As the great river Danube crosses the city (before major extensions: passed nearby as the pictures show), this has constantly been a concern for hundreds of years. The first notable measures were taken between 1870 and 1875. A central bed, 280 m, was dug out, and an inundation area of 450 m was created at the river's left bank.[9]

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[5] http://www.fairfaxcounty.gov/dpz/comprehensiveplan/glossary/r.htm
[6] http://teacherweb.ftl.pinecrest.edu/snyderd/MWH/AP/definitions/APdefinitions6.htm
[7] http://books.google.com/books?id=tzYrAAAAYAAJ&pg=PA9&dq=waterfronts&hl=en&ei=li2CTP6vE5 DQjAfM4KGRCA&sa=X&oi=book_result&ct=result&resnum=5&ved=0CDcQ6AEwBA#v=onepage&q= waterfronts&f=false; page 64.
[8] http://en.wikipedia.org/wiki/Donauinsel
[9] http://en.wikipedia.org/wiki/Donauinsel

In 1970, a new plan was conceived and soon executed: digging an additional channel to replace the former inundation area, and using the spoil to build up the remaining strip of land between the straightened bed from the 19th century flood defense schemes and the newly created one. The new channel is called the Neue Donau (New Danube). After the completion of the works it was envisaged that the resulting island should eventually be used for recreation[10], here I would like to mention that the Donauinsel as a recreational area was a coincidence more or less.

The flood control system is designed to protect from flash floods bringing river flows of up to 14,000 m3 per second. This has only happened once in Vienna's history in 1501. The works were started in March 1972 and finished in 1988.[11]
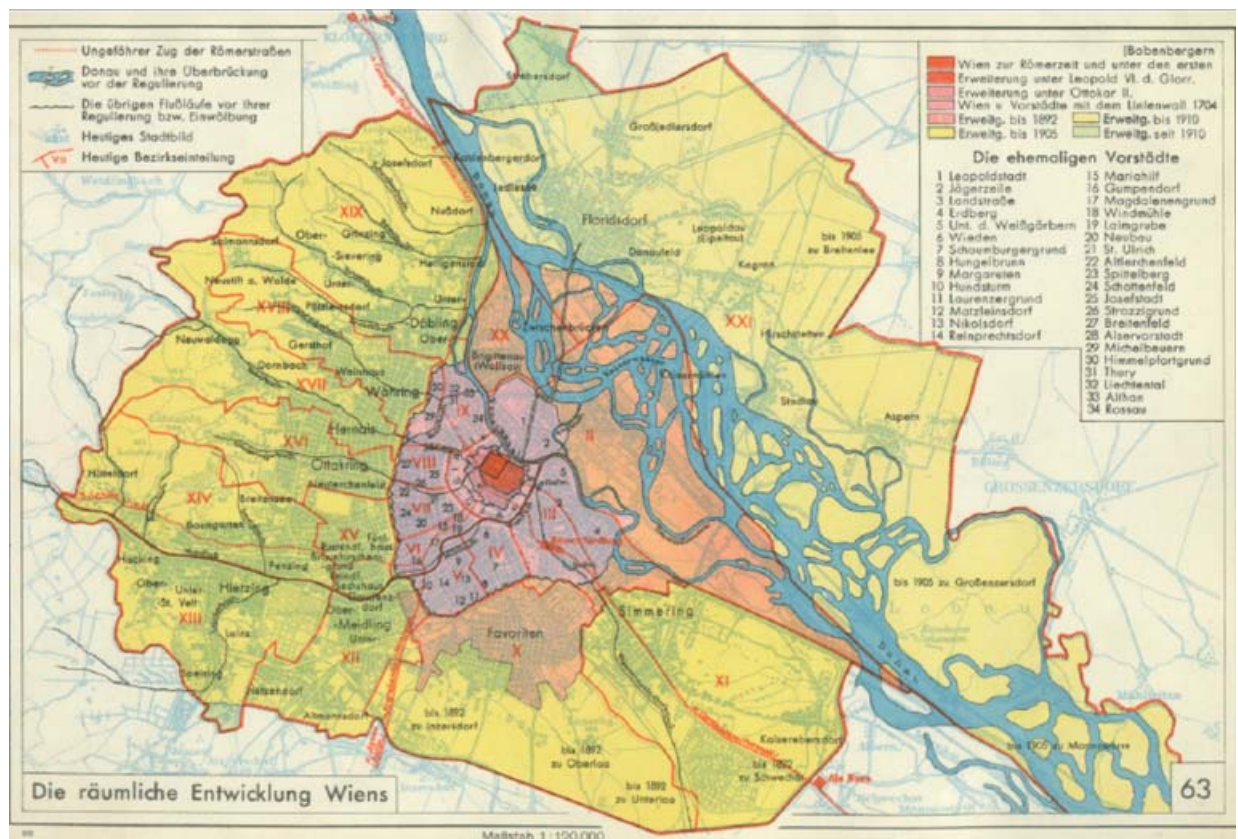

