Transformation of Historic Industrial Areas in Riga

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Abstract: *The aim of this research is to characterize the transformation processes of historic industrial areas in Riga. The research was done by using appropriate methods what include review of literature, field studies, expert interviews and GIS methods. Historic industrial areas comprise significant part of the built-up area in Riga and they form a specific urban environment in particular neighborhoods in terms of historical and cultural heritage. These sites emerged and developed during the rapid industrial growth from 1860s to 1910s when Riga became an important industrial centre of the Baltic region. These areas were mostly used for industrial purposes before deindustrialization after the collapse of the Soviet Union in 1991. Economic growth and construction boom in the early 2000s initiated redevelopment and transformation of the historic industrial sites into premises for commercial, residential and retail use. Such urban regeneration processes resulted in emergence of new desirable urban spaces while the number of urban brownfield sites decreased. However, significant part of historical and cultural heritage was lost, because in most cases preservation of these values was not topical. In this context urban regeneration processes have to be evaluated as an important approach for further urban development of Riga.*

Keywords: *deindustrialization, historic industrial areas, Riga, urban brownfields, urban regeneration.*

1. Introduction

Historic trends of urban development of Riga have been very diverse what resulted in specific heritage in the urban space of the city. Rapid development of industrial sector in the late 19th century turned Riga into significant multifunctional centre of the Baltic region, and determined emergence of various manufacturing areas, what are currently classified as historic industrial areas. Since the begining of the industrialization process these areas were used for industrial purposes till 1990s, when deindustrialization process occured in Riga. This resulted in the loss of industries, increasing urban powerty and emergence of abandoned industrial territories or brownfields that were transforming into slums because of the absolute lack of maintenance activities.

The nature of urban transformation processes and their implications are widely explored and documented by researchers (Holyoake & Watt, 2002; Ward, 2003; Guzey, 2009; Maliene & Malys, 2009; McDonald et al., 2009 Dedross, 2010; Conejos et al., 2011) thus providing various findings and conclusions regarding different aspects of urban change what can also be observed in Riga. According to the results of research done in Riga by Trusins et al. (2005) abandoned and ineffectively used former manufacturing areas are considered as brownfield sites and require regeneration. Local urban planners and municipal authorities have declared urban brownfield redevelopment as an important tool to achieve sustainable urban development, thus promoting formation of compact urban structure of Riga and minimizing the effects of urban sprawl. Thus it becomes obvious, that urban regeneration may be appropriate approach for further urban development of Riga.

Industrial areas in Riga have always been in transformation, for example, some of the historic industrial areas have disappered at all during the Soviet occupation period, for example, those on the islands in the Daugava river, where only plain terrain remain, or have been redeveloped into residential areas during 1950s. Today historic industrial areas in Riga are experiencing major transformation process in order to meet the modern standarts or urban lifestyle.

2. Data and research methods

Review of literature. Comprehensive review of several scientific papers was done to characterize the deindustrialization and it effects, industrial heritage and urban brownfield issues, as well as essence of urban regeneration process and its implications for urban environment and local social structure.

Field studies. In order to explore and to evaluate the transformation of historic industrial areas in Riga, field studies were performed to document the current situation in various objects. The selection of objects that refer to the historic industrial areas was done on a basis of the concept of capitalist city, used by Grava (1993) in the research where the difference between capitalist and socialist urban structures in Riga is clearly marked and described. The criteria for evaluation of the selected objects were elaborated by the authors on a basis of the criteria used for research of brownfield areas in Riga (Grupa 93, 2004), what, in their turn, are based on the conception of CABERNET network. Thus evaluation of the objects' geographic location, condition, usage, character and period of the transformation etc. was done during the field studies, and acquired data were processed using Microsoft Excel software.

Interviews with experts. This method includes interviews with local planning specialists in order to clarify specific facts about particular redevelopment projects and activities, as well as future perspectives of urban planning issues in Riga.

GIS methods. The geographic information system was used to model the appropriate map of Riga to depicture location of urban regeneration projects, historic industrial territories and their present land use pattern. The cartographic materials were produced on the basis of digital map of Riga, available in GIS laboratory at the Faculty of Geography and Earth Sciences (University of Latvia) by using MicroStation software.

3. Historic industrial areas and urban transformation

Concentration of historic industrial areas or industrial heritage is common characteristic feature for urban areas what had experienced rapid growth during the industrial revolution in the 19th century. Industrial heritage is a part of cultural heritage related to the buildings and artifacts of industry. This is mainly related to the historic manufacturing complexes, although transport infrastructure, communal utility and military objects are also regarded as an industrial heritage (Soyez, 2006).

