Budapest, the capital of Hungary, used to host numerous and diverse types of industrial activities. Their imprints on the urban fabric became especially significant during the socialist period due to the top-down decision of transferring the profile of the country from agricultural to industrial. They were realized in factories, management buildings, at huge areas supporting transport of goods on water or by trains. Moreover, districts were dedicated to the industrial workers and incorporated education, health and leisure services as well. Since the political change in 1989, most of these factories and organizations shrank then completely stopped to operate, but their premises have experienced a more varied after-life. The text introduces examples for almost entire physical elimination, complete functional change and even continuous musealizations of former industrial sites in Budapest. The investigation is based on the analysis of diverse written documents (such as policies, scientific evaluations and media coverage) as well as on-site research. Through the case study analyses from Budapest, Hungary that focus on the period between 1989 and 2016, the paper identifies general approaches of urbanization in the post-socialist time regarding to former industrial sites and the major challenges that threaten the valuation of these tangible and intangible reminiscences of the past.

Key words: De-industrial landscape, abandoned, transformed, regenerated.


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Introduction
In the last twenty to thirty years, cities around the world have experienced wide ranging influences of economic globalization, deindustrialization and democratization. These influences seem to have even stronger impact on post-socialist cities. Especially the former industrial buildings and sites have been affected by these general changes. The financing situation as well as increasing external development pressures, resulting from economic and infrastructural demands and projects, threaten the fate of these historic buildings and sites (Andrusz, G., Harloe, M. and Szelényi, I. 1996). At numerous cities (mainly outside the former Eastern Bloc) the tangible reminiscences of a formal way of life, namely industrial production, earned increasing appreciation due to their technical values, social memories or even to their aesthetics. At these cases, diverse forms of protection, such as heritagization, are the common, accepted and sustainable solutions (e. g. in Duisburg or Liverpool)\(^1\).

As a contrast in Budapest, in the period after the change of the political system of 1989, there has been a major decline in industrial production. Moreover, by the early 2000s, about 80 percent of the employment in the city was in services (Municipality of Budapest 2004, 55) that also showed the declining role of industrial production and hence sites. In the contemporary urban planning concepts of Budapest, industrial sites were only mentioned under the strategic goal of improving the quality of the built environment as to be transformed using its territorial resources (Municipality of Budapest 2003). The decreased employment, the financial issues in the country connecting to the political transformation and the central planning strategy of Budapest also describe well the unvalued status of the formal industrial sites at the beginning of the 21st century.

By focusing on the fate of some formal industrial sites in Budapest, the current investigation examines a segment of the post-socialist urbanization processes. It also analyzes the possible influencing factors regarding the unvalued status of these urban architectures and sites. Former research projects about post-socialist urban structures concentrate on the macro level changes (Miskell and Almond 2021), conduct comparative research projects of case studies (Djordjevic 2006), or focus on economic (Kiss 2012), environmental (McKendry 2018), social (R. Nagy 2020) or policy (Ladányi 2010) aspects. The current research analyzes a specific segment of the post-socialist urban transformation and investigates the reasons and circumstances of non-heritagization the formal industrial sites. The presented case study analysis focuses on the possible circumstances that affected the evaluation and utilization of former industrial sites, also speaks about the interests and actors that were influential in these processes.

For these aims, this paper includes text analysis of diverse sources (such as media coverage) and on-site research (via observer analysis and interviews). Language has an

\(^1\) A representative example to show that formal Eastern bloc countries have less developed involvement in industrial heritage protection is the geographically categorized list about the specialized professional communities around the world: [https://ticcih.org/sites/](https://ticcih.org/sites/).
important role as a social product (Foucault 1998, 266-296), accordingly, the discourse in which the analyzed source was created, and the position of the author(s) were investigated as well. The current research was undertaken bilingually, in English and in Hungarian, as for example the international documents were investigated in English, while the interviews were mainly conducted in Hungarian.

During classical archival research, the histories and representations of the chosen sites were investigated. Media coverage provided a great type of sources too, as for instance, the daily newspapers can express opportunely the different perspectives and the many competing aims regarding the fate of the analyzed urban locations. During library research, especially those state decisions, recommendations of international organizations and scholarly publications were researched, in which the respective concepts or evaluations were described regarding the post-industrial urbanization and the chosen analyzed examples. In these occasions, comparison was possible among documents before and after the political change (1989), when different narratives should be added for example, to express the significance of the case studies.

Policy documents were also compared and contrasted with on-site research to examine the expressed goals and the actual situations, for instance about the utilization of the former industrial sites.

The primary sources and the secondary ones mutually influenced the process of research. Moreover, the classical differentiation of primary and secondary sources is problematized in this project due to the relatively contemporary research period and the subject of the research (the representation, changing perception). Often, the same document could be researched as a secondary evaluative document as well as a primary source out of which the analysis can decode one’s (or a discipline’s) notion about the given case study.