Figure 1, Vienna: stages of incorporation 1850-1910[12]

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[10] http://en.wikipedia.org/wiki/Donauinsel
[11] http://en.wikipedia.org/wiki/Donauinsel
[12] Prof. Walter Matznetter 2010, 4cities lectures-Vienna block, lecture 5, slides 23.

Figure 2, regulation of the Danube after 1870.[13]

1- Urban planning/ Function

The Donauinsel is a multifunctional project at the Danube with the ostensible purpose of regulating the Danube in the urban area of Vienna. To this end, a discharge canal for the Danube was built, providing a recreation area close to town for the Viennese in the form of an island in the river.

In addition to social functions, the planning phase, which started in 1975, also allowed for ecological and economical functions. The following technical measures were implemented: The construction of a discharge canal parallel to the left riverbank; today referred to as "New Danube".

The excavation material was used to raise the Donauinsel, a freestanding island between the main stream and the discharge canal. The "New Danube" gets a water supply only during times of flooding, for the rest of the year the water surface on the New Danube remains even, comparable to a lake.

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[13] Prof. Walter Matznetter 2010, 4cities lectures-Vienna block, lecture 5, slides 24.

- Services

In summer, around 300,000 people frequent the island for bathing, sports and recreation on regular weekends. On special weekends – such as during the famous "Donauinselfest" organised by the Vienna Social Democrats in early summer – or during concerts, there are considerably more visitors.

Figure 3, some picture of the Donauinselfest one of the main uses of the Donauinsel nowadays.[14]

The island itself is divided into several zones which serve differing purposes: The whole area consists of sports fields, multiple large meadows, restaurants, other premises and barbecue areas (except the very outskirts of the south and north of the island which rather resembles a "wilderness"), is crossed by wide foot and bicycle paths. Private car traffic is prohibited on the entire island. In the south, some of the bayous of the Danube were retained as small sheets of water. They now make up a water-meadow-like habitat. The mature poplar forest adds to the effect. With the construction of the Danube power station

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[14] http://www.wien-vienna.com/donauinsel.php

"Freudenau", another hydraulic engineering project was integrated into the existing plant.[15]