As an incomparable implication of industrial culture, the industrial heritage has a wide range of historical, technological, social, architectural or scientific values (Conesa et al., 2008). Industrial complexes and buildings are impressive architecturally, both in their size and muted decorations. They were built with practicality for efficient production purposes and many historic industrial buildings are significant primarily for their architecture and design. Industrial heritage sites as vernacular relics from the industrial age help to define the character of local communities by providing a tangible link with the past. Generally occupying large areas of land, the buildings demonstrate a sense of importance and smugly represent a bygone time when the city was thriving (Cantell, 2005).

Industrial heritage is often considered as an important resource for tourism development, often focusing on industrial tourism (Hospers, 2002; Murphy & Boyle, 2006; Soyez, 2006). Rudd and Davis (1998) regard the industrial heritage as a significant resource four tourist attraction, thus stimulating emergence of new economic activities in deindustrialized area. This is a case when economic restructuring and redevelopment can be centred upon the conservation and renewal of industrial heritage in particular areas (Calvin & Munday, 2001).

The issue of industrial heritage became topical as deindustrialization process occurred, because it determined significant changes in the economic structure with the shift from a manufacturing to a service-based economy (Brady & Wallace, 2001). This, in its turn, led to the change of usage of industrial buildings as they remained unused and were gradually turning into slums.

Deindustrialization is understood as the decline of traditional industries (Koistinen, 2006) and it involves the widespread, systematic disinvestment in the manufacturing industries and this process has significant consequences mainly related to the urban land use patterns what becomes apparent as emergence of various brownfield sites throughout the city (Grimski & Ferber, 2001).

The main reason for deindustrialization in the post-socialist cities was the change in political system in 1989, while cities in the Western world experienced the shift in world economy since the 1970s with the decrease and relocation of traditional industries and acceleration of tertiarisation (Kiss, 2002; Kift, 2011). The transformation occuring in industrial sector since the change of the political situation may vary in different countries, but it is usually being determined by historical background, economic base, cultural aspects and the range of problems faced (Ernst et al., 1996; Kiss, 2002).

However, large urban areas still remain as the most important industrial centres of the country or region despite partial loss of industries, although the significance of industrial concentration for the economic life of the city and of the country has declined (Kiss, 2002).

The decline of the manufacturing industries during the late 20th century turned large industrial urban areas into brownfields and in most cases the buildings remained empty for long periods of time (Holyoake & Watt, 2002; Kift, 2011). Brownfield land in cities is largely located in areas that have experienced deindustrialisation processes with the loss of industries, and suburbanisation processes when previous residents moved out of the city centre. Such sites are located predominantly in the heart of the inner city, or out along various industrial belts or harbor territories (Lorimer, 2008).

Brownfields present many unique economic, environmental and social challenges what eventually affect residents of the surrounding areas. For example, abandoned industrial objects negatively impact a visual quality of particular neighborhoods, because these areas are usually poorly maintained and neglected, besides this kind of situation is worsening in the course of time if revitalization activities are not implemented. The presence of brownfields can also negatively affect surrounding property values and community vitality, but usually there has been little interest or appeal in doing anything with these imposing structures (Holyoake & Watt, 2002).

Brownfield redevelopment is very important aspect of urban regeneration processes (Ganser & Williams, 2007), because it provides reuse of abandoned territories and revitalization of the contaminated areas, thus regarding to the principles of sustainable urban development (Evans & Jones, 2007). Redevelopment of urban brownfields is also widely acknowledged as one of the major tools to achieve development of compact and sustainable cities (Ganser & Williams, 2007; Lorens, 2008).

Sustainable built environment cannot be achieved without reintegrating brownfield land into the property markets and shifting development back to the central urban locations (Grimski & Ferber, 2001). It has only been in recent decades that new uses for abandoned industrial buildings have been explored and evaluated (Holyoake & Watt, 2002). Application policies which include the use of previously developed areas for the purpose of stopping the spatial expansion of cities (Ganser & Williams, 2007) are determinative factors that prepare urban regeneration.

With the process of large-scale contemporary urban regeneration, abandoned industrial buildings and areas always become the targets of urban regeneration and redevelopment due to the ongoing transformation on structural changes of economy and adjustments of plot usage (Dedross, 2010). Literature on the topic of reusing industrial buildings is mostly concerned with the issue of fitting a new use into an old building (Holyoake & Watt, 2002).