Besides document research, data collection was also conducted via interviews and on-site experiences. The author used to work at the National Science and Engineering Museum, where information was collected about the difficulties connected with the protection of former industrial activities throughout the country. The author became familiar with the power relations and some of the tasks and requirements on how to protect former industrial reminiscences as well. Based on these experiences, experts in the field were approached to consult about the research project. Collecting information through interviews seemed to be a good method to gain information about the interviewees’ personal experiences and viewpoints. The on-site examination was composed of site visits at the formal industrial sites and at their respective protected or musealized segments as well. Besides researching the current status of these case studies, their roles and positions within the immediate urban structure were also investigated. At these on-site examinations, attention was paid to the human aspect too. Behaviors and activities at or in connection to

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2 Classical archival research was conducted for instance, at the Vera and Donald Blinken Open Society Archive and at the András Román Archive of the Hungarian National Committee of ICOMOS.
the given site was investigated as a possible perspective regarding the evaluation of the sites. For example, whether people use these sites for any kind of recreational activities, such as walking with their dogs, or reject any contact including do not park their cars in the vicinity of the formal industrial sites. By comparing the different official documents, the critical analysis and publications, and by doing on-site research and interviews, the complex and multi-layered notions about the chosen formal industrial sites and the transformations in their representations were aimed to be researched.

The current investigation focuses on the “after-life” of the industrial sites in the post-socialist Budapest and investigates their potential for and obstacles against their sustainable utilization (such as heritagization). Accordingly, the text starts with a historical overview about the Hungarian industrial production in socialist time, then introduces the theoretical framework of the investigation: the possible academic and professional approaches towards a challenging historical period. The second part of this article is dedicated to the critical investigation of formal industrial sites as examples of their status and evaluation (management) within the post-soviet urbanization. The findings and possible further research projects are summarized in the conclusion section.

**Bibliography review**

The essential features of the territorial organization of the Republic of Srpska arise from the Dayton Agreement, verified in Paris in 1995, according to which the Republic of Srpska is defined as the entity within the state of Bosnia and Herzegovina.

In the period from 1995 to 2019, spatial and functional organization of the Republic of Srpska was changing. Upon its establishment, the Republic of Srpska had two urban settlements, Banja Luka and Istočno Sarajevo, and in 2019 there are eight urban settlements. In the period from 1995 to 2019, the relevant laws defining the spatial and functional organization are taken into consideration (The Law on Territorial Organization and Local Self-Government of the Republic of Srpska, the Law on the Cities in the Republic of Srpska, the Law on the Establishment of the Municipality of Stanari, etc.)

The complexity of demographic changes in the above-mentioned period were reviewed on the basis of the Census from 1991 and 2013, published by the Federal Bureau of Statistics of BiH and the Institute of Statistics of the Republic of Srpska, as well as on the basis of other relevant statistic material (newsletters, yearbooks, demographic review, etc.).

These issues are analysed in numerous scientific papers published in scientific bulletins (Gnjato, 2011; Gnjato, 2013; Šabić, 2016), as well as in scientific publications (Špirić, Marijanac, 1999; Pašalić and others 2006; Marijanac, 2012) and monograph (Marinković 2005; Mandić 2013; Živković 2016; Marinković, Majić, 2018).

These issues have also been processed in many scientific papers in the surrounding countries, Croatia (Bašić, 2005; Klepić Bogadi, 2008), Serbia (Nikitović V., 2015; Bobić, Andelković, Kokotović, 2016), which encountered similar socio-economic changes after disintegration of Yugoslavia.
Work in Socialist Times

Western scholars such as André Gorz had already predicted the decline of the large industrial working class before the implementation of the neoliberal project in advanced Western countries (Gorz 1987). The Eastern European socialist countries were in a special situation. The relationship between the Party and the workers had been a widely contested issue since the establishment of the Eastern European communist regimes, and subject to ideological rather than academic debate (Enyedi 1992). For instance, in Hungary, an identical and significant social unit of workers did not exist before and right after World War II, as the majority of the society worked in agriculture (Bódy 2000, 275-294). Still, the party-workers relationship was central to the self-legitimization of the regime. For example, the Eastern European communist parties that monopolized political power in 1947-1948, claimed to rule in the name of the working class. They also used class theory as a dominant legitimizing ideology (Molnár 2013). Due to the communist ideology favoring the working class and the industrial sector (Kovách 2003, 41-67), immense social and economic transformations were imposed on Hungary.

The top-down and extensive transformation of the employment character meant a drastic change from an agricultural to a heavy industrial country (Valuch 1988). It was accompanied by sociological changes as well like the “financial unification” of the society (Szuhay 1996, 705-723) and the transformation of the urban structures (Kovách 2012, 32-33). Among others, there were three major approaches to achieve this transformation: the rearrangement of landownership; the collectivization of agricultural work; and “modernization of methods and equipment.” A chain of new mining, energy and heavy industrial production centers was initiated (Beluszky and Győry, 1999, 1-30). Due to such heavy industrialization, villages and smaller settlements received no state support and lost their roles in local or regional infrastructure. As population-related consequences of this fast, top-down and overall transformation were that significant segment of the society migrated to the newly industrialized Soviet-style cities and regions, as well as, a similarly significant amount of the population became commuters (Valuch 2001, 192).

Either in the cities or near to the newly established factories huge and fast construction projects were initiated to create accommodation for the future workers and their families. Accordingly, whole districts, new micro-towns were generated with blocks of flats, school- and post-office buildings (Gulyás-Gömöri, Balogh, Vadas 2004, 80). These rapid construction projects were priorities and accordingly, former districts and even archeological sites were eliminated or reburied in order to serve the establishment of new workers’ districts (Tamáska 2021). This happened in Óbuda, a segment of the Hungarian capital, where neither the Ancient Roman ruins, nor the former small town

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3 As Western historiography often uses the terms socialist and communist as synonyms for the same ideological and political system that was widespread in the discussed territories of Europe just after World War II. This text uses the terms as synonyms as well.
with two or three-floored houses, wide streets and squares for community life were protected properly. They almost completely disappeared, when a whole mini-town of prefabricated block of flats with usually nine floors appeared in 1960s and 1970s. The remaining few examples almost completely lost their significance as Károly Kiss, the author wrote: “The memories of Roman times, unfortunately, have remained stones (...) How much more sensible it would have been to put these almost two-thousand-year-old amphitheaters into service for public education with a smart effort” (Kiss 1982, 153). Numerous films and songs were also documented this huge change. Some sociological projects (Konrád and Szélényi 1971, 19-35; Berkovits 1976) were conducted about the psychological effects of these rapid lifestyle changes and transformations of the living circumstances.