- How to get there

The recreation area encompasses 270 hectors water surface and 390 hectors public green space. The Donauinsel is best accessed via Underground which takes 7 minutes from the city centre. In addition, both tram and bus have their stops on the 5 bridges of the Danube. The high-speed railway stops very close-by.
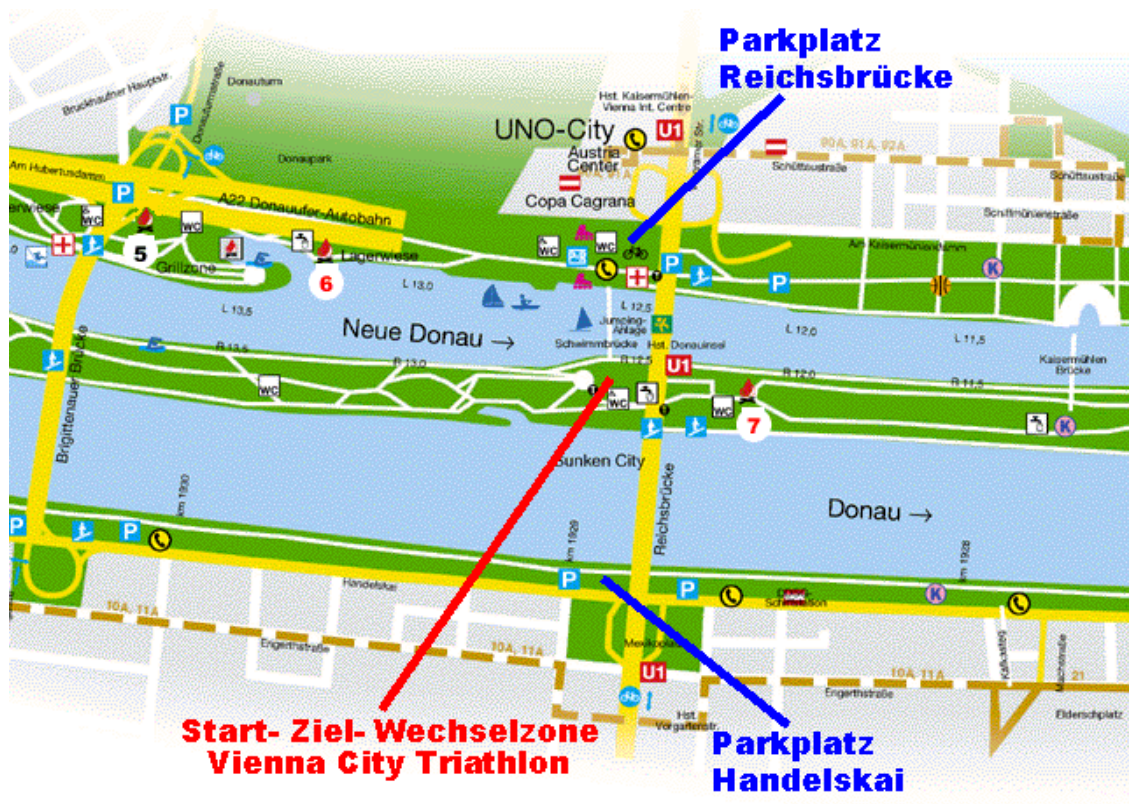
Figure 4, the Donauinsel parking lots and Metro stations (accessibility), the yellow color represents the motorways, while the white color represents the pedestrian and cycling paths [16]

[15] http://www.wien-vienna.com/donauinsel.php
[16] http://www.google.comimgresimgurl=httpwww.viennacitytriathlon.atfilesimgNeuer-OrdnerDonauinselUebersichtReichsbbrueckeParkplatz.gif&imgrefurl=httppicsdigger.comkeyworddonauinsel&usg=__JeqXJ4ebISt_bblr2lmkrY_IUKQ=&h=463&w=643&s

The Donauinsel as an urban project opened the door in front of many other projects which merged into it as, a new sewage system for the northern districts of Vienna, creating recreation areas in the city center as well, recovery of the natural habitat of flora and fauna, and a hydroelectric power station "Freudenau" (as shown below).

Figure 5, Donaukraftwerk Freudenau[17]

2- Waterfront façades

The waterfront façades reflected the urban landscape of the Donauinsel, as it can be seen in the following pictures; the Donauinsel seems to be more a huge park with vertical elements (trees and lightings) also horizontal elements as the playground for beach volleyball and football. While the waterfront facing the Donauinsel used to build skyscrapers (office buildings) and a shopping mall.

Figure 6, the waterfront skyline.[18]

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[17] http://www.wien-vienna.com/donauinsel.php
[18] Google panorama photos from http://maps.google.com/