The starting point of urban regeneration processes is generally the spatial concentration of new economic activities to substitute declining functions and land uses (van der Borg & Russo, 2008) and, as a result of physical transformation of the urban space in particular neighbourhoods, the number of enterprises operating in the area is usually increasing (Ward, 2003).

Urban regeneration projects in general are based on the idea of creating desirable urban spaces (Guzey, 2009) so such regeneration or redevelopment activities in areas, where urban brownfields are located, can be understood or at least may be considered as the most recommendable approach for further development of these areas what is indicated in various researches (Guzey, 2009; Maliene & Malys, 2009; McDonald et al., 2009).

The most observable aspect of urban regeneration is the physical transformation of the urban environment mostly associated with the renovation of the existing housing stock or demolition of the deteriorated buildings in order to construct modern premises. The most preferable approach for urban regeneration is renovation or reconstruction of the existing housing stock, allowing selective demolition of buildings in critical physical condition. However, demolition is particularly considered to be a difficult tool in urban regeneration, because it is slow, costly and unpopular, and it often provokes community opposition against these processes (Power, 2008). Besides, it may also determine the situation described by Topalov (2003) when urban regeneration leads to the wholesale destruction of popular neighbourhoods and their uniqueness were thus discovered at the very time they were about to vanish.

The sustainable preservation of any historic building requires the blending of sustainable design and historic preservation principles. Building adaptive reuse is an alternative to traditional demolition and reconstruction, but entails less energy and waste (Conejos et al., 2011). A majority of industrial buildings were over engineered, by this it means materials of greater strength or greater quantity than was necessary were used, therefore with some refurbishment they can be adapted for new uses (Dedross, 2010).

Adaptive reuse is the act of finding a new use for a building. It is often described as a process by which structurally older buildings are developed for economically viable new uses. The recycling of buildings has long been an important and effective historic preservation tool. It initially developed as a method of protecting historically significant buildings from demolition (Cantell, 2005). Historic industrial buildings are especially well suited to adaptive reuse due to their large

open spaces (Dedross, 2010) and reuse of these structures makes sustainable urban environments in particular neighborhoods (Ganser & Williams, 2007; Lorens, 2008).

Using the historic environment to encourage urban regeneration goes some way to unlocking the potential desirability of an area and the meaning of reuse. The historic environment represents the investment of centuries and gives places a unique competitive advantage. Conservation-led regeneration generates jobs, attracts people to live in an area, businesses to invest, and tourists to visit (Holyoake & Watt, 2002). This is important because of a desire to entice people back into urban areas to live and work (Butler, 2007). If the city cannot provide this new type of studio apartment or office accommodation, the urban area is thought to be slow on the uptake of modern trends (Holyoake & Watt, 2002).

4. Historic industrial areas in Riga – historical background

As Grava (1993) writes, Riga started to grow rapidly and steadily in the second half of the 19th century when the Industrial Revolution reached the Russian Empire (at that time the Baltic states were part of the imperial provinces) (Kublacovs, 2008). The authorities of the Russian Empire began to emulate European modernization models, at least in the development of machine-driven industry and large economic enterprises (Grava, 1993).

Industrialization transformed Riga from a trading town to a principal manufacturing center. Extensive railroad and port construction ensued as the city assumed the burdens and reaped the benefits of being the urban center closest to the Central Europe. The city's industrial and railroad belt of that period clearly separates the central commercial and socialist apartment districts from the subsequent, horizontal expansion (Kublacovs, 2008).

The city grew to more than a half-million people by 1914. Riga became the undisputed urban center of the extreme western edge of the Russian Empire truly the window to the West across the Baltic Sea. Development of Riga's built-up areas has been forming mainly in a way of circles or rings starting from the historical centre and stretching towards the periphery. Thus the spatial structure of Riga has become mono-centric with the main city core on the right bank of the Daugava, where the historical centre of the city is located (Kublacovs, 2008). The inner city area is characteristic example of capitalist city, and it was mainly constructed before the World War II (most even before the World War I), and it include the Boulevard ring, the 19th century grid and the historical suburban housing areas inside the industrial belt along the railway infrastructure (Grava, 1993), what is the area of this study.

The 19th century grid is the largest architectonic ensemble of a town planning value in Riga built according to a coordinated plan. Together with the Old Town and the Boulevard ring it forms the core of the historical centre of Riga (Kublacovs, 2008). This neighbourhood was developed mainly as residential and commercial area, however, many industrial heritage objects, what date back to the early phase of industrialization in Riga, are located there.