This privileged attention to industries (mainly on heavy industry and related works) was constant during the socialist period and throughout the Eastern bloc despite its shrinking performance. In the 1980s, communist parties refused to close down outdated industries because this would have meant a heavy blow to the large industrial working class (Stanilov, 2007). In the case of Budapest, between 1960s and 1980s the industrial workforce dropped by 50%. Industrial activities moved to provincial cities and even to villages. Such decentralization became visible through the development of urban agglomeration, the transformation of villages and the declining state of the former industrial districts in the capital (Enyedi 1984, 20-22). In Hungary, a huge economic crisis in the 1970s also fueled this situation (Román 1993, 11-15). In the last quarter of the 20th century, the Hungarian leadership allowed collective farmers to do extra economic activities for personal gains, which was necessary to compensate the shrinking performance of the factories and other industrial units (Ö. Kovács 2014, 236-238). As a consequence of these, the identical classical rural social communities merged with other segments of the society, the standard of living and lifestyle got more unified throughout Hungary (Szuhay 1994, 345-371).

After the collapse of state socialism, restructuring went hand in hand with the closing of factories, large-scale privatization and the massive loss of jobs throughout the region (Swianiewicz 2005). These changes also led to an increasing crisis in spatial planning. The so-called liberalization of the law and periodic rapid growth of investment brought about visual chaos and uncertain ownerships (Sonkoly 2012, 79-90). “The resulting combination of post-industrial wasteland and structurally weak, deteriorated neighborhoods confronted the under-resourced renewal programs of post-1989 local governments with immense difficulties” (Kiss 2017a, 7). Both the national and local governments intended to solve their financial difficulties by privatizing their properties (both buildings and lands). Such process also freed them from the needed tasks of

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4 The social tensions and problems of moving into these small flats in comparison to the identical houses in the countryside are depicted by for instance György Szomjas’ movie titled Falfúró in 1985.

5 Kolkhoz neurosis is a phrase that meant neurological disfunction due to the effect on the individual by the introduction and operation of collective farms (Juhász, 1964, 37-44).
maintenance or development. This meant that the new owners received these buildings and among others, formal industrial sites in very bad conditions (Hajnal 2001).

Despite these intensive privatizations and due to the financial difficulties even two and half decades after the political change, almost half of all architectures were constructed in the previous political system. The “remaining” of the otherwise deteriorated and privatized buildings were mainly housing units and service buildings (Kiss 2017). The factories and the related industrial buildings did not survive in the same level but went through a vivid change. Even though these urban fabric elements symbolized a political era and the everyday locations of a significant percentage of the society, very little or any heritage value or memorialization intention was associated to them (Németh 2020). The following sub-chapter investigates the academic and professional narratives about the possible protection of such contested time period and its tangible remainders.

**Challenged industrial past as heritage value in academic and professional discourse**

The challenged (industrial) past has been addressed by many scholars in the field of heritage and memory studies as well. Sharon Macdonald uses the term difficult heritage as typical for the particularly conflicted legacy of Central and Eastern Europe. It has the potential to break into the present and open up social divisions (MacDonald 2008). Dissonant heritage can also be an adaptable heritage category to express the process of coping with ambivalent and largely unwanted segment(s) of the past. Tunbridge and Ashworth differentiate four kinds of dissonant heritage: when the inheritors are missing “disinherited heritage”; when the dissonant heritage does not correlate with the dominant narrative; when the heritage is about wars and atrocities that can also be called “distasteful heritage”; and “difficult heritage” that is usually not formed by the locals and relegates the otherwise more positive state and representation of the given example (Tunbridge and Ashworth 1996, 30-35). Benjamin Forest and Juliet Johnson uses the term contested heritage to emphasize the unfixed meaning of the given heritage. As a result, such heritage continues to be source of major conflicts among the various political groups exposing contrasting ideas (Forest and Johnson 2011, 269-275).

Forest and Johnson also research the connections between political regime types (democratic, hybrid, and authoritarian) and the way states deal with their communist heritage (Forest and Johnson 2011, 275-288). This observation is also justified by Stephan Troebst and Wilfried Jilge, who think that although the countries of Central and Eastern Europe built their politics and identity on national ideology and narrative, they share different memory cultures about the communist past (Troebst and Jilge 2006, 1-81). That is why it is crucial to underline that the transnational memory about the socialist period, for instance, the fascination towards the generalized sense of ‘retro,’ might underemphasize the local peculiarities both of that period of the past and the decades since then (Bisht 2013, 1-14).

The architectural heritage of the late 20th century in general, not just the politically influenced styles, is still undervalued and poorly recognized for the purposes of
preservation. Hence, it appears particularly vulnerable and requires specific reflections, whether it is compatible for interventions and refunctioning in a way that both modernization goals and preservation could be fulfilled (Nadkarni 2004, 205). The Council of Europe’s recommendation calls for the recognition of the specificity of this recent and fragile heritage. It names as main conservation issues among others, the identification and recognition due to a high number of testimonies, the technical research due to durability of its materials and establishment of new construction techniques and the legal requirements to the building adaptability to contemporary needs and new uses (Council of Europe 1991).