Figure 7, the waterfront skyscrapers.[19]
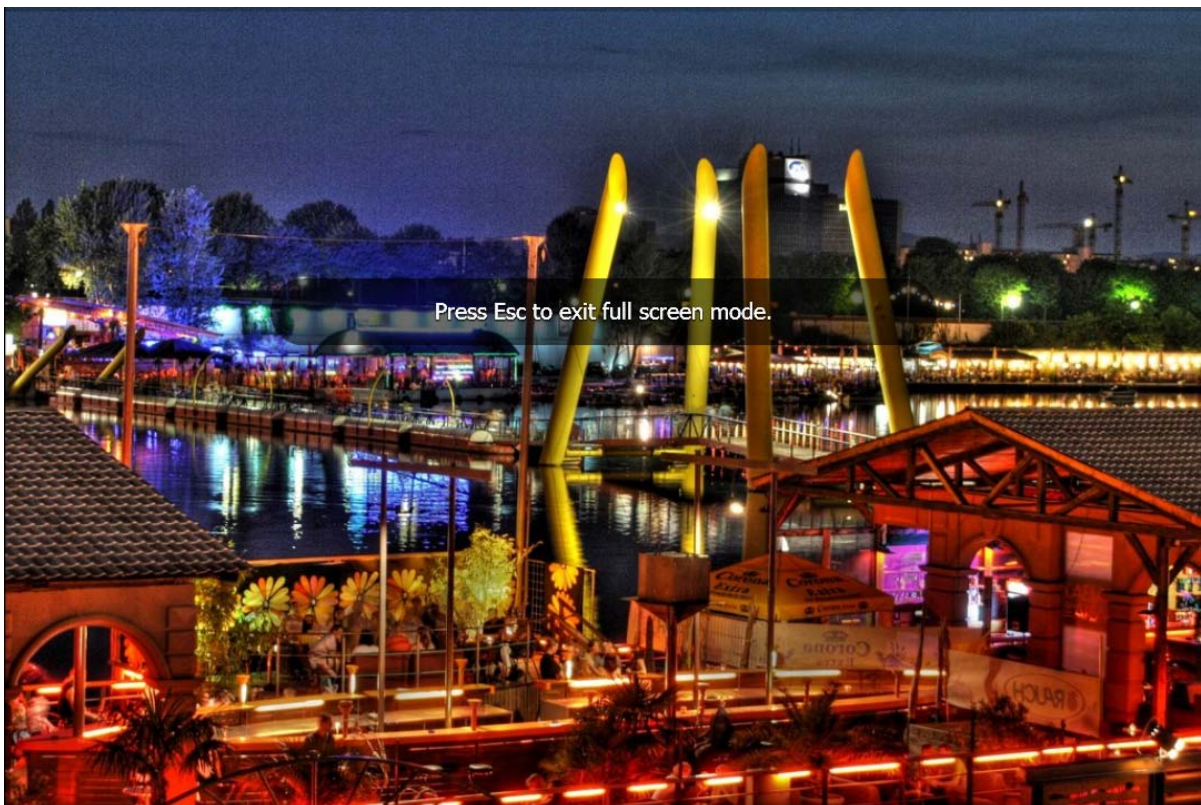
Figure 8, the waterfront at night at the fest times.[20]

[19] Google panorama photos from http://maps.google.com/vienna/donauinsel
[20] Google panorama photos from http://maps.google.com/vienna/donauinsel

3- Social

The most social benefit the Donauinsel achieved is the proceedings of civic participation where the construction of "Feudenau" power station was subject to a referendum at which 62% of the people were in favor of this project[21]. On the other hand the Donauinsel it self is considered as a pubic space where all ethnic groups can meet and communicate even swimming, playing football, volleyball, walking and biking, meanwhile in fests and concerts.

4- Economical

At the beginning the government invested a lot of money to achieve the current situation of the Donauinsel, while it harvested the seeds of that work lately as the project was implemented in almost 15 years till it saw light, as the Donauinsel fest increase the tourism to Vienna as "Food kiosks serve various national and alternative dishes including Thai, Greek, Italian, Indian, Turkish, Vegetarian and Austrian cuisine. Although all concerts are free, financial experts calculate Vienna's economy benefits from this event by almost 40 million euros, due to the increased tourism"[22], which considered one of the most economic benefits of the Donauinsel.

5- Environmental

I think that was the most difficult part, as trying to re-establish the flora and fauna that the project destroyed was not an easy job, as it works on two parallel sites.