Most of the historic industrial areas in Riga are located in the historic suburban areas together with the industrial belt along the railway ring. These neighborhoods enlarged significantly in the late 19th century when they developed as working-class neighborhoods and now they form almost a full ring around the historical city core on both sides of the Daugava. Typically there is a mix of higher brick and low-storey wooden residential buildings and old industrial complexes thus forming unique urban environment (Šolks, 2011c). These neighborhoods usually have low intensity and much greenery, what can make them more interesting and attractive (Šolks, 2011b).

5. Transformation nad regeneration of historic industrial areas in Riga

Since the occurence of deindustrialization processes in Riga in 1991, two main transformation periods of historic industrial areas may be defined. The first one is mainly connected with the loss of industries and increasing amount of neglected objects and areas in the first half of the 1990s (Solks, 2011a), what clearly demonstrated the decreasing role of the manufacturing industry, what was dominant in these urban areas for more than a hundred years. The second period can be characterized by the gradual transformation of these areas into residential, service and business objects and areas, what, in its turn, illustrates the increasing role of the non-manufacturing sectors in Riga. Such transformations occured in the early 2000s with the gradual economic growth in Latvia what was mainly determined by the integration in the European Union (Šolks, 2010a).

Historic industrial areas have high potential for further development for various reasons what private developers may perceive as an advantage. The most important factor what determines the economic potential, is the geographic location of the particular old industrial complexes, because significant part of them are located in the city centre. Those historic industrial areas what were constructed at the urban fringe (according to the situation in the late 19th century) have become part of the city centre because of the rapid urbanization process during the Soviet occupation period and they currently constitute the fringe of the central area in Riga. Central location is often understood by developers as an

advantage for all types of development (Šolks, 2010b), however, the historic industrial areas in Riga have one specific advantage, what is the lack of restrictions and limitations regarding redevelopment activities (Šolks & Nemeth, 2011d). Although theses historic industrial sites are considered as an industrial heritage what significantly contributes to the specific and unique urban space of historic working-class neighborhoods in Riga (Šolks, 2011b), they are not officially preserved by the strenght of law as architecural monuments. This practically allows unlimited demolition of historically significant structures and preservation of industrial heritage remains as the initiative of the developers. However, restrictions apply on newly built structures, what cannot exceed the limitations set by existing planning documents. Sometimes partial or full removal of existing limitations on new build activities are considered as an important tool to promote redevelopment of so called problematic urban brownfields where much more investments are required for regeneration activities. Other advantages of historic industrial areas include the availability of larger land plot areas in the central locations, where land plots are usually smaller in size, and larger existing premises, what is very important if commercial or retail activities are planned in the regenerated properties.

However, historic industrial areas have various disadvantages for further development as well. The most fundamental problem is always associated with the infrastructure issue, because the existing infrastructure is usually dilapidated and not suitable for modern use as it was designed for industrial purposes initially. This means, that investments in infrastructure are unavoidable what usually rises the costs of regeneration significantly. Soil contamination issues are also significant as disadvantage, because in such cases rehabilitation of the soil is necessary to avoid the negative impact on the health of possible users in future. However, there are not so many contaminated areas in Riga, so this issue is not serving as a significant limitator to the existing urban regeneration activities. Most of such areas are located in the outskirts of Riga, thus interest shown by possible investors and developers is much lower, so initiatives from local municipal authorities are required in order to rehabilitate and return them to active use. Although large premises of the historic industrial structures were regarded as an advantage before, it is also seen as an disadvantage, because the current layout was oriented on the industrial use, and it is not very suitable for residential or business use, so specific layout solutions have to be elaborated.

These factors are very important aspects for transformation of the historic industrial areas in Riga, because all urban regeneration related projects in such areas were done by the private developers. This means that the current use of these areas is economically justified, because private investors always regard profitability issue.

According to the results of the field studies conducted by the authors, 154 historic industrial areas were identified within the administrative area of Riga. These areas were built or developed before Soviet occupation in 1940 and thus correspond to the concept of capitalist city described by Grava (1993). The most widely observed usage of these areas (Fig. 1) can be considered as the mixed-use areas (59 or 38,3%), where various activities were observed and any of them was not certainty dominant. Mixed-use areas are usually not regenerated historic industrial areas where various offices, services, warehouses, sales points and other small scale economic activities are co-present, thus forming multifunctional economic centers. The next most common uses were industrial production (24 or 15,6 %), various services (22 or 14,3%), various offices (18 or 11,7%) and residential function (8 or 5,2%). Moreover, 23 of the historic industrial areas are neglected or are not in active use, and such areas account for 14,9% of the identified historic industrial areas in Riga.