ICOMOS, an Advisory Body of UNESCO World Heritage Convention, started to pay special attention to the acknowledgement of heritage examples of 20th century via among others, publications (Kervanto Nevanlinna 2001), workshops (ICOMOS 1995) and a designated expert group (ICOMOS 2005). The Hungarian 30th National Monument Conference in 2021 also addressed this topic by dedicating the event For the Protection of Architectures Built After 1945.6

This quick review exemplifies that both Hungarian and international scientific committees and experts acknowledge the unique management’s needs regarding to those tangible (and intangible) reminiscences of the past that are challenging to evaluate positively along the “traditional” heritage values (such as historical, artistic, technical or aesthetic). The following section introduces some of the formal industrial sites in Budapest that represent diverse or no management technique to express a unique aspect of the post-socialist urban transformations.

Elimination and deterioration
Having gone through the traumatic process of declining employment and downgrading of environmental quality, together with the ideological connotations (being associated with the communist past), the former industrial locations in Central and Eastern Europe have even more challenges to identify and perform a new phase in the post-socialist era (Tsenkova and Nedović-Budić 2006). Such difficulties are even more intense in a capital, where both spatial needs and public and political interests in beautifying the past are almost constant (Kliems and Dimitrieva 2010). Accordingly, the first phase can be usually characterized either with erasing all traces of the past or not dealing with the reminiscences, something that can be explained by different reasons.

One of the most common reasons why and how former industrial locations got (almost) completely erased from the urban fabric, is the multiplication of owners, who have no knowledge, financial resources, or interest to continue the former processes or manage the given site (Medeuova 2008). This happened with the former Goldberger Textile Factory in Budapest that dated back to 1784 and was successfully led by the Goldberger family until 1948. The state took over the entire factory by keeping the world-famous name in its title:

6 More information about the event can be found on the website of the Hungarian National Committee of ICOMOS https://www.icomos.hu/index.php/ru/rendezvenyek/orszagos-muemleki-konferencia/xxx.
Goldberger Textile State Company. The family lost all their money and rights regarding the formal factory. The production continued extensively during the previous political era (Népessy 2020, 414-427). After the political change, first small private textile units were articulated out of the former state-owned factory. However, these small businesses were not sustainable and completely closed by 1994.

As a second phase, new owners (such as small printing companies) bought units in the former factory buildings, but they did not continue the same industrial work and used the buildings only as locations. Moreover, not all buildings could “survive” in this way and, as a result, those empty buildings (e. g. the end-product storage house) started to deteriorate up to their complete destruction. Today, there are still some buildings of entire factories standing (like the emblematic water tower), but their former function as a textile plant is hardly recognizable (Fehér 2017) (Figure 1). The current status of the former Goldberger Textile Factory site with numerous small owners offering varied diversity of services is a result of rapid privatization that many understand as an industrial change. Critics also evaluate such sites as the physical consequence of the notion from the 1990s and 2000s regarding the superiority of capitalism over socialism (Stark and Bruszt 1998).

Figure 1: The current status of the former Goldberger Textile Factory in Budapest (image credit belongs to the manuscript author).

Even though since 1954 there has been a legal obligation to protect the engineering memories,\(^7\) the movable tangible elements of the Goldberger Textile Factory did not meet a better fate either. The constantly shrinking number of equipment and documentations of the former textile plant changed ownership numerous times as well and landed in the hand of local municipality as late as in the end of 2011. Due to the museum professionals’

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\(^7\) The 4th decree law from 1954 (24th February) legalize and regulate the protection of the engineering memories and it served the basis of the formation of scientific museums and monument protections in Hungary (G. Vass 2008, 7).
knowledge and creativity, a very representative and modern exhibition was created out of
the relatively small collection. Moreover, to mark the location and the significance of
the former textile unit, the facades of the surrounding prefabricated block of flats were
painted with textile symbols and signs (Budai 2019) (Figure 2). It also represents the
existence of the textile factory in the previous political system. This former Goldberger
Textile Factory is barely preserved, as neither is the industrial site, nor the productions
remained. However, by focusing on the textile production and design in general through
the programs and the exhibition in a building next to the formal plant, and by decorating
the neighboring prefabricated block of flats with typical textile patterns, the location of
the formal industrial site and its existence during the socialist time are represented as well.

Numerous other former industrial locations got also almost completely destroyed
during the more than three decades after the political change. For instance, only one tower
remained of the two-hundred years old slaughterhouse at the river Danube on the Pest side
of the Hungarian capital. The slaughterhouse operated between 1873 and 1984 and was
protected as industrial listed building in 1994 (Tosics 2006) (Figure 3). Despite the fact
that even the neighboring street has kept its memory, the remaining only one tower
building might not mark the significance of this former industrial site in the future (Tálos
2019) (Figure 4). Such marking buildings, especially when the territory gets completely

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8 Based on interview conducted with museum pedagogist of the Museum on 12 May, 2021.
rebuilt in new style and function, can barely operate as a memento without any information provided about it. One understanding of these processes is perceiving post-Soviet as ‘post-colonial,’ which implies an urgent need for the symbolic emancipation of the capital’s cityscape. It could be realized by removing, replacing or redesigning (changing the meaning) of the old places, that might remind of the socialist time, the colonizer’s presence (Vale 1992).