- Inspection of the bathing freshwater of Vienna

During the bathing season, a total of 17 EU swimming areas are monitored by the Institute of Environmental Medicine (nine at the New Danube, seven at the Old Danube and one at the Mühlwasser). The inspections are carried out at intervals of two weeks. After a flooding in the New Danube, additional checkups are undertaken. At the inspection site, water transparency, pH-value and oxygen saturation are measured and the beaches are examined for visible contamination. In the laboratory, bacteriological and

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[21] http://www.wien-vienna.com/donauinsel.php
[22] http://www.boerse-express.com/pages/581184/overridexsl=be/all_left

virological examinations of the water samples taken from the New Danube are carried out. The results are published regularly on the internet.[23]

    - Ecological recesses on the Donauinsel as following

- Dead Ground (Toter Grund), Former Danube bayou – natural monument since 1986 (Viennese law on nature conservation) Hideaway for animal and plant species of the former flood area

- Tritonwasser, Large artificial pond on the Donauinsel (two hectare) situated between Kaisermühlenbrücke and Praterbrücke, designed according to ecological aspects sophisticated formation of the riverbank

- Connection of individual inhabitants, Linked habitat system, stepping stone habitats provide a wide variation of plant and animal species, Section downriver of the Reichsbrücke, entirely left nature's own resources Habitat for partridges.[24]

B) Graphisoft Park

The Graphisoft Park is a business park which located in the north-west part of Budapest in Hungary (known as the Óbuda district), directly on the Danube, 6 km from the city center.[25]

Originally, Graphisoft Park was built in 1998 for the software engineering firm Graphisoft, which develops ArchiCAD®, one of the world's most popular architectural software packages. Graphisoft believed that providing the world's best architects with the world's best software would be possible only if the company itself could operate in a first-class architectural environment. Within a few years, several other high-tech firms rented space at the Park, attracted by its unmatched location, exceptional design and superior services. Due to continuous growth in the Park's development, in 2006 the Graphisoft real estate division split off from the software division to create Graphisoft Park SE, a public European corporation listed on the Budapest Stock Exchange.[26]

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[23] http://www.wien-vienna.com/donauinsel.php
[24] http://www.wien-vienna.com/donauinsel.php
[25] http://graphisoftpark.com/download-e-brochure
[26] http://graphisoftpark.com/download-e-brochure

Figure 9, Graphisoft Park location in Budapest.[27]

Figure 10, Graphisoft Park satellite view.[28]

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[27] http://graphisoftpark.com/download-e-brochure
[28] http://maps.google.com/budapest/graphisoft_park, map view

The area now known as Graphisoft Park was earlier the site of the Óbuda Gas Works, built at the turn of the 19-20th century. The architecture of the remaining buildings evokes this historic era, when Hungary's famed tradition of top-notch science education gave the world John Neumann, the founder of computer science, and a dozen Nobel Prize winners. These landmark buildings are the home of AIT, which provides instruction not only on the latest research in information science, but also on the factors that make a software program usable and marketable. [29]

Figure 11, some pictures of the Graphisoft Park.[30]

1- Urban planning/ Function

The office space is tailored to meet the needs of the tenants, as to make sure that the new buildings blend in harmoniously with the existing structures, and with the neighboring industrial buildings of the former Gas Works.

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[29] http://graphisoftpark.com/download-e-brochure
[30] http://graphisoftpark.com/download-e-brochure

The tenants provide input on technologies and materials, as it ensures, at no additional charge, that their own equipment is installed during the construction phase. This way, the office is ready for occupancy the very same day it is completed.[31]

While planning Graphisoft Park, the architect was inspired by the modernist architectural traditions of the early 20th century ― a style with a sense of humor and poetry, low-key yet so enjoyable.[32]

- Services

As of 2009, total office space is 45 000 m², average ceiling height of 2.8 meters, and 1,600-car underground garage plus surface parking for 400: a parking space for every employee. By 2014, total office space will be expanded to 100 000 m².[33]

All office space is Class A, completely air-conditioned, with security systems and card-entry systems. Three restaurants and several snack-bar amenities and coffee shops serve tenants. Car wash located in underground garage. Technologically well-equipped conference rooms allow tenants to optimize their space. 24-hour concierge service ensures security and assistance to visitors. Construction and operation of the Park managed by Graphisoft Park's own staff, which cooperate with the tenants from the design phase onwards and act as general contractor. Professional firms carry out landscaping and maintenance.[34]