There are some relevances regarding concentration of previously mentioned land uses, because most offices and residential areas are located in the central part of Riga or in close adjacency to it (Шолкс et al., 2011e). Most services, mixed-use and industrial areas are mainly located near the railway loop or outside the city centre.

Urban regeneration related activities were observed in 51 area (33,1% of the total number) and most of the regenerated historic industrial areas are located close to the city centre or near the waterfronts, thus marking the significance of the geographic location for further development. However, 17 redevelopment projects are suspended or abandoned, and this accounts for 33,3% of the regenerated areas and 11% of all historic industrial areas in Riga. There are 27 fully accomplished redevelopment projects and 3 partially accomplished redevelopment objects what account for 17,5% and 1,9% of total number respectively. Currently there are 4 ongoing redevelopment projects in historic industrial areas what account for 2,6% of the total number.

Usage of regenerated historic industrial areas is remarkably different from other such areas, because most of the fully and partly accomplished projects serve as offices (16 or 53,3% of all regenerated areas) while mainly residential function is characteristic to 8 areas and mixed-use is observed in 6 areas, what constitute 26,7% and 20% of the regenerated areas respectively. These diferences among regenerated and other historic industrial areas are determined by the fact, that private developers seek the possibility to gain profit and regenerated properties are focused on sale