Figure 3: The slaughterhouse in Budapest in 1959 (Fortepan Photo number: 104183 / Budapest City Archive – Crime Scene Photo Collection of the Budapest Police Headquarters Archive number: HU.BFL.XV.19. c.10)
Challenges to preserve the complexity of the formal industrial site - refunctioning

The previous section discussed examples of former industrial activities that almost completely were erased from the urban fabric. New owners and totally unrelated functions along with rapid privatization and the intention to eliminate the recent past were named as influential factors in the process. The current investigation analyzes the goal of complex protection and provides examples for refunctioning as a possible methodology. Conservation of industrial heritage sites should include all the elements of the former production territory. Such landscape would consist of all locations of the industrial activities including the relating transportation, the products and the documentation of the processes and circumstances. The industrial heritage landscape should incorporate also the workers’ homes and the social infrastructure of these communities (Conesa, Schulin and Nowak 2007). These, all together could express the social and economic structure of that given factory or mine and hence the industry. However, due to its complexity it is especially challenging to properly achieve an entire industrial heritage landscape protection.

The scale of the buildings and their technical infrastructure, the possible intangible aspects, such as the unhealthy living conditions and social conflicts, seem to be all rather difficult to evaluate favourably (Wagenaar 2000, 3-13). Furthermore, due to the former improper industrial activities – characteristics of the socialist industrial production –, the soil of many former industrial sites is polluted. Accordingly, it triggers either costly processes to make the soil acceptable for long-lasting human presence or the limitation of its utilization for short-term human presence. Another possible obstacle is the plurality of
actors, owners and the difficulty of harmonizing their goals and needs (Jansen-Verbeke 1999, 75-80).

An example of the combination of these problems was for decades the Óbuda Gas Factory in Budapest. The history of the Óbuda Gas Factory started in 1908 (Gulyás-Gömöri, Balogh, Vadas 2004, 24). Besides the plant mechanical equipment, its buildings and the arrangement of gardens and green fields among the structures were also subject of planning at the beginning (Hamvay 2005). As a result, a new micro-city was established with all the necessary facilities and services, mainly due to the relatively big distance between the factory and the city center. The raw materials into the factory, and the products out of it were transported on the river Danube and on trains by getting the industrial landscape connected to the already existing railway system (Gulyás-Gömöri, Balogh, Vadas 2004, 75). The Óbuda Gas Factory received national and international appreciation of its high standards and new methodologies adopted (Gulyás-Gömöri, Balogh, Vadas 2004, 94) there. Moreover, the employees received good housing and related services (Sz. Bányai 1996).

Scholars (French and Hamilton 1979; Jałowiecki 1988) justify the extensive expansion of industrial territories during the socialist period with the absence of valuing the land and prioritizing industrial production. Such expansion could be identified in case of the Óbuda Gas Factory before 1989, which also challenges its refuioncing in the post-socialist and post-industrial time. Over the decades, besides the economic difficulties, the always changing political situations and the fact that political leaders could and did overwrite the professional operations of the factory also took back the possibility of keeping up with the contemporary standards of production (Gulyás-Gömöri, Balogh, Vadas 2004, 97-101). Despite of all the efforts, the growing amount of production and the decreasing quality level of the facilities as well as of the products, the Óbuda Gas Factory lost its main role in the Hungarian economy. It was totally closed at the end of a step-by-step process, in 1987 (Gulyás-Gömöri, Balogh, Vadas 2004, 169).

After the political change, even though the fate and future of the former Óbuda Gas Factory were constant subject of discussions in the media, among professionals, district- and city representatives, a solution for the revitalization of the former industrial site was not found for decades (Tosics 2005). For instance, at the time of ending the industrial processes, monument protection professionals and members of the Workers’ Union Museum were invited to transform the territory into a kind of factory open air museum, but that process got stretched as well. Meanwhile not just empty buildings got deteriorated but most of the factory equipment were dismounted as well (Gréczi 2018). Only in 2005, the Bureau for the Protection of Cultural Heritage declared protection for a group of buildings: the clock tower and two connecting tower buildings (Figure 5).\(^9\) Unfortunately, the revitalization of these protected elements has still not been completed and more and more tangible reminiscences were eliminated during the decades.

\(^9\) 14§ of 27/2005. (X. 7.) decree law of the Ministry of National Cultural Heritage declared the protection of the buildings (Magyar Közlöny 2005/133, 7297)
Another sign of its stretched out and neglected past is shown by the lack of responsible ownership. Even though the Capital’s Gas Works left the territory only on 1st January 2005, the area was still owned by the central authority of the capital, but without real maintaining protocols. Hence, the factory continuously faced no management and deterioration (Kóczián-Szentpéteri 2005, 19). Meanwhile the leadership of the city made a new bridge and a transportation center closed to the former factory, where people still lived (and live today) in the blocks of flats made for the employees of the gas factory. Moreover, a huge shopping center was also established next to the factory, which emphasizes more the economical possibilities of the utilization (Hungarian Central Statistical Office 2010). The only positive outcome of this long neglect of the former gas factory is that the soil pollution remained only in concrete spots or patches, and it can be compensated or solved without taking away the infected ground (Szemerey 2004, 11).

Figure 5: Some of the protected buildings of the former Gas Factory, where the ground is still polluted, and accordingly cannot be utilized (image credit belongs to the manuscript author).