- How to get there

The Park can be approached either from Szentendrei út or the lower river embankment road on the Buda side. By public transport, take the Szentendre HÉV or one of the municipal buses, which connect to the city's metro system. Employees can take advantage of the Park's free morning and afternoon shuttle bus service for easier connections to the city's metro system. The Park is a half-hour drive from Ferihegy

[31] http://graphisoftpark.com/download-e-brochure
[32] http://graphisoftpark.com/download-e-brochure
[33] http://graphisoftpark.com/download-e-brochure
[34] http://graphisoftpark.com/download-e-brochure

airport along the M0 freeway. Each year, more employees ride their bicycles to work, using the bike paths along and across the Danube.[35]

2- Waterfront façades

The waterfront of the park is more or less steady as the buildings are almost the same height as shown in the next figure except the parts which interrupted by the towers of the old gas factory, while it seems to be in the middle of a green park. The lower part of the waterfront is totally green.

Figure 12, some pictures near the waterfront.[36]

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[35] http://graphisoftpark.com/download-e-brochure
[36] http://graphisoftpark.com/download-e-brochure

Figure 13, the waterfront in front of the Graphisoft Park.[37]

3- Social

The most social benefits that the Park consider is attracting the most intelligent minds and researchers to work and improve their talents working in the high technology fields as Microsoft, SAP, GraphiSoft, Canon and Apple, those companies also contribute to employ labor force which considered cheap compared to west European countries. Moreover, attracting people to visit the park and enjoy the pleasant views and landscape, instead of the remaining brown-field buildings which is clear that the urban planner tried to mix between the old and new buildings in some parts of the park.

4- Economical

As an economic benefit the Park succeeded to attract huge investments as mentioned before, to invest in the field of research and development of technology devices. Also, the buildings used as office buildings for these companies, while overall shared to increase the national economy of Hungary.

5- Environmental

The facilities are surrounded by open landscape, where the trees grow taller than the buildings. The multi-level garage is underground, so your overall impression is not of a sea of cars, but of a green expanse. The lake in the middle of the Park, and the nature preserve on the island just across from the Park, adds to the natural atmosphere, as of

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[37] http://graphisoftpark.com/download-e-brochure

course does the peaceful walking path along the Danube[38], which reflects a high quality of environment much better than an unutilized land of brown-field.

- Preserving history, building the future

In all of its developments, Graphisoft showed exemplary regard for preservation and for the area's archeological heritage. The relics uncovered on the Park's territory have contributed to our body of knowledge and to our museum's collection.[39]

Figure 14, some of the historical pieces.[40]

3- Conclusions

Through the previous few points, I tried to display the two cases of the Donauinsel and Graphissoft Park, which considered one of the large scale urban projects in both countries. The Donauinsel succeeded to revitalize the city of Vienna as the island is considered as a high attractive spot bringing tourists not only from Vienna but also from the region surrounding it, recreation, leisure, sports and festivals are well practiced in the island also the good connection of public transportation facilitate and increase the

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[38] http://graphisoftpark.com/download-e-brochure
[39] http://graphisoftpark.com/download-e-brochure
[40] http://graphisoftpark.com/download-e-brochure

people's mobility. In addition the artificial created island succeeded also to dispose the water floods saving many land lots from the dangerous of floods. Also, the created public (e.g. parks) and semi-public (e.g. shopping malls) spaces used by visitors increasing the economical benefits so far to invest more in that field. Otherwise, the island may lack some safety facilities in the wilderness parts as well as many parts of it are not lightened at night which may be a good chance for further criminal affairs and drug dealers.

On the other hand, the Graphisoft Park succeeded to bring life to that unutilized part of the city bringing the creative people to explore their talents, also visitors can reach the park to enjoy the urban landscape and restaurants, while the park may lack some activities as playing grounds for kids and sport fields, which may be conflicting with the park natural use as a creative industry quarter or business park. The public transportation also reaches the park but still need to be more frequent to increase the number of visitors to balance between the benefit of using the public spaces and keeping the calmness of the park.

Finally, both projects considered as successful examples of large scale urban development projects in the heart of Europe, leading to move forward the wheel of economy and development, and offering more job opportunities in different fields.

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