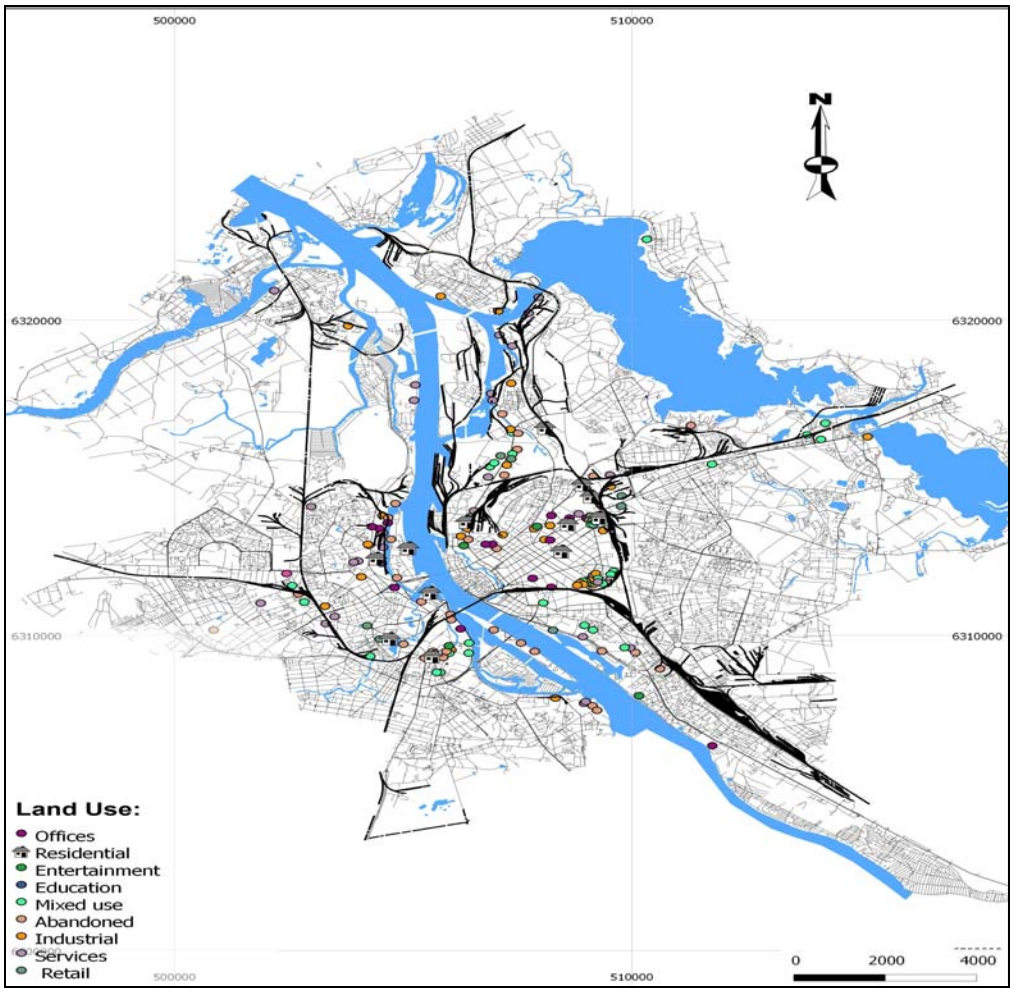

Figure 1. Land use in historic industrial areas

Besides, former industrial areas can be adapted for residential used only after significant redevelopment, and this is the reason, why residential function is concentrated exactly in regenerated areas. The concentration of various offices in regenerated areas is also obvious as it accounts for highest share, however, this is because of the fact that various services and other small scale economic activities usually are not often present in regenerated areas, unlike in other historic industrial areas because of the higher rental prices.

The most important precondition for urban regeneration activities is economic growth or favourable economic situation. In this case this can be prooved with the fact that most of the regeneration activities in the historic industrial areas were implemented during the rapid economic growth of Latvia (2000-2008), when the prices on real estate in Riga rose dramatically and the average price rise was 267% (Šolks, 2010b). It is quite obvious, that most of the abandoned regeneration projects in these areas are directly related to the occurence of economic crisis in the 2008 what resulted in significant decrease in demand for real estate. Most of these redevelopment projects are suspended for indefinite period of time till the recovery of national economy and demand for premises what may also determine the price rise.

Most urban regeneration activities in historic industrial areas always include significant changes of the spatial structure as old buildings are demolished and new structures occur. Preservation of industrial heritage is often regarded as secondary priority, because these projects are based primary on gaining profit. Regenerated historic industrial areas contain more newly built structures if compared to the historic ones, because old buildings are often regarded as unsuitable for modern use. Thus only some historic structures remain in most regenerated historic industrial areas as a specific relict from industrialization period. However, there are some very successful urban regeneration projects where most of the historic buildings are regenerated by the methods of adaptive reuse.

6. Conclusions

Historic industrial areas make up significant part of the historic spatial structure of Riga and serve as a reminder of the industrial revolution in the late 19th century when Riga became the multifunctional centre of the Baltic region. Industrial heritage is often used as a tool for tourist attraction (Calvin & Munday, 2001; Hospers, 2002; Murphy & Boyle, 2006; Soyez, 2006), however, in Riga these areas do not have any special status or meaning as an additional attraction to the tourists.

These areas were used for industrial purposes until the collapse of the Soviet Union in 1991 when deindustrialization processes occured. The loss of industries led to the abandonment of many industrial buildings what were gradually transforming into brownfield sites what is clearly indicated by different authors (Grimski & Ferber, 2001; Koistinen, 2006).

Urban regeneration activities are usually described as a successful tool for urban transformation (Power, 2008; Guzey, 2009; Maliene & Malys, 2009; McDonald et al., 2009; Conejos et al., 2011), and there are many positive examples in Riga. Urban regeneration activities increased during the rapid economic growth in early 2000s, but they also rapidly declined as economic crisis hit Latvia in 2008. Some signs of recovery occured in 2010, but increase is not so rapid as it was before.

As a result of urban regeneration many urban brownfields were turned into desirable places thus contributing to the sustainable development by the reuse of abandoned territories. The reuse of historic industrial buildings is important for sustainable redevelopment, despite potential limitations regarding the character of the buildings (Conesa et al., 2008), but in the case of Riga preservation of such buildings is not topical because developers mostly regard them as unsuitable for modern use.

In the terms of urban regeneration in Riga, historic industrial areas have various advantages what may determine their further development – geographic location, less limitations on development and larger plot areas. However, some disadvantages are also common what include poor infrastructure and possible presence of contamination.

Historic industrial areas are mostly used for small scale businesses and various offices (38,3%) while 15,6% are still used for industrial porposes. There are 30 fully or partially regenerated areas that comprise 19,5% out of 154 historic industrial areas in Riga. There is diference in the land use patters in the regenerated historic industrial areas what is determined by the geographical location, because residential areas and offices are located closer to the city centre while retail activities are observed more distantly from the city centre.

The character of the urban regeneration processes in historic industrial areas in Riga is determined by the market economy principles, as such transformation processes are implemented by private developers and thus profitability plays a major role. So quite specific situation has occured - well maintained industrial heritage sites in Riga can be seen in the areas what are not regenerated and are still used for industrial purposes or small scale businesses.

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