There were many views on the ways the territory of the Óbuda Gas Factory should be utilized by different actors such as to establish a scientific and technological set of museums (Kóczián-Szentpéteri 2005). Another proposed complex solution would have targeted the entire area of the former gas factory and utilized it for housing, artistic purposes, and for becoming a business and leisure center for the citizens and for tourists as well. For achieving this idea, the Amsterdam City Executive and City Council, the City
of Budapest and the mayor of the local district signed a so-called ‘common statement’ (declaration of intent) in 1998 to confirm their co-operation regarding the knowledge exchange for the utilization of the former industrial spot in this complex way (de Groot 2001, 5). This initiative was not fulfilled either, partly due to the change in the political leadership of the city in 2010, when the new mayor decided about another fate of the area (Szelényi 2014).

The only still existing solution started as early as in 1990s, when one quarter of the former industrial territory was sold to one company, Graphisoft R & D Rt. Company. This multinational company was established in Hungary, and operates in the field of information technology. On the former factory location, the company first made its own business center and two other buildings were constructed to rent out. Further developments, such as the formation of a park, logistical pavilions and new business centers, have been realized since then. This utilization was acknowledged by professional prizes, such as the Budapest Architectural Quality Prize in 2018. 10 Due to the fast and successful development, other companies such as System Analysis Program Development (SAP) moved to the area making their own buildings. Besides others, biotechnological laboratories were also established there that fit to the atmosphere of the territory too (Figure 6). In 2020, there were 82 thousand square meters utilized for offices, laboratories and educational purposes, 2000 underground parking lots and 10 coffee houses and restaurants serving the needs of the employees and visitors. Moreover, there are still 62 thousand square meter territory for possible utilization for offices (GraphiSoft website 2007).

The initiators of this complex utilization of the territory (Graphisoft R & D Rt. and the other companies having offices there) see the former factory landscape as a technopolis. For them it is a complex facility, which is dominated by business centers, but it would also include buildings for conferences and educational aims and facilities for sport and free-time activities. The International Business School and the Aquincum Technology Institute also occupy parts of the former Óbuda Gas Factory and in this way research, business and innovation are parallelly present on spot (Neuberger 2014) (Figure 7). By creating a multi-functional site, where both innovation and business take place the current landowners maintain the complexity and future-oriented spirit of the former Óbuda Gas Factory. The territory (at least, an increasing part of it) got utilized and some original elements could also be protected. However, the area is still in many hands, hence managed differently, and the former industrial heritage landscape as a complex cannot be identified anymore.

10 Description of the prize and evaluation of the Graphisoft Park can be found: http://bpniuvodij.hu/tablo_graphisoft.pdf
Another common practice of refunctioning extensive former industrial sites is the establishment of 21st century leisure landscapes, such as the clustering of mega shopping center with a theme park and other visitors’ facilities. In Budapest, the refunctioning of the former Ganz Electric Company’s industrial complex is one alike example. Similar to the previous case study, the former industrial site on the Buda side of the city was left empty for deterioration for decades after the country political change in 1989 when many buildings were even destroyed (Bourdeau-Lepage 2004). Only a few examples (5 buildings altogether) and the structure of the location remained, and got transformed into a park and cultural centers, titled Millenáris Park alluding to the time of its initiation in 2000. A lake and playgrounds were planned to address diverse interests and targeted
different age groups (Újirány 2001). The re-functioning of the remaining industrial buildings was awarded by European Nostra in 2002 (European Nostra 2002). Exhibitions, concerts and theater plays were performed both within the former industrial buildings and in the surrounding park (Orlovits 2019, 5-9). Small offices were created as well (Epiteszforum.hu 2009) and accordingly, it became a truly multi-functional location where culture, business and leisure purposes can be equally fulfilled just like in case of the former Óbuda Gas Factory.

The provided services and available functions have been constantly expanded such as in 2021 electric car recharging stations were initiated in the parking area. The area of the Millenáris Park has been increasing as well by eliminating neighboring buildings such as the former Ministry of Economics. The park got extended and with that the neighboring area is also intended to have better environmental conditions. After the extension of the park, all the remaining 5 buildings have been renovated, reconstructed, or extended (Figure 8). The outcome of these transformations is not yet foreseeable as the processes just started in 2020.

Figure 8: Industrial Glass Halls of the Ganz Factory in the back of the photo from 1961 Fortepan Photo number: 103427 / Budapest City Archive Photo Collection of the City-Planning and Constructions Department Archive number: HU_BFL_XV_19_c_11
Figure 9: The extended park and the former industrial buildings under construction at the former Ganz Factory (image credit belongs to the manuscript author).

Critics point out the unnecessary amount of eliminated former industrial buildings and the amount of concrete adopted in the newly formulated park (Zöldi 2020). Many voices questioned the amount of money spent on the ref functioning processes (Haulis 2004), the endangered heritage values and the sustainability of such mega-sized cultural locations. The latter critique is also fueled by the frequently changing management staff (Zsупpán 2020). Despite all the challenges and the indefinite future of the location, the former industrial landscape has been utilized successfully with public, cultural, and environmental purposes. The only questioned remaining is whether the location industrial past could be identified after all the changes.

Fate of the already protected (musealized) industrial landscapes
The former analyzed examples express diverse ways of transforming the industrial site at the end or after the socialist time. These examples experienced similar pasts of intensive improvements, mass production followed by a decay starting from the 1970s and 1980s.
Their status was further challenged by economic and social circumstances at and following the political changes (such as privatization, completely closing of the production, lack of maintenance). While their most recent history showed varied approaches, the circumstantial challenges (multiple actors and disappearing original tangible elements) are comparable. The following investigations look at musealized industrial sites established in different periods. The Ábrahám Ganz Foundry Museum was established right after the closing of the industrial unit already in the socialist period, while the Zwack Unicum Spirit- and Törley Champagne Museums opened in the early 2010s. The last example discusses an ongoing project (debate) about the memorialization of a former industrial site and its workers outside the capital. Accordingly, these analyses can serve as a chronological investigation about the fates of protected former industrial sites and activities in the post-socialist urban setting.

A factory museum that reflects on its past from diverse perspectives can be seen as possible recognition of complex protection that on one hand, within a limited space, can communicate the life of an entire industrial landscape, and on the other hand, through temporary exhibitions and diverse programs the narration as well as the topics, can be adjusted to the contemporary interests and needs. Through publications, programs, and exhibitions such institution can point to the social, technical, historical and urban relevance of the factory as well as its contemporary counterparts and influences (Bell, Lewenstein, Shouse and Fedler, 2009).

The Ábrahám Ganz Foundry Museum that is today part of the Hungarian Museum for Technology and Transport is a small specialized museum in Budapest. The foundry was the starting point of an over 80 glorious year-long success that dominated the Hungarian economy in its time. It was established in 1862 during the Austro-Hungarian Monarchy by the Swiss-born Ábrahám Ganz. The factory played an important role in the social, economic and financial life of the Hungarian capital. It lived through two world wars and diverse political systems by providing constant quality and elements for mainly transportation vehicles (Kovács 2006).

The museum was inaugurated right after the iron foundry stopped operating in 1969 and became one of the first industrial historic monuments in Central Europe in 1984 (Kiss 1986). Both the collected, preserved and exhibited materials and the expressed messages have been changing according to the ideological and economic circumstances. Based on the on-site investigations and conducted interviews with employees, even though the museum is very rich and has its own archive, the presentation styles and methods are highly conservative. Unfortunately, due to the lack of financial and human resources both the hosting architecture and the collections have suffered deteriorations and changes. Even though the building itself is original, the surrounding area shrank immensely and accordingly, both the possibilities of the institution and its visibility in the urban context decreased (Kócziánné-Szentpéteri 2015, 141-156). The management tried to compensate these disadvantages by exhibiting original candelabras and busts of important members of the factory and the Hungarian foundry industry in general in the limited garden area around
the building but it seems to impact only the neighboring communities (Domonkos 2015, 38-47) (Figure 10, 11).

![Image of Foundry Museum]

Figure 10 and 11: The entrance of the Foundry Museum with plaque about its protected status as a building, and the outside exhibition within the limited space of the museum (image credit belongs to the manuscript author).

The museum can be seen as lieu de mémoire (Nora 1984-1992) not just because of the location and the architecture itself but also because more than half of the interior contains the exact equipment network as in its last phase as an operational factory. The rest of the exhibition space (approximately 600 m²) is occupied by diverse both permanent and temporary exhibitions.\(^{11}\) Besides the material heritage, the knowledge of this industrial field is also safeguarded by showing and teaching some of the techniques through practice and participatory action within the exhibition space. Until 2003, the museum was operated by retired factory members, who had outstanding knowledge about the location, the objects and the processes, although they were less trained in museology and the management of

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\(^{11}\) They introduce the careers of the leading figures of the foundry: Ábrahám Ganz and András Mechwart, the history of industry from its ancient period, and specialized products such as artistic objects. Through the exhibitions, the richness of this industry and its widespread use can be explored besides the personal stories of the founding figures (Csibi, Milisits and Kálmán 2010, 40-55).
cultural institutions. Accordingly, for example, the documentation of the museum objects, their protection, as well as the advertising and organization of the cultural institution suffered serious shortages (Vitézy 2016, 437).

In addition to the temporary and permanent exhibitions and the programs arranged within them, the museum has a significant library and a continuously increasing databank. These tangible and intangible heritage objects are results of the constant and widespread operation of the cultural institution itself, the supporting regulations and the submitted personal inheritance. One of the main obstacles is the limited human resources. The current employees need to fulfill numerous positions at one time and have much less direct connection to the industrial activities. Despite all the disadvantages and the fact that the heavy industry has lost its importance both in economics and public interest, the museum still exists and operates, which alludes to its relevance and surviving tactics.

Another musealized former industrial site that has also continuously kept its original function is a huge beer factory owned originally by the Dreher family (Dobó 2014). It was a state-owned plant during the socialist period and for the 125th anniversary of its establishment a Memory Collection was established in 1979. After the political change, the factory was bought by international brewery companies (South African Breweries (SAB) in 1993 and then the Asahi in 2017) that while modernized the processes, continued the same production process on the same location until today (Verba 2019). Moreover, the new owners managed the memory collection as well and improved it by establishing the Dreher Beer Museum in 2019. Besides the interactive exhibition that – like the foundry museum – introduces the history of the plant, the industry and the founding figures, the Dreher Factory provides guided tours on their premises and hosts diverse cultural events. In this way, this example has been fulfilling continuously and parallelly the production and memorialization processes since the socialist period. With these success stories, the former industrial past has not just continued but appreciated as well by the contemporary owners.

There are other industrial or production related museums in Budapest that have also fruitful and successful culturalized institutions established in the post-soviet period. The Törley Champagne Museum and the Zwack Unicum Spirit Museum are located at the former and still operating production areas and were established in the early 2010s. Their ownerships are uninterrupted by the factories themselves. This institutional and financial support by being private museums of companies played a role in their success stories. It also has to be emphasized that beverage production and their culturalization are usually

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12 It is a highly specialized with significant journal and magazine collections and, by quantity, rather small. Despite its significance, it is hardly accessible by the public as there is no online information; the electronic catalog has only recently introduced (Schudich 2010, 55-59).

13 Almost two hundred units of data provide information not just about the past of the specific factory and its outstanding workers. They contain information about the past of the foundry as a cultural institution as well with the help of the preserved visitors’ books, exhibition descriptions and more. There are significant materials also about the industry at other locations within Hungary including facts and figures about the relating educational - and self-organized public communities (Klug 2010, 59-63).
more sustainable and popular than heavy industry processes and products.\textsuperscript{14}

They are independent from both the country’s general economic difficulties and identity issues. By having the advantaged possibility to form independently their own narratives, these institutions do not need to interpret any difficult past, like the production of weapons and military objects in case of the Ábrahám Ganz Foundry Museum.

A present-day example about the question of protecting and memorializing the former industrial past is connected to a heavy industrial settlement: Ózd, northeast from the capital. There is an ongoing debate between multiple actors with opposing views and goals about the question whether to initiate a monument in the memory of the workers and the heavy industrial past of the settlement. The scientific and professional experts are in dispute with the local community, who does not want to have a mark on the urban fabric that remembers the recent past.\textsuperscript{15} Such a strong opposition clearly shows no sign of the still existing need to deal the past (Oushakine 2007, 455, Bartmanski 2011, 203).

The private industrial museums that do not have to interpret any difficult past operates successfully, while the state-owned musealized industrial site that was established already in the socialist period faces difficulties to target contemporary audiences. The last example about the possible memorial of a former industrial past facing local public objections expresses well that there is no sign of interest to represent the personal past, the era or the trained professions. The public stand hints the challenging fate of the still existing formal industrial sites in post-soviet urban structures.

Conclusion
The investigation about the former industrial sites in Budapest in its post-communist time resulted in a diversity of possible understandings going from general dismissed or only signaled examples to revitalized cases via re-functioning as well as culturalized (musealized) instances. These examples have different time scales. While most of them are originated from even before the socialist period, their most extensive industrial utilization was achieved in the previous political period. Interestingly, the 1990s and 2000s were a general peak period of decaying (characterized by factories’ closures, transformation of ownership, not modernized technology etc.) even in those cases that had already been modified (e. g. musealized examples).

Since then, the faith of these former industrial locations further diversified (Lisiak 2010), as they have been subject to increasing amount of pressuring circumstantial influences. Economic challenges led to both neglect of these sites and their quick as well as intense privatization. The decaying state of formal industrial buildings and sites as well as the numerous new owners with limited resources are some of the disadvantageous

\textsuperscript{14} As a way for comparing the different status and possibilities of the four museums, please visit their websites that exemplify well the targeted audience, sustainability as well as the attention and care. Even the names are alluding to the differences the Ábrahám Ganz Foundry named as a collection within the umbrella institution: https://www.mmkm.hu/en/institutions?tid=10, the Dreher Beer Museum is based on its own memory collection: https://www.dreherzrt.hu/sorutazas/sormuzeum/, the Törley Champagne Museum is located within the Exhibition and Visitors’ Center: https://torleymuzeum.hu/en/the-museum while the Zwack Museum offers a tour in the Zwack House https://zwackunicum.hu/en/zwack-muzeumok/zwack-muzeum-es-latogatokozpont/bemutato/.

\textsuperscript{15} Based on a presentation on 51\textsuperscript{st} Román András Monument Protection Summer University in Eger, 2021.
circumstances with which the investigated urban units had to face. As a general finding, multi-layered refunctioning seems to be their sustainable future, as the formal industrial character can be highly threatened if the refunctioning has no connection to the past of the given location.

It can be stated that the appreciation of these industrial landscape elements is focused on the pre-socialist period. For instance, the life of Ábrahám Ganz in the 19th century is the focus of the foundry museum, and the early-19th century buildings are protected on the area of the former Gas Factory. The time period and memories of the socialist time can be seen as challenging subjects for heritagization that are often not chosen to be evaluated mainly by the local actors. It creates dissonance in relation to the post-socialist self-representation of the communities in Hungary, and in a broader sense in the Central and Eastern European countries. Many scholars look at this kind of non-heritagization from another point of view emphasizing the fact that the created representation and the object of such heritage examples can be understood rather as a stereotypical image of “Others” in a Western European narration (Light 2000, 145-160).

Even though the socialist heritage is an established heritage category in the scientific discourse (Čepaitienė 2010), such examples are hardly universally appreciated, especially not among the local community. Even in the UNESCO World Heritage list there were only forty-one such examples in 2020. Among those appreciated sites that had been built in 20th century only five can be connected to industrial activities. As Marta Chmielewska stated after analyzing both local and international initiatives for conserving post-industrial cultural heritage examples, even though post-industrial remnants are important not all of them should be conserved as monuments (Chmielewska 2015). It is unquestionably true especially in a capital, where diverse former industrial locations are scattered throughout the urban fabric. Still the investigated successful examples of memorializing the (formal) industrial sites and the production processes by connecting them to recreational activities or contemporary themes justify that it is possible to mark (keep the memory of) formal industrial sites on the post-socialist urban fabric effectively and in a sustainable way. Further research should investigate other (maybe non-private or non-musealized) possible approaches to protect the industrial past and the value of the given location for the future without being an obstacle for (post-socialist) urban development.